



# ALCOHOL AND DRUG INTERVENTIONS FOR EMERGING ADULTS

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## INTRODUCTION

A substantial portion of adolescents and young adults engage in heavy, problematic consumption of alcohol and illegal drug use, putting them at risk for numerous detrimental consequences for their mental, physical, and social well-being. By 2005, 12 to 20-year-olds drank 11% of all alcohol consumed in the United States, with more than 90% consumed in the form of binge drinking (DOJ, 2005). In 2016, 19% of youth aged 12 to 20 years drank alcohol and 12% reported binge drinking in the past 30 days (SAMHSA, 2017). 18 to 25-year-olds display even higher rates of alcohol initiation, alcohol use disorder, and illicit drug use than their younger and older counterparts, with increasing rates of serious mental illness and major depressive episodes (SAMHSA, 2018). Furthermore, excessive drinking is responsible for more than 4,300 deaths among underage youth each year and costs the U.S. \$24 billion in economic tolls in 2010 (CDC, 2018; Sacks, 2015).

In response to this public health concern, a growing body of research has identified and examined early intervention programs that seek to prevent and counter alcohol and illicit drug abuse in adolescents and young adults. Brief intervention programs in particular have met with success in efforts to prevent initiation and intervene in problematic alcohol and substance abuse trends. Beadnell et al. (2016) found that participants in a motivational-enhancing intervention transitioned to lower-risk usage groups, regardless of sex or age, indicating positive short-term changes in alcohol use among emerging adults. Terlecki et al. (2015) similarly concluded that a brief motivational intervention seeking to screen and intervene among heavy-drinking college students led to sustained, long-term decreases in drinking, with significant reductions in alcohol-related problems.

Surveying emerging literature on technology-based interventions, Sugarman et al. (2017) found that such interventions addressing substance use disorders and comorbid psychiatric disorders had encouraging potential for success in combatting problematic alcohol use, depression, and anxiety. Meta-analysis by Tanner-Smith et al. (2015) showed that brief alcohol interventions led to marked reductions in alcohol-related problems and alcohol consumption among young adults and adolescents, with consistent effects across diverse formats and demographics, persisting up to one year after intervention. Further meta-analysis by Davis et al. (2017) found that personalized feedback interventions had significantly reduced effects versus those offering no personalized feedback, e-interventions were equally effective as non-e-interventions, and a larger proportion of college-attending emerging adults in a treatment study increased positive outcomes.

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## REFERENCES

Office of Juvenile Justice and Delinquency Prevention. Drinking in America: Myths, Realities, and Prevention Policy. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention, 2005.

<http://breitlinks.com/alcoholawareness/AlcAwarePDFs/DrinkinginAmerica.pdf>

Center for Behavioral Health Statistics and Quality. 2016 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration, Rockville, MD; 2017.

## ARTICLE 1: RANDOMIZED CONTROLLED TRIAL OF BRIEF ALCOHOL SCREENING AND INTERVENTION FOR COLLEGE STUDENTS FOR HEAVY-DRINKING MANDATED AND VOLUNTEER UNDERGRADUATES: 12-MONTH OUTCOMES

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## SUMMARY

Examining whether the Brief Alcohol Screening and Intervention for College Students (BASICS) program would benefit heavy-drinking undergraduates mandated to the program versus volunteers following a campus alcohol violation, researchers developed the first randomized BASICS trial to study disciplinary-related and naturalistic changes in drinking up to one-year post-intervention. **As a brief motivational intervention (BMI), BASICS includes an assessment of drinking practices and alcohol problems, providing face-to-face sessions with participant self-monitoring of alcohol use and personalized written feedback presented in a motivational interviewing format.** Previous research has established that BASICS is associated with decreased drinking and alcohol problems among heavy-drinking student volunteers, however no previous studies have tested whether mandated student participants benefit as much as their volunteer counterparts (p. 1-4).

225 undergraduates between the ages of 18 and 24 enrolled in the study. Inclusion criteria consisted of:

- drinking at least monthly and endorsing past month binge drinking (e.g., consuming more than five drinks per 2-hour drinking occasion for men, four for women);
- reporting at least three alcohol-related problems on three to five occasions in the past year;

- scoring greater than 6 on the Alcohol Use Disorder Identification Test (AUDIT), indicating risky drinking practices.

Intervention outcome assessments were collected at baseline, 4 weeks, 3, 6, and 12 months post-intervention. **At both 4 weeks and 12 months post intervention, BASICS significantly reduced typical drinking, peak drinking, and alcohol-related problems (p. 5-12).**

Results of the study indicate that BASICS led to sustained, long-term reductions in drinking and alcohol-related problems in both volunteer and mandated participants. **BASICS produced “significant decreases in weekly drinking, typical alcohol consumption, and peak alcohol consumption,” with a large effect on decreases in alcohol problems (p. 11).** Researchers recommend the provision of programs within a disciplinary setting, screening for alcohol risk severity to inform treatment referral decisions, and the use of face-to-face assessment and feedback sessions involving self-monitoring of drinking. **As BASICS-style BMI appears to be as effective in decreasing risky alcohol use among heavy-drinking mandated students as for volunteer students, the application of these programs within disciplinary settings may assist in decreasing problematic and heavy drinking among at-risk students (p. 1, 11-13).**

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## REFERENCE

Terlecki, M. A., Buckner, J. D., Larimer, M. E., & Copeland, A. L. (2015). Randomized controlled trial of brief alcohol screening and intervention for college students for heavy-drinking mandated and volunteer undergraduates: 12-month outcomes. *Psychology of Addictive Behaviors, 29*(1), 2.

## ARTICLE 2: TECHNOLOGY-BASED INTERVENTIONS FOR SUBSTANCE USE AND COMORBID DISORDERS: AN EXAMINATION OF THE EMERGING LITERATURE

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## SUMMARY

Approximately 40% of the roughly 20 million individuals with a substance use disorder (SUD) have a comorbid psychiatric disorder. However less than 55% of individuals with SUDs and comorbid diagnoses receive professional treatment. While integrated treatments for comorbid diagnoses are recommended and have demonstrated effectiveness, they are limited in availability and accessibility. **Technology-based interventions (TBIs)—interventions delivered by automated computer, mobile system, or internet with little to no live therapist involvement—have the potential to overcome these treatment barriers and reach both a**

**larger number of individuals and a broader demographic by offering flexible, cost-effective, and easily accessible alternatives to in-person care.** Due to the importance of developing TBIs for co-occurring SUDs and other mental illnesses, and the shortage of such interventions, this study evaluated the current state of research on technology-based-interventions targeting substance abuse disorders and comorbid disorders toward guiding next steps to raise the effectiveness and accessibility of these interventions (p. 1-3, 8, 9).

Searching articles, feasibility and acceptability pilot studies, protocols of planned studies, and randomized control trials, researchers identified nine distinct TBIs for SUDs and comorbid disorders. The two TBIs with the strongest results were the computer-delivered SHADE program developed for depression and comorbid alcohol and/or other drug use, and the web-based VetChange program for veterans with problematic alcohol use and PTSD symptoms. SHADE takes place over 9 sessions and includes elements from cognitive-behavior therapy (CBT) and motivational interviewing (MI), which has been adapted for young adults. VetChange consists of interactive, online modules that provide personalized feedback on participants' readiness to change, the severity of their symptoms, and helps them identify risky situations and develop coping skills. SHADE (as well as DEAL, their program targeting young adults) and VetChange were associated with reductions in psychiatric symptoms and substance use. Duration and intensity appeared to be an important factor in TBI efficacy, as limited-session integrated intervention and low-intensive text messaging intervention showed little success in reducing alcohol use and depressive symptoms. However, TBIs focused on co-occurring SUDs and borderline personality disorder, as well as disaster-affected individuals with substance use, depression, and anxiety demonstrated feasibility and acceptability (p. 4-8, 11).

**Although very limited, varied, and in need of substantial growth, the emerging literature on TBIs that address SUDs and comorbid psychiatric disorders is overall promising, particularly for TBIs focused on problematic alcohol use, depression, and/or anxiety.** Future research developing TBIs for SUDs and comorbid eating disorders and psychotic disorders is needed, as is designing more randomized control trials of comorbid TBIs. The majority of TBIs to date have emphasized adapting traditional clinician-delivered content for transmission via computer, mobile phone, or internet. While this is an important first step, ongoing efforts should explore and utilize dynamic means of harnessing the full potential of technology (p. 8-11).

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## REFERENCE

Sugarman, D. E., Campbell, A. N., Iles, B. R., & Greenfield, S. F. (2017). Technology-Based Interventions for Substance Use and Comorbid Disorders: An Examination of the Emerging Literature. *Harvard Review of Psychiatry*, 25(3), 123-134.

### ARTICLE 3: SUBSTANCE USE PREVENTION AND TREATMENT OUTCOMES FOR EMERGING ADULTS NON-COLLEGE SETTINGS: A META-ANALYSIS

#### SUMMARY

Compared with adolescents and older adults, **emerging adults (EAs) aged 18-25 have the highest rates of alcohol use, binge drinking, cannabis use, and illicit drug use, comprising a large proportion of treatment admissions.** In this first investigation of substance use prevention and treatment (PT) outcomes for EAs in non-college settings, researchers examined the results of studies of marginalized EAs from lower socioeconomic backgrounds—those living in poverty, in the justice system, facing disabilities, and/or dropped out of school—and identified potential moderators of PT outcomes (p. 242-243, 249).

Meta-analysis of 50 studies involving 14,489 participants, including 32 prevention and 18 treatment studies, categorized PT models into three groups—Cognitive Behavioral Therapy (CBT), Motivational Interviewing (MI), and Miscellaneous (Misc)—and compared treatment or prevention type to active or no/minimal intervention controls. Data were extracted for three outcomes: alcohol use, illicit drug use, and alcohol or drug problems. Lastly, a series of weighted meta-regression models determined whether select variables moderated the level of effect sizes across PT studies (p. 244-248).

Comparison of effects across PT groups indicated no significant difference between CBT, MI, or Misc. Among select variables, no differences in prevention effects were found for percent white, percent female, and percent attending college; however, studies with older participants had better outcomes. Moderation analysis of treatment studies found no difference among most demographic variables, e.g. age, gender, race, and emerging adult status. However, proportion of college-attending participants yielded a significant moderating effect, and was associated with an increase in treatment study effect size. Studies that did not involve personalized feedback had significantly higher effect sizes than those that provided feedback intervention. No significant differences were found between studies offering or omitting e-intervention (p. 248, 249).

Overall, meta-analysis thus resulted in three major findings: a greater proportion of college-attending EAs in any given treatment study increased effect outcomes; personalized feedback interventions had significantly *lower* effect outcomes than those offering no personalized feedback, suggesting personalized feedback may be less effective in non-college settings; and e-interventions worked equally as well as non-e-interventions. **Due to their relative sparsity, studies on substance use PT for EAs in non-college settings “should be a high priority, as they increase the generalizability of findings to the roughly 60% of EAs not attending college.”** (p. 250) Treatment studies addressing medications, e-interventions, and opiate-using EAs are particularly needed (p. 249, 250).

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## REFERENCE

Davis, J. P., Smith, D. C., & Briley, D. A. (2017). Substance use prevention and treatment outcomes for emerging adults in non-college settings: A meta-analysis. *Psychology of Addictive Behaviors, 31*(3), 242.

## ARTICLE 4: EMERGING ADULTS IN SUBSTANCE MISUSE INTERVENTION: PRE-INTERVENTION CHARACTERISTICS AND RESPONSES TO A MOTIVATION-ENHANCING PROGRAM

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## SUMMARY

Emerging adulthood (EA), roughly between the ages of 18-25, is a time of particularly high risk-taking behavior, especially regarding substance use. Intervention programs during EA are distinctly necessary as substance misuse at this age can indicate longer-term problems. Classifying drinking patterns among emerging adults required to attend a motivational-enhancing (ME) intervention into four alcohol use profile groups—two low-risk statuses (abstinence and light drinking) and two high-risk statuses (occasional heavy drinking and frequent heavy drinking)—**this study examined changes among individuals undertaking the Prime For Life (PFL) program, and sought to determine whether sex and being of legal drinking age were predictors of transitions to lower alcohol use intentions (p. 1-3).**

1183 study participants from ten U.S. states—court-ordered to attend PFL after arrest for driving while intoxicated—were categorized into pre-intervention and post-intervention profiles based on their 90-day drinking behavior before intervention and their 90-day drinking intentions after intervention. Results showed that many participants had lower-risk intentions

for future drinking compared to pre-intervention alcohol use. **Despite over two-thirds reporting high-risk drinking prior to PFL, less than a third expressed the intention to do so post-intervention.** Participants in both low-risk status groups largely remained in the same status post-intervention —specifically 93% of low-risk abstinence participants and 84% of low-risk light drinkers—with transition to a higher-risk profile extremely rare. **Additionally, many participants in high-risk statuses transitioned to lower-risk statuses, reflecting future intentions of lesser drinking.** For example, three-quarters of participants in the high-risk frequent heavy drinking status transitioned to a lower-risk intention status (p. 4-10).

Overall findings indicated that many participants in the ME program PFL showed transitions to lower-risk profiles, regardless of sex or being above versus below the legal drinking age, albeit for more women than men in the heaviest drinking group. **These results demonstrate that positive short-term changes are possible in emerging adults during ME intervention.** Further research is needed to examine longer-term outcomes and may benefit from this method of classifying individuals according to alcohol use profiles (p. 11-12, 3, 1).

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## REFERENCE

Beadnell, B., Crisafulli, M. A., Stafford, P. A., & Casey, E. A. (2016). Emerging adults in substance misuse intervention: preintervention characteristics and responses to a motivation-enhancing program. *Addiction Science & Clinical Practice, 11*(1), 16.

## ARTICLE 5: BRIEF ALCOHOL INTERVENTIONS FOR ADOLESCENTS AND YOUNG ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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## SUMMARY

Responding to evidence that a significant number of adolescents (ages 11-18) and young adults (ages 19-30) put themselves at risk for multiple detrimental health consequences due to heavy consumption of alcohol, **research has increasingly sought to both identify effective intervention programs that hinder or prevent initiating alcohol use, and intervene in the progression of heavier users toward increased problematic use.** This meta-analysis of 185 such studies examined the effects of brief alcohol interventions on alcohol-related outcomes for adolescents and young adults not seeking treatment (p. 1-5).



Advantageous due to their brevity and the varied settings in which they can be delivered, **brief interventions—interventions aimed at providing motivation for behavior change in a relatively short time period (one to five session)—were associated with significant post-intervention reductions in alcohol consumption and problematic alcohol-related outcomes.** These effects were modest, though positive and significant, for both adolescents and young adults, however somewhat smaller in magnitude for young adults.

**Further findings indicated that the positive effects of brief alcohol interventions lasted up to one year after the end of intervention.** Additionally, though these effects were found to be consistent across different intervention formats and participant demographics, different forms of treatment and therapeutic components were associated with different levels of effectiveness. **For example, single session interventions delivered with less than five minutes of total contact time—e.g. offering personalized feedback reports to read—yielded the largest mean effect on both alcohol consumption and problematic alcohol-related outcomes (p. 6-13).**

Overall findings demonstrate that brief alcohol interventions led to significant decreases in alcohol-related problems and alcohol consumption among young adults and adolescents. Effects were consistent across diverse settings, formats, and populations and persisted up to one year after intervention, with motivational interviewing combined with goal-setting exercises and decisional balance associated with the most beneficial outcomes. **Despite the magnitude of effects being generally modest, brief alcohol interventions are potentially worthwhile given that, “the brevity and low-cost of these interventions allow them to be applied on a relatively large scale where they may add incrementally to the influences that deter risky drinking among youth”** (p. 16). To optimize beneficial effects, providers may want to incorporate findings suggesting that delivery aspects, site, and modality may affect positive outcomes (p. 1-3, 14-16).

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## REFERENCE

Tanner-Smith, E. E., & Lipsey, M. W. (2015). Brief alcohol interventions for adolescents and young adults: A systematic review and meta-analysis. *Journal of Substance Abuse Treatment, 51*, 1-18.

## CONCLUSION

There is a strong need for interventions for emerging adults aged 18-25 represents, as this group “endorse the highest rates of cannabis use (19%), alcohol use (59%), binge drinking (38%), and illicit drug use (21%), compared with adolescents and older adults” (Davis et al, 2017, p. 242). In addition, one-quarter of all heroin users in the US are emerging adults, and their treatment outcomes are worse than other groups’. While interventions for adolescents are numerous, there are fewer interventions for emerging adults of this age group.

In this research review, we highlighted a number of promising interventions for emerging adults, many of which utilized two significant features: 1) using technology in an innovative manner; 2) brief intervention or limited number of sessions. Of the articles included in this review, many of them integrated psychological treatment strategies, such as cognitive behavior therapy (CBT), motivational interviewing (MI), and motivational enhancement, often in some combination with an innovative technology.

Terlecki et al (2015) investigated a brief intervention for college-aged students (BASICS) that combines intervention with motivational interviewing, providing users with an alcohol assessment, as well as personalized feedback in a motivational interviewing format. The authors found that this intervention produced meaningful results, including “significant decreases in weekly drinking, typical alcohol consumption, and peak alcohol consumption,” with a large effect on decreases in alcohol problems (p. 11).

Sugarman and colleagues (2017) described the need for technology-based interventions (TBIs) as a way to reach the roughly 8 million Americans who struggle with substance abuse disorder and have a comorbid psychiatric disorder, since 55% of this population does not receive treatment; in addition, TBIs are cost-effective, accessible, and capable of reaching many who are not currently receiving treatment. The authors found that TBIs can be effective at treating depression, anxiety, and problematic alcohol use.

Davis et al (2017) conducted a meta-analysis that included more than 50 studies, and almost 15,000 research participants, finding that prevention and treatment (PT) was more effective than minimal or no intervention. The authors reported that no treatment modality (cognitive behavior therapy, motivational interviewing, or miscellaneous) was more effective than the others, statistically speaking. They also noted that motivational interviewing and cognitive behavior therapy rated more highly on some measures than other forms of treatment.

Beadnell et al explored how a treatment strategy incorporating motivational enhancing intervention (ME) supported participants’ goals of less frequent use. This strategy proved to be effective for this population (i.e., a court-ordered program that required those with DUI to

attend), as many frequent and heavy drinkers reported their intention to drink less. This suggests that positive, short-term changes are possible for emerging adults.

Tanner-Smith and colleagues investigated the efficacy of brief interventions through a systematic review of literature. They found that even brief interventions (often with as few as one to five sessions long) were associated with significant reductions in alcohol consumption and related problems. In addition, single session interventions lasting less than five minutes were found to be especially effective.