



Health behaviors of mandated and voluntary students in a motivational intervention program[☆]

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ABSTRACT

College students engage in many unhealthy behaviors, one of these, heavy alcohol use, is a major global public health problem.

Objective. This longitudinal study examined whether students' mandated/voluntary status in a program to reduce college drinking was associated with overall health, ethnicity, gender, and personality traits. Both mandated and voluntary groups participated in the Motivational Intervention (MI) program to prevent high risk drinking.

Methods. Freshmen (710 voluntary, 190 mandated, $n = 900$) between the ages of 18 and 21, received the MI at baseline and again at 2 weeks, with boosters at 3, 6 and 12 months. Participants completed three measures: the Daily Drinking Questionnaire (DDQ); the Substance Use Risk Profile Scale (SURPS), and the Health Promoting Lifestyle Profile II (HPLPII). Mandated and voluntary participants were compared at baseline and following the intervention using two sample t-tests for continuous variables (overall health, personality traits, drinking measures), and chi-square for categorical variables (gender, ethnicity). Linear mixed models were used to identify associations between HPLPII scores and mandated/voluntary status, time, ethnicity gender and SURPS scale scores.

Results. In both groups, alcohol consumption dropped significantly by 12 months. Overall health-promoting behaviors, physical activity, stress management, and interpersonal relations improved in both groups between baseline and 12 months. Associations were found between alcohol consumption, personality traits, gender, and lifestyle health-promoting behaviors. In particular, impulsivity and hopelessness were associated with poor health behaviors.

Conclusions. Intervention programs to reduce drinking by college students need to address developmental dynamics of freshmen students, including gender, psychosocial factors, personality, and lifestyle health-promoting behaviors.

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Introduction

College freshmen experience a dramatic transition from adolescence to adulthood that is characterized by rapid changes in cognitive maturity, social relationships, and self-reliance (Egan and Moreno, 2013; Kuhlmann and Tigges, 2012). College brings excitement as well

as challenges, with greater independence, academic and social duties, burdens and stressors (Kazemi et al., 2012). The freshman year is also often marked by unhealthy habits including poor eating habits, physical inactivity and heavy drinking (Larson et al., 2011; Osberg et al., 2012).

Negative alcohol-related consequences include drinking and driving, physical/sexual assault, serious injury, and fatalities (Hingson, 2010; White et al., 2011). Personality factors predispose college students to heavy drinking and alcohol-related risks (Ham et al., 2010). Hustad et al. (2014), for example, found that both impulsivity and hopelessness had direct effects on alcohol-related problems. A lack of positive coping skills and self-esteem has also been found to be associated with the use, intensity, and consequences of drinking alcohol (Lewis and Myers, 2010). These factors also reduce the effectiveness of

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alcohol intervention programs and contribute to students' denial of problematic drinking and lack of willingness to stop drinking excessively (Kazemi et al., 2014).

To reduce drinking many colleges have established alcohol intervention programs that are mandated for students who violate campus alcohol policies (Alfonso et al., 2013; Mastroleo et al., 2011). Some studies have found that physical activity was also a factor in drinking behaviors of students (Barry and Piazza-Gardner, 2012; VanKim and Laska, 2012). For example, Barry and Piazza-Gardner (2012) found that college students who were physically active were more likely to binge drink than their nonactive peers.

The current study examined the lifestyle health-promoting behaviors and the role of high-risk personality factors in two groups of students, one mandated and one voluntary, participating in a motivational intervention (MI) program to reduce college drinking. Specifically, the study assessed factors associated with lifestyle health-promoting behaviors including physical activity, spirituality, nutrition, stress management, personality risk factors, and interpersonal relationships of voluntary and mandated students enrolled for a year in an MI program. The primary aims of the study were to identify factors associated with lifestyle health-promoting behaviors of freshmen college students participating in the intervention program over a period of a year and to determine whether these differed in mandated and voluntary participants. The study also considered gender as a potential factor in differences between groups since recent research has shown gender disparities in lifestyle health-promoting behaviors and high-risk drinking (Bhullar et al., 2012; Kelly-Weeder and Edwards, 2011). The following research questions were addressed in the study:

1. Are there differences in health behaviors between the mandated and volunteer groups participating in the MI program at baseline, 3 months, 6 months, and 12 months?
2. Is there an association among health behaviors and personality risk factors (hopelessness, anxiety, impulsivity, and sensation seeking) at baseline, 3 months, 6 months, and 12 months?

Method

The MI program was implemented at a large southeastern public university to address underage drinking among freshman students. The study reported here was part of a larger study that examined the outcomes of the program in this age group. Mandated participants had violated a campus alcohol policy and were required by the dean of students to complete an alcohol education program. Of 278 students

mandated during the recruitment period, a total of 190 were recruited to the study. In addition, a total of 710 volunteer students were recruited from freshman seminar classrooms and residence halls on campus. Eligibility criteria for both mandated and voluntary students included enrollment as freshman students, age 18 to 21 years, consumption of alcohol within the previous 90 days, ability to read and speak English, and willingness to participate. Interested students were phone screened to determine their eligibility. Approval for the study was granted by the institutional review board, and participants signed informed consent prior to entering the study. Following determination of eligibility and consent procedures, participants were invited to meet with peer interventionists for an initial, baseline visit. The MI program was then delivered in two brief 50-minute therapy sessions, one following the baseline assessment and the other after 2 weeks, with 50 min booster interventions at 3, 6, and 12 months, and assessments at baseline and at the booster interventions. Volunteer students received a \$20 gift card to the university bookstore after completion of each visit. Mandated students had the \$50 fee for the university-required alcohol prevention program waived, and after completing the initial two visits, they were given a \$20 gift card after completion of each visit.

Participants met individually with trained peer interventionists, who delivered the MI program, which incorporated alcohol education and personalized feedback on drinking patterns. The peer interventionists were graduate students aged 21–25 in counseling, public health, and social work. The peer interventionists were trained in MI techniques and used MI to enhance collaboration with participants and encourage discussion about the participants' drinking behavior. Intervention sessions were modeled after the harm-reduction/alcohol skills training approach (Dimeff et al., 1999).

Measures

Participants completed the Daily Drinking Questionnaire (DDQ; Collins et al., 1985); the Substance Use Risk Profile Scale (SURPS; Woicik et al., 2009) and the Health Promoting Lifestyle Profile II (HPLPII) (Walker et al., 1987) at baseline and again at 3, 6, and 12 months postintervention. Each of these instruments has demonstrated reliability and validity (Allen and Wilson, 2003). During the standardization process, the instrument designers piloted them on college students, ensuring that the instruments were appropriate for use with that population.

The brief, 5-minute DDQ (Collins et al., 1985) measures drinking patterns, including quantity, frequency, and peak drinking events daily over a typical week, averaged over the past 4 weeks. The mean number

Table 1
Comparison of baseline characteristics between mandated and voluntary (*M* and *SD* for continuous variables) and % and counts for categorical variables.

Variable	Category	Mandated (<i>n</i> = 190)	Voluntary (<i>n</i> = 710)	<i>p</i> -Value
Age		18.2 (2.1)	18.2 (1.8)	.1272
Gender	Females	40% (76)	61.6% (437)	<.0001
	Males	60% (114)	38.4% (273)	
Race (3 categories)	European Americans	76.8% (146)	61.7% (438)	.0002
	African American	6.8% (13)	16.6% (118)	
	Other	16.3% (31)	21.7% (154)	
Drinking	Number of drinks	8.4 (8.0)	12.4 (10.5)	<.0001
SURPS*	Hopelessness (HD)	10.3 (2.8)	10.3 (2.7)	0.387
	Anxiety (ASD)	12.6 (2.5)	13.0 (2.5)	
	Impulsivity (IMD)	10.5 (2.5)	10.7 (2.5)	
	Sensation seeking (SSD)	16.7 (3.3)	16.5 (3.4)	
HPLP** lifestyle subscales	Health	2.2 (0.6)	2.2 (0.5)	.2098
	Physical	2.7 (0.6)	2.6 (0.6)	
	Nutrition	2.5 (0.6)	2.5 (0.5)	
	Spiritual	3.3 (0.5)	3.3 (0.5)	
	Interpersonal	3.2 (0.5)	3.3 (0.5)	
	Stress	2.7 (0.5)	2.6 (0.5)	
HPLP** global		2.8 (0.4)	2.7 (0.4)	.8447

* Substance Use Risk Profile Scale (SURPS).

** Health Promoting Lifestyle Profile (HPLP II).

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