The value of CAGE, CUGE, and AUDIT in screening for alcohol abuse and dependence among college freshmen.
Aertgeerts B; Buntinx F; Bande-Knops J; Vandermeulen C; Roelants M; Ansoms S; Fevery J. Alcoholism: Clinical and Experimental Research 24(1): 53-57, 2000. (29 refs.)

Background: This study attempted to (1) determine the prevalence of alcohol problems in college freshmen, (2) assess the performance of both the CAGE and the Alcohol Use Disorders Identification Test (AUDIT) questionnaires in this population, and (3) assess the possibility of improving the CAGE and/or AUDIT. Methods: A sample of 3564 consecutive college freshmen, with a mean age of 18 years, at the Catholic University of Leuven, (Belgium) completed, during a cross-sectional study, a questionnaire assessing drinking behavior and identifying students at risk as defined by DSM- IV criteria. The questionnaire also included the CAGE questionnaire and the AUDIT. Calculations of sensitivity, specificity, negative predictive value, positive predictive value, likelihood ratios, and receiver operating characteristic curves for different scores of the CAGE and the AUDIT were performed, using DSM-IV criteria as the reference standard. Results: The area under the receiver operating characteristic curve of the CAGE and the AUDIT was 0.76 and 0.85, respectively. The cutoff score of 1 for the CAGE was associated with a sensitivity of 42%, a specificity of 87%, a positive predictive value of 36%, and a negative predictive value of 90%. A score of 6 or more for the AUDIT gave a sensitivity of 80%, a specificity of 78%, a positive predictive value of 37%, and a negative predictive value of 77%. These results were related with a prevalence of 14.1% of alcohol problems. Replacing one question of the CAGE by "often driving under the influence" resulted in the CUGE (acronym for "cut down, under influence, guilty feelings, and eye opener"), with an area under the curve of 0.96, a positive likelihood ratio of 8.7, and a negative likelihood ratio of 0.04. Conclusions: Prevalence of alcohol problems in college students is confirmed to be high. When screening for alcohol problems in a college freshmen population, one question seems extremely important. The newly constructed CUGE questionnaire may improve screening efforts in students, compared with existing questionnaires.

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Drinking levels, related problems and readiness to change in a college sample.
Drinking levels, related problems, and readiness to change alcohol use were assessed among college students (N=179) referred to a university-based, early-intervention program. As expected, alcohol use and related problems within this sample exceeded university-wide norms, but problems were concentrated within a small subgroup that drank well above customarily defined "binge" levels. Furthermore, some individuals experienced significant problems drinking below binge levels. In general, participants showed limited acknowledgment of a drinking problem or interest in changing their behavior. Findings suggest that prevention and early intervention efforts should be based on college students' diverse drinking patterns and risk profiles, and support the argument against the dichotomous binge-drinking characterization of the problem. Copyright 2002, The Haworth Press, Inc.
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Examination of the short form of the Inventory of Drinking Situations (IDS-42) in a young adult university student sample.
Carrigan G; Samoluk SB; Stewart SH. Behaviour Research and Therapy 36(7/8): 789-807, 1998. (28 refs.)
The 42-item version of the Inventory of Drinking Situations (IDS-42) assesses relative frequency of drinking behavior across eight categories of drinking situations and was originally developed as a method for identifying high-risk situations in alcoholic samples. This study was designed to examine the psychometric properties of the IDS-42 in a sample of university students in order to assess its suitability as an assessment tool in the non-clinical population. Three hundred and ninety-six students (111 M, 283 F, 2 with missing gender data) completed the IDS-42 and a well established measure of drinking motives, the Drinking Motives Questionnaire (DMQ). Confirmatory factor analysis of the IDS-42 established a hierarchical factor structure with eight lower-order factors and three higher-order factors of negatively-reinforcing situations, positively-reinforcing situations, and temptation situations. The eight lower-order IDS-42 factors demonstrated moderate to high internal consistency and excellent concurrent validity with conceptually-similar DMQ subscale scores. Non-parametric analyses revealed that male students reported a higher drinking frequency overall as compared to female students, particularly in IDS-42 situations involving Social Pressure to Drink, Pleasant Times with Others, Testing Personal Control, and Urges and Temptations. Across the entire sample of university student drinkers, a higher drinking frequency was reported in positively-reinforcing situations: as compared to negatively-reinforcing situations and temptation situations, as predicted. Results suggest the IDS-42 possesses good psychometric properties and support its utility as a tool in identifying situation-specific
Reactivity to ecological momentary assessment: An example using undergraduate problem drinkers.

Hufford MR; Shields AL; Shiffman S; Paty J; Balabanis M. *Psychology of Addictive Behaviors* 16(3): 205-211, 2002. (55 refs.)

A. A. Stone and S. Shiffman (1994) defined ecological momentary assessment (EMA) as monitoring or sampling strategies that assess phenomena at the moment they occur in natural settings, thus maximizing ecological validity while avoiding retrospective recall. To address the extent to which EMA affects the behaviors and cognitions under observation, the authors examined behavioral and motivational reactivity to EMA among male and female undergraduate problem drinkers (n = 33). Participants completed a 2-week monitoring protocol using palmtop computers as well as pre- and postmonitoring measures of their drinking behavior and motivation for change. The findings suggest that the magnitude of reactivity to EMA is small. Suggestions for future research are presented. Copyright 2002, American Psychological Association.

Identification, prevention and treatment: A review of individual-focused strategies to reduce problematic alcohol consumption by college students.

Larimer ME; Cronce JM. *Journal of Studies on Alcohol* (Supplement): 148-163, 2002. (96 refs.)

Objective: The purpose of this article is to review and assess the existing body of literature on individually focused prevention and treatment approaches for college student drinking. Method: Studies that evaluate the overall efficacy of an approach by measuring behavioral outcome, such as reductions in alcohol use and associated negative consequences were included. All studies discussed utilized at least one outcome measure focused on behavioral change and included a control or comparison condition: however, not all trials were randomized. Results: Consistent with the results of previous reviews, little evidence exists for the utility of educational or awareness programs. Cognitive behavioral skills-based interventions and brief motivational feedback (including mailed graphic feedback) have consistently yielded greater support for their efficacy than have informational intervention. Conclusions: There is mixed support for values clarification and normative reeducation approaches. Much of the research suffers from serious methodological limitations. The evidence from this review suggests that campuses would best serve the student population by implementing brief motivational or skills-based interventions, targeting high-risk students identified...
either through brief screening in health care centers or other campus settings or through membership in an identified risk group (e.g., freshmen, Greek Organization members, athletes, mandated students). More research is needed to determine effective strategies for identifying, recruiting and retaining students in efficacious individually focused prevention services, and research on mandated student prevention services is an urgent priority. Integration between campus policies and individually oriented prevention approaches is recommended. Copyright 2002, Alcohol Research Documentation, Inc. Used with permission.

Clinic nurses: Confronting campus alcohol use on the front-line.
Alcohol use is common on college campuses. Nurses in the student health clinic, in collaboration with other health professionals, have a responsibility and an opportunity to assess, intervene, and prevent problems related to the use of alcohol and other drugs. In this article, the author suggests how college health nurses, in everyday practice, can seize opportunities for helping students face their alcohol-related problems. Copyright 1997, Helen Dwight Reid Educational Foundation.

Adolescents, Alcohol, and Substance Abuse: Reaching Teens Through Brief Interventions.
The contributions to this volume emerged from a multidisciplinary conference convened to explore adolescent substance use, abuse, and intervention. The chapters of this volume are based on the discussions that followed each presentation. The volume is organized into three sections. Section one deals with the context of adolescent substance use. It includes discussion of adolescent development, harm reduction, and personality and learning factors that may contribute to risk for substance use problems. Section two deals with clinical care. It considers the assessment process, enhancing motivation, the use of family therapy, brief treatments, and special treatment needs, including HIV/AIDS prevention and alcohol skills training for college students. The final section deals with future research needs. Copyright 2001, Guildford Publications, Inc.

Screening college students for alcohol problems: Psychometric assessment of the SASSI-2.

Objective: This study examined the psychometric properties of the Substance Abuse Subtle Screening Inventory (SASSI-2) with college students. Method: The first part of the study examined the test-retest reliability of the SASSI-2 at 2-week (n = 55) and 4-week (n = 47) intervals with students recruited from introductory psychology courses. The second part used a new sample of 164 college students to assess the internal consistency of the SASSI-2 subscales, the relationship of the SASSI-2 with other common alcohol screening instruments, and its reactivity to response biases. Participants completed the SASSI-2 under standard instructions, or instructions to minimize any alcohol problems they might have (fake good), or to exaggerate any alcohol problems they might have (fake bad). They then completed the CAGE, MAC and MAST under those measures' standard instructions. Results: The 2-week and 4-week test-retest reliability of the SASSI-2 subscales was moderate to high, but the test-retest reliability for overall classification as "chemically dependent" or "nonchemically dependent" was moderate at 2 weeks and relatively poor at 4 weeks. Internal consistencies for the SASSI-2 subscales ranged from poor to strong (Cronbach alphas ranging from .11 to .93), and the SASSI-2 drinker classification status correlated moderately with drinker classifications based on the CAGE, MAC and MAST. There was no difference in the proportion of participants classified as "chemically dependent" on the SASSI-2 when instructed to "fake good" and under standard instructions, but college students scored as "chemically dependent" more frequently when instructed to "fake bad." Conclusions: When the SASSI-2 is used with college students, its reliability and validity are comparable to other instruments that currently exist in the public domain. The vulnerability of the SASSI-2 to intentional faking warrants further investigation. Copyright 1998, Alcohol Research Documentation, Inc. Used with permission.

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Measuring excessive alcohol use in college drinking contexts: The Drinking Context Scale.

Research on youthful drinking has shown that the greatest risks associated with alcohol abuse are related to contextual factors that may potentiate heavy drinking as well as increase risks for adverse consequences. These contextual factors include interacting psychological, interpersonal, and environmental dimensions of alcohol use. However, despite considerable college drinking research to identify these factors, few formal instruments have been produced for measuring excessive drinking in multidimensional contexts. The current study of 197 college students who were cited their first time for breaking university drinking rules focuses on the development and
validation of a scale for measuring the likelihood of excessive drinking across an array of psychological, interpersonal and situational contexts resulting in the 23-item Drinking Context Scale (DCS). Three distinct factors emerged defining Convivial drinking, Private Intimate drinking, and drinking as a form of Negative Coping. These three factors explained 61.5% of the variance after principal components analysis and varimax rotation, showed excellent internal reliabilities, and were moderately intercorrelated. MANOVA analysis demonstrated concurrent validity with the Quality Frequency Index (QFI) and a modified version of the Michigan Alcoholism Screening Test (MAST). Implications for further research with the DCS are suggested. Copyright 1997, Elsevier Science Ltd.

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Measuring problem drinking in first time offenders: Development and validation of the College Alcohol Problem Scale (CAPS).
Research on college drinking continues to justify serious concerns for the psychological, social, and physical well-being of young persons who abuse alcohol. However, despite considerable interest and research in this regard, there are few valid, reliable and clinically useful brief screening instruments available to measure youthful drinking problems. The current study of 315 college students cited their first time for breaking university drinking rules; describes the development and validation of the College Alcohol Problem Scale (CAPS) for measuring different psychosocial dimensions of problem drinking in college students. Two related but distinct factors emerged: defining Socio-Emotional and Community Problems. These two factors explained almost two-thirds of the variance, and showed very good internal reliabilities. MANOVA analysis demonstrated concurrent validity for the CAPS with both a measure of heavy drinking derived from the QFI and a modified version of the MAST. Implications for using the CAPS for identifying potential drinking problems in young persons are emphasized. Copyright 1997, Pergamon Press.
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Replicating the College Alcohol Problem Scale (CAPS) with college first offenders.
O'Hare T. Journal of Alcohol and Drug Education 43(2): 75-82, 1998. (17 refs.)
There are few valid, reliable, and clinically useful brief screening instruments available for measuring youthful problem drinking in college prevention services. The recent development of the College Alcohol Problem Scale (CAPS) (O'Hare, 1997a) is one effort to fill this gap. Although initial validity data appear promising, scales should undergo extensive replication and validation before they are employed confidently with this target population. The current study employed a cohort of 312 college students
cited for under-aged drinking and adjudicated in the same university prevention setting. Findings demonstrated close replication in factor structure and internal consistency ratings. Subscale factors were also covalidated with a measure of heavy/peak drinking as derived from the AUDIT questionnaire. Suggestions for employing the CAPS in university early intervention programs are discussed. Copyright 1998, Alcohol and Drug Problems Association of North America. Location: Dartmouth e-journal

Validating the Alcohol Use Disorder Identification Test with college first-offenders.
O'Hare T; Sherrer MV. Journal of Substance Abuse Treatment 17(1/2): 113-119, 1999. (40 refs.)
Although the Alcohol Use Disorders Identification Test (AUDIT) has been shown to have good validity and reliability with clinical samples, little data has been examined with respect to youthful problem drinkers, particularly college students. Data collected with 312 students cited their first time for breaking university drinking rules was examined to evaluate the factorial validity and internal consistency of the 10-item scale, and also to test the validity of the AUDIT against two scales designed with a previous cohort specifically to measure hazardous (The Drinking Context Scale) and harmful drinking (the College Alcohol Problem Scale) in college students. Overall, results suggest that the AUDIT is a valid and reliable screening device for college students, and could play an important role in assessing youthful problem drinkers for early intervention programming. Copyright 1999, Pergamon Press. Location: Dartmouth e-journal

Predicting problem drinking in college students: Gender differences and the CAGE questionnaire.
O'Hare T; Tran TV. Addictive Behaviors 22(1): 13-21, 1997. (41 refs.)
Adolescents and young adults are among the highest users of alcohol and other drugs in the United States. One of the tools most commonly employed in screening for problem drinking and alcohol dependence is the CAGE questionnaire. Research has indicated, however, that not only may the CAGE be a poor detection device for identifying youthful substance abuse, but it may particularly lack strength in the detection of alcohol abuse in young women. The current study examined the predictive power of the CAGE relative to other common assessment indicators of youthful substance abuse in a sample of college students. It focused on the relative predictive power of the CAGE in detecting a high level of drinking-related problems. In addition, the interaction of gender and a positive CAGE score was included in the logistic regression analysis to test the hypothesis that the CAGE is predictive for men but not for women. Results suggest that the CAGE is a relatively weak predictor of alcohol-
related problems in the sample of college students, and it lacks predictive power for detecting problems in college women. Issues concerning substance-abuse assessment in young people are discussed, with special consideration given to gender differences. Copyright 1997, Elsevier Science Ltd.
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**Concurrent validity of the Personality Assessment Inventory Alcohol Problems (ALC) scale in a college student sample.**
Ruiz MA; Dickinson KA; Pincus AL. Assessment 9(3): 261-270, 2002. (52 refs.)
The concurrent validity of the Alcohol Problems scale (ALC) was investigated in a college student sample (N = 200). The relationships between the ALC and associated features of alcohol problems (e.g., consumption patterns, expectancies, maladaptive coping, and stress) were examined. The validity of the ALC for identifying clinically significant alcohol problems (assessed with the Structured Clinical Interview for the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders) was also examined. The ALC was related to the associated features and was a valid indicator of alcohol problems. T scores of 80, 85, and 90 had superior hit rates for alcohol abuse; and scores of 80, 85, and 90 had superior hit rates for alcohol dependence. Copyright 2002, Psychological Assessment Resources, Inc.
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**Screening for impaired driving risk among college students.**
Schumacher JE; Usdan S; McNamara C; Bellis JM. College Student Journal 36(2): 180-187, 2002. (9 refs.)
The Impaired Driving Screening (IDS), a 12-item, self-administered questionnaire developed to identify college students at risk for impaired driving was tested on 782 undergraduates. Thirty-five percent used alcohol, 8.6 percent binge drank, 27.5 percent recently drove after drinking, and 32.7 percent recently drove after drinking and rode with an impaired driver. The IDS classified 57.9 percent of students as low risk, 26.2 percent as moderate risk, and 15.9 percent as high risk for continued impaired driving and negative consequences. High risk students used alcohol 12.5 days, drove after drinking 10.5 times, and drove with an impaired driver 6.8 times in the past month. They drove after drinking 10 times more and rode with an impaired driver twice as much as students at moderate risk. High risk students were more likely to be male, Caucasian, and binge drink than other students. The Impaired Driving Assessment (IDA), a timeline follow-back interview, was used to validate the IDS and is discussed as a useful prevention tool. Copyright 2002, Project Innovation, Inc.
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Results of a heart disease risk-factor screening among traditional college students.
The author collected data on serum cholesterol, blood pressure, and self-reported health behavior in 226 college students aged 18 to 26 years. Twenty-nine percent had undesirable total cholesterol levels, 10% had high cholesterol, 10% had high systolic blood pressure, and 11% had high diastolic blood pressure. Half or more of the participants consumed a diet high in saturated fats, engaged in binge drinking, had a parental risk for high cholesterol or blood pressure, or reported they experienced elevated stress levels. Men had higher risk-factor levels than women. Findings from a regression analysis revealed that smoking, binge drinking, lack of cardiovascular exercise, and eating a high saturated-fat diet were predictive of undesirable cholesterol levels. Study limitations included self-selection of participants and single measurements of blood pressure and cholesterol. Trained students served as screeners in the program for providing an effective, low-cost screening intervention. Copyright 2002, Helen Dwight Reid Educational Foundation.
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Concurrent and prospective screening for problem drinking among college students.
Werner MJ; Walker LS; Greene JW. *Journal of Adolescent Health* 18(4): 276-285, 1996. (34 refs.)
Purpose: Previous studies suggest that combining the CAGE questionnaire with the Perceived Benefit of Drinking Scale (PBDS), information about an adolescent's use of tobacco, and best friend's drinking pattern is a useful composite screening measure for problem drinking. The present study was undertaken to evaluate this composite screening measure prospectively as a predictor of subsequent problem drinking among late adolescents across 3 years of college. Methods: A random sample of 452 college freshmen entered a longitudinal study of alcohol use at the beginning of their freshman year. A total of 184 (58%) completed follow-up measures of alcohol use 32 months later. Outcome measures included the quantity and frequency of alcohol use and a composite measure of specific alcohol-related problems. Results: CAGE scores, PBDS scores, tobacco use, and best friend's drinking patterns as reported at college entry together explained 33% of the variance in the quantity/frequency measure and 37% of the variance in the alcohol-related problems measure from the end of the junior year. These same variables as reported at the end of the junior year explained 50% of the variance in the quantity/frequency measure and 61% of the variance in the alcohol-related problems measure. The composite screening measure as reported at college entry had a sensitivity of 73%, specificity of 70%, positive predictive value (PPV) of 63%, and negative predictive value (NPV) of 78% for students at high risk for problem
drinking at the end of the junior year. A similar concurrent composite screening measure consisting of the same variables reported at the end of the junior year had a sensitivity of 88%, specificity of 56%, PPV of 60%, and NPV of 83% for high-risk drinkers. A total of 70-73% of students could be correctly categorized by each composite screening measure. These composite screening tests had significantly better test characteristics than the CAGE or PBDS alone. Conclusions: College students' responses to the CAGE, PBDS, tobacco use, and their friends' drinking remain consistent over 3 years and correlate with concurrent and future risk for problem drinking. These variables explain significant variance in drinking and alcohol-related problems and may constitute a useful screening measure for current and future problem drinking. Copyright 1996, Society for Adolescent Medicine. Location: Matthews Fuller Library. Dartmouth e-journal