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Association between change in self-efficacy to resist drinking and drinking behaviors among an HIV-infected sample: Results from a large randomized controlled trial

Nicole K Gause^{1,2}, Jennifer C Elliott^{2,3}, Erin Delker⁴, Malka Stohl², Deborah S Hasin^{2,3,5}, and Efrat Aharonovich^{2,3}

¹Department of Psychology, University of Cincinnati, Cincinnati, OH, USA

²New York State Psychiatric Institute, New York, New York, USA

³Department of Psychiatry, Columbia University Medical Center, New York, New York, USA

⁴Department of Epidemiology, San Diego State University/University of California, San Diego, CA, USA

⁵Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, New York, USA

Abstract

Heavy drinking among HIV-infected individuals is associated with health complications. Health-behavior self-efficacy may be characteristically low among this population, or negatively affected by HIV-infected status. We assessed whether self-efficacy to resist drinking increased during brief educational and motivational drinking-reduction interventions within HIV primary care, and whether increases in self-efficacy predicted drinking among HIV-infected heavy-drinkers. Results indicate that increases in self-efficacy from baseline to end-of-intervention inversely predicted drinking at end-of-intervention, and at follow-up. Findings suggest that brief treatment interventions within HIV primary care may promote self-efficacy; and that increases in self-efficacy predict initiation and maintenance of drinking reductions among HIV patients.

Keywords

HIV positive; drinking; self-efficacy; intervention; primary care

Introduction

Over the last 30 years, the global community has struggled to slow the spread of HIV, and to improve the lives of those infected. Access to antiretroviral medication has increased within the last 20 years, resulting in a dramatic increase in the life expectancy of individuals with HIV (Scandlyn, 2000; Centers for Disease Control and Prevention, 2014). However, during this period, other contributors to morbidity and mortality have become evident in this

Declaration of Conflicting Interests

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population, including alcohol consumption (Bryant et al., 2010). Among those living with HIV, heavy drinking is associated with poor medication adherence and liver toxicity, and it may predict faster disease progression (Samet et al., 2007; Azar et al., 2010; Hahn and Samet, 2010). In fact, liver damage is one of the leading causes of mortality among those with HIV (Kenya et al., 2013). The health consequences of heavy drinking among individuals with HIV necessitate effective alcohol interventions for this population. Moreover, HIV patients seldom follow referrals from primary medical settings to outside specialty alcohol treatment (Miller et al., 2006; Miller and Rollnick, 1991); thus, effective brief drinking reduction interventions that can be delivered *within* a busy HIV medical setting may assist HIV primary care providers in promoting health-related behaviors (e.g., drinking reduction) without requiring providers to rely on their patients to follow through with referrals to outside alcohol treatment. Such interventions have been found to be efficacious at reducing drinking among individuals in HIV primary care (Papas et al., 2011; Hasin et al., 2013). For example, Papas et al. (2011) found that six weekly 90-minute group Cognitive-Behavioral Therapy sessions delivered within an HIV outpatient clinic significantly reduced alcohol consumption as compared to treatment as usual. Furthermore, Hasin et al. (2013) found that a brief Motivational Interviewing session (20–25 minutes; delivered in HIV primary care setting) combined with daily self-monitoring of drinking behaviors via interactive voice recognition (IVR) technology over two months resulted in reductions in drinking quantity among heavy drinking, HIV-infected patients. Despite these findings, it is not fully understood which patient characteristics are associated with improvements in drinking among heavy drinking, HIV-infected individuals who have been exposed to drinking reduction interventions. To address this question, the current study examined whether changes (from pre-intervention to post-intervention) in one's perceived ability to resist drinking alcohol (i.e., self-efficacy to resist drinking) in situations that may provoke the urge to consume alcohol predicted drinking behaviors among HIV-infected individuals involved in brief drinking reduction interventions in HIV primary care. The brief drinking reduction interventions included in this study were: (1) Psychoeducation and advice; (2) Motivational Interviewing (MI); and (3) MI with daily self-monitoring of drinking behaviors via IVR technology (Hasin et al., 2013).

The importance of higher levels of self-efficacy-- one's belief in one's ability to perform a specific behavior in a given situation (Bandura, 1977)--has been demonstrated in weight loss (Armitage et al., 2014), exercise (Cramer et al., 2014), smoking cessation (Lee et al., 2014), antiretroviral medication adherence (Tyer-Viola et al., 2014), contraception use (French and Holland, 2013), and reduction of alcohol use (Foster et al., 2014). Drinking-related self-efficacy in particular- that is, self-efficacy to reduce or resist drinking in particular situations-has often been studied in order to explain changes in drinking behaviors. Indeed, drinking-related self-efficacy has been shown to predict long-term maintenance of drinking reductions among heavy drinkers (McKellar et al., 2008). A meta-analysis of 51 studies indicates that drinking-related self-efficacy measured at the end-of-treatment is one of the most consistent predictors of drinking behavior at follow-up (Adamson et al., 2009). Furthermore, Ludwig et al. (2013) found that drinking-related self-efficacy at discharge (end-of-treatment) was a significant predictor of 1-year abstinence over and above other tested predictors such as psychiatric symptoms and motivation for treatment. The

relationship between drinking-related self-efficacy and drinking reduction maintenance after intervention may reflect the pattern seen in the self-efficacy literature in general; higher levels of self-efficacy correlate with health-related behavior changes that are believed to lead to desired consequences (e.g., improved health), but are difficult to initiate or maintain (e.g., resisting cravings and urges to drink; Strecher et al., 1986). As such, interventions that promote self-efficacy to resist drinking may help patients actively reduce drinking behaviors and resist relapse. Indeed, there are a number of alcohol use interventions that aim to increase perceived self-efficacy for resisting urges to drink; these interventions range from web-based brief alcohol interventions to manualized behavioral treatments such as Motivational Interviewing (Voogt et al., 2014; Miller and Rollnick, 2002; Witkiewitz et al., 2012; Mermelstein and Garske, 2015).

Indications of the benefit of greater self-efficacy among individuals with HIV have been found in studies showing positive associations between medication adherence self-efficacy and medication adherence (Parsons et al., 2008; Kekwaletswe and Morojele, 2014), and between smoking cessation self-efficacy and successful smoking cessation in HIV-infected populations (Shuter et al., 2014). Notably, another study demonstrated an association between lower self-efficacy to resist drinking and higher levels of drinking among HIV-infected youths (Naar-King et al., 2010). Moreover, low self-efficacy for engaging in protective health-behaviors is associated with HIV-infection (Prochaska et al., 1994; Bandura, 1994), suggesting that HIV-infected individuals may have lower health-behavior self-efficacy than non-infected individuals. Such low self-efficacy may interfere with health promotion efforts among the HIV-infected population. Furthermore, HIV presents many challenges (e.g., depression, anxiety, feelings of hopelessness, and low perceived control over one's health and disease; Kelly et al., 1991) that may further test HIV-infected individuals' health-behavior self-efficacy and ability to cope with difficulties without reliance on alcohol.

In summary, research indicates the potential value of self-efficacy to resist drinking in predicting drinking among heavy drinking adults with HIV; however, research also suggests the possibility that their illness or preexisting low health-behavior self-efficacy may affect their level of self-efficacy to resist drinking, or may affect the relationship between how they view their ability to resist drinking and their actual drinking behaviors. No studies to date have examined whether heavy drinking HIV patients who receive any type of drinking intervention report improvements in self-efficacy, and if those changes predict drinking behavior after intervention. A recent clinical trial tested several brief alcohol interventions in HIV primary care (Hasin et al., 2013), therefore, we sought to fill this gap in the literature by determining whether self-efficacy to resist drinking in high-risk situations increased during these interventions and predicted drinking reductions among HIV-infected individuals enrolled in this clinical trial. Specifically, we examined the relationship between *change* in self-efficacy over the course of intervention and drinking behavior at two time points: end-of-intervention and end-of-study. We hypothesized that an increase in self-efficacy to resist drinking would predict drinking reduction post-intervention.

Methods

Participants and Procedure

Participants in the larger study were recruited from a large HIV primary care clinic in New York City between 2007 and 2010. Participants were referred by providers, and screened by bilingual study counselors to identify those who (a) were 18 years of age or older, (b) had at least one day within the prior 30 days in which they consumed 4 drinks, (c) spoke English or Spanish, and (d) were HIV-infected. Following screening, eligible participants gave written consent and completed baseline assessment. Participants were then randomly assigned to one of three brief drinking reduction intervention conditions.

The current study used data from the randomized comparative efficacy trial of the three brief drinking reduction interventions conducted with this HIV-infected sample, as described elsewhere (Hasin et al., 2013). The 60-day intervention period began after baseline (randomization).

Advice/educational DVD—At baseline, patients were informed that they drank more than medically advisable; they were shown a video on HIV self-care, and given information regarding alcohol abuse. Patients met briefly (5 minutes) with counselors 30 days after baseline (30 days), and 60 days after baseline (60 days), during which they received drinking-reduction encouragement.

Motivational Interviewing (MI-only)—At baseline, patients received an MI session (20–25 minutes); the purpose of this MI session was to use standard MI techniques to foster motivation to reduce drinking, and to encourage patients to set a drinking reduction goal. Patients met with counselors for 10–15 minutes at 30 days and 60 days, at which point they discussed their drinking during the past 30 days and set drinking-reduction goals.

MI+HealthCall—Baseline activities were the same as the MI-only condition. Patients also used HealthCall, which involved 60 days of brief, daily automated telephone self-monitoring of drinking and other behaviors, with brief personalized feedback provided at 30 and 60 days. During meetings with counselors at 30 and 60 days (10–15 minutes), MI+HealthCall patients discussed their drinking during the past 30 days, received personalized feedback using their self-monitoring data, and set goals (Hasin et al., 2013).

Intervention study visits occurred at baseline, and at 30 and 60 days after baseline. Study visits that occurred 60 days after baseline marked the end of the interventions, thus this time point will be referred to as end-of-intervention. Follow-up visits occurred 3 months, 6 months, and 12 months after baseline. Twelve month follow-up visits marked the end of the study, thus this time point will be referred to as end-of-study. The current analyses used baseline, 60 day (end-of-intervention), and 12 month follow-up (end-of-study) time points in order to examine the association between *change* in self-efficacy and drinking immediately after treatment, and the lasting relationship through the end of the study, as findings from previous studies have demonstrated that self-efficacy at end of treatment predicts drinking 1-year post intervention (Ludwig et al., 2013).

All study procedures were in English or Spanish (participants' preference). Institutional review boards at Columbia University/New York State Psychiatric Institute, St. Vincent's Hospital, and Mt. Sinai Medical Center approved all study procedures.

A total of 254 patients were randomized and participated in the clinical trial (Hasin et al., 2013). In the current analyses, we excluded patients whose baseline assessment indicated that they had the highest possible level of self-efficacy ($N=31$); this was done because we were interested in studying *gains* in self-efficacy, and to avoid a ceiling effect on this key variable. In addition to excluding participants with the highest possible level of self-efficacy at baseline, we restricted our sample to those with complete self-efficacy and drinking data at baseline, end-of-intervention (60 days after baseline), and end-of-study (12 months after baseline). This yielded a final sample size of 147 participants.

Measures

All assessments were completed prior to randomization (baseline), and at each study visit. All measures were self-administered via audio computer-assisted self-interview (ACASI) software. Counselors were blinded to all participant self-assessments.

Alcohol Use—A Time-Line Follow Back (TLFB) was used to ascertain alcohol use in the past 30 days (Sobell and Sobell, 1995). The Alcohol TLFB has demonstrated adequate psychometric properties in a variety of drinker groups (Sobell and Sobell, 1992). If participants missed an assessment but returned for the following assessment, a retrospective TLFB was administered at the next study time point. There were no significant differences between on-time and retrospective TLFB data (Hasin et al., 2013). Drinking outcome variables generated from the TLFB data included: number of days drank in the last 30 days, number of drinks in the last 30 days, and number of days drank ≥ 4 drinks in the last 30 days (an index of binge drinking).

Self-efficacy—The Brief Situational Confidence Questionnaire (BSCQ), an 8-item self-report inventory adapted from the Situational Confidence Questionnaire (SCQ-100 & SCQ-39; Breslin et al., 2000), was used to assess perceived self-efficacy to resist drinking in certain high-risk situations (Miller et al., 1989). Items correspond to the 8 subscales of the 100-item SCQ, based on Marlatt and George's relapse determinants (Annis and Davis, 1989): Intrapersonal Determinants (Negative Emotional States, Negative Physical States, Testing Personal Control, Urges and Temptations, Positive Emotional States) and Interpersonal Determinants (Interpersonal Conflict, Social Pressure to Drink, Pleasant Times with Others; Marlatt and George, 1984). Participants were asked to imagine themselves "as (they) are-right now" in each of the situations presented, and to rate their confidence in their ability to resist drinking in each situation. An example of an item on the BSCQ is, "Right now I would be able to resist the urge to drink heavily in situations involving unpleasant emotions." To indicate confidence level, participants used a mouse to move a marker along a visual analog scale consisting of a 10-cm line, designated by endpoints "0%- not confident at all" and "100%-totally confident." The computer then generated a number based on where participants had placed the marker on the scale line. The BSCQ items have been found to correspond well with the subscales of the full SCQ ($r_s=0.56-0.80$), and the scale has

demonstrated high internal consistency ($\alpha=0.85$; Breslin, 2000). The BSCQ total score is the calculated average of the confidence scores across the 8 items (European Monitoring Centre for Drugs and Drug Addiction, 2004; NOVA Southeastern University, 2009); total scores may thus range from 0 (lowest) to 100 (highest). This total score was used in the current study.

Analysis

The main predictor variable, change in self-efficacy score between baseline and end-of-intervention (60 days), was calculated for each participant. The drinking outcomes (number of days drank in the last 30 days, number of drinks in the last 30 days, and number of days drank 4 drinks in the last 30 days) were count variables derived from baseline, end-of-intervention (60 days), and end-of-study (12 month follow-up) TLFB data. A separate negative binomial regression was analyzed for each outcome variable at each time point to examine the effect of change in self-efficacy to resist drinking on each drinking outcome at end-of-intervention and at end-of-study. For each model, the incident rate ratio (IRR) was calculated in order to assess the predicted change in the rate of each drinking outcome for every 10-unit increase in self-efficacy. All regression models controlled for the following covariates: the baseline score on each drinking variable, gender, age, race, education and treatment condition.

Results

Description of Sample

Participants were primarily in mid-adulthood (mean age: 45.6 years), male (82.3%), minority (45.6% African-American; 49.0% Hispanic), and English-speaking (77.6%), with at least a high school education (61.9%) (Table 1). More than half (53.1%) met DSM-IV criteria for alcohol dependence (Table 1). Drinking levels for the full sample at baseline, end-of-intervention and end-of-study are presented in Table 2.

The average self-efficacy to resist drinking score (measured on a scale of 0–100) was 58.74 (s.d.= 22.88) at baseline and 73.68 (s.d.=25.58) at 60 days (end-of-intervention), which excluded those with 100% self-efficacy at baseline. The average change in self-efficacy to resist drinking between baseline and end-of-intervention was 14.94 (s.d.= 33.43) points, indicating improvements in self-efficacy to resist drinking.

Regression analyses

End-of-intervention (60 days)—Table 3 presents results from regression analyses regarding the relationship between change in self-efficacy to resist drinking from baseline to end-of-intervention (60 days) and end-of-intervention drinking outcomes. After controlling for the covariates, change in self-efficacy score had a significant inverse relationship with all three drinking variables at end-of-intervention. An increase in self-efficacy score between baseline and end-of-intervention was negatively associated with: the number of days drank in the past 30 days (IRR = 0.90, $p<0.05$), number of days binge drank in the past 30 days (IRR = 0.88, $p<0.05$), and total number of drinks in the past 30 days (IRR = 0.88, $p<0.05$) (Figure 1).

End-of-study (12 month follow-up)—Table 3 also presents results from regression analyses regarding the relationship between change in self-efficacy to resist drinking from baseline to end-of-intervention (60 days) and end-of-study (12 month follow-up) drinking outcomes. After controlling for the covariates, change in self-efficacy score had a significant inverse relationship with all three drinking variables at end-of-study. An increase in self-efficacy score between baseline and end-of-intervention was negatively associated with: the number of days drank in the past 30 days (IRR = 0.87, $p < 0.05$), number of days binge drank in the past 30 days (IRR = 0.86, $p < 0.05$), and total number of drinks in the past 30 days (IRR = 0.87, $p < 0.05$) (Figure 1).

Discussion

As hypothesized, results indicate that, after controlling for baseline drinking, change in self-efficacy to resist drinking from baseline to end-of-intervention was a significant predictor of drinking at end-of-intervention and at end-of-study. Specifically, our findings indicate that increases in self-efficacy to resist drinking are negatively associated with drinking frequency, quantity and binge drinking among HIV-infected individuals. This result is consistent with findings from previous research that demonstrate an inverse relationship between drinking-related self-efficacy and drinking in non-HIV populations (Engels et al., 2005; Skutle, 1999). Moreover, that change in drinking-related self-efficacy from baseline to end-of-intervention predicted drinking at end-of-study is consistent with prior studies with long-term follow-ups involving non-HIV-infected individuals (Miller and Rollnick, 2002; Witkiewitz et al., 2012). Consistency between the current results and those observed with non-HIV populations indicates that the relationship between self-efficacy to resist drinking and drinking behaviors is similar among HIV-infected and non-HIV-infected individuals. It has been suggested that HIV-infected individuals may have low health-behavior self-efficacy (Bandura, 1994; Prochaska et al., 1994; Kelly et al., 1991), which may in turn impact the effect of health-behavior interventions among HIV-infected individuals. However, the present study's findings suggest that HIV-infected individuals' self-efficacy to resist drinking may increase after receiving a drinking reduction intervention, and that the amount it increases may predict sustained improvements in drinking behaviors.

The inverse relationship between drinking-related self-efficacy and drinking has previously been observed among HIV-infected youth (Naar-King et al., 2010). Our study is unique in that it focuses on an adult HIV treatment population, where it demonstrates that mean self-efficacy scores generally increased over the course of alcohol intervention, and that the amount self-efficacy increased inversely predicted drinking behavior post-intervention. Because our study showed that the observed changes in self-efficacy are predictive of drinking post-intervention, this indicates that a change of 14.94 points in self-efficacy to resist drinking may have clinical significance for HIV patients. This study also demonstrates the role of self-efficacy to resist drinking in the *maintenance* of heavy drinking reduction after intervention in HIV primary care. Brief interventions integrated into primary care that focus on increasing self-efficacy to resist drinking may thus lead to improvements in drinking behavior that are sustained after intervention (Hasin et al., 2013). Maintaining drinking improvements after intervention is particularly important among HIV-infected individuals, for whom heavy drinking alters the infectivity of the virus, immunosuppression,

and disease progression (Molina et al., 2014). Implementing drinking reduction interventions in a primary care setting provides an optimal opportunity for HIV care providers to incorporate health-promotion strategies and self-efficacy enhancing techniques within primary HIV treatment. This may not only result in drinking reductions for heavy drinking, HIV-infected individuals, but also in improvements in medication adherence and disease status (Samet et al., 2007; Azar et al., 2010; Hahn and Samet, 2010). Targeting self-efficacy may allow individuals to more effectively utilize health-promoting strategies to reduce drinking. Placing such brief drinking reduction interventions within a primary care medical setting may also facilitate linking heavy drinking HIV-infected patients-who may not otherwise follow through with referrals-to effective treatment (Miller et al., 2006; Miller and Rollnick, 1991).

Further research is needed in this area. First, researchers should assess what delivery modes or platforms for brief alcohol interventions in a primary care setting are most efficacious at increasing drinking-related self-efficacy and producing associated reductions in drinking behavior- i.e. web-based, smartphone-based, interpersonal; group or individual settings. Second, researchers should identify which factors operate in conjunction with self-efficacy to translate beliefs about drinking-related self-efficacy into actual decreases in drinking behavior. Third, future research should investigate the role of depression and/or perceived control over one's HIV-related health in the relationship between self-efficacy to resist drinking and drinking behavior. Understanding the role that these factors may play in this association may inform future drinking reduction interventions for heavy drinking HIV-infected individuals. In addition, it would be clinically useful to determine whether changes in drinking-related self-efficacy during treatment are associated with improvements in other HIV-health related behaviors in addition to drinking reduction (i.e., medication adherence, medical appointment attendance). The health improvement effects of drinking reduction may be complimented by the concurrent adoption of other HIV-health maintenance behaviors. Finally, it would be beneficial to discern whether general HIV-health improvement self-efficacy is augmented by or associated with specific drinking reduction self-efficacy, and if more general health improvement self-efficacy is predictive of the uptake and maintenance of HIV-health improvement behavior changes such as drinking.

Limitations of the study are noted. The sample was largely comprised of urban minority HIV primary care patients. While this demographic is representative of a substantial proportion of those affected by HIV in the U.S., it may limit generalizability of these results to other groups, such as Caucasians, those with higher levels of education, or individuals living with HIV outside of the northeastern US. The drinking data were ascertained via self-report, which may be subject to self-presentation or social desirability biases. However, self-reported drinking data is used widely, and alternate sources of drinking data were not available in the current study. Limitations were counterbalanced by notable strengths. Using change in self-efficacy from baseline to end-of-intervention as the predictor of end-of-study drinking behavior established the temporal sequence of changes in self-efficacy preceding behavior changes among this sample. The alcohol and self-efficacy measures used had good reliability and validity. Our findings also highlight the feasibility of administering the BSCQ in HIV primary care to determine patient self-efficacy; this brief scale is easily administered

and interpreted (Miller et al., 1989), making it an appropriate measure for brief assessment in busy medical settings treating HIV patients and others.

Drinking reduction interventions that increase self-efficacy to resist drinking among heavy drinking HIV-infected individuals can potentially be integrated into HIV primary care to facilitate behavior change. The amount of change in self-efficacy that occurs during the course of intervention is predictive of drinking behavior at the end of treatment, and of sustained drinking improvements at least one year after intervention was initiated. As such, increases in self-efficacy to resist drinking may be an important component of drinking reduction in HIV primary care, and interventions may benefit from incorporating attention to self-efficacy into treatment.

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Figure 1.
Incident rate ratios at end-of-intervention and end-of-study.

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Table 1

Baseline participant characteristics (N=147).

Patient Variable	Total n (%)
<i>Gender</i>	
Male	121 (82.31)
<i>Ethnicity</i>	
African-American	67 (45.58)
Hispanic	72 (48.98)
Caucasian	8 (5.44)
<i>Language</i>	
English	114 (77.55)
<i>Education</i>	
Graduated High School	91(61.90)
Alcohol Dependence	78 (53.06)
Mean (s.d.)	
Age (years)	45.62 (7.72)
Self-efficacy ^a	58.74 (22.88)

^aSelf-efficacy total scores may range from 0 (lowest) to 100 (highest).

Table 2

Drinking levels at baseline, end-of-intervention (60 days) and end-of-study (12 months) (N = 147).

	Baseline	End-of-intervention (60 days)	End-of-study (12 months)
	Mean (s.d.)	Mean (s.d.)	Mean (s.d.)
Days Drank in Past 30 Days	10.07 (7.39)	5.52 (6.37)	3.82 (5.24)
Days Binge Drank (4+ drinks) in Past 30 Days	7.46 (6.73)	3.02 (5.20)	1.81 (4.11)
Total Number of Drinks in Past 30 Days	65.33 (58.24)	23.05 (32.6)	15.67 (27.40)

Table 3

The effect of change in self-efficacy score (between baseline and end-of-intervention) on end-of-intervention and end-of-study drinking outcomes:
Negative binomial regression parameter estimates and incidence rate ratios.

Predictor Variables	Outcome Variables					
	End-of-intervention (60 Day)			End-of-study (12 Month)		
	Days Drank	Days Binge Drank	Total # of Drinks	Days Drank	Days Binge Drank	Total # of Drinks
Change in self-efficacy between baseline and end of intervention (60 day)	−0.01 *	−0.01 *	−0.01 *	−0.01 *	−0.02 *	−0.01 *
Baseline drinking	0.06 *	0.06 *	0.01 *	0.05 *	0.10 *	0.01 *
Gender						
(Male)	−0.21	−0.79	−0.44	−0.12	−0.20	−0.22
(Female)	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>
Age	−0.01	0.01	−0.01	0.01	−0.04	−0.01
Race						
(Black)	0.19	0.09	0.04	0.28	−0.23	−0.07
(NA/White/Asian)	−0.11	−0.87	−0.41	0.65	1.07	1.33
(Hispanic)	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>
HS Education						
(Yes)	−0.34	−0.72 *	−0.63 *	−0.14	−0.28	−0.05
(No)	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>
Treatment						
(DVD)	−0.04	0.10	0.24	0.37	1.36 *	0.82 *
(MI Only)	−0.06	−0.18	0.19	−0.07	0.65	0.30
(MI + IVR)	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>	<i>Ref</i>
Incidence Rate Ratios						
10-unit change in self-efficacy score	0.90 *	0.88 *	0.88 *	0.87 *	0.86 *	0.87 *

Note. All drinking variables reflect drinking patterns that occurred during the previous 30-day period.

* $p < .05$.