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**Preventing Alcohol Abuse and Alcohol-Related Negative Consequences  
Among Freshmen College Students:  
Using Emerging Computer Technology to Deliver and Evaluate the  
Effectiveness of Brief Intervention Efforts**

**by  
Elizabeth Tudor Miller**

**A dissertation submitted in partial fulfillment of the  
requirements for the degree of**

**Doctor of Philosophy**

**University of Washington**

**2000**

**Program Authorized to Offer Degree: Psychology**

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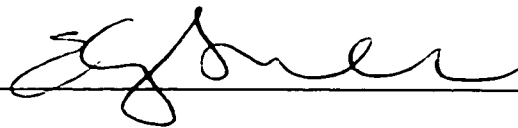
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Doctoral Dissertation

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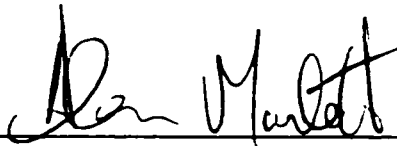
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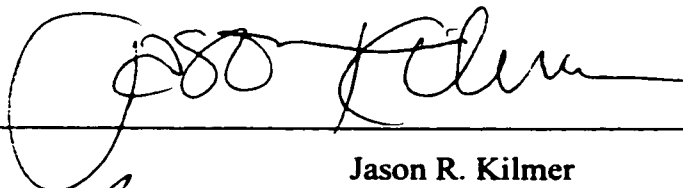
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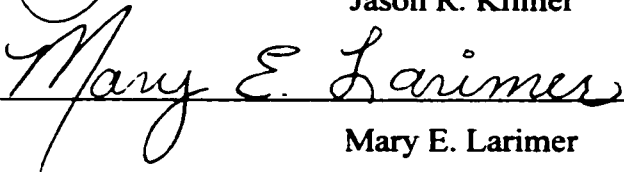
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**Abstract**

**Preventing Alcohol Abuse and Alcohol-Related Negative Consequences  
Among Freshmen College Students:  
Using Emerging Computer Technology to Deliver and Evaluate the  
Effectiveness of Brief Intervention Efforts**

**by Elizabeth Tudor Miller**

**Chairperson of the Supervisory Committee:**

**Professor G. Alan Marlatt**

**Department of Psychology**

The current study was a longitudinal effectiveness trial of two cost-efficient prevention programs aimed at decreasing harmful and hazardous alcohol use among freshmen college students. The specific aims of this study were to (1) test the effectiveness of the ASTP and CD-ROM interventions in reducing alcohol abuse and the incidence of alcohol-related problems and increasing motivation to change alcohol use and alcohol-related knowledge among university freshmen class members as compared to a multiple assessment control group, (2) compare the differential effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessments in reducing alcohol abuse and the incidence of alcohol-related problems and increasing motivation to change alcohol use and alcohol-related knowledge among university freshmen class members over the course of the freshmen year, (3) examine the differential effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessments as compared to a single assessment control group at the 6-month follow-up, and (4) evaluate the feasibility of conducting longitudinal survey research utilizing the Internet (Web). A total of 547

freshmen class members were randomized to one of four conditions: a 6-month follow-up single-assessment-only control (group 1), a multiple three-assessment-only control (2), the CD-ROM intervention (3), and the ASTP intervention (4). Four main findings emerged from this study. First, the overall pattern of results suggest that college students who complete an assessment of drinking behaviors and consequences upon entrance to college followed by a brief intervention and/or subsequent assessments during their freshmen year show significantly less alcohol consumption and fewer harmful consequences in comparison with students in a no-intervention control condition who completed only a single-assessment at the end of the freshmen year. Second, “light” drinkers who received either the ASTP or CD-ROM intervention did not show a significant increase in alcohol-related problems suggesting a preventative effect and did show a significant increase in knowledge acquisition as compared to those in the three-assessment condition. Third, the ASTP intervention increased participant motivation to change alcohol use as compared to the CD-ROM and three-assessment conditions and received higher participant satisfaction ratings than the CD-ROM intervention. Fourth, in an effort to minimize resources and expedite the achievement of clean data, the utilization of Web-based data collection methods was effective.

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## DEDICATION

I dedicate this thesis to my husband, lover, best friend, and soul partner, George – the kindest and most generous soul I ever hope to know. He nourished me throughout my graduate career in so many ways... I am forever appreciative.

## INTRODUCTION

### **Alcohol Use Among College Students – Prevalence, Problems, and Patterns**

College student drinking continues to be an important public health issue. Despite the increase in prevention efforts and university policies aimed at decreasing alcohol use on the college campus (Anderson & Gadaletto, 1997, Wechsler, et al., 1995), college students continue to engage in harmful and hazardous drinking, particularly during the freshman year (Baer, 1993). The physical, psychological, and behavioral problems associated with hazardous drinking are labeled as one of the key concerns by college administrators, parents, university communities, and the media (Hanson & Engs, 1995; Wechsler, 1996; Wechsler & Isaacs, 1992; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Winerip, 1998).

#### Prevalence

In a recent national survey, nearly 85% of undergraduate college students drank alcohol in the past year (Johnston, O'Malley, & Bachman, 1996; Presley, Meilman, & Lysterla, 1995) and as many as 62.5% used alcohol in the past 30 days with 3.6% reporting daily use (Johnston, et al., 1996). In a comprehensive Core Survey of over 45,000 students across 87 U.S. undergraduate institutions, 27.3% of men and 13.9% of women used alcohol on at least three occasions weekly. They found that 21% of the sample reportedly drank two to five drinks weekly, 9% consuming 10-15 drinks weekly, and 4.1% consuming over 20 drinks weekly (Presley, et al., 1995). Wechsler and colleagues surveyed 17,592 students at 140 universities and found that 44% engaged in "binge" drinking (e.g., five or more drinks in a row for men and four or more drinks in a row for women on at least one occasion in the two weeks prior to completing the survey) (Wechsler, et al., 1994; Wechsler & Isaac, 1992). Of concern is the fact that 19% of that sample reported three or more binge episodes in the preceding two weeks. Although the

definition of “binge” drinking, or “binge” drinker, must be cautiously adopted (Weingardt et al., 1997), the negative effects of hazardous alcohol consumption among college students appears to be axiomatic.

Of even greater concern than frequency of use are those students who drink in a heavy, hazardous fashion, putting themselves and others at risk for increased negative consequences. The correlation of alcohol use with drinking-related negative consequences varies with ranges from .30 at the lower end (Chassin, Mann, & Sher, 1988; White, 1989), increasing to moderate levels (Bailey & Rachal, 1993; Donovan & Jessor, 1978; Moberg, 1983; Rooney, 1982-1983; Smith, Mccarthy, & Goldman, 1995), and reaching .60 (White, 1987; White & Labouvie, 1989).

### Problems

Given that drinking is considered by many to be a primary “rite of passage” from adolescence to adulthood (Johnstone, 1994), it is ironic that the greatest health risks individuals aged 18-22 face are those problems associated with excessive alcohol use in the college community (Berkowitz & Perkins, 1986; Saltz & Elandt, 1986; Stenmark, et al., 1981). The leading causes of death in this age group are alcohol-related accidents and injuries (IOM, 1990; NIAAA, 1984, NIAAA 1992, Johnston, et al., 1996). Previous research indicates that students increase their alcohol consumption upon entrance to college (Baer, Kivlahan, & Marlatt, 1995; Johanson & Marlatt, 1989) and report consuming more alcohol during their freshman year than at any other time during their college career (Baer, 1993). This puts freshmen university students at greater risk for excessive alcohol consumption (Baer, et al., 1995; Meilman, et al., 1990; Pope, et al., 1990) and related risks including academic failure (Presley, et al., 1995), relationship difficulties, sexual aggression, acquaintance rape (Norris, Nurius, & Dimeff, 1996; Koss, Gidycz, & Wisniewski, 1987; Berkowitz & Perkins, 1986; Engs & Hanson, 1985), sexually transmitted diseases (Donovan & McEwan, 1995; Strunin & Hingson, 1992), vandalism and violence (Engs & Hanson, 1985), and motor vehicle accidents and

fatalities ( Campbell, Zobeck, & Bertolucci, 1995; National Highway Traffic Safety Administration, 1994; McGinnis & Foege, 1993).

The college community feels the effects of hazardous drinking practices in a profound sense. Anderson & Gadaletto (1997) surveyed college administrators and found alcohol to be implicated in over half of the incidents of violent behavior, damage in residence halls and other campus property, unsafe sexual practices, and acquaintance rape among undergraduate college students. In fact, as many as 75% of reported acquaintance rapes are alcohol-related (Koss, Gidycz, & Wisniewski, 1987). Similarly, Anderson and Presley (1991) report that alcohol involvement was suspected in 47% of the cases involving property damage, 46% of injuries to others, 43% of injuries to oneself, and 41% of impaired academic performance among a college student sample. The Core Survey results reveal an association between heavy drinking and poor academic achievement. Students with an “A” average report drinking an average of 3.2 drinks weekly, whereas students with a “D” average report consuming 8.4 drinks on average (Presley, et al., 1995). The negative consequences of alcohol use are not experienced solely by the alcohol consumer. In fact, Wechsler and colleagues (1995) reported 21% of their sample of college students experienced unwanted sexual advances and 27% felt humiliated or insulted by someone who had been drinking. Given the widespread use of alcohol and the negative consequences associated with this consumption, efforts to reduce harm in this population can be informed by how these behaviors develop as well as theories surrounding their course.

### Patterns

The developmental transition associated with entrance to college encompasses a unique set of challenges including experimentation across various behaviors such as alcohol use, other drug use, and sexual activity. This puts many freshmen college students at high risk for observing and/or actively participating in experimenting with undefined boundaries regarding heavy alcohol use, combining alcohol and other drugs, and engaging in sexual activity while under the influence of alcohol for the first time. Thus,

this special population of late adolescents are commonly targeted for early interventions (Institute of Medicine, 1990; Wechsler, et al., 1994). However, the varied patterns of alcohol use and abuse among adolescents suggest that not all drinking is problematic and that engaging in problematic alcohol use is not necessarily chronic (Samson-Herman, H., Maxwell, C.O., & Doyle, T.F. 1989). Given the environmental context of the college campus, alcohol use is prevalent enough to be considered normative. Distinguishing between definitions of adolescent alcohol abuse, dependence, problem use, and non-problem use remains unclear and depends on several factors; normative environmental drinking patterns, socio-cultural drinking norms, and the continuum of negative consequences encountered.

Baer and colleagues (1998) report that patterns of alcohol use among adolescents differ from the patterns of adults in important ways: (1) they engage in more episodic drinking; (2) alcohol-related problems experienced by adolescents are not identical to those associated with chronic conditions of adult alcohol dependence; and (3) the type of drinking patterns that relate to problems for adults are different than for adolescents (Bailey & Rachal, 1993; Kilty, 1990). This pattern of intermittent use is consistent with the categorization of most adolescent users as “infrequent” (88%; Gutierrez, Molof, & Ungerleider, 1994), “experimental” (50%; Shedler & Block; 1990), or “non-problem” (85%; Donovan & Jessor, 1978) drinkers. However, the negative consequences associated with heavy alcohol use are primarily occurring during these “infrequent” binge episodes (Wechsler, 1995). Those college students engaging in hazardous alcohol use are doing so in an episodic manner which appears to be largely determined by the university environment. Consequently, entrance to college represents a developmental vulnerability to numerous health-risks associated with heavy alcohol use, leaving researchers in a quandary regarding the causes and solutions to this problem.

Although the etiology and course of drinking problems among college students, particularly freshmen, remain unclear (Baer, Kivlahan, & Marlatt, 1995), very few meet DSM-IV criteria for alcohol dependence (Johnston, O’Malley, & Bachman, 1997). Most

students tend to “mature out” of heavy drinking patterns as they progress through college, assume increased responsibilities, and learn their limits (Fillmore, 1988; Zucker et al., 1995; Jessor, Donovan & Costa, 1991). Therefore, many students will be faced with negotiating through this “developmentally limited” (Zucker et al., 1995) high-risk period during their college career. Two-thirds of college student problem drinkers will show a significant decline in heavy drinking without treatment by their late twenties (Fillmore, 1988; Baer, 1993; Alterman, 1990) consistent with the “developmentally limited” pattern of alcohol use among adolescents. However, for some college students the repercussions of the various time-limited negative consequences will endure even if their heavy alcohol use does not. Often, the remedy is to develop prevention programs to target adolescents before they begin to experiment with alcohol and other substances in an attempt to delay or prevent the onset of experimental substance use (ESU: Petraitis, Flay, & Miller, 1995). However, the causes of ESU cannot be explained in a comprehensive and coherent manner. Consequently, there are a dearth of effective abstinence-based prevention efforts (Petraitis, Flay, & Miller, 1995).

*A normative-developmental perspective asserts that some degree of alcohol use is a normal part of adolescent exploration of adult behaviors (Dusenbury & Botvin, 1992; Hillman & Sawilowsky, 1992). Others assert that in order to accurately examine alcohol use among young adults, a developmental framework should be considered (Newcomb & Bentler, 1988; Tarter & Vanyukov, 1994; Zucker, 1987). Various prevention programs have attempted, with varying degrees of success, to reduce or eliminate alcohol use by young people. There are, however, data to support the efficacy of prevention interventions targeting young adults further along the continuum of alcohol use. Given that adolescent alcohol use and abuse is unique from adult alcohol use and abuse a unique approach to intervening is required. The transition from high school to college represents a time of tumultuous change for the adolescent. It is during this transition when the young adult is seeking a new identity, and pressures to fit in are strong, that the influence of peers is greatest (Baer, et al., 1998).*

## **Developing, Designing, and Delivering Effective Prevention Programs**

### **Theoretical Approaches to the Development of Prevention Programs**

There are several approaches to developing and implementing prevention and intervention programs aimed at reducing the harm of heavy and hazardous alcohol use and the associated negative consequences among college students. Conceptually, prevention approaches can be delineated based on the audience and the level of risk. The goals therefore, range from delaying the onset of alcohol use among non-users to minimizing the negative consequences experienced by heavy and hazardous drinkers. Preventive interventions were previously categorized into primary, secondary, and tertiary, depending on the targeted individual's risk for developing a particular problem. More recently, the Institute of Medicine developed a three-tiered classification scheme based on an individual's risk for developing a particular problem combined with the relative cost of the intervention; universal, selective, and indicated (IOM, 1995). Universal prevention efforts are aimed at delaying or eliminating problems and are directed at the entire population, such as all undergraduate students. Selective prevention efforts are aimed at specific individuals identified as being at-risk for a specific problem, but who have not yet evidenced the problem(s), and possess a risk factor known to statistically increase the probability of developing the particular problem, such as first year college students. Indicated prevention interventions are designed to target members of a subgroup who are known to be at high risk for developing a particular problem and have experienced the problem(s), such as binge drinkers who are at higher risk for negative consequences (Baer, Kivlahan, & Marlatt, 1995).

The level and the intensity of the intervention effort are important considerations, particularly when directed at individuals (Keller, Bennett, McCrady, Paulus, & Frankenstein, 1994). The Institute of Medicine (1990) recommends a sequential stepped care approach for developing prevention programs for those who are at risk for alcohol related negative consequences, but may never develop alcohol dependence. Therefore,

initial efforts should be focused on lower threshold interventions so as to minimize unnecessary resource expenditures.

Using the stepped care approach is compatible with Prochaska and DiClemente's (1986) Stages of Change Model, which asserts that behavior change, such as reducing hazardous alcohol use, occurs along a temporal dimension of discrete stages. It is hypothesized that as individuals decrease hazardous alcohol use they will move through the four stages in a cyclical fashion, with periods of progression and regression (Prochaska & DiClemente, 1986). In *precontemplation* there is no intention to change behavior in the foreseeable future. In *contemplation* people are aware that a problem exists and have begun to seriously consider overcoming that problem, but have not yet made a commitment to take action. It is while in the *action* stage that individuals modify their behavior, experiences, or environment in order to overcome their problems. During *maintenance* people work to prevent relapse and sustain the changes made in the action stage (Prochaska, DiClemente, & Norcross, 1992). A reflection of an individual's movement through the stages of change is captured in the readiness to change construct.

Research suggests the majority of college students will mature out of the "developmentally limited" pattern of hazardous alcohol use and alcohol problems on their own and without treatment (Baer, et al., 1998). However, there are numerous risks associated with passing through this stage. This creates a conundrum for university officials across the nation entrusted with the care of millions of college students each year to determine how to expedite their students through this period with minimal harmful consequences. Given the realities of college student drinking, the pressure to develop effective alcohol prevention programs is heightened with each passing year. Previous prevention studies indicate there are some efficacious components and techniques that can be drawn upon to develop programs that will reduce the rates of hazardous alcohol use and alcohol-related negative consequences.

Designing Alcohol Prevention Programs Utilizing Efficacious Components

Although parental and family factors influence adolescent drinking prior to college (Barnes, Farrell & Banerjee, 1995; Peterson, Hawkins, Abbott & Catalano, 1995), studies of social and environmental determinants reveal that exposure to peers and perceived norms significantly influence the college student's drinking patterns (Baer, 1994; Baer, Stacy & Larimer, 1991; Perkins & Berkowitz, 1986). The importance of providing role models to facilitate observation, imitation, and subsequent reinforcement as well as increase levels of self-efficacy can be accomplished by using peers to deliver the prevention intervention.

It is assumed that college students are in a natural state of ambivalence regarding their own alcohol use and must arrive at their own decision regarding whether to change their drinking habits (Marlatt, Baer, Kivlahan, Dimeff, et al., 1998). Addressing college students with a non-confrontational, non-judgmental, motivational interviewing style (to be discussed below) promotes flexibility and acceptance of the individual's ambivalence and leads to increased rapport. Studies in the area of behavior change suggest that rapport is a necessary ingredient for change (Carroll et al., 1998)

Increasing knowledge regarding alcohol (Mills & McCarty, 1983; Nathan, 1983) or changing attitudes toward alcohol use (Kraft, 1984; Nathan, 1983; Mills & McCarty, 1983) does not appear to impact changes in alcohol consumption. However, programs developed to reduce problematic drinking (Baer, Marlatt, Kivlahan, Fromme, Larimer, & Williams, 1992; Kivlahan, Marlatt, Fromme, Coppel, & Williams, 1990; Kraft, 1984; Larimer, Kilmer, Dimeff, Quigley, Williams, Baer, & Marlatt, 1994; Mills & McCarty, 1983; Nathan, 1983), as opposed to abstinence-based programs, show a somewhat higher success rate. Those programs oriented towards decreasing alcohol consumption and reducing harmful effects appear to be the most promising (Baer, 1993; Kivlahan, et al., 1990; Larimer, et al., 1994), suggesting that the ideal goal for prevention programming may be to expedite students through this risky developmental period undamaged. However, since this is cannot be guaranteed, adopting a harm reduction perspective as

opposed to attempting to eliminate alcohol use altogether is a more realistic goal (Marlatt, Baer, & Larimer, 1995).

Although college campuses recognize the importance of problems associated with college student drinking and have taken steps to increase preventive efforts, further research must be conducted to design, implement, and evaluate effective programs.

#### Delivery Modes for Alcohol Prevention Programs

Unfortunately, few universities offer comprehensive, multi-dimensional programs with clearly defined objectives, thus inhibiting a systematic evaluation of the effectiveness of their efforts. Rather, they typically focus their efforts on one of the following strategies: designing comprehensive campus-wide interventions aimed at managing the campus environment (e.g., a drug-free campus, sponsoring alternative alcohol-free activities), integrating alcohol education and prevention programs into existing curricula (e.g., course lectures), and teaching skills for handling risky party situations (Anderson & Milgram, 1996). These strategies are implemented in a broad sense through policy changes, alcohol-education programs, and community-based programming. These interventions may be delivered in a group setting or on an individual basis, by medical or mental health workers, peers, or increasingly by computers.

Kilmer and colleagues (1998) note that policies to restrict alcohol in the college environment can also be used as a means of intervention. However, these authors note that student attitudes towards restrictive policies are typically negative and tend to have the converse effect on drinking rates resulting in unintended repercussions. Rather than decreasing use and associated problems, policies such as the "Age 21" laws (twenty-one or older to be of legal drinking age) may increase the likelihood of engaging in hazardous drinking (Brittain & Roberge, 1988). George, Crowe, Abwender, and Skinner (1989) found that the quantity and frequency of drinking did not significantly change in response to Age 21 policies, but rather *the location* changed (e.g., drinking increased in automobiles). This suggests that (1) evading or circumventing policy guidelines or laws

prohibiting use can be seen as an expression of defiance to policy mandates, and (2) this defiance to policy mandates may result in an increase in harmful and hazardous drinking and associated negative consequences (Kilmer, et al., 1998).

In addition to evaluating policy change, outcome research has been conducted on several prevention programs that include educational programs designed to increase student awareness of the risks of alcohol problems (e.g., Braucht & Braucht, 1984; Goodstadt & Caleekal-John, 1984) and/or to develop alternative non-alcoholic recreational activities (Botvin, 1991). Community-based programs attempting to modify the campus environment as a whole (cf., Wagenaar & Perry, 1995) or impact drinking rates at the policy level by raising the price of alcohol, decreasing availability of alcohol to underage youth (Grossman et al., 1995), or raising the legal drinking age (O'Malley & Wagenaar, 1991) have also been studied. However, the effectiveness of these prevention programs in reducing harmful drinking practices appears to be limited (Moskowitz, 1989).

At the University of Washington, Marlatt and colleagues have developed and empirically validated several indicated prevention programs for college students who have already initiated heavy or hazardous drinking patterns and for college students engaged in ESU. Rather than focus on abstinence as the exclusive goal, these interventions are based on harm reduction principles (c.f. Marlatt, 1998). Initial studies were based on cognitive-behavioral principles and incorporated self-management techniques (Kivlahan, Marlatt, Fromme, Coppel, & Williams, 1990; Baer, Marlatt, Kivlahan, Fromme, Larimer, & Williams, 1992). These interventions were delivered in a classroom setting and incorporated various behavior change strategies, such as didactic presentations about the effects of alcohol (e.g., defining the physiological and psychological influences of alcohol use), cognitive modification (e.g., challenging the positive beliefs regarding tolerance), skills training (e.g., setting and observing drinking limits, estimating Blood Alcohol Level, practicing drink refusal techniques, developing self-monitoring skills), and social learning/peer influence (e.g., providing feedback regarding normative alcohol use among college students). Results from these studies revealed that the original eight-

week course and the subsequent six-week course were efficacious in reducing hazardous alcohol use and related problems (Dimeff, Baer, Kivlahan, & Marlatt, 1999).

Marlatt and colleagues recently investigated the efficacy of a brief motivational intervention based on the content of the aforementioned programs condensed into two 50-minute sessions (Dimeff, et al., 1999). The *Brief Alcohol Screening and Intervention for College Students* (BASICS) incorporates many of the same cognitive-behavioral skills and non-confrontational techniques as mentioned previously. Outcome data support the efficacy of this individualized one-on-one indicated prevention approach in reducing alcohol use and related problems among heavy or hazardous college student drinkers. College students identified as being at high-risk for heavy and hazardous alcohol use who received a brief individual intervention in their freshman year showed significant reductions in both drinking rates and harmful consequences compared to students in a no-intervention control condition (Baer, 1993; Marlatt, Baer, Larimer, 1995). Although all high-risk students drank less and reported fewer alcohol-related problems over a two-year follow-up period, those participants who received the brief intervention (Lifestyles '94 Project) showed a significantly greater deceleration of drinking rates and problems over time (Marlatt, et al., 1998).

Although one-on-one programs have shown some efficacy in decreasing alcohol abuse and reducing the associated negative consequences, the cost of implementing this type of intervention is likely to be prohibitive at most universities. Therefore, universities may be tempted to turn to policy mandates as a way of solving their legal responsibility. As noted earlier, this may not be an effective alternative to the expense of developing cost-effective prevention interventions for college students. Utilization of emerging computer technologies may allow the university to balance the need to implement an effective intervention within a more cost-effective framework.

Interactive CD-ROMs can be customized for universal, indicated, or selective prevention programs and used in a multitude of ways, on both an individual basis or with groups.

They provide an alternative to didactic teaching, facilitated group discussion, and traditional prevention programming. Interactive CD-ROM technology can be produced, developed, and disseminated at a fraction of the cost it takes to train professionals to deliver even brief prevention programs, suggesting promise for the future use of these approaches. However, the effectiveness of the CD-ROM prevention programs at reducing harmful and hazardous alcohol use and related negative consequences among college students has yet to be empirically evaluated.

Reis and her colleagues at the University of Illinois at Urbana-Champaign (Reis, Riley, Lokman, & Baer, 1998) pilot-tested a cognitive-behavioral skills-based interactive CD-ROM intervention in an effort to provide a more cost-effective alternative to universities. The interactive software of the CD-ROM integrates theories of behavioral change used in the health promotion and prevention field (Bandura, 1977; Fishbein & Ajzen, 1975; Prochaska, DiClemente, & Norcross, 1992). The CD-ROM presents users with several video, text, music, and graphic animation elements related to three content areas found in school-based substance use programs to be relevant and interesting to adolescents (Hansen, 1992). The three content areas of perceived norms, expectancies, and life skills and are divided into several modules.

The Alcohol 101 CD-ROM was compared to an alternative alcohol education condition and a no alcohol education condition with university students to determine the short-term impact on knowledge and attitudes of the CD-ROM as a preventative alcohol education program for young adults. Evaluation of the pre-post self-report measures of intentions to use revealed students using the interactive software program learned more about dose-response and ways to intervene with friends in peril (Reis et al., 1998). However, it is unclear whether utilization of the Alcohol 101 CD-ROM is effective in reducing the rates of alcohol abuse and alcohol-related negative consequences.

**Description of The Freshmen Lifestyles Project**

The Freshmen Lifestyles Project (FLP) was designed to modify and extend earlier studies of the Alcohol Skills Training Program (ASTP), a cognitive-behavioral skills-based prevention program used with high-risk college student drinkers, while at the same time testing the alternative Alcohol 101 CD-ROM intervention. All assessments were completed via a secure Web server in an effort to minimize resources necessary to conduct a study of this magnitude. Consequently, the validity of this methodology was assessed in a secondary study (Miller et al., 1998).

The ASTP is a selective preventive intervention with cognitive-behavioral theoretical underpinnings. The goal of the acceptance-based approach is to meet participants where they are in the cycle of changing behavior. The focus is on becoming aware of the contextual issues surrounding risky alcohol use, such as when, where, and with whom they are most likely to over-drink. Participants learn to utilize practical skills and strategies for moderating or abstaining from alcohol use. Additionally, beliefs regarding alcohol's reputation as a "magical elixir" are challenged and alternatives to heavy alcohol use are encouraged and brought to light. The group is co-facilitated and aimed at cultivating non-judgmental and non-confrontational discussion among group participants utilizing motivational interviewing techniques.

The Alcohol 101 CD-ROM, developed by the University of Illinois at Urbana-Champaign in collaboration with the Century Council, delivers alcohol-related information regarding normative use as well as basic skills, such as drink refusal and estimation of BAL, using interactive CD-ROM technology to reduce the harm associated with excessive alcohol use. A group leader navigates the group through a "virtual" party where decisions are made for three sets of characters placed in social situations involving drinking or not drinking, each associated with positive and negative outcomes. These scenarios were created as a means of increasing knowledge and changing attitudes regarding risky alcohol use, factors known to influence volitional behavior such as alcohol use.

There is evidence to suggest that the assessment of alcohol use has an impact on reducing alcohol use and related consequences (Baer et al., 1998; Kivlahan et al., 1990). This effect may add a unintentional confound to research studies attempting to answer questions of efficacy and effectiveness using assessment-only comparison groups. Further research must be conducted to determine the impact of assessment alone, as compared to interventions, on the reduction of alcohol use and related negative consequences. Similarly, the impact of repeated assessments in a longitudinal study needs to be compared to a single assessment in order to better understand the effects of the assessment procedure. One way to assess treatment or intervention effects is to utilize a follow-up single-assessment-only control group.

#### The Future of Prevention Programs

As is evidenced, targeting higher risk students with indicated prevention programs (cf., Sanchez-Craig, Wilkinson, & Walker, 1987) using professionals (Botvin, et al., 1990; Hansen, Graham, Wolkenstein, & Rohrbach, 1991) to provide normative feedback and information about the risks of heavy drinking (Agostinelli, Brown & Miller, 1995; Weinstein & Klein, 1995; Marlatt, Baer & Larimer, 1995) has resulted in significant reductions in drinking rates and harmful consequences (Kivlahan, Marlatt, Fromme, Coppel & Williams, 1990). While the efficacy of these interventions is supported, the costs of implementing intervention programs can be prohibitive (Dimeff, 1997). Thus, it is hypothesized that the key is to apply and utilize a multi-dimensional approach in a way that will preserve the effectiveness of strategies used with individuals to group settings in an attempt to improve cost-effectiveness. This approach would utilize cognitive-behavioral skills-based components, motivational interviewing techniques and brief, peer-facilitated groups to challenge expectancies and increase motivation to decrease alcohol consumption thereby reducing associated negative consequences. Additionally, one must explore ways to enhance cost- and time-effectiveness of data collection for the purposes of the intervention as well as the evaluation.

#### **Specific Aims**

*Aim One*

Test the effectiveness of the ASTP and CD-ROM interventions in reducing alcohol abuse and the incidence of alcohol-related problems and increasing motivation to change alcohol use and alcohol-related knowledge among university freshmen class members as compared to the multiple assessment and single follow-up assessment control conditions. Effectiveness will be determined by comparing the rates of alcohol use across seven measures of drinking rates, alcohol-related problems across two measures of negative consequences, motivation to change alcohol use on a single readiness to change composite score, and knowledge acquisition based on a knowledge test score at the 6-month follow-up. Comparisons will be made between the CD-ROM, and ASTP intervention conditions as compared to the multiple three-assessment and the follow-up single-assessment-only control groups. It is hypothesized that a reduction in rates and problems and an increase in motivation and knowledge will be greater for the two intervention groups as compared to the assessment-only conditions and greater in the three-assessment than the single-assessment condition.

*Aim Two*

Compare the differential effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessments in reducing alcohol abuse and the incidence of alcohol-related problems and increasing motivation to change alcohol use and alcohol-related knowledge among university freshmen class members over the course of the freshmen year. Differential effectiveness will be determined by comparing the rates of alcohol use across seven measures of drinking rates, alcohol-related problems across two measures of negative consequences, motivation to change alcohol use on a single readiness to change composite score, and knowledge acquisition based on a knowledge test score from baseline to the 6-month follow-up. Comparisons will be made between each of the three conditions across measures and across time. It is hypothesized that a reduction in rates and problems and an increase in motivation and knowledge will be greater for the ASTP and CD-ROM intervention groups as compared to the three-assessment-only

conditions. It is hypothesized that a reduction in rates and problems and an increase in motivation and knowledge will be greater for participants in the ASTP group as compared to the CD-ROM group.

*Aim Three*

Examine the effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessments in reducing alcohol abuse and the incidence of alcohol-related problems and increasing motivation to change alcohol use and alcohol-related knowledge as compared to a single assessment control group at the 6-month follow-up. Effectiveness will be determined by comparing the rates of alcohol use across seven measures of drinking rates, alcohol-related problems across two measures of negative consequences, motivation to change alcohol use on a single readiness to change composite score, and knowledge acquisition based on a knowledge test score at the 6-month follow-up.

*Aim Four*

Evaluate the feasibility of conducting longitudinal survey research utilizing current World Wide Web technology. Participant satisfaction ratings on using the Web as a data collection tool will be analyzed to determine acceptability of this alternative methodology, instances of computer/server malfunctions and cleanliness of data as measured by frequency of out-of-range responses, duplicate records, and unacceptable responses will be reported as an indication of success, and results from a secondary study conducted to compare the test-retest properties of key outcome measures of a Web-based assessment format to the traditional paper-and-pencil assessment format. It is hypothesized that the frequency of malfunctions will be minimal, the cleanliness of the data will be 100%, and the test-retest reliability coefficients will be higher or not significantly lower for the Web-based assessments as compared to the traditional paper-and-pencil versions of the same measures.

## CHAPTER 2: METHODS

### **Participant Recruitment**

In the summer of 1997, all members (N = 4121) of the incoming freshmen class of the 1997 academic year born between 6/1/78 and 7/1/80 were sent a packet containing a letter of invitation to participate in the Freshmen Lifestyles Project, a consent form, an information form, a form to decline participation, a collateral form, and a form with a local address request to be mailed when the address was known. Of the 4,121 packets sent, 1,103 (27%) completed and useable forms, including consent forms, were returned. Of these 1,103, 353 participants (32%) said they were not interested in participating (giving reasons such as lack of available time, interest in topic, and interest in participating in research) and 50 participants (5%) returned forms after the stated deadline. The remaining 700 respondents (63%; 17% of the total screening sample) were blocked by gender and subsequently randomly assigned (using Excel's random number generator) to one of four conditions – two assessment-only control groups (1, 2) and two prevention intervention groups (3, 4) – or excluded from the study. Due to the imbalance in accruing males a total of 153 females were randomly excluded resulting in a total of 547 participants. Participants randomized to Condition 1, the single-assessment-only control group, (n=139) were asked to complete a single Web-based assessment in May, 1998. Participants randomized to Condition 2, the three-assessment-only control group, (n=140) were asked to complete three Web-based assessments during October, 1997, and January and May, 1998. Participants randomized to Condition 3, the CD-ROM intervention group, (n=136) were invited to attend two, 90-minute Alcohol 101 CD-ROM sessions in addition to completing the three Web-based assessments. Participants randomized to Condition 4, the ASTP intervention group, (n=132) were invited to attend two, 90-minute Alcohol Skills Training Program sessions in addition to completing the three Web-based assessments.

### Attrition

Of the total 547 participants, 408 were randomized to conditions 2, 3, and 4. Twenty-seven of the 408 participants (5%) dropped out prior to the start of data collection through non-response to assessments offered in fall of 1997. A total of 381 (93%) participants from conditions 2, 3, and 4 completed at least one assessment. Of those 381, 30 (8%) completed one assessment, 60 (16%) completed two assessments, and a total of 291 (76%) participants from conditions 2, 3, and 4 have complete data for all three assessment periods and will be referred to as the matched sample (Match). Of the 139 participants randomized to condition 1, 121 (87%) completed the spring assessment accounting for a 13% (n=18) attrition rate among participants in condition 1. An intent-to-treat model was adopted for some analyses in which a total sample of 502 (92%) participants were included; 381 participants from conditions 2, 3, and 4 and 121 participants from condition 1. Table 1 below shows attrition rates per condition over the course of the study.

Table 1. Attrition Rates by Condition for Intent-to-Treat and Match Samples

	<u>Randomization</u> # (%)	<u>Fall</u> # (%)	<u>Winter</u> # (%)	<u>Spring</u> # (%)	<u>Intent-to-Treat</u> # (%)	<u>Shrink</u> # (%)	<u>Match</u> # (%)
<i>Condition 1:</i>							
Single-Assessment	139 (100%)	N/A	N/A	121 (87%)	121 (87%)	104 (75%)	N/A
<i>Condition 2:</i>							
Three-Assessment	140 (100%)	126 (90%)	120 (86%)	107 (76%)	133 (95%)	107 (76%)	99 (71%)
<i>Condition 3:</i>							
CD-ROM	136 (100%)	116 (85%)	112 (82%)	111 (82%)	125 (92%)	111 (82%)	97 (71%)
<i>Condition 4:</i>							
ASTP	132 (100%)	118 (89%)	107 (81%)	106 (80%)	123 (93%)	106 (80%)	94 (71%)
<i>Totals:</i>	547 (100%)	360 (88%)	339 (83%)	445 (81%)	502 (92%)	428 (78%)	290 (71%)

### **Participant Characteristics**

Complete data were available from a total of 502 freshmen undergraduate students with an average age of 19 years (range: 18-20). These participants were primarily female

(63%), with a range of ethnic groups represented (70% Caucasian, 17% Asian/Pacific Islander, 3% Hispanic, 1% African American, 1% Native American, and 3% Other).

#### Payment

Participants were paid \$20.00 for each completed web-based assessment in October and December, 1997 and \$30.00 for completion of the May, 1998 Web-based assessment, for a maximum total of \$70.00. Payment was for purposes of incentive as well as compensation for time and effort needed to complete the web-based research measures. This level of participant payment is consistent with that utilized in the Lifestyles '94 project, as well as other longitudinal studies of this type. Collaterals who completed a web-based collateral form were paid \$5.00 for their time and effort.

#### Screening

No participant was excluded from the proposed research on the basis of ethnicity. Participants were not restricted from seeking other services or prevention programs. Following the baseline assessment (for Conditions 2, 3, and 4) participants were screened for hazardous alcohol use, excessive alcohol-related negative consequences, and/or psychological risk. High-risk alcohol users were defined as participants who met the following criteria; (1) scored a total of 9 or more on the Rutgers Alcohol Problem Inventory (RAPI, White & Labouvie, 1989) for past year, (2) scored a total of 11 or more on the Alcohol Dependence Scale (Ross, Gavin, & Skinner, 1990), (3) any endorsement of items #3, 6, 7, 10, 12, or 17 on the Brief Symptoms Inventory (BSI; Derogatis & Melisaratos, 1983), (4) alcohol consumption of more than 30 drinks a week, or (5) a calculated Blood Alcohol Level (BAL or BAC) greater than 0.30%. Surveys were pulled for these participants (n=3) and clinical judgment was used to determine whether a telephone call would be placed. Three telephone calls were made by the senior researcher (ETM) as a means for checking-in with the individual to insure safety and as a way of notifying him/her of potential resources on campus related to the specific identified problem. The three participants who met criteria for high-risk alcohol use or

other psychological problems, were contacted, denied current problem behavior, and thus were not excluded from the study.

### Procedures

All participants assigned to one of the two intervention groups were sent a letter and a calendar in early September indicating possible times for attending the Alcohol Skills Training Program or Alcohol 101 CD-ROM sessions. Participants were asked to provide the name, email and street address, and phone number of one individual to serve as a collateral to verify their drinking patterns during the December, 1997 assessment period. This collateral was contacted once between the December, 1997 and May, 1998 assessment periods.

An email with instructions for accessing and filling out the baseline Web-based assessment between October 15 and October 24, 1997 was sent to the 408 participants (excluding the single-assessment-only control group) on October 14, 1997. A reminder email was sent on October 19, 1997 to those participants who had not yet submitted their assessments.

Reminder emails and/or telephone calls were made to participants prior to their assigned prevention intervention sessions. Alcohol 101 CD-ROM sessions were held in Guthrie Annex #3, room 120, and were led by one trained peer or age-matched group leader. ASTP sessions were held in the BARLAB in Guthrie Hall, room 242, and lead by two trained peer facilitators.

Participants were invited to attend the same group during week one and week two. For those participants (n = 6) who were unable to fulfill this requirement, exceptions were made and they were reassigned to another group session during week two.

The ASTP and CD-ROM sessions were structured and organized so that all co-facilitators and group leaders presented the same information within condition, thus insuring all participants in each condition would receive the same information. Adherence data were

collected for each of the ASTP and CD-ROM groups to confirm that differences were not due to content discrepancies, including factual information, discussion, empathy, and rapport. All ASTP and CD-ROM sessions were observed and rated for co-facilitator/group leader adherence and competence by a trained observer from the Addictive Behaviors Research Center proficient in motivational interviewing techniques, stages of change theory, cognitive-behavioral theory, and acceptance-based alcohol education techniques.

### **Peer Facilitators and Group Leaders**

All peer facilitators and the majority of group leaders were junior or senior level psychology undergraduate students between the ages of 19 and 24 who received research credit for participating in the study. Non-undergraduate group leaders were age-matched research assistants currently working at the Addictive Behaviors research Center.

The number of peer facilitators was determined by the number of ASTP sessions conducted (14 groups with four to 14 participants meeting for 90 minutes during the first week and again for 90 minutes during the second week) and availability to attend training sessions (twice a week for two hours over a three week period). The number of group leaders was determined by the number of CD-ROM sessions conducted (14 groups with four to 14 participants meeting for 90 minutes during the first week and again for 90 minutes during the second week) and availability to attend training sessions (once a week for two hours over a two week period). There were a total of 13 peer facilitators who completed the required 12 hours of training and final competence demonstration before delivering the ASTP to freshmen participants. There were a total of four group leaders who completed the required four hours of training and final competence demonstration before delivering the Alcohol 101 CD-ROM to freshmen participants. Participants randomized to the intervention conditions were required to complete both 90-minute sessions of the assigned intervention, in addition to completing the three Web-based assessments.

## **The Freshmen Lifestyles Project Intervention**

### **The Alcohol Skills Training Program (ASTP)**

The content of the two, 90-minute ASTP sessions was didactic in outline with intervening discussion to illuminate ideas, information, and the development of new skills. Peer facilitators were instructed to present information and challenge participants' beliefs regarding the effects of alcohol during group discussions in an open manner, employing non-directive questioning and reflective listening techniques to allow the participants to evaluate his or her own risks and contemplate change. This technique is modeled after the motivational interviewing approach developed by Miller & Rollnick (1991). Table 2 shows the organization of the two ASTP intervention sessions and the inclusion of each of the 10 conceptually distinct, stand-alone components of the ASTP.

Table 2. The 10 Conceptually Distinct, Stand-Alone Components of the ASTP

<b><i>ASTP Session 1:</i></b>	
1	Informal discussion about experiences with alcohol, perceived norms reviewed
2	Introduction to estimating a “standard drink” and the difference between alcoholism and alcohol-dependence
3	Physiological and psychological effects of alcohol
4	Blood Alcohol Levels (BAL) and tolerance defined
5	The biphasic effects of alcohol, as illustrated by the biphasic curve
6	Teach how to monitor drinking behavior
<b><i>ASTP Session 2:</i></b>	
7	Discussion of drinking patterns from the previous week, calculating the peak BAL, and relating self-monitoring to the biphasic effect
8	Alcohol expectancies challenged
9	Risk Reduction Tips
10	Summary of material, questions answered, and resource list provided

#### Alcohol 101 CD-ROM Program (CD-ROM)

The group leader used the two, 90-minute CD-ROM sessions to lead the participants through a prescribed set of directions allowing for observation of information, interaction during scenarios with choice points, and encouragement of group discussion. The three content areas of perceived norms, expectancies, and life skills are divided into several modules. Each module was incorporated into at least one of the two sessions. Group leaders were not trained in reflective listening skills nor motivational interviewing techniques so as to match the intended delivery of this software program, which was designed to be utilized in an educational setting with minimal institutional resources.

Table 3 shows the organization of each of the two CD-ROM intervention sessions and the inclusion of each of the three modules.

Both the ASTP and Alcohol 101 CD-ROM interventions challenge the myths surrounding expectancies of alcohol's effects, offer normative feedback, incorporate skills training as a means of increasing self-efficacy, and include a didactic component allowing for the dissemination of factual information on alcohol. The primary differences between the two interventions are the inclusion of role models through the use of peer facilitators and the incorporation of motivational interviewing techniques and reflective listening skills in the ASTP condition. This establishes the foundation for the development of discrepancies, which are hypothesized to promote a change in motivation leading to a change in behavior over time (Miller & Rollnick, 1991). While both the ASTP and CD-ROM designs allow for group discussion, the ASTP approach promotes a personalized, and therefore relevant, group discussion where all of the didactic presentation can be linked to personal experiences and the individual's stage of change. Another important unique component of the ASTP is the introduction of monitoring skills for alcohol use. Lastly, the ASTP approach includes research findings to support the didactic information presented. See Appendix B for details on program content for the ASTP and CD-ROM interventions.

### **Measures and Assessment Procedures**

Key dependent variables assessed in this study included alcohol-related negative consequences as well as quantity, frequency, and peak alcohol consumption. Multiple measures were used to assess each of these domains. In addition, as social normative processes and receipt of basic information related to the physiological and psychological effects of alcohol are hypothesized to be important mediators of program effectiveness, several aspects of perceived norms and knowledge were assessed. Motivation to change, stage of change, processes of change, and self-efficacy were also assessed as mediators of program effects. Finally, other domains relating to alcohol use were assessed primarily

for purposes of providing feedback in the group setting regarding risks of alcohol misuse. These included outcome expectancies, perceived risk for alcohol problems, and family history of alcohol problems.

*Baseline assessment* was completed between October 13 and October 24, 1997, following random assignment to one of the four conditions. There were two follow-up assessments completed (1) between January 26 and February 6, 1998 and (2) between May 18 and May 29, 1998. The Web-based research assessment measures took approximately 30 minutes to complete and consisted of the following measures:

*Demographic* information included age, date of birth, ethnicity, height, weight, year in school, and resident status. Weight was included in these analyses for purposes of estimating Blood Alcohol Level (BAL). In addition, some general questions were asked regarding peer & family attitude towards alcohol use, Internet usage (first time, monthly, weekly, daily), religiosity, current employment, and other related programs they may have participated in which may account for knowledge and/or behavior change.

*Drinking Rates* were assessed using three different measures of alcohol consumption (quantity, frequency, and peak [Q-F-P]), two measures of average consumption (average quantity and frequency [AvQ-AvF]), and two measures reflecting average and peak Blood Alcohol Content [AvBAC-PkBAC]) at each assessment. Participants reported their typical drinking frequency, quantity, and the single greatest amount of alcohol consumption (peak consumption) over the past month. For the assessment of drinking frequency, response options and associated labels were: I did not drink at all (0), *about once a month* (1), *two or three times a month* (2), *once or twice a week* (3), *three or four times a week* (4), *nearly everyday* (5), *once a day or more* (6). For the assessment of typical drinking quantity and most recent peak consumption response options ranged from *0 drinks* (0) to *15 or more drinks* (15). Participants also reported their average drinking quantity and peak consumption for each day of a “typical” week. Response options and associated labels for the assessment of number of drinks ranged from 0

*drinks* (0) to *15 or more drinks* (15). For the assessment of number of hours response options and associated labels ranged from *0-1 hours* (0) to *10 or more hours* (10). Participants rated the type of drinker they are on a five point scale (abstainer to heavy problem drinker). The Quantity/Frequency/Peak (QFP) indices have been effective in documenting reductions in drinking in previous studies with college student drinkers (Kivlahan, et al., 1990; Baer, 1993; Marlatt, Baer, & Larimer, 1995).

*Alcohol-Related Problems* were assessed with two different measures at each assessment. Participants completed the Rutgers Alcohol Problem Inventory (RAPI; White & Labouvie, 1989), which asks participants to rate the frequency of occurrence of 23 items reflecting alcohol's impact on social and health functioning over the past six months. Sample items include "Not able to work or study for a test," "Caused shame or embarrassment," "Was told by a friend or neighbor to stop or cut down on drinking." This scale has high internal reliability (.92) and accurately discriminates between normal and clinical samples (White & Labouvie, 1989). The scale can be scored to reflect both number of problems as well as severity of problems experienced. The primary dependent variable for determining intervention efficacy is the number of problems reported on this measure. Participants also completed the Alcohol Dependence Scale (ADS) (Ross, Gavin, & Skinner, 1990), a widely used assessment of severity of physical dependence symptoms.

*Rates and Consequences* were measured together in a single 10-item measure titled the Alcohol Use Disorders Identification Test (AUDIT; Babor, et al., 1992; Saunders, et al., 1993).

*Motivation* was operationally defined as self-reported increases in readiness to change. This measure of motivation was completed during each assessment period using a 20-item modified version of the University of Rhode Island Change Assessment (URICA; Prochaska & DiClemente, 1986). The URICA was adapted to reflect stages of change for alcohol use, rather than smoking, and was shortened to include only those items relevant

for the college-aged student. Sample items include: *As far as I'm concerned, my drinking does not need changing; Sometimes I think I should cut down on my drinking; I have a problem with alcohol and I really think I should work on it.*

*Basic Alcohol Knowledge* was assessed using a 12-item multiple choice knowledge test administered at baseline and again at the 6-month follow-up assessment. Items covered basic knowledge about the effects of alcohol including rates of absorption, elimination, and tolerance.

*Substance Use* was assessed using eight items from a modified version of the Daily Drinking Questionnaire (Collins, Parks, & Marlatt, 1985). This Substance Use Questionnaire (SUQ) asks participants to estimate drinks per day and drinking hours per day over a typical week for themselves and the typical college student of the same sex. In addition, participants are asked to report other drug use (e.g., marijuana) and amount of alcohol consumed in the six hours preceding completion of the assessment. This was primarily asked since participants had access to the Web-based assessment 24 hours a day and from home, increasing the likelihood that drinking may have occurred prior to or during the assessment. Data from this measure allow for classification of alcohol use habits (e.g., abstainer, current non-user, light social drinker, moderate social drinker, heavy non-problem social drinker, heavy problem drinker), average amount and frequency of alcohol use, and average amount of cigarette and other drug use.

*Participant Satisfaction Surveys* were completed by each ASTP and CD-ROM participant at program graduation. This is a 12-item measure comprised of questions related participant perceptions of information received during program, organization, competence, and warmth of peer facilitators/leaders, and anticipated motivation to change alcohol use. Response options were: *Strongly Agree* (0), *Disagree* (1), *Undecided* (2), *Agree* (3), and *Strongly Agree* (4). Participants were also asked to rate their level of alcohol use from *never tried alcohol* (0), *current non-drinker* (1), *light social non-*

*problem drinker (2), moderate social non-problem drinker (3), heavy social non-problem drinker (4), moderate problem drinker (5), or heavy problem drinker (6).*

In addition to these measures, participants in the intervention conditions were asked to keep track of their drinking for the one week interval between week one session and week two session, using a daily drinking diary (Fromme, Marlatt, Baer, & Kivlahan, 1994). Completion of this diary card takes approximately 1-10 minutes per day and the results were used for personal use only as it relates to comparisons of individual and normative alcohol use.

*Intervention Adherence and Competence* was assessed using a measure developed specifically for the ASTP and Alcohol 101 CD-ROM presentations (Miller & Roberts, 1997). The measures incorporated each of the program components as well as items for motivational interviewing techniques, reflective listening, and response content.

### **Considerations for the Utility of a Web-Based Assessment**

Some of the potential problems with Web-based assessments include incomplete responses, unacceptable responses, multiple submissions, security and data integrity violations, validity of responses, browser incompatibility, obstacles related to computer literacy of participants, and ethical considerations (Schmidt, 1997). All of these were taken into consideration and addressed prior to the development of the FLP Web-based survey. First, incomplete responses were permitted due to ethical responsibilities outlined by the Human Subjects Review Committee (HSRC). As in all survey research, participants could refuse to answer any questions that made them feel uncomfortable. However some responses were required in order to define the dynamic response options, and if left unanswered generated an error message requesting a response from the participant. For example, if a participant identified him/herself as “never used alcohol,” answering items related to quantity and frequency of alcohol use were irrelevant and therefore left out of the survey-page rotation. Second, the FLP Web-based survey prohibited unacceptable responses through software coding. For example, traditional

paper assessment items must be excluded when a participant selects an answer not offered (by writing in his/her own response), circles in between the answers offered, or circles more than one answer. Using Web technology, singular response options were enforced where necessary and multiple response options were allowed where appropriate. Third, multiple submissions were made impossible by prohibiting access to the survey link once the survey was successfully submitted. Fourth, security and data integrity violations were obviated by requiring participants to log into a secure server (site certificate provided by VeriSign) and enter a Personal Identification Number (PIN) comprised of student ID and birth date. All of the customized security requirements were enveloped in the Web survey software developed by DatStat.com (1997). Fifth, to date, no validation studies have been done comparing Web-based surveys to the traditional assessment methods. Therefore data was collected in a secondary study, the Test-Retest Analysis Project (TRAP), and no significant differences were found between test-retest scores on the Web-based versions as compared to the paper-based version of the assessments (Miller, et al., 1998). Sixth, browser incompatibility concerns were relevant to this study and therefore participants were notified of the requirement to use Netscape 2.0 or above or Microsoft Internet Explorer 2.0 or above prior to the data collection period. Obstacles related to the computer literacy of participants was anticipated and specific directions for logging onto the Internet, downloading Netscape, setting up an email account, and general definitions of the Web were provided to participants via email and/or telephone contact. In addition, the computers at the Addictive Behaviors Research Center were made available to all participants. Finally, the American Psychological Association (APA) and the HSRC require that informed consent be given prior to participation in a research study, therefore, all participants were mailed an informed consent form and required to return a signed copy prior to data collection.

### **Power Calculations**

Sample size considerations were based on effect sizes previously found in comparable research projects conducted at the Addictive Behaviors Research Center. Furthermore,

because this study uses a three repeated measures design, correlations between measures must be taken into consideration. Based on results from the earlier Lifestyles Project, the average correlation between the measures used in this project range from .50 to .80. Therefore Table 4 below indicates a range of sample sizes needed to detect a range of effects with power = .80 and  $\alpha = .05$ . A total sample of 547 was selected, allowing for approximately 140 participants per condition, based on financial and resource restraints. This conservatively estimated sample size appears sufficiently powerful for detecting a small to moderate effect.

Table 4. Sample Size Estimates Based on Power Estimates.

Average Correlation:	Effect Size:	Sample size per condition:
0.5	0.14	165
0.5	0.35	30
0.8	0.22	69
0.8	0.56	14

Stevens, J. Applied Multivariate Statistics for the Social Sciences. p 470

## Computation of Variables for Analytic Purposes

### *Drinking Variables*

Total drinks per week was computed by summing the seven daily estimates of alcohol consumption from the Modified Daily Drinking Questionnaire for each participant.

Frequency (F) of use in the past month was measured by a single question asking, “how many drinks containing alcohol do you have on a typical day when you are drinking.” Response options ranged from 0 = none, 1=one or two, 2=three or four, 3=five or six, 4=seven to nine, and 5=ten or more.

Quantity (Q) of use in the past month was measured by a single question asking, “how many days of the week did you drink alcohol?” Response options ranged from 0 =

*I did not drink at all, 1=about once a month, 2=two to three times a month, 3=once or twice a week, 4=three to four times a week, 5=nearly everyday, and 6=once a day or more.*

Peak (P) alcohol consumption was measured in number of drinks from 0 (0 drinks) to 15 (15 or more drinks) the participant “consumed on the occasion he/she drank the most in the past month.”

Average Frequency (AvF) of use in the past month was computed by summing the number of days a participant reported drinking during a typical week on the Modified Daily Drinking Questionnaire.

Average Quantity (AvQ) of use in the past month was computed by summing the number of drinks consumed on each day a participant reported drinking during a typical week on the Modified Daily Drinking Questionnaire and dividing it by the number of drinking days.

Average Blood Alcohol Level (AvBAC) was computed by summing the number of drinks consumed on drinking days and number of hours those drinks were consumed, dividing by the number of drinking days, and based on an algorithm incorporating weight and sex.

Peak Blood Alcohol Level (PkBAC) was computed using the same algorithm from above for the greatest number of drinks consumed over specified hours on the greatest drinking day.

#### *Problem Variables*

RAPI score (RAPI) was computed based on the frequency values for all twenty-seven items representing problems encountered in the past six months with a possible range of 0-108.

ADS score (ADS) was computed based on the frequency values for all twenty-nine items with a possible range of 0-38.

#### *Change Scores*

Motivation to change alcohol use (URICA) was computed by obtaining a mean (mn) Precontemplation (PC), Contemplation (C), Action (A), and Maintenance (M) score and computing a Readiness to Change score based on the following formula:  $((mnC+mnA+mnM)-mnPC)$ . The greater the score, the more ready to change.

Knowledge Acquisition was computed by summing the number of items a participant answered correctly on the 12-item knowledge test.

#### *Drinking Level*

Assessment/intervention participants were divided into three categories of baseline drinking level (DRLEVEL); “abstainers,” “light” drinkers, and “heavy” drinkers. Abstainers were defined as those who “never tried alcohol” or “abstain from alcohol” by subjective reports and verified by reports of quantity and frequency measures. Light drinkers were defined as those who drank an average of four (4) or less drinks per week and heavy drinkers were those who reported drinking five (5) or more drinks per week (DRWEEK; a composite score of quantity and frequency measures). Categorizing drinkers into two groups (“light” and “heavy”) was based on experimental power calculations and was achieved using a median split among those who consumed at least one (1) drink per week. In addition, DRWEEK was highly correlated (.88) with a single summary factor of all of the drinking variables. At baseline four participants (1 three-assessment, 1 CD-ROM, 2 ASTP) reported themselves to be abstainers by subjective reports, yet reported drinking alcohol based on quantity and frequency measures (range = 1-2 drinks during an average week) and were therefore categorized as light drinkers. At the 6-month follow-up there were two participants from the single-assessment group (range = 1 drinks during an average week) re-categorized as light drinkers.

**Data Analytic Strategies:**

Descriptive statistics, such as correlations, one-way analysis of variance for continuous variables, and chi-square analyses using Pearson chi-square statistic and Fishers Exact Test for categorical variables, were conducted to identify outliers and non-normal distributions, to test for selection bias and success of random assignment, and to conduct attrition analyses. Main effects of the interventions were tested using repeated measures multivariate analyses of variance. The significance level for all analyses will be set at  $p < .05$  for rejection of the null hypotheses. In addition to the parametric statistics, non-parametric statistics were used in cases with questionable non-normal distributions and categorical variables using chi-square and Fischer's exact tests.

**Specific Aims***Aim One*

Multivariate ANOVA procedures were conducted separately on seven measures of drinking (Q-F-P, AvF-AvQ, AvBAC-PkBAC), two measures of problems (RAPI, ADS), and two measures of cognitive change (URICA, KT) from the 6-month follow-up assessment to test the effectiveness of the ASTP and CD-ROM interventions as compared to the multiple assessment and single follow-up assessment control conditions.

*Aim Two*

MANOVA procedures were conducted to compare the differential effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessment condition from baseline to the 6-month follow-up. Repeated measures 3 (time) X 3 (group) MANOVA procedures were used to compare changes in alcohol consumption using seven measures of drinking (Q-F-P, AvF-AvQ, AvBAC-PkBAC), changes in alcohol problems using two measures of problems (RAPI, ADS), and changes in motivation to change alcohol use and alcohol-related knowledge acquisition using two measures of cognitive change (URICA, KT) between participants in the ASTP intervention, the CD-ROM intervention, and multiple assessment condition.

*Aim Three*

MANOVA procedures were conducted to compare the differential effectiveness of the ASTP intervention, the CD-ROM intervention, and multiple assessment condition among different levels of drinkers from baseline to the 6-month follow-up. Repeated measures 3 (time) X 3 (group) MANOVA procedures were used to compare changes in alcohol consumption using seven measures of drinking (Q-F-P, AvF-AvQ, AvBAC-PkBAC), changes in alcohol problems using two measures of problems (RAPI, ADS), and changes in motivation to change alcohol use and alcohol-related knowledge acquisition using two measures of cognitive change (URICA, KT) between participants in the ASTP intervention, the CD-ROM intervention, and multiple assessment condition.

*Aim Four*

Descriptive statistics will be conducted to determine participant satisfaction, frequency of malfunctions, and cleanliness of data. Fisher's R to Z transformations will be used to compare correlations between the Web-based assessment and traditional paper-and-pencil-based assessment conditions.

## CHAPTER 3: RESULTS

### **Participant Characteristics**

#### **Intent-to-Treat Sample**

An Intent-to-Treat (ITT) model provides a more conservative estimate of outcome (Nelson, 1996) by including in the analyses those participants who were intended to receive the intervention irrespective of whether they attended the intervention or not. At baseline, the ITT sample (n=360) included a range of self-reported levels of alcohol use based on the following response options; never used or abstainers (14%), light users (32%), moderate users (29%), heavy non-problem users (3%), and heavy problem users (1%). The modal frequency of alcohol use in the past year was once monthly or less, with an average of two to four times a month. Thirteen percent (n=41) typically drank two to three times a week; 2% typically drank on four or more occasions weekly in the past year (n=6). Fifty-three percent of the sample (n=163) reported never having more than six drinks on one occasion. Among those who did report a six-or-more-drink binge episode, 30% (n=90) reported doing it less than monthly, 11% (n=35) on a monthly basis, and 7% (n=22) on a weekly basis. The modal age for first trying alcohol was 16 years (23%), with 45% (n=126) trying before age 16 and 32% (n=91) trying at age 17, 18, 19, 20, or not yet. Almost 90% of the sample did not smoke cigarettes, 61% had never tried marijuana, and less than 10% used marijuana on a frequent basis (more than 3-4 times a month).

The mean number of drinks per week was 4.2 (SD = 6.8), mean peak BAC level was .084 (SD = .095), and the mean for greatest number of drinks per drinking occasion was 3.7 (SD = 3.9). Mean RAPI score was 3.8 (SD = 7.2) with 15% exceeding a predetermined cutoff range of nine suggesting problem alcohol use. Mean ADS score was 6.4 (SD = 6) with 28% reporting a score of 11 or more, indicating at least mild dependence (Ross,

Gavin, & Skinner, 1990). Thirteen percent of participants said they were unable to stop drinking once they started. In terms of Internet use, other than e-mail, first-time users made up 5% (n=19) of the sample, 36% (n=130) were monthly users, 32% (n=113) were weekly users, and 27% (n=98) were daily users. There was not a significant difference across condition.

### Match Sample

This sample of participants (n = 290) has complete data at all three assessments (Match), and includes 99 (71% of participants originally randomized) in the three-assessment control group, 97 (71%) in the CD-ROM group, and 94 (71%) in the ASTP group.

At baseline, the Match sample included a range of self-reported levels of alcohol use based on the following response options; never used or abstainers (41%), light users (30%), moderate users (26%), heavy non-problem users (2%), and heavy problem users (1%). The modal frequency of alcohol use in the past year was once monthly or less, with an average of two to four times a month. Eighteen percent (n=27) typically drank two to three times a week; 1% typically drank on four or more occasions weekly in the past year (n=2). Fifty-three percent of the sample (n=129) reported never having more than six drinks on one occasion. Among those who did report a six-or-more-drink binge episode, 66% (n=75) reported doing it less than monthly, 21% (n=24) on a monthly basis, and 13% (n=15) on a weekly basis. The modal age for first trying alcohol was 16 years (22%), with 43% (n=95) trying before age 16 and 25% (n=77) trying at age 17, 18, 19, 20, or not yet. Almost 90% of the sample did not smoke cigarettes, 64% had never tried marijuana, and less than 5% used marijuana on a frequent basis (more than 3-4 times a month).

The mean number of drinks per week was 3.4 (SD = 5.7), mean peak BAC level was .069 (SD = .091), and the mean for greatest number of drinks per drinking occasion was 2.9 (SD = 3.7). Mean RAPI score was 2.7 (SD = 5.3) with 12% exceeding a predetermined cutoff range of nine suggesting problem alcohol use. Mean ADS score was 4.3 (SD =

5.1) with 16% reporting a score of 11 or more, indicating at least mild dependence (Ross, Gavin, & Skinner, 1990). Ten percent of participants said they were unable to stop drinking once they started. In terms of Internet use, other than e-mail, first-time users made up 5% (n=15) of the sample, 33% (n=95) were monthly users, 33% (n=97) were weekly users, and 29% (n=83) were daily users. There was not a significant difference across condition.

### **Success of Randomization**

#### Intent-to-Treat Sample

Several analyses were conducted to test for the success of randomization among participants between control and intervention conditions. A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) revealed no significant differences, multivariate ( $F(2, 356) = .81, p = .65, ns$ ). None of the seven univariate tests approached statistical significance. A MANOVA for two measures of baseline alcohol-related problems (RAPI and ADS) revealed no significant differences, multivariate ( $F(2, 357) = .61, p = .65, ns$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change (readiness to change alcohol use and increases in knowledge of alcohol-related information) at baseline revealed a significant difference, multivariate ( $F(2, 355) = 2.96, p = .02$ ). Follow-up univariate ANOVAs revealed no significant differences between conditions on baseline levels of readiness to change alcohol use ( $F(2, 357) = 1.44, p = .24, ns$ ). There were, however, significant differences at baseline between the number of correct answers given by participants in the three-assessment (M = 8.2, SD = 1.9), CD-ROM (M = 7.6, SD = 1.9), and ASTP (M = 7.6, SD = 1.8) condition on the knowledge test, ( $F(2, 355) = 4.61, p = .011$ ), suggesting those in the three-assessment group had a slightly higher correct response rate. Chi-square tests for gender, family history, employment, ethnicity, Internet use, number of drinks per week, daily cigarette use, monthly marijuana use, friends' attitude toward alcohol use,

parent's attitude toward alcohol use, and other alcohol prevention programs attended revealed no significant failure of randomization.

### Match Sample

A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) revealed no significant differences, multivariate ( $F(2, 285) = .91, p = .55, ns$ ). None of the seven univariate tests approached statistical significance. A MANOVA for two measures of baseline alcohol-related problems (RAPI and ADS) revealed no significant differences, multivariate ( $F(2, 286) = .13, p = .97, ns$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change (readiness to change alcohol use and increases in knowledge of alcohol-related information) at baseline revealed a significant difference, multivariate ( $F(2, 285) = 2.41, p = .048$ ). Follow-up univariate ANOVAs revealed no significant differences between conditions on baseline levels of readiness to change alcohol use ( $F(2, 285) = 2.48, p = .09, ns$ ) or between the number of correct answers given by participants in the three-assessment on the knowledge test, ( $F(2, 285) = 2.40, p = .09, ns$ ). Chi-square tests for gender, family history, employment, ethnicity, Internet use, number of drinks per week, daily cigarette use, monthly marijuana use, friends' attitude toward alcohol use, parent's attitude toward alcohol use, and other alcohol prevention programs attended revealed no significant failure of randomization.

### **Longitudinal Attrition**

#### *Comparison of Assessment Completers (Match) to Non-Completers (ITT – Match)*

Several analyses were conducted to test for the differences among participants who completed one (n=30, 8%), two (n=60, 16%), or three (n=291, 76%) assessments irrespective of group assignment. A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity

and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) revealed significant differences, multivariate ( $F(2, 356) = 1.7, p = .05$ ). Two of the seven univariate tests revealed significant differences. Analysis of measures of quantity of consumption (Q) and peak consumption (P) suggested that those who completed all three assessments (Q:  $M = 1.4, SD = 1.0$ ; P:  $M = 2.9, SD = 3.7$ ) had lower baseline scores on these two measures than those completing just two assessments (Q:  $M = 1.7, SD = 1.3$ ; P:  $M = 4.1, SD = 4.3$ ) or one assessment (Q:  $M = 1.9, SD = 1.1$ ; P:  $M = 4.4, SD = 4.8$ ). A MANOVA for two measures of baseline alcohol-related problems (RAPI and ADS) similarly revealed significant effects by number of assessment completed, multivariate ( $F(2, 357) = 4.81, p = .001$ ) with both univariate tests revealing significant differences (RAPI:  $F(2, 357) = 8.46, p < .001$ ; ADS:  $F(2, 357) = 3.28, p = .04$ ). A similar pattern of greater problems associated with less completion is revealed among those who completed three assessments (RAPI:  $M = 2.7, SD = 5.3$ ; ADS:  $M = 4.3, SD = 5.1$ ), two assessments (RAPI:  $M = 4.9, SD = 7.2$ ; ADS:  $M = 6.1, SD = 6.7$ ), or one assessment (RAPI:  $M = 8.3, SD = 16.8$ ; ADS:  $M = 6.7, SD = 9.96$ ). Further exploration of these results showed the significant differences were due to a single individual who completed an assessment at baseline only with extreme scores on quantity of consumption and both problem measures at baseline. When that individual was removed from the analyses, no multivariate effects for baseline drinking by number of assessments completed were revealed, ( $F(4, 355) = 1.43, p = .13, ns$ ) reflecting the adjusted mean and standard deviation for those completing just one assessment on the quantity and peak consumption rates (Q:  $M = 1.8, SD = 1.0$ ; P:  $M = 4.2, SD = 4.7$ ), respectively. Although multivariate effects for baseline problems by number of assessments completed remained significant, ( $F(4, 356) = 2.62, p = .03$ ), the univariate test for problems as measured by ADS did not reveal significant effects ( $F(4, 356) = 2.19, p = .11, ns$ ). The univariate test for problems as measured by RAPI did reveal significant effects ( $F(4, 356) = 4.4, p = .01$ ). A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCOT] revealed no significant differences, multivariate ( $F(2, 355) = 1.26, p = .28, ns$ ). Neither of the univariate tests were

significant. In summary, attrition between assessment completers and non-completers was associated with a greater number of problems at baseline as measured by the RAPI, suggesting those participants experiencing more alcohol-related negative consequences were less likely to complete all three assessments.

In order to examine the effects of condition, drinking level, condition X drinking level, and condition X problem on completion rates two chi-square tests and two repeated measures MANOVA procedures were conducted, respectively. There were no significant differential attrition rates by group (chi-square (4) = 5.1,  $p = .97$ , *ns*) nor were there significant effects of drinking level (chi-square (4) = 4.65,  $p = .33$ , *ns*). A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) revealed no significant effects of completed assessments by group, multivariate ( $F(4, 350) = 1.35$ ,  $p = .104$ , *ns*). None of the seven univariate tests approached statistical significance. A MANOVA for two measures of baseline alcohol-related problems (RAPI and ADS) approached significance, multivariate ( $F(4, 351) = 1.69$ ,  $p = .096$ , *ns*) with both univariate tests revealing significant differences (RAPI:  $F(4, 351) = 2.65$ ,  $p = .033$ ; ADS:  $F(4, 351) = 2.39$ ,  $p = .05$ ) accounted for by higher problem scores among those participants completing only one assessment in the three-assessment condition ( $n=8$ ) as compared to those in the CD-ROM ( $n=6$ ) or ASTP ( $n=7$ ) conditions ( $M = 10.88$ ,  $SD = 14.6$ ;  $M = 3.17$ ,  $SD = 3.7$ ;  $M = 5$ ,  $SD = 5.7$  respectively). Further exploration of these results showed the significant differences were due to the aforementioned individual in the three-assessment condition with extreme scores on both problem measures at baseline. When that individual was removed from the analyses, no significant differences were revealed, multivariate ( $F(4, 350) = .82$ ,  $p = .59$ , *ns*) reflecting the adjusted mean and standard deviation for the three-assessment condition ( $M = 6.6$ ,  $SD = 8.6$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCOTOT] revealed no significant differences,

multivariate ( $F(4, 349) = 1.21, p = .29, ns$ ). Neither of the univariate tests approached significance. In summary, there were no significant differences between assessment completers and non-completers when considered separately by condition (as examined by level of baseline alcohol use and by problems).

Chi-square analyses were conducted to determine if assessment completion was related to gender, employment, ethnicity, Internet use, number of drinks per week, number of cigarettes per day, marijuana use in past month, friends' attitude toward alcohol use, parent's attitude toward alcohol use, other alcohol prevention programs attended, or drinking level. No significant differences were revealed among participants on any variables, except Internet use, (chi-square (4) = 10.16,  $p = .04$ ) and daily cigarette use, (chi-square (2) = 9.12,  $p = .01$ ). Interestingly, experienced Internet users (daily use) represented a higher proportion of participants who completed only 1 assessment (33%) as compared to those who completed 2 (16%) or 3 (29%) assessments. Increased daily cigarette use was associated with completion of assessments.

#### *Comparison of Intervention Attendees and Non-Attendees*

##### Intent-to-Treat Sample

There were no significant differential attendance rates by intervention condition (chi-square (2) = 1.2,  $p = .54, ns$ ). Several analyses were conducted to test for the differences among participants who attended none ( $n=39, 16\%$ ), one ( $n=42, 17\%$ ), or both intervention ( $n=167, 67\%$ ) sessions in the CD-ROM and ASTP conditions. A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) did not reveal a significant multivariate effect of intervention completion, ( $F(2, 231) = 1.46, p = .12, ns$ ). Two of the seven univariate tests revealed significant differences on measures of peak consumption (P) and average BAC level (AvBAC) suggesting those who attended both sessions (P:  $M = 2.6, SD = 3.6$ ; AvBAC:  $M = .01, SD = .017$ ) had lower baseline scores on these two

measures than those attending only one session (P:  $M = 3.9$ ,  $SD = 4.5$ ; AvBAC:  $M = .01$ ,  $SD = .017$ ) or no sessions (P:  $M = 4.0$ ,  $SD = 4.2$ ; AvBAC:  $M = .02$ ,  $SD = .03$ ). A MANOVA for two measures of alcohol-related problems (RAPI and ADS) revealed no significant differences, multivariate ( $F(2, 231) = 1.38$ ,  $p = .24$ , *ns*). Neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCTOT] revealed no significant differences, multivariate ( $F(2, 230) = 1.05$ ,  $p = .38$ , *ns*). Neither of the two univariate tests were statistically significant. In summary, the only baseline differences found between those who attended 0, 1, or 2 intervention sessions were peak consumption and average BAC, suggesting those who typically drank more on a single occasion and who reached a higher BAC on average were less likely to attend both intervention sessions.

Subsequent analyses included the effect of group in order to assess the effects of condition X drinking, condition X problem, and condition X change on attendance rates. A MANOVA for the seven measures of baseline drinking rates did not reveal a significant multivariate effect of group by intervention attendance, ( $F(2, 231) = 1.01$ ,  $p = .44$ , *ns*). None of the seven univariate tests approached statistical significance. A MANOVA for two measures of alcohol-related problems (RAPI and ADS) revealed no group by intervention attendance differences, multivariate ( $F(2, 231) = .60$ ,  $p = .66$ , *ns*) and neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCTOT] revealed no significant differences, multivariate ( $F(2, 230) = 1.45$ ,  $p = .22$ , *ns*). Neither of the two univariate tests were statistically significant.

#### *Complete Intervention Attendees*

Those who attended both intervention sessions were equally likely to attend the CD-ROM sessions ( $n=86$ , 69%) and the ASTP sessions ( $n=81$ , 66%), (chi-square (2) = 1.7,  $p = .43$ , *ns*). Analyses were conducted for baseline drinking rates and revealed no multivariate effects of intervention by condition, ( $F(1, 165) = 1.09$ ,  $p = .37$ , *ns*). None of

the seven univariate tests approached statistical significance. A MANOVA for the two measures of baseline alcohol-related problems revealed no significant differences, multivariate ( $F(1, 165) = .12, p = .89, ns$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for the two measures of change revealed no significant differences, multivariate ( $F(1, 164) = .80, p = .45, ns$ ). Neither of the two univariate tests approached statistical significance. In summary, of those who attended both intervention sessions, there were no differences in alcohol use, problems, or change between conditions.

#### Match Sample

There were no significant differential attendance rates by intervention condition (chi-square (2) = 1.76,  $p = .42, ns$ ). Several analyses were conducted to test for the differences among participants who attended none ( $n=20, 11\%$ ), one ( $n=31, 16\%$ ), or both intervention ( $n=140, 73\%$ ) sessions in the CD-ROM and ASTP conditions. A MANOVA for seven measures of baseline drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) approached a significant multivariate effect of intervention completion, ( $F(2, 187) = 1.69, p = .06, ns$ ). Three of the seven univariate tests revealed significant differences on measures of quantity (Q) and frequency (F) of consumption and average BAC level (AvBAC) suggesting those who attended both sessions (Q:  $M = 1.33, SD = .97$ ; F:  $M = .96, SD = 1.18$ ; AvBAC:  $M = .009, SD = .016$ ) had lower baseline scores on these two measures than those attending only one session (Q:  $M = 1.52, SD = 1.18$ ; F:  $M = 1.13, SD = 1.41$ ; AvBAC:  $M = .008, SD = .015$ ) or no sessions (Q:  $M = 2.0, SD = 1.26$ ; F:  $M = 1.4, SD = 1.43$ ; AvBAC:  $M = .024, SD = .034$ ). A MANOVA for two measures of alcohol-related problems (RAPI and ADS) revealed no significant differences, multivariate ( $F(2, 187) = 1.55, p = .19, ns$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCOTOT] revealed no significant differences,

multivariate ( $F(2, 188) = .84, p = .50, ns$ ). Neither of the two univariate tests were statistically significant. In summary, the only baseline differences found between those who attended 0, 1, or 2 intervention sessions were quantity and frequency of consumption and average BAC, suggesting those who typically drank more, drank more per occasion, and who reached a higher BAC on average were less likely to attend both intervention sessions.

Subsequent analyses included the effect of group in order to assess the effects of condition X drinking, condition X problem, and condition X change on attendance rates. A MANOVA for the seven measures of baseline drinking rates did not reveal a significant multivariate effect of group by intervention attendance, ( $F(2, 185) = .73, p = .74, ns$ ). None of the seven univariate tests approached statistical significance. A MANOVA for two measures of alcohol-related problems (RAPI and ADS) revealed no group by intervention attendance differences, multivariate ( $F(2, 185) = .33, p = .86, ns$ ) and neither of the two univariate tests approached statistical significance. A MANOVA for two measures of change; motivation [URICARS] and knowledge [KTSCOTOT] revealed no significant differences, multivariate ( $F(2, 185) = 1.14, p = .34, ns$ ). Neither of the two univariate tests were statistically significant.

#### *Complete Intervention Attendees*

Those who attended both intervention sessions were equally likely to attend the CD-ROM sessions ( $n=75, 77%$ ) and the ASTP sessions ( $n=65, 69%$ ), (chi-square (2) = 1.8,  $p = .42, ns$ ). Analyses were conducted for baseline drinking rates and revealed no multivariate effects of intervention by condition, ( $F(1, 138) = 1.31, p = .25, ns$ ). None of the seven univariate tests approached statistical significance. A MANOVA for the two measures of baseline alcohol-related problems revealed no significant differences, multivariate ( $F(1, 138) = .08, p = .93, ns$ ). Neither of the two univariate tests approached statistical significance. A MANOVA for the two measures of change revealed no significant differences, multivariate ( $F(1, 138) = .90, p = .41, ns$ ). Neither of the two

univariate tests approached statistical significance. In summary, for those who attended both intervention sessions, there were no differences in alcohol use, problems, or change between conditions.

### **Outliers**

Outliers were identified within each of the following outcome variables and all analyses were conducted with both the inclusion and exclusion of these extreme cases (defined as 3 SD's above or below the mean). These outliers were found evenly distributed across condition, significant effects were found to be more significant, insignificant effects remained the same, and therefore these extreme cases were included in most analyses, except where specified, allowing for a more conservative approach.

### **Adherence and Competence Measures**

Observer checklists of adherence to intervention and competence in delivery of program were completed for 28 (100%) of the ASTP interventions and 28 (100%) of the CD-ROM interventions. Of the 14 ASTP sessions during week 1 (ASTP#1), five were rated by a single observer, six by two observers, three by three observers, and four by four observers. Of the 14 ASTP sessions during week 2 (ASTP#2), seven were rated by a single observer, six by two observers, and one by four observers. Each of the ten components that make up ASTP#1 (6 components) and ASTP#2 (4 components) were divided into 4-10 elements (depending on total number of tasks and topics to cover in each component) with a range of points from 1-4 (representative of level of importance) resulting in a summary score (COMPSUM) with a range from 0-10 (0 indicating no elements were covered and 10 indicating all elements were covered). None of the ten components were skipped in any of the sessions and overall, the peer facilitators (PFs) completed the majority of elements within the components during both ASTP#1 ( $M = 9.4$ ,  $SD = 1.0$ ) and ASTP#2 ( $M = 8.6$ ,  $SD = 1.4$ ), see Table 5 for details regarding means and standard deviations for each separate component. Table 6 shows the rate of agreements and disagreements by component.

Table 5. Means and standard deviations for each ASTP component for session #1 and session #2.

	Mean	Standard Deviation
Component # 1	9.2	0.9
Component # 2	9.2	1.5
Component # 3	9.9	0.5
Component # 4	9.5	1.3
Component # 5	9.4	0.7
Component # 6	9.4	1.2
Component # 7	9.7	1.2
Component # 8	9.4	1
Component # 9	7.6	1.2
Component # 10	7.6	2

Table 6. Total number of Rater Teams in Agreement and Disagreement for scoring Overall Completeness of Components for ASTP #1 and ASTP #2.

	# of 3- or 4- Person Rater Teams in Complete Agreement	# of 2-Person Rater Teams in Complete Agreement	Total # in <u>Complete</u> Agreement	# or Raters in Disagreement by 1 point	# of Raters in Disagreement by 2 points	# of Raters in Disagreement by 3 points	Total # in <u>Some</u> Disagreement	# of Single Rated Sessions	% of Ratings With <= 1 point Disagreement
Component # 1	1	6	7	6	0	0	6	5	100%
Component # 2	1	8	9	3	1	0	4	5	92%
Component # 3	3	5	8	3	1	0	4	5	92%
Component # 4	3	4	7	4	1	0	5	5	92%
Component # 5	3	3	6	5	0	0	5	5	100%
Component # 6	3	4	7	1	1	1	3	5	80%
Component # 7	1	6	7	0	0	0	0	7	100%
Component # 8	1	4	5	3	0	0	3	7	100%
Component # 9	0	6	6	1	2	0	3	7	78%
Component # 10	1	4	5	1	1	0	2	7	86%
Competence Session # 1	2	3	5	6	0	0	6	5	100%
Competence Session # 2	1	2	3	2	1	0	3	7	83%

Competence of peer facilitators was rated in terms of overall factual content and knowledge during entire session on a scale from 1-7 (see Adherence/Competence measure in Appendix A). Overall, the competence of peer facilitators was high for both ASTP#1 ( $M = 6.1$ ,  $SD = 1$ ) and ASTP#2 ( $M = 6.1$ ,  $SD = 1.2$ ).

The CD-ROM scoring was slightly different, as the components were not as clearly organized, nor were the elements of the components (see Adherence/Competence measure in Appendix A). Most importantly, as with delivery of the ASTP programs, all of the fourteen components were delivered in 100% of the CD-ROM sessions. There were 7 components in the first session with a range of points from 1-23. Only one session was rated by more than one rater and both raters were in complete agreement for all component scores during that session. Session two had a total of 7 components ranging from 2-18 points. All sessions were rated by a single rater. Table 7 presents means and standard deviations for each component from session #1 and #2. Table 8 presents results from seven [constructs] hypothesized to mediate delivery and impact of the respective prevention programs based on scales from 1-7.

Table 7. Means and standard deviations for each CD-ROM component for session #1 and session #2.

Component # (Total points possible)	Mean	Standard Deviation
Component # 1 (12)	12	0
Component # 2 (7)	6.9	0.4
Component # 3 (23)	20.1	2.4
Component # 4 (10)	9.6	0.9
Component # 5 (4)	3.9	0.3
Component # 6 (2)	2	0
Component # 7 (1)	0.9	0.3
Component # 8 (3)	2.6	0.5
Component # 9 (2)	2.1	0.3
Component # 10 (2)	2.1	0.5
Component # 11 (4)	4	0
Component # 12 (14)	14	0
Component # 13 (17)	16.4	1.3
Component # 14 (5)	4.8	0.6

Table 8. Rating Comparisons for the Seven Hypothesized Constructs for Each Intervention.

Program Component Items	Group	Week 1		Week 2	
		Mean	SD	Mean	SD
Program delivered w/orientation to discussion vs. lecture	CD-ROM	6	1.7	6	1.3
	ASTP	5.7	1.5	6	1
Structure and organization of session	CD-ROM	6.8	0.6	6.9	0.3
	ASTP	5.9	1.4	5	1.5
Reflective listening skills observed	CD-ROM	5	3.5	5.8	2.7
	ASTP	5.4	1.4	5.4	1.3
Motivational Interviewing techniques used	CD-ROM	7	0	6.7	0.58
	ASTP	5.4	1.3	5.4	1.1
Knowledge of program content communicated	CD-ROM	n/a	n/a	n/a	n/a
	ASTP	6	1.1	6	1.2
Communication of understanding and empathy observed	CD-ROM	7	0	6.3	1
	ASTP	5.3	1.8	5.6	1.5
Interpersonal effectiveness displayed	CD-ROM	6.5	0.8	6.7	0.8
	ASTP	5.7	1.5	6.1	1.3

### Multiple Assessment vs. CD-ROM vs. ASTP

#### *Intervention Effects*

All intervention effect analyses comparing the two intervention groups with the three-assessment control group over time were conducted using the matched sample (Match). For alcohol use, alcohol-related negative consequences, and changes in motivation and knowledge, separate repeated measures analyses were completed to combine sets of related dependent measures. Unanswered questions for specific cases resulted in smaller sample sizes for analyses of some variables.

#### Main Effects

##### *Alcohol Use*

There were no significant effects of gender for drinks per week at baseline ( $M = 3.4$  for men,  $M = 3.3$  for women; ( $F(1, 288) = .029$ ,  $p = .86$ , *ns*)) or at the 6-month follow-up, ( $M = 4.6$  for men,  $M = 3.2$  for women; ( $F(1, 288) = 2.54$ ,  $p = .11$ , *ns*)).

The effects of the interventions on drinking over time were assessed using multivariate repeated measures MANOVA. Analyses of self-reports of drinking rates (reflecting quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, and average and peak Blood Alcohol Content [AvBAC-PkBAC]) revealed a significant multivariate effect of time ( $F(2, 286) = 4.25, p = .015$ ), reflecting an overall decrease with a non-significant multivariate intervention by time interaction ( $F(2, 286) = .79, p = .53, ns$ ). Follow-up analyses were conducted on each of the dependent measures separately and confirmed non-significant effects. An additional repeated measures MANOVA revealed no significant multivariate intervention completion by time interaction for the CD-ROM and ASTP participants, multivariate ( $F(2, 188) = .30, p = .88, ns$ ). These results suggest there is change over time in alcohol use among participants which is not unique to the effects of multiple assessments or the interventions (see Table 9).

#### *Alcohol-Related Negative Consequences*

Analysis of alcohol-related negative consequences and problems (RAPI and ADS) revealed similar significant main effects of time ( $F(2, 249) = 12.20, p < .001$ ), yet a non-significant multivariate intervention by time interaction ( $F(2, 249) = 1.97, p = .10, ns$ ). An additional repeated measures MANOVA revealed no significant multivariate intervention completion by time interaction for the CD-ROM and ASTP participants, multivariate ( $F(2, 161) = 1.07, p = .37, ns$ ). These results suggest there is a decrease over time in number of alcohol-related problems among participants which is not unique to the multiple assessment or interventions (see Table 10).

#### *Motivation and Knowledge*

A mixed-model repeated measures analysis of variance was performed to assess group differences in participant motivation to change alcohol use between baseline and the 6-month follow-up. Analysis revealed a significant main effect of time, ( $F(1, 304) = 23.28, p < .001$ ) and a significant multivariate intervention by time interaction ( $F(2, 304) = 3.29,$

$p = .04$ ). Intervention X time effects suggest that the change in participant scores from baseline to the 6-month follow-up reflect a greater readiness to change (the greater the score, the more ready to change) in the ASTP condition ( $M = -2.5$ ,  $SD = 2.0$  to  $M = -2.7$ ,  $SD = 2.0$ ) than those in the CD-ROM condition ( $M = -1.9$ ,  $SD = 2.1$  to  $M = -2.8$ ,  $SD = 2.0$ ) and even more so than those in the three-assessment condition ( $M = -2.6$ ,  $SD = 1.9$  to  $M = -3.0$ ,  $SD = 2.0$ ).

Repeated measures analysis of variance was performed to assess group differences in knowledge acquisition between baseline and the 6-month follow-up. Analyses revealed a significant main effect of time, ( $F(1, 355) = 3.85$ ,  $p = .05$ ) and a significant multivariate intervention by time interaction ( $F(2, 355) = 4.87$ ,  $p = .008$ ). Intervention X time effects suggest that the change in participant scores from baseline to the 6-month follow-up reflect essentially no change in scores of knowledge acquisition among participants in the CD-ROM condition ( $M = 7.6$ ,  $SD = 1.9$  to  $M = 7.7$ ,  $SD = 3.3$ ) than those in the ASTP condition ( $M = 7.6$ ,  $SD = 1.8$  to  $M = 7.6$ ,  $SD = 3.5$ ) and a decrease among those in the three-assessment condition ( $M = 8.2$ ,  $SD = 1.9$  to  $M = 7.0$ ,  $SD = 3.8$ ) (see Table 11).

#### Differential Effects: Analyses Based on Subgroups as Defined by Level of Alcohol Use

As mentioned previously, participants were divided into three categories of baseline drinking level; “abstainers,” “light” drinkers, “heavy” drinkers (see Table 12).

Table 12. Drinking Level by Condition at Baseline.

Drinking Level at Baseline	Condition			
	1-Assess n (%)	3-Assess n (%)	CD-ROM n (%)	ASTP n (%)
Abstainer	0	48 (49%)	65 (67%)	50 (53%)
Light drinker ( $\leq 5$ drinks/week)	0	25 (25%)	16 (16.5%)	14 (15%)
Heavy drinker ( $>5$ drinks/week)	0	26 (26%)	16 (16.5%)	30 (32%)
<i>TOTALS:</i>	0	99	97	94

*Alcohol Use*

Of the 163 “abstainers” at baseline, a total of 65 (40%) moved to the “light” drinker category by the 6-month follow-up: 18 from the three-assessment (28%), 29 from CD-ROM (44%), and 18 from ASTP (28%). Group differences were not significant (chi-square (2) = 1.7,  $p = .42$ , *ns*). None were categorized as “heavy” drinkers at the 6-month follow-up.

Of the 55 “light” drinkers at baseline, a total of 9 (16%) moved into the “heavy” drinking category. Ten were from the three-assessment condition (18%), 7 from CD-ROM (13%), and 4 from ASTP (7%) groups. A total of nine moved from the “light” drinking category at baseline to the “abstainer” category the 6-month follow-up: 2 from the three-assessment (3%), 4 from CD-ROM (6%), and 3 from ASTP (4%). However movement from “light” to “heavy” was not significant (chi-square (2) = 4.3,  $p = .12$ , *ns*) nor was movement from “light” to “abstainer,” (chi-square (2) = .47,  $p = .79$ , *ns*).

None of the 72 “heavy” drinkers at baseline were categorized as “abstainers” at the 6-month follow-up, however, a total of 22 (31%) moved into the “light” drinker category from the three-assessment ( $n=8$ , 22%), CD-ROM ( $n=4$ , 15%), and ASTP ( $n=10$ , 29%) groups. A significant difference by group was not revealed (chi-square (2) = 1.02,  $p = .60$ , *ns*).

The differential effects of the interventions on drinking level (DRLEVEL) on drinking patterns over time were assessed using repeated measures MANOVA and revealed a significant main effect for time, ( $F(2, 125) = 18.68$ ,  $p < .001$ ) for “light” drinkers and ( $F(2, 125) = 3.09$ ,  $p = .05$ ), for “heavy” drinkers in the direction of decreasing use. However, a non-significant multivariate intervention by time interaction was revealed for both “light” ( $F(2, 125) = 1.03$ ,  $p = .39$ , *ns*) and “heavy” ( $F(2, 125) = .98$ ,  $p = .42$ , *ns*) drinkers. This suggests there is change over time in alcohol use among both “light” and “heavy” drinking participants that are not unique to the assessment or intervention (see Tables 13 and 14).

*Alcohol-Related Negative Consequences*

No multivariate effects of time or intervention by time interactions were revealed among “abstainers”.

Analysis of alcohol-related problems revealed significant effects favoring those “light” drinkers receiving one of the brief interventions, particularly the ASTP. A multivariate repeated measures MANOVA for these two measures (RAPI, ADS) revealed a significant multivariate effect of time, ( $F(2, 156) = 16.15, p < .001$ ) and a significant multivariate intervention by time interaction ( $F(2, 156) = 4.17, p = .003$ ). This multivariate effect reflects an initial increase at the 3-month follow-up followed by a decrease in rates at the 6-month follow-up. Intervention X time effects were noted when examining each of the two different scales: RAPI ( $F(2, 156) = 8.94, p = .003$ ), and ADS ( $F(2, 156) = 9.89, p = .002$ ).

As measured by the RAPI, 6 months after the ASTP and CD-ROM interventions, “light” drinking participants reported on average 1.4 ( $SD = 2.9$ ) and 1.4 ( $SD = 2.5$ ) problems (in the previous 6 months), respectively, as compared to those in the three-assessment condition who reported on average 2.7 ( $SD = 3.8$ ) problems. Similar effects were noted with the measure of alcohol dependence (ADS). Six months after the ASTP and CD-ROM interventions, “light” drinking participants endorsed an average 4.4 ( $SD = 4.1$ ) items and 4.5 ( $SD = 4.0$ ) items, respectively, as compared to those in the three-assessment condition who endorsed an average of 5.3 ( $SD = 4.6$ ) items (see Table 15).

A multivariate repeated measures MANOVA for the two problem measures (RAPI, ADS) among “heavy” drinkers did not reveal a significant multivariate effect of time, ( $F(2, 156) = .30, p = .74, ns$ ) or an intervention by time interaction ( $F(2, 156) = .81, p = .52, ns$ ). This suggests there is change over time in alcohol-related problems reported by “light” drinking participants, but not by “heavy” drinking participants and that this change over time is specific to condition.

### *Motivation and Knowledge*

Analysis of motivation to change alcohol use revealed significant effects favoring those “heavy” drinkers receiving the ASTP intervention. Univariate ANOVAs revealed significant effects of time for “abstainers,” ( $F(1, 41) = 12.69, p = .001$ ), “light” drinkers, ( $F(1, 175) = 8.50, p = .004$ ), and “heavy” drinkers, ( $F(1, 81) = 4.49, p = .04$ ), and an intervention by time interaction among “heavy” drinkers, ( $F(2, 81) = 3.18, p = .05$ ). At the 6-month follow-up those “heavy” drinkers in the ASTP condition reported greater readiness to change ( $M = -2.5, \underline{SD} = 2.1$ ) than those in the three-assessment group ( $M = -2.9, \underline{SD} = 1.9$ ) or the CD-ROM group ( $M = -3.3, \underline{SD} = 1.8$ ).

Analysis of knowledge acquisition revealed significant effects favoring those “light” drinkers receiving the ASTP and CD-ROM interventions. Univariate ANOVAs revealed no significant effects of time for “abstainers,” ( $F(1, 43) = .31, p = .58, ns$ ) or “heavy” drinkers, ( $F(1, 97) = 1.46, p = .23, ns$ ). Among “light” drinkers, significant effects for both time, ( $F(1, 209) = 4.44, p = .04$ ) and an intervention by time interaction, ( $F(2, 209) = 3.67, p = .03$ ) were revealed. When scores are viewed over time from baseline to the 6-month follow-up scores, those “light” drinkers in the ASTP ( $M = 7.7, \underline{SD} = 1.8$  to  $M = 8.9, \underline{SD} = 1.5$ ) and CD-ROM conditions ( $M = 7.7, \underline{SD} = 2.2$  to  $M = 8.8, \underline{SD} = 2.2$ ) increased the number of correct responses on the knowledge test at a greater rate than those in the three-assessment condition ( $M = 8.1, \underline{SD} = 1.9$  to  $M = 8.3, \underline{SD} = 1.8$ ). More details are available in Table 16.

### Complete Intervention Attendees

Repeated measures MANOVA procedures were conducted on those participants who attended both intervention sessions in comparison with those from the matched three-assessment condition and revealed similar patterns as noted above.

### *Alcohol Use*

A multivariate repeated measures MANOVA for the seven drinking measures revealed a significant effect for time, ( $F(1, 235) = .3.88, p = .02$ ), but not for the intervention by

time interaction ( $F(1, 235) = .57, p = .68, ns$ ). Significant differential effects were not revealed when analyzed by drinking level.

#### *Alcohol-Related Negative Consequences*

The MANOVA procedure for the two problem measures revealed significant effects for both time ( $F(1, 202) = 8.64, p < .001$ ) and the intervention by time interaction ( $F(1, 202) = 2.74, p = .03$ ) suggesting participants in the ASTP condition had the least increase between baseline and the 3-month assessment and the greatest decrease in number of problems at the 6-month follow-up, followed by those in the CD-ROM condition, and then those in the three-assessment condition. Further analyses revealed significant effects by time ( $F(1, 128) = 10.46, p < .001$ ) and intervention by time ( $F(1, 128) = 5.01, p = .001$ ) among “light” drinkers supporting the previous differential effectiveness of the ASTP and CD-ROM intervention in reducing problems over the six month time period as compared to the three-assessment condition (see Table 17).

#### *Motivation*

As indicated previously, analysis of motivation to change alcohol use revealed significant effects favoring those “heavy” drinkers receiving the ASTP intervention. A univariate ANOVA for all drinking levels revealed a significant effect for time ( $F(1, 248) = 15.83, p < .001$ ) but not for intervention by time ( $F(1, 248) = 2.12, p = .122, ns$ ). When analyzed by drinking level, univariate ANOVAs revealed significant effects of time for “abstainers,” ( $F(1, 36) = 10.81, p = .002$ ) and “light” drinkers, ( $F(1, 142) = 6.25, p = .014$ ), and an intervention by time interaction among “heavy” drinkers, ( $F(2, 63) = 4.76, p = .012$ ) (see Table 18).

Analyses evaluating intervention effects reported above consistently revealed no main effects for gender on drinking, problems, or change.

**Single-Assessment vs. Multiple Assessment, CD-ROM, and ASTP**

As noted in Table 1, attrition (in terms of assessment completion) occurred from baseline to the 6-month follow-up among the three assessment/intervention groups. There was some mild evidence to suggest this attrition was associated with increased levels of baseline drinking and a greater number of alcohol-related problems. In order to control for attrition and more accurately compare the differences between the four groups at the 6-month follow-up, a correction was made in the single-assessment group. A total of 53 (15%) participants completed a baseline assessment but did not complete the 6-month follow-up assessment; 23 (6%) from three-assessment, 13 (4%) from CD-ROM, and 17 (5%) from ASTP. Of these 53, 3 (6%) were categorized as “abstainers,” 34 (64%) as “light” drinkers, and 16 (30%) as “heavy” drinkers. Therefore, equal proportions (a total of 15%) were removed from the single-assessment group to shrink the sample and reduce the attrition confound. This resulted in a total corrected single-assessment sample (Shrink sample) of 104 participants after removing 1 “abstainer,” 12 “light” drinkers, and 5 “heavy” drinkers. All subsequent analyses and comparisons are between the Match sample and the Shrink sample, unless otherwise indicated.

Chi-square tests for gender, family history, employment, ethnicity, Internet use, number of drinks per week, daily cigarette use, monthly marijuana use, friends’ attitude toward alcohol use, parent’s attitude toward alcohol use, and other alcohol prevention programs attended revealed no significant group differences at the 6-month follow-up. There was, however, a significant difference for drinking level (chi-square (6) = 12.94,  $p = .044$ ) as displayed in Table 19 below.

Table 19. Drinking Level by Condition at the 6-Month Follow-Up.

<u>Drinking Level at 6-month follow-up</u>	<u>Condition</u>			
	<u>1-Assess</u> <u>n (%)</u>	<u>3-Assess</u> <u>n (%)</u>	<u>CD-ROM</u> <u>n (%)</u>	<u>ASTP</u> <u>n (%)</u>
Abstainer	14 (13%)	11 (11%)	14 (14%)	10 (11%)
Light drinker (<= 4 drinks/week)	45 (42%)	55 (56%)	60 (62%)	58 (62%)
Heavy drinker (>5 drinks/week)	47 (45%)	33 (33%)	23 (24%)	26 (27%)
<i>TOTALS:</i>	<i>106</i>	<i>99</i>	<i>97</i>	<i>94</i>

The differential rates of attrition additionally suggest that as demands for time and energy increased involvement in the project decreased. The demand for time and energy was less for the single-assessment group than for the other three groups and therefore easier to fulfill completion, regardless of drinking level. Therefore, in order to more clearly compare results for the “first” assessment for gender, family history, employment, ethnicity, Internet use, number of drinks per week, daily cigarette use, monthly marijuana use, friends’ attitude toward alcohol use, parent’s attitude toward alcohol use, and other alcohol prevention programs attended were conducted to between the single-assessment group at the 6-month follow-up as compared to the baseline scores of the other three groups. Significant differences between the single-assessment and other three groups were revealed on several demographic variables suggesting that at first assessment those participants in the single-assessment condition were more likely to be employed part- or full-time (chi-square (6) = 25.09,  $p < .001$ ), perceived their friends’ attitude towards alcohol to be more encouraging (chi-square (9) = 25.56,  $p = .002$ ), perceived their parents’ attitude towards alcohol to be more accepting (chi-square (9) = 37.0,  $p < .001$ ), and attended more alcohol prevention programs (chi-square (18) = 34.33,  $p = .011$ ).

## Main Effects

### *Alcohol Use*

Multivariate analysis of seven measures of drinking at the 6-month follow-up revealed a significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 390) = 1.96, p = .006$ ). This significant intervention effect was noted in each of the dependent measures when analyzed separately. In comparison to the three-assessment, CD-ROM, and ASTP groups, those in the single-assessment group reported drinking more frequently ( $F(3, 390) = 4.09, p = .007$ ), a higher quantity ( $F(3, 390) = 4.36, p = .005$ ), reaching a higher peak ( $F(3, 390) = 6.67, p < .001$ ), greater average quantity ( $F(3, 390) = 6.18, p < .001$ ), greater average frequency ( $F(3, 390) = 6.46, p < .001$ ), reaching a higher peak BAC ( $F(3, 390) = 4.68, p = .003$ ), and average BAC ( $F(3, 390) = 4.32, p = .005$ ). The CD-ROM was more effective at reducing quantity than the ASTP or three-assessment, whereas all three assessment/intervention groups were equally effective at reducing frequency of consumption, peak consumption, and peak BAC as compared to the single-assessment condition (see Table 20).

Since there were no significant differences for the main effect of alcohol use between the three assessment/intervention groups in the previous analyses, they were combined for a comparative analysis with the single-assessment group and a similar intervention effect was revealed, multivariate, ( $F(1, 392) = 2.97, p = .005$ ). All of the univariate tests were highly significant.

A composite score combining responses from all seven measures of drinking is displayed over the 6-month study period in Figure 1. Scores on all of these measures were converted to  $z$  scores based on baseline responses of the multiple assessment and interventions groups. These  $z$  scores were corrected for variability at the time of assessment, but means were adjusted only from baseline to reveal developmental trends.

### *Alcohol-Related Negative Consequences*

Multivariate analysis of two measures of problems at the 6-month follow-up revealed a significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 390) = 5.01, p < .001$ ) with significant differences revealed for both RAPI, ( $F(3, 390) = 9.83, p < .001$ ) and ADS, ( $F(3, 390) = 4.55, p = .004$ ). Post Hoc tests using Tukey's HSD indicate the CD-ROM and ASTP interventions were significantly more effective than the three-assessment condition at reducing problems as measured by the ADS as compared to the single-assessment condition. All three assessment/intervention groups were equally effective at reducing problems as measured by the RAPI as compared to the single-assessment condition (see Table 21).

Again, when the three assessment/intervention groups were combined for a comparative analysis with the single-assessment control group the results were similar, favoring those who engaged in one of the three assessment/intervention groups ( $F(1, 392) = 14.41, p < .001$ ).

A composite score combining RAPI and ADS responses is displayed over the 6-month study period in Figure 2. RAPI and ADS scores were converted to  $z$  scores based on baseline responses of the multiple assessment and interventions groups. These  $z$  scores were corrected for variability at the time of assessment, but means were adjusted only from baseline to reveal developmental trends.

### *Motivation and Knowledge*

Multivariate analysis of two measures of change at the 6-month follow-up revealed a significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 390) = 2.11, p = .05$ ) with non-significant differences revealed for both univariate tests; URICA ( $F(3, 390) = 1.85, p = .14, ns$ ), KT ( $F(3, 390) = 2.41, p = .07, ns$ ). See Table 22.

Analyses revealed main effects of gender on drinking, but not for problems or change when compared across the four groups as well as when comparing the single-assessment to the other three groups combined. Women reported reaching higher peak BAC levels than men at the 6-month follow-up in the single-assessment (Women:  $M = .121$ ,  $SD = .119$ ; Men:  $M = .098$ ,  $SD = .086$ ), CD-ROM (Women:  $M = .074$ ,  $SD = .105$ ; Men:  $M = .05$ ,  $SD = .081$ ), and ASTP (Women:  $M = .09$ ,  $SD = .104$ ; Men:  $M = .05$ ,  $SD = .067$ ) groups, and practically identical levels in the three-assessment group (Women:  $M = .079$ ,  $SD = .092$ ; Men:  $M = .08$ ,  $SD = .081$ ). No other univariate tests were significant for gender differences.

#### Intent-to-Treat Sample

In order to model the way in which these programs were designed to be delivered on a college campus and for comparative purposes an intent-to-treat (ITT) model was adopted for subsequent analyses. Statistical comparisons for treatment effects at the 6-month follow-up were completed on all who provided data, irrespective of attrition rates or program attendance: a total of 121 (87%) in the single-assessment control group, 133 (95%) in the three-assessment control group, 125 (92%) in the CD-ROM group, and 123 (93%) in the ASTP group when comparisons included the single-assessment group. Main effect patterns are identical to those found in the previous analyses.

#### *Alcohol Use*

Multivariate analysis of seven measures of drinking at the 6-month follow-up revealed a significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 440) = 1.62$ ,  $p = .04$ ) with significant differences revealed for all univariate tests. The comparative analysis between the single-assessment control group and the other three assessment/intervention groups revealed a multivariate effect, ( $F(1, 442) = 2.37$ ,  $p = .02$ ) (see Table 23). The assessment/intervention effects were significant in each of the dependent measures when analyzed separately. In comparison with those in the single-assessment control condition (1), those in the other

three conditions (2+) reported drinking less quantity over time, ( $F(1, 442) = 9.72, p = .002$ ) ( $M_1 = 2.1, \underline{SD}_1 = 1.2; M_{2+} = 1.7, \underline{SD}_{2+} = 1.1$ ), less frequently over time, ( $F(1, 442) = 7.79, p = .005$ ) ( $M_1 = 1.6, \underline{SD}_1 = 1.4; M_{2+} = 1.2, \underline{SD}_{2+} = 1.3$ ), less peak quantity over time, ( $F(1, 442) = 14.0, p < .001$ ) ( $M_1 = 5.1, \underline{SD}_1 = 4.7; M_{2+} = 3.5, \underline{SD}_{2+} = 3.9$ ), fewer days of the week, ( $F(1, 442) = 12.0, p = .001$ ) ( $M_1 = 1.5, \underline{SD}_1 = 1.6; M_{2+} = 1.1, \underline{SD}_{2+} = 1.3$ ), fewer drinks per drinking day, ( $F(1, 442) = 11.36, p = .001$ ) ( $M_1 = 2.6, \underline{SD}_1 = 2.8; M_{2+} = 1.7, \underline{SD}_{2+} = 2.3$ ), achieving a lower peak BAC, ( $F(1, 442) = 12.61, p < .001$ ) ( $M_1 = .112, \underline{SD}_1 = .106; M_{2+} = .076, \underline{SD}_{2+} = .091$ ) and a lower average BAC, ( $F(1, 442) = 11.03, p = .001$ ) ( $M_1 = .020, \underline{SD}_1 = .033; M_{2+} = .012, \underline{SD}_{2+} = .021$ ).

### *Alcohol-Related Negative Consequences*

Multivariate analysis of two measures of problems at the 6-month follow-up revealed a significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 441) = 3.77, p = .001$ ) with significant differences revealed for both univariate tests (see Table 24). Again, since there were no significant main effects revealed for problems between the three assessment/intervention groups in the previous analyses, they were combined for a comparative analysis with the single-assessment control group. Similar to the results regarding alcohol use, significant effects favoring those who engaged in one of the three assessment/intervention groups were revealed. In comparison with those in the single-assessment control condition (1), those in the other three conditions (2+) reported fewer total problems on each of the two scales: RAPI, ( $F(1, 443) = 23.70, p < .001$ ) ( $M_1 = 6.8, \underline{SD}_1 = 9.2; M_{2+} = 3.3, \underline{SD}_{2+} = 5.4$ ) and ADS, ( $F(1, 443) = 12.38, p < .001$ ) ( $M_1 = 7.4, \underline{SD}_1 = 6.3; M_{2+} = 5.4, \underline{SD}_{2+} = 5.0$ ).

Perhaps more reflective of the timing of the assessments, however, are the results of reported problems using the RAPI in the past one month for the assessment/intervention participants ( $M = 1.0, \underline{SD} = 2.0$ ) as compared to the single-assessment participants ( $M = 2.1, \underline{SD} = 3.8$ ). Comparable trends were detected with the measure of alcohol dependence (ADS). Using a cutoff score of 11 on the ADS (Ross, Gavin, & Skinner,

1990), 23% (n=56) of the students in the assessment/intervention group met criteria for mild alcohol dependence as compared to 36% (n=33) in the single-assessment only group, (chi-square (1) = 5.9,  $p = .02$ ).

### *Motivation and Knowledge*

Multivariate analysis of two measures of change at the 6-month follow-up revealed a non-significant intervention effect between the single-assessment, three-assessment, CD-ROM, and ASTP conditions, ( $F(3, 441) = 1.71, p = .12, ns$ ) with non-significant differences revealed for both univariate tests (see Table 25).

### **Participant Satisfaction**

#### *Satisfaction with CD-ROM and ASTP Interventions*

Eighty-six CD-ROM intervention participants (84% of those receiving the intervention) and eighty-six ASTP intervention participants (83% of those receiving the intervention) responded to the satisfaction questions. Surveys were distributed and collected at the end of the second intervention session and complete surveys were available from between 2 and 11 participants ( $M=6$ ) (due to attendance) from each of the 14 CD-ROM and 14 ASTP sessions. All ratings were on a likert scale from 0 to 4 and are displayed in Table 26. Participants from the ASTP condition consistently rated the intervention and peer facilitators (PF) higher on all items as compared to the CD-ROM intervention and group leaders (GL). Participants from the CD-ROM and ASTP conditions rated the PFs and GLs highest on warmth and understanding ( $M = 3.4; SD = .53, M = 3.7; SD = .52$ , respectively) with the difference between conditions approaching significance  $t(169)=4.06, p=.06$ . Participants in both conditions appeared to regard the PFs and GLs as competent and well-trained ( $M = 3.2; SD = .59$  and  $M = 3.5; SD = .62$ , respectively) with no significant differences between conditions  $t(169)=2.7, p=.09$ . There was a significant difference in participants' confidence in the PFs and GLs knowledge regarding alcohol use on campus ( $M = 2.4; SD = .91$  and  $M = 3.5; SD = .77$ , respectively)  $t(170)=8.3, p=.02$ . On average, participants agreed that the interventions were thorough

and complete ( $M = 2.8$ ;  $SD = .83$  and  $M = 3.3$ ;  $SD = .61$ , respectively) with no significant differences detected  $t(169)=4.6, p=.89$ . The most significant difference between the CD-ROM and ASTP interventions appears to be whether or not participants' would recommend the program to a friend ( $M = 2.6$ ;  $SD = .85$  and  $M = 3.2$ ;  $SD = .61$ , respectively)  $t(169)=5.4, p<.01$ . Finally, self reported ratings indicate that the majority of participants were undecided about whether the interventions would cause them to change their pattern of alcohol use, with the participants from the ASTP condition slightly more convinced than those from the CD-ROM condition that they might make changes. However, there was not a significant difference between the conditions ( $M = 2$ ;  $SD = 1$  and  $M = 1.4$ ;  $SD = 1$ , respectively)  $t(165)=3.2, p=.56$ .

Table 26. Participant Satisfaction Survey Results for ASTP and CD-ROM Conditions

Satisfaction Questionnaire Item	Group	Mean	SD
PF/GL seemed warm and understanding	CD-ROM	3.4	0.53
	ASTP	3.7 *	0.52
PF/GL seemed competent and well-trained	CD-ROM	3.2	0.59
	ASTP	3.5 *	0.62
PF/GL seemed well informed about alcohol use on campus	CD-ROM	2.4	0.91
	ASTP	3.5 *	0.77
ASTP/CD-ROM was thorough and complete	CD-ROM	2.8	0.83
	ASTP	3.3 *	0.61
Would recommend program to a friend	CD-ROM	2.6	0.85
	ASTP	3.2 *	0.61
Will cause change in my use	CD-ROM	1.4	1
	ASTP	2 *	1.1

\* =  $p < .01$

#### *Satisfaction with Web-Based Assessment Techniques*

Descriptive analyses were performed on data at the 6-month follow-up to determine general satisfaction with completing Web-based assessments. The majority of respondents ( $n=372$ ) completed their assessment either from home (61%) or from a University of Washington computer cluster (23%), while 9% ( $n=41$ ) completed it from a friend's home, 2% ( $n=8$ ) from a parent's home, 1.5% ( $n=7$ ) from a computer cluster at

another university, 1.5% (n=7) from work, 1.5% (n=7) from the FLP office, and less than 1% (n=2) from an Internet cafe. Less than 2% (n=7) of the sample indicated that completing a Web-based survey was very to extremely difficult, while almost 90% (n=388) reported it was very to extremely convenient, and almost 50% of the sample (n=203) reported that completing Web-based surveys was moderately to extremely fun. A majority of the sample, 96% (n=426), reported that their responses to the survey were between 90-100% honest and 95% (n=424) reported that their responses were over 80% accurate. When asked how they would prefer to complete a survey in the future, 77% (n=341) indicated a preference for a Web-based survey whereas only 7% (n=29) indicated a preference for a paper-based survey and 16% (n=73) indicated they would be satisfied completing a survey either way.

#### **Analyses of Web-Based Vs. Paper-Based Surveys**

A secondary study (Test-Retest Analysis Project; TRAP) was conducted to assess the test-retest reliability of the measures used in this study and compared Internet-based (Web-based) assessment techniques versus traditional paper-and-pencil methods. 140 participants were randomly assigned to one of three conditions: paper-and-pencil (P&P), Web-based (WEB), or Web-based with interruption (WEB-I). Preliminary analysis of one aspect of test-retest reliability was calculated on the Alcohol Use Disorders Identification Test (AUDIT) and several Quantity/Frequency Items including the quantity, frequency, and peak [Q-F-P] consumption, average quantity and frequency [AvQ-AvF] consumption, average and peak Blood Alcohol Content [AvBAC-PkBAC], as well as the ADS, RAPI, and URICA measures. Follow-up assessments completed one week later indicated reliabilities ranging from .56-.93 within all measures and across all assessment methods (see Table 30). No significant differences were found between assessment techniques, thus suggesting the feasibility of using of these measures for research and clinical applications. Employing the Internet as a mechanism for data collection minimizes data collection and entry errors, is increasingly accessible directly to

participants, and is a cost-efficient alternative to traditional methods of data collection and data management.

Table 27. Correlations Between Web-Based and Paper-Based Measures One Week Apart.

Measure	Time 1		Time 2		Pearson's r
	Mean	SD	Mean	SD	
ADS	7.1	4.9	6.1	4.6	.90**
AUDIT Total	4.3	3.2	4.2	3.2	.93**
AUDIT Q-F	3	1.9	3	1.9	.91**
AUDIT Dep.	0.4	0.7	0.4	0.7	.66**
AUDIT Prob.	0.9	1.3	0.8	1.2	.88**
RAPI 1 month	1.5	4.5	1.4	4	.91**
RAPI 6 month	3.8	7	3.7	6.5	.93**
RAPI 1 year	6.8	9.3	6	8.7	.92**
URICA Readiness	-3.1	1.9	-3.5	1.9	.85**
URICA Precontemplation	-1.8	2.7	-1	2.6	.56**
URICA Contemplation	-4.4	3.7	-4.8	3.7	.80**
URICA Action	-6.5	3.6	-7	3.4	.80**
URICA Maintenance	-6.6	3.4	-6.7	3.3	.75**
PEAK QUANT	3.7	2.9	3.7	2.7	.82**
PEAK BAL	0.08	0.28	0.07	0.27	.83**
WEEKLY AVG. QUANT	0.5	0.7	0.6	0.7	.93**

Table 9. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Drinking Rates for Match Sample.

Measure	Mean values over time by group						Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		3-month follow-up		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD	M	SD		
Alcohol use							4.25*	0.79
Q-F-P scales								
Frequency								
Three-ass'mnt control (n=99)	1.41	0.93	1.78	0.92	1.70	0.98		
CD-ROM (n=97)	1.32	1.04	1.66	0.97	1.61	1.12		
ASTP (n=94)	1.54	1.06	1.81	0.93	1.67	1.04		
Quantity								
Three-ass'mnt control	1.08	1.11	1.24	1.23	1.22	1.19		
CD-ROM	0.90	1.19	0.92	1.16	0.94	1.23		
ASTP	1.17	1.29	1.13	1.17	1.26	1.30		
Peak								
Three-ass'mnt control	3.08	3.57	3.81	4.02	3.67	3.91		
CD-ROM	2.30	3.34	2.92	3.93	2.75	3.87		
ASTP	3.38	4.03	3.53	3.91	3.45	3.80		
DDQ scores								
Average frequency								
Three-ass'mnt control	0.98	1.13	0.99	1.13	1.13	1.26		
CD-ROM	0.73	1.20	0.81	1.25	0.85	1.39		
ASTP	1.02	1.26	0.92	1.03	0.97	1.22		
Average quantity								
Three-ass'mnt control	1.67	2.15	1.87	2.41	1.89	2.22		
CD-ROM	1.10	2.00	1.22	2.08	1.22	2.12		
ASTP	1.81	2.27	1.68	2.13	1.76	2.49		
BAC scores								
Average BAC								
Three-ass'mnt control	0.010	0.018	0.011	0.017	0.011	0.017		
CD-ROM	0.009	0.020	0.009	0.017	0.012	0.028		
ASTP	0.012	0.018	0.010	0.016	0.011	0.020		
Peak BAC								
Three-ass'mnt control	0.072	0.088	0.085	0.093	0.078	0.088		
CD-ROM	0.055	0.083	0.067	0.092	0.065	0.097		
ASTP	0.079	0.101	0.083	0.101	0.076	0.094		

Note. Q-F-P = Quantity, frequency, and peak consumption; DDQ = Daily Drinking Questionnaire. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 10. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Alcohol-Related Negative Consequences for Match Sample.

Measure	Mean values over time by group						Significance tests	
	Baseline		3-month follow-up		6-month follow-up		Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	M	SD	M	SD	M	SD	F (Time)	F (Intervention X Time)
Alcohol problem							12.20***	1.97
RAPI								
Three-ass'mnt control (n=99)	2.96	5.43	3.98	5.52	3.74	4.82		
CD-ROM (n=97)	3.16	5.92	3.15	5.47	3.05	5.20		
ASTP (n=94)	3.05	5.34	3.51	4.26	3.54	5.13		
ADS								
Three-ass'mnt control	4.55	5.24	6.58	5.49	6.16	5.19		
CD-ROM	5.29	5.92	5.98	5.40	5.93	5.11		
ASTP	4.98	4.42	6.02	4.7	5.74	4.42		

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 11. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Readiness to Change Scores and Number of Correct Items on the Knowledge Test for Match Sample.

Measure	Mean values over time by group						Significance tests	
	Baseline		3-month follow-up		6-month follow-up		Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	M	SD	M	SD	M	SD	F (Time)	F (Intervention X Time)
Change scores							5.85*	4.45*
URICA							23.28***	3.29*
Three-ass'mnt control (n=99)	-2.51	1.89	-2.68	1.94	-2.99	2.03		
CD-ROM (n=97)	-1.93	2.10	-2.66	2.06	-2.84	2.06		
ASTP (n=94)	-2.52	2.06	-2.88	1.88	-2.72	2.11		
Knowledge test							3.85*	4.87**
Three-ass'mnt control	8.22	1.91			6.97	3.82		
CD-ROM	7.59	1.94			7.66	3.33		
ASTP	7.58	1.78			7.60	3.57		

Note. URICA = University of Rhode Island Change Assessment; KT = Knowledge Test. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 13. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Drinking Rates for "Light" Drinkers in Match Sample.

Measure	Mean values over time by group						Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		3-month follow-up		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD	M	SD		
Alcohol use ("Light" drinkers)							18.68***	1.03
Q-F-P scales								
Frequency								
Three-ass'mnt control (n=58)	1.00	0.59	1.50	0.66	1.45	0.82		
CD-ROM (n=58)	1.12	1.01	1.57	0.82	1.48	1.05		
ASTP (n=52)	1.02	0.75	1.48	0.80	1.25	0.95		
Quantity								
Three-ass'mnt control	0.78	0.88	1.09	1.16	1.12	1.09		
CD-ROM	0.60	0.79	0.76	0.94	0.72	0.91		
ASTP	0.54	0.83	0.89	1.10	0.79	1.04		
Peak								
Three-ass'mnt control	1.72	2.16	3.03	3.36	3.12	3.43		
CD-ROM	1.50	2.28	2.38	3.44	1.97	3.00		
ASTP	1.64	2.96	2.58	3.50	2.15	3.51		
DDQ scores								
Average frequency								
Three-ass'mnt control	0.60	0.82	0.85	1.11	1.10	1.32		
CD-ROM	0.29	0.59	0.60	1.08	0.52	0.98		
ASTP	0.33	0.65	0.56	0.80	0.44	0.78		
Average quantity								
Three-ass'mnt control	0.64	0.92	1.21	1.68	1.35	1.66		
CD-ROM	0.42	0.95	0.73	1.44	0.69	1.48		
ASTP	0.50	1.03	0.97	1.70	1.07	2.33		
BAC scores								
Average BAC								
Three-ass'mnt control	0.003	0.004	0.007	0.011	0.007	0.010		
CD-ROM	0.002	0.005	0.005	0.010	0.006	0.014		
ASTP	0.002	0.005	0.004	0.009	0.005	0.016		
Peak BAC								
Three-ass'mnt control	0.042	0.060	0.069	0.084	0.065	0.074		
CD-ROM	0.035	0.058	0.055	0.076	0.046	0.079		
ASTP	0.037	0.079	0.059	0.087	0.047	0.084		

Note. Q-F-P = Quantity, frequency, and peak consumption; DDQ = Daily Drinking Questionnaire. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 14. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Drinking Rates Among "Heavy" Drinkers in Match Sample.

Measure	Mean values over time by group						Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		3-month follow-up		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD	M	SD		
Alcohol use ("Heavy" drinkers)							3.09*	0.98
Q-F-P scales								
Frequency								
Three-ass'mnt control (n=27)	2.48	0.89	2.70	0.91	2.59	0.93		
CD-ROM (n=19)	2.26	1.15	2.63	1.17	2.63	1.01		
ASTP (n=32)	2.56	0.91	2.56	0.76	2.56	0.67		
Quantity								
Three-ass'mnt control	2.26	0.81	2.22	0.97	2.04	1.13		
CD-ROM	2.74	0.93	2.32	1.16	2.11	1.29		
ASTP	2.56	0.88	1.81	1.09	2.34	1.13		
Peak								
Three-ass'mnt control	7.56	2.87	7.26	3.86	6.70	3.81		
CD-ROM	7.16	3.20	7.37	3.80	7.42	4.27		
ASTP	7.28	3.12	6.03	3.76	6.44	2.77		
DDQ scores								
Average frequency								
Three-ass'mnt control	2.22	0.93	1.70	1.03	1.74	1.06		
CD-ROM	2.84	0.77	2.32	1.20	2.74	1.52		
ASTP	2.47	0.88	1.75	0.98	2.09	1.20		
Average quantity								
Three-ass'mnt control	4.68	1.54	4.19	2.72	3.97	2.36		
CD-ROM	4.33	2.17	4.00	2.09	4.11	2.37		
ASTP	4.49	1.67	3.31	2.09	3.33	2.31		
BAC scores								
Average BAC								
Three-ass'mnt control	0.032	0.024	0.026	0.021	0.025	0.023		
CD-ROM	0.039	0.029	0.031	0.025	0.043	0.046		
ASTP	0.032	0.017	0.021	0.021	0.023	0.022		
Peak BAC								
Three-ass'mnt control	0.172	0.079	0.162	0.079	0.147	0.092		
CD-ROM	0.171	0.084	0.170	0.103	0.171	0.111		
ASTP	0.171	0.080	0.145	0.108	0.142	0.086		

Note. Q-F-P = Quantity, frequency, and peak consumption; DDQ = Daily Drinking Questionnaire. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 15. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Problems Among "Light" and "Heavy" Drinkers in Match Sample.

Mean values over time by group								
Measure	Baseline		3-month follow-up		6-month follow-up		Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	M	SD	M	SD	M	SD	F (Time)	F (Intervention X Time)
	Alcohol problem ("Light" drinkers)							16.15***
RAPI								
Three-ass'mnt control (n=56)	1.14	2.49	2.52	4.24	2.71	3.77		
CD-ROM (n=56)	1.57	2.46	1.70	3.26	1.38	2.52		
ASTP (n=47)	1.45	3.5	1.49	2.48	1.36	2.89		
ADS								
Three-ass'mnt control	3.09	3.81	5.80	5.20	5.32	4.63		
CD-ROM	3.88	4.82	5.02	4.74	4.52	4.00		
ASTP	3.47	3.90	4.77	4.3	4.36	4.09		
Alcohol problem ("Heavy" drinkers)							0.30	0.81
RAPI								
Three-ass'mnt control (n=27)	7.10	7.70	7.44	6.70	6.37	6.05		
CD-ROM (n=19)	8.84	9.59	8.42	7.84	8.90	7.30		
ASTP (n=32)	5.78	6.7	6.84	4.48	7.16	5.94		
ADS								
Three-ass'mnt control	8.48	6.12	9.37	5.37	8.93	5.51		
CD-ROM	11.42	5.49	10.63	5.10	11.68	4.35		
ASTP	7.81	3.76	8.38	4.4	8.34	3.71		

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 16. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Change in Motivation and Knowledge Acquisition Among "Light" and

Measure	Mean values over time by group				Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD		
Change scores ("Abstainers")						
URICA					12.69**	1.26
Three-ass'mnt control (n=14)	0.00	0.00	-1.29	2.11		
CD-ROM (n=20)	-0.08	0.35	-1.90	2.38		
ASTP (n=10)	0.00	0.00	-0.54	1.57		
Knowledge test					0.31	0.81
Three-ass'mnt control	7.47	1.89	7.00	3.65		
CD-ROM	7.45	1.60	8.35	1.76		
ASTP	7.55	1.29	7.91	3.11		
Change scores ("Light" drinkers)						
URICA					8.50**	0.12
Three-ass'mnt control (n=58)	-3.02	1.66	-3.30	1.95		
CD-ROM (n=58)	-2.45	2.07	-2.93	1.93		
ASTP (n=52)	-2.79	1.81	-3.17	1.93		
Knowledge test					4.44*	3.67*
Three-ass'mnt control	8.26	1.88	6.77	3.67		
CD-ROM	7.58	2.17	7.80	3.47		
ASTP	7.71	1.90	7.32	3.71		
Change scores ("Heavy" drinkers)						
URICA					4.49*	3.18*
Three-ass'mnt control (n=27)	-2.64	1.87	-2.86	1.89		
CD-ROM (n=19)	-2.27	2.24	-3.32	1.79		
ASTP (n=32)	-2.68	2.19	-2.58	2.07		
Knowledge test					1.46	2.37
Three-ass'mnt control	8.40	1.96	7.36	4.25		
CD-ROM	7.73	1.54	6.77	3.78		
ASTP	7.34	1.68	8.00	3.26		

"Heavy" Drinkers in Match Sample.

Note. URICA = University of Rhode Island Change Assessment; KT = Knowledge Test. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 17. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Self-Reported Problems Among Intervention Attendees and the Three-Assessment Control Condition By Drinking Level for Match Sample.

Measure	Mean values over time by group						Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		3-month follow-up		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD	M	SD		
Alcohol problem (All Drinkers)							8.64***	2.74*
RAPI								
Three-ass'mnt control (n=99)	2.96	5.43	3.98	5.52	3.74	4.82		
CD-ROM (n=97)	3.13	5.91	2.61	5.12	3.08	5.37		
ASTP (n=94)	2.57	5.2	3.05	4.06	2.88	4.68		
ADS								
Three-ass'mnt control	4.60	5.24	6.66	5.48	6.23	5.18		
CD-ROM	5.21	6.03	5.90	5.53	6.02	5.19		
ASTP	4.77	4.37	5.45	4.2	5.43	4.34		
Alcohol problem ("Abstainers")							6.9**	0.46
RAPI								
Three-ass'mnt control (n=14)	0.00	0.00	1.00	2.00	0.75	0.96		
CD-ROM (n=20)	0.00	0.00	0.00	0.00	0.20	0.45		
ASTP (n=10)	0.00	0.0	0.67	1.16	0.33	0.58		
ADS								
Three-ass'mnt control	0.00	0.00	1.00	0.82	0.75	0.50		
CD-ROM	0.00	0.00	1.40	2.07	2.00	2.35		
ASTP	0.00	0.00	2.00	1.00	1.33	1.53		
Alcohol problem ("Light" drinkers)							10.46***	5.01**
RAPI								
Three-ass'mnt control (n=58)	1.14	2.49	2.52	4.24	2.71	3.77		
CD-ROM (n=58)	1.48	2.67	0.98	1.89	1.33	2.53		
ASTP (n=52)	1.46	3.9	1.42	2.49	1.03	2.52		
ADS								
Three-ass'mnt control	3.09	3.81	5.80	5.20	5.32	4.63		
CD-ROM	3.71	4.82	4.64	4.67	4.45	3.91		
ASTP	3.52	3.95	4.55	4.1	4.42	4.55		
Alcohol problem ("Heavy" drinkers)							0.28	0.70
RAPI								
Three-ass'mnt control (n=27)	7.10	7.70	7.44	6.70	6.37	6.05		
CD-ROM (n=19)	9.21	9.62	8.43	7.86	9.36	7.57		
ASTP (n=32)	4.80	6.6	6.10	4.68	6.30	5.75		
ADS								
Three-ass'mnt control	8.48	6.12	9.37	5.37	8.93	5.51		
CD-ROM	11.57	5.76	11.29	5.17	12.14	4.45		
ASTP	7.55	3.80	7.45	3.7	7.70	3.10		

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 18. Means, Standard Deviations, and Repeated Measures Significance Tests by Condition for Readiness to Change Scores Among Intervention Attendees and the Three-

Measure	Mean values over time by group						Significance tests Over Time (Grp. 2 v. 3 v. 4) Matched Sample	
	Baseline		3-month follow-up		6-month follow-up		F (Time)	F (Intervention X Time)
	M	SD	M	SD	M	SD		
Change scores (All drinkers)								
URICA							15.83***	2.12
Three-ass'mnt control (n=99)	-2.55	1.89	-2.73	1.92	-2.96	2.05		
CD-ROM (n=97)	-1.93	2.14	-2.68	2.12	-2.75	2.10		
ASTP (n=94)	-2.47	2.06	-2.62	1.92	-2.67	2.04		
Knowledge test							1.23	6.05**
Three-ass'mnt control	8.22	1.91			6.97	3.82		
CD-ROM	7.61	1.94			7.85	3.14		
ASTP	7.53	1.82			7.82	3.48		
Change scores ("Abstainers")								
URICA							10.81**	0.59
Three-ass'mnt control (n=14)	0.00	0.00	-0.87	1.73	-1.29	2.11		
CD-ROM (n=20)	-0.08	0.37	-1.28	2.19	-1.90	2.38		
ASTP (n=10)	0.00	0.00	-1.49	1.91	-0.77	1.87		
Knowledge test							0.15	0.56
Three-ass'mnt control	7.47	1.89			7.00	3.65		
CD-ROM	7.67	1.28			8.39	1.72		
ASTP	7.38	1.51			7.75	3.37		
Change scores ("Light" drinkers)								
URICA							6.25*	0.20
Three-ass'mnt control (n=58)	-3.02	1.66	-2.86	1.82	-3.30	1.95		
CD-ROM (n=58)	-2.66	2.03	-3.17	1.81	-2.95	1.93		
ASTP (n=52)	-2.81	1.83	-2.94	1.72	-3.32	1.77		
Knowledge test							1.88	4.07*
Three-ass'mnt control	8.26	1.88			6.77	3.67		
CD-ROM	7.60	2.29			7.90	3.34		
ASTP	7.68	1.87			7.68	3.71		
Change scores ("Heavy" drinkers)								
URICA							1.12	4.76*
Three-ass'mnt control (n=27)	-2.64	1.87	-2.88	1.81	-2.86	1.89		
CD-ROM (n=19)	-2.16	2.41	-2.86	2.25	-3.23	2.04		
ASTP (n=32)	-2.61	2.23	-2.34	2.24	-1.99	2.07		
Knowledge test							0.20	1.91
Three-ass'mnt control	8.40	1.96			7.36	4.25		
CD-ROM	7.58	1.54			7.21	3.66		
ASTP	7.26	1.86			8.13	3.08		

Assessment Control Condition By Drinking Level for Match Sample.

Note. URICA = University of Rhode Island Change Assessment; KT = Knowledge Test. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 20. Means, Standard Deviations, and Significance Test by Condition at the 6-Month Follow-up for Self-Reported Drinking Rates for Match Sample.

Measure	6-month follow-up		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) Match Sample
	M	SD		F
Alcohol use				1.96**
Q-F-P scales				
Frequency				4.09**
Single-ass'mnt control (n=105)	2.10	1.25		
Three-ass'mnt control (n=99)	1.70	0.98	p = .043	
CD-ROM (n=97)	1.61	1.12	p = .008	
ASTP (n=94)	1.67	1.04	p = .029	
Quantity				4.36**
Single-ass'mnt control	1.59	1.39		
Three-ass'mnt control	1.23	1.19	ns	
CD-ROM	0.94	1.23	p = .002	
ASTP	1.26	1.30	ns	
Peak				6.67***
Single-ass'mnt control	5.24	4.74		
Three-ass'mnt control	5.71	3.91	p = .039	
CD-ROM	2.75	3.87	p < .001	
ASTP	3.45	3.80	p = .011	
DDQ scores				
Average frequency				6.18***
Single-ass'mnt control	1.62	1.59		
Three-ass'mnt control	1.13	1.26	ns	
CD-ROM	0.85	1.39	p < .001	
ASTP	0.97	1.22	p = .005	
Average quantity				6.46***
Single-ass'mnt control	2.71	2.89		
Three-ass'mnt control	1.89	2.22	ns	
CD-ROM	1.22	2.12	p < .001	
ASTP	1.76	2.49	p = .028	
BAC scores				
Average BAC				4.68**
Single-ass'mnt control	0.113	0.108		
Three-ass'mnt control	0.080	0.088	ns	
CD-ROM	0.065	0.097	p = .002	
ASTP	0.076	0.094	p = .04	
Peak BAC				4.32**
Single-ass'mnt control	0.022	0.034		
Three-ass'mnt control	0.011	0.016	p = .018	
CD-ROM	0.012	0.028	p = .032	
ASTP	0.011	0.020	p = .013	

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 21. Means, Standard Deviations, and Significance Test by Condition at the 6-Month Follow-up for Self-Reported Alcohol-Related Negative Consequences for Match Sample.

Measure	Mean values for groups		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) Match Sample
	6-month follow-up	M		
Alcohol problem				5.01***
RAPI				9.83***
Single-ass'mnt control (n=105)	7.00	9.65		
Three-ass'mnt control (n=99)	3.23	4.69	p < .001	
CD-ROM (n=97)	2.63	4.89	p < .001	
ASTP (n=94)	3.13	4.95	p < .001	
ADS				4.55**
Single-ass'mnt control	7.49	6.55		
Three-ass'mnt control	5.56	5.24	ns	
CD-ROM	5.07	5.12	p = .009	
ASTP	5.07	4.53	p = .01	

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 22. Means, Standard Deviations, and Significance Tests by Condition Test at the 6-Month Follow-up for Readiness to Change Scores and Number Correct on Knowledge for Match Sample.

Measure	Mean values by groups		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) Match Sample
	6-month follow-up	M		
Change scores				2.11*
URICA				1.85
Single-ass'mnt control (n=105)	-2.33	2.12		
Three-ass'mnt control (n=99)	-2.99	2.03	<i>ns</i>	
CD-ROM (n=97)	-2.84	2.06	<i>ns</i>	
ASTP (n=94)	-2.72	2.11	<i>ns</i>	
Knowledge test				2.41
Single-ass'mnt control	8.18	1.88		
Three-ass'mnt control	8.51	2.07	<i>ns</i>	
CD-ROM	8.65	2.05	<i>ns</i>	
ASTP	8.89	1.62	<i>p</i> = .004	

Note. URICA = University of Rhode Island Change Assessment; KT = Knowledge Test. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 23. Means, Standard Deviations, and Significance Test by Condition at the 6-Month Follow-up for Self-Reported Drinking Rates for Intent-to-Treat Sample.

Measure	6-month follow-up		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) ITT Sample
	M	SD		
Alcohol use				1.62*
Q-F-P scales				
Frequency				2.81*
Single-ass'mnt control (n=121)	2.04	1.23		
Three-ass'mnt control (n=107)	1.70	1.01	<i>ns</i>	
CD-ROM (n=111)	1.67	1.14	p = .052	
ASTP (n=106)	1.70	1.05	<i>ns</i>	
Quantity				2.85*
Single-ass'mnt control	1.55	1.35		
Three-ass'mnt control	1.28	1.22	<i>ns</i>	
CD-ROM	1.06	1.29	p = .02	
ASTP	1.29	1.29	<i>ns</i>	
Peak				4.44**
Single-ass'mnt control	5.07	4.65		
Three-ass'mnt control	3.81	3.98	<i>ns</i>	
CD-ROM	3.21	4.09	p = .004	
ASTP	3.56	3.81	p = .025	
DDQ scores				
Average frequency				4.17**
Single-ass'mnt control	1.50	1.55		
Three-ass'mnt control	1.16	1.27	<i>ns</i>	
CD-ROM	0.92	1.42	p = .007	
ASTP	1.00	1.22	p = .03	
Average quantity				4.40**
Single-ass'mnt control	2.55	2.81		
Three-ass'mnt control	1.99	2.27	<i>ns</i>	
CD-ROM	1.38	2.22	p = .002	
ASTP	1.82	2.45	<i>ns</i>	
BAC scores				
Average BAC				3.67*
Single-ass'mnt control	0.020	0.032		
Three-ass'mnt control	0.012	0.017	<i>ns</i>	
CD-ROM	0.013	0.028	p = .018	
ASTP	0.011	0.019	p = .036	
Peak BAC				3.04*
Single-ass'mnt control	0.110	0.106		
Three-ass'mnt control	0.080	0.086	<i>ns</i>	
CD-ROM	0.073	0.098	<i>ns</i>	
ASTP	0.076	0.092	p = .036	

Note. Q-F-P = Quantity, frequency, and peak consumption; DDQ = Daily Drinking Questionnaire. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 24. Means, Standard Deviations, and Significance Test by Condition at the 6-Month Follow-up for Self-Reported Alcohol-Related Negative Consequences for Intent-to-Treat Sample.

Measure	Mean values for groups		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) ITT Sample
	6-month follow-up			
	M	SD		F
Alcohol problem				3.77**
RAPI				7.2***
Single-ass'mnt control (n=121)	6.69	9.15		
Three-ass'mnt control (n=107)	3.51	4.88	p = .002	
CD-ROM (n=111)	3.30	5.93	p = .001	
ASTP (n=106)	3.35	5.55	p = .001	
ADS				3.86**
Single-ass'mnt control	7.36	6.30		
Three-ass'mnt control	5.56	5.17	ns	
CD-ROM	5.62	5.36	ns	
ASTP	5.13	4.49	p = .011	

Note. RAPI = Rutgers Alcohol Problem Inventory; ADS = Alcohol Dependence Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 25. Means, Standard Deviations, and Significance Tests by Condition Test at the 6-Month Follow-up for Readiness to Change Scores and Number Correct on Knowledge for Intent-to-Treat Sample.

Measure	Mean values by groups		Post Hoc Test Tukey HSD (comparison to single-ass'mnt)	Significance tests (1 v. 2 v. 3 v. 4) ITT Sample
	6-month follow-up			
	M	SD		F
Change scores				1.70
URICA				1.83
Single-ass'mnt control (n=121)	-2.37	2.17		
Three-ass'mnt control (n=107)	-2.98	2.03	<i>ns</i>	
CD-ROM (n=111)	-2.83	2.06	<i>ns</i>	
ASTP (n=106)	-2.79	2.07	<i>ns</i>	
Knowledge test				1.61
Single-ass'mnt control	8.21	1.79		
Three-ass'mnt control	8.49	2.09	<i>ns</i>	
CD-ROM	8.54	2.02	<i>ns</i>	
ASTP	8.77	1.79	<i>ns</i>	

Note. URICA = University of Rhode Island Change Assessment; KT = Knowledge Test. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Drinking Pattern Z-Score

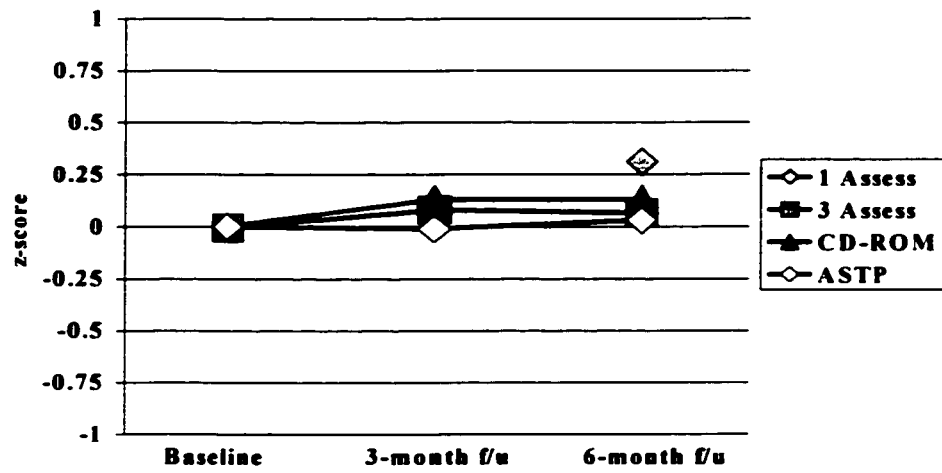


Figure 1. Z-transformed drinking rates over time for single-assessment, three-assessment, CD-ROM, and ASTP conditions.

## Drinking Problem Z-Score

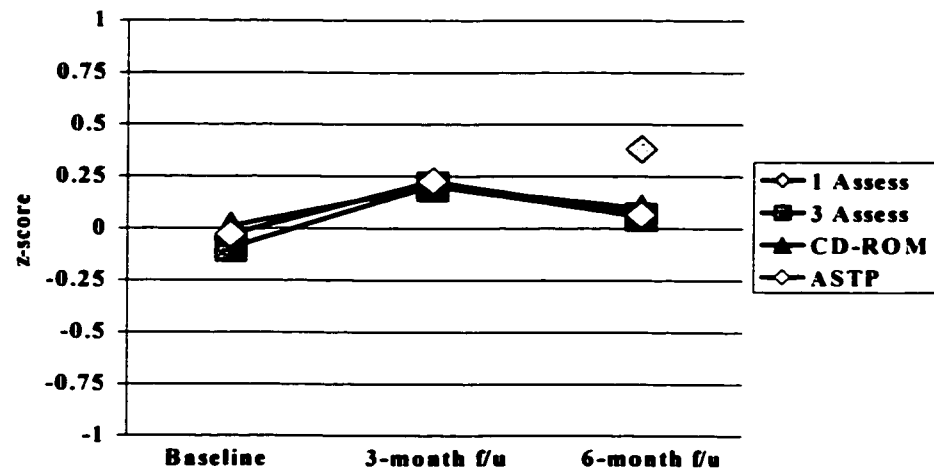


Figure 2. Z-transformed drinking problems over time for single-assessment, three-assessment, CD-ROM, and ASTP conditions.

## CHAPTER 4: DISCUSSION

This longitudinal effectiveness trial comparing two brief interventions and two assessment-only control conditions in reducing alcohol abuse and the incidence of alcohol related negative consequences among university freshmen class members revealed four major findings. First, the overall pattern of results suggest that college students who complete an assessment of drinking behaviors and consequences upon entrance to college followed by a brief intervention and/or subsequent assessments during their freshmen year show significantly less alcohol consumption and fewer harmful consequences in comparison with students in a no-intervention control condition who completed only a single-assessment at the end of the freshmen year. Second, “light” drinkers who received either the ASTP or CD-ROM intervention did not show a significant increase in alcohol-related problems suggesting a preventative effect and did show a significant increase in knowledge acquisition as compared to those in the three-assessment condition. Third, the ASTP intervention increased participant motivation to change alcohol use as compared to the CD-ROM and three-assessment conditions and received higher participant satisfaction ratings than the CD-ROM intervention. Fourth, in an effort to minimize resources and expedite the achievement of clean data, the utilization of Web-based data collection methods is an effective alternative to traditional methods.

To the degree that the absence of an increase in alcohol use and problems, during a time when rates are expected to dramatically rise, reflects a pattern of reduced drinking rates and harmful consequences, these results support the hypothesis that college students who receive a brief, peer-led, group intervention early in their freshmen year show significant reductions in both drinking rates and harmful consequences as compared to the single-assessment only control condition. This significant effect was also evident among participants in the multiple assessment condition in comparison to the single-assessment

condition. There were no differences in the overall patterns when the multiple assessment condition was compared with the two intervention conditions. Therefore, significant reductions were revealed for alcohol consumption as measured by quantity (Q, AvQ), frequency (F, AvF), peak (P), and Blood Alcohol Content (AvBAC, BACPeak), as well as harmful consequences (RAPI) and alcohol dependence (ADS) for freshmen college students in the multiple assessment and intervention conditions in comparison with those in the single-assessment control condition. No main effects on drinking or problems were found for gender or other demographic variables, suggesting that the multiple assessment and brief interventions were effective independent of individual characteristics. Adherence and competence ratings on each of the brief intervention sessions verified delivery of the intended program content and style.

These results are consistent with earlier findings from our laboratory (Baer et al., 1992; Kivlahan et al., 1990; Marlatt et al., 1998) and other studies (Bien et al., 1993; Dimeff et al., 1998; Institute of Medicine, 1994; Reis et al., 1997), indicating that college students receiving a brief intervention early in their freshmen year show a significant reduction in drinking patterns and alcohol-related negative consequences as compared to no-intervention control group. Moreover, the finding that multiple assessments are effective in reducing alcohol use and harmful consequences as compared to a no-intervention single-assessment only control group is consistent with Baer, et al.'s (1992) and Miller et al.'s (1989) findings that suggest assessment alone serves as a non-confrontational brief intervention technique. Surprising, however, was the finding that conducting multiple assessments beginning early in the freshman year was as effective as multiple assessments plus a brief intervention in reducing use and problems among a broad range of drinker levels as compared to conducting a single-assessment at the end of the freshman year.

The commonalities between the three-assessment and two brief interventions are the non-confrontational and non-judgmental approach adopted in the delivery of questions. Questions asked during the interventions are designed to encourage participants to

articulate their rates of use and the types of alcohol-related negative consequences they experienced and were responded to non-judgmentally so as to elicit a willingness to make a change to reduce any existing consequences. The measures included in the assessment are designed to obtain the same information and without human contact the potential for confrontational or judgmental responses is removed completely. Perhaps just asking the question is enough to prompt students to consider the role of alcohol in their lives, develop discrepancies between current behavior and goals, and thus induce change. Miller (1983) suggests developing discrepancies is one of the key elements of behavior change.

Alternative explanations for significant differences between participants in the single-assessment condition as compared to the other three conditions were explored at the 6-month follow-up and were found not to be due to success of randomization, gender, drinking level, family history, Internet inexperience, or other demographic variables. However, completion for the single-assessment participants was fulfilled by simply completing the one-time assessment at the 6-month follow-up, whereas completion was fulfilled for the other three groups only when all three assessments were completed. Analyses comparing assessment completers to non-completers revealed significant differences on drinking rates and problems. Attrition was associated with heavier drinking at baseline in the three assessment/intervention groups suggesting that as demands for time and energy increase involvement in the project decreased. The demand for time and energy was less for the single-assessment group than for the other three groups and therefore easier to fulfill completion, regardless of drinking level. Due to the differential rates of attrition between the single-assessment group and the other three groups in terms of assessment completion, shrinking the single-assessment only control group to correct for biased attrition within the other three groups was conducted. The significance of the effects were actually greater using this method, in comparison to utilizing the ITT model (effects still significant), or when comparing the full single-assessment sample to the three assessment/intervention matched sample. This supports

the interpretation that focusing attention to drinking behaviors early in the freshmen year with continuous follow-up has an impact on reducing rates and consequences over time. Conducting follow-up assessment(s) of that single-assessment group over time, thus making them a multiple assessment condition, in comparison to another single-assessment group could help clarify the effects of multiple assessments. Finally, perhaps differences could be attributed to the timing of assessment completion. The beginning of college (baseline) and the beginning of a new calendar year, or new quarter, (3-month follow-up) are different than the end of the freshmen year (6-month follow-up). Could the underlying mechanism of the assessment process (e.g., focus on own behavior) be tied to a mindset unique to the timing of the assessment itself? Is there an increased likelihood to incorporate reflections of self or be successful at goals set if attended to at the beginning of something as compared to at the end of something? Future studies could time assessments accordingly to investigate this.

Additional potential unmeasured explanations for these differences include report bias on the part of those participants in the three assessment/intervention conditions. Perhaps they reported fewer problems and less use in an attempt to appear more favorable – a reflection of the relationship between the participant and the project. Given that the majority of communication was conducted over email (typically mass email reminders and responses) and all assessments were conducted over the Internet, is a relationship between a user and a computer strong enough to produce that result? Contradictory to a favorable response bias interpretation is one of increased accuracy of reporting. There is evidence that disclosure of risky behaviors, particularly alcohol use, drug use, and high-risk sexual behaviors, increases when conducting computer assessment (Turner et al., 1998; Gerbert et al., 1999). Further research should be undertaken to tease apart these issues.

Assessment completion was associated with a reduced number of problems as measured by the RAPI, suggesting those who didn't complete all three assessments experienced more problems. Given that those participants in the three-assessment only condition had

significantly fewer problems (RAPI) at the 6-month follow-up in comparison to those participants in the single-assessment only condition, just completing an assessment seems to have an impact on the reduction of problems. This suggests increasing response rates has potentially beneficial consequences and therefore an effort to reduce obstacles to assessment completion should be a priority.

Although no main effects were revealed for drinking or problems across the three groups over time, when participants were categorized into drinking level, differential effects were revealed for problems among “light” drinkers. “Light” drinkers in the CD-ROM or ASTP interventions showed a significant reduction in alcohol-related problems in comparison to their three-assessment only counterparts. This finding replicates previous studies showing a greater reduction in problems than in drinking rates among participants attending brief interventions. Additionally, “light” drinkers in CD-ROM and ASTP conditions showed greater rates of knowledge acquisition than those in the three-assessment only condition.

Significant increases in readiness to change were found among ASTP participants over time accounted for by those “heavy” drinking participants as compared to those in the three-assessment and CD-ROM conditions. This supports the hypothesis that an intervention based on a harm reduction approach with motivational interviewing techniques will be effective at increasing heavier drinking students’ motivation to reduce use and harmful consequences. Harm reduction places the emphasis on preventing or reducing harmful consequences, rather than targeting drinking frequency or quantity (Marlatt, Larimer, Baer, & Quigley, 1993). Future studies would benefit from an analysis of clinical significance among these groups as has been conducted in previous studies of this nature (Roberts et al., 1999). Of note was the lack of differential effectiveness between multiple assessments and the two interventions in reducing drinking rates and problems among “heavy” drinkers. This suggests students in this category of use require something more than is offered in multiple assessments and/or brief skills-based, group-delivered interventions. Perhaps these students need individualized attention through

one-on-one interventions or customized feedback following the assessment procedure. For some “heavy” drinking students it is likely the universal approach (multiple assessment/brief intervention) was effective, however for those who were minimally impacted, additional intervention efforts are recommended. Delivering selective and/or indicated programs to those students for whom universal efforts were not effective is consistent with a stepped-care model and public health perspective on college student drinking (Marlatt et al., 1995; Sobell & Sobell, 1993).

Many prevention programs assume that increased knowledge about alcohol and the negative consequences is sufficient to change behavior. However, the results of this study replicate long established research that information alone does not necessarily change behavior (Engs, 1977). In fact, no information was provided to the three-assessment group and yet their reported drinking rates and harmful consequences were not significantly different from the intervention groups. The implications of this finding do not call for the removal of alcohol-related information in prevention programs, rather they emphasize that information is not enough and even with a lack of information, the average student will show a reduction in his/her alcohol use and harmful consequences. Incidentally, previous studies (Marlatt et al., 1998; Sanchez-Craig, Leigh, Spivak, & Lei, 1989) found that women experienced significant decrements in alcohol-related problems over time as compared to men, however this study did not support that finding. Likewise, there were no significant differences in achieved average or peak BACs between men and women.

It was hypothesized that using peers to deliver the intervention programs would provide participants with role models to facilitate observation, imitation, and subsequent reinforcement of less hazardous behaviors as well as increase levels of self-efficacy to change use. Although the results do not suggest this to be the case, anecdotal evidence reveals those peers trained to provide the intervention were positively impacted by the experience and made substantial alcohol-related behavior changes in their own lives

resulting in reductions in alcohol use and associated problems. Future studies should include measurement of this interaction.

The discovery that non-abstinence-based intervention efforts, including multiple assessments only, initiated at the beginning of the freshmen year are effective at reducing alcohol use and negative consequences for a universal population of college students has implications for future attempts to minimize the harm associated with college student drinking. Given the financial and personnel resources as well as the unique needs of each college campus, this result suggests there are different options available for universal prevention programming.

In terms of intervention attendance, although there were some baseline differences on drinking rates between those who attended both interventions and those who did not, a similar pattern of results as stated previously was revealed. This suggests complete intervention attendance was not required to reduce drinking rates and problems over the course of the freshmen year. This finding supports the practical effectiveness of these interventions for use on the college campus where incomplete attendance is likely to occur due to numerous time demands on the college student. Further, this supports the conclusion that an intervention effort, including multiple assessment, initiated at the beginning of the freshmen year focuses attention on the role of alcohol in the individual's life from the outset and decreases the likelihood a student will increase use to a hazardous level or increase the number of alcohol-related negative consequences.

This study distinguished itself from previous studies of this nature by including research design improvements such as two brief, group-oriented, peer-led prevention programs, a one-time assessment only control condition, a large sample size, measures of adherence to and competence in intervention delivery, and the incorporation of innovative Web-based data collection methods. Limitations include low initial response rate, biased attrition, the absence of process measures to account for change in drinking and problems (e.g., assessment of drinking skills, expectancies, norms), the absence of information on

student residence, reliance on self-report data, lack of cross-over of peer facilitators and group leaders, incomplete information about the single-assessment only control group, and the possibility that this sample of freshmen college students may not generalize to other freshmen student populations. Corrections for the effects of biased attrition among the three assessment/intervention groups were made for the single-assessment group and provided evidence of even more significant results. Although collection of collateral data was not completed in full and therefore not analyzed for this study, participants in all conditions were required to provide collateral information and thus expected that someone would be reporting on their alcohol use and problems. Some researchers suggest the expectation of this is enough to increase reliability of reporting (Maisto & Connors, 1992). Studies similar to this have included collateral reports as a check for reliability and found no evidence that participants' systematically underreported or minimized problems (Marlatt et al., 1998). Related is the potential increase in accurate reporting due to the use of computerized assessment techniques (Gerbert et al., 1999; Turner et al., 1998). In an attempt to maximize the use of motivational interviewing techniques, reflective listening skills, and group discussion in the ASTP condition and minimize the use of those skills in the CD-ROM condition, the peer facilitators and group leaders were trained separately and delivered only the program they were trained to deliver. In addition, due to individual preference and scheduling constraints there was no random assignment to condition. Collecting screening data prior to randomization could have minimized incomplete information about the single-assessment only control group. The question remains, however, whether that screening process would have been characterized as an assessment, thus contaminating the true single-assessment condition.

Several implications of this study are noteworthy, including the advantages associated with use of brief interventions, assessment as intervention, inclusion of a single-assessment control group, utilization of adherence and competence measures, and Web-based data collection. Participants consistently rated the ASTP and CD-ROM positively reflecting the appeal of the programs. This may be due to the nature of the programs;

brief, non-abstinence based, non-judgmental, skills-based, and peer-led – reflecting a match to the contextual environment in which drinking occurs on the college campus. Completion of an assessment may serve to focus attention and, much like the role of psychotherapy, promote change through concretizing behavior, developing discrepancies, and creating a time to reflect on how to reach personal goals. Without the inclusion of the single-assessment only group, the conclusions of this study would be limited to the seemingly insignificant effects of multiple assessments and the two interventions. Future studies with multiple assessment only control groups should consider including a single-only assessment control group as well. Further, future research should be conducted to clarify the effects of assessment as intervention. This can be accomplished through clever methodological designs such as staggered assessment. Utilization of adherence and competence measures confirmed delivery of program content as designed, as well as provided clear guidelines to peer facilitators and group leaders during training, thus insuring adherence to program content and competence in delivery of that content. Finally, given the extent to which medical, psychological, and public health program decisions are informed by the analysis of survey data accurate and expedited data collection procedures will benefit everyone. Utilizing the Internet to conduct data collection and data management promises to move us closer to that goal. However, employing this technology requires careful planning, appropriate levels of multi-disciplinary expertise, adequate economic resources, and further investigation.

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**APPENDIX A: MEASURES**

ADS Form

INSTRUCTIONS

1. Please circle the ONE response that MOST ACCURATELY DESCRIBES YOURSELF. Read each question and the several possible answers before you make your choice.
  2. The word "drinking" in a question means "drinking of alcoholic beverages."
  3. Take as much time as you need. Please work carefully.
- 

1. How much did you drink the last time you drank?
  - A. Enough to get high or less
  - B. Enough to get drunk
  - C. Enough to pass out
2. Do you often have a hangover on Sunday or Monday mornings?
  - A. No
  - B. Yes
3. Have you had "shakes when sobering up (hands tremble, shake inside) as a result of drinking?"
  - A. No
  - B. Yes, sometimes
  - C. Yes, almost every time I drink
4. Do you get physically sick (e.g., vomit, stomach cramps) as a result of drinking?
  - A. No
  - B. Sometimes
  - C. Several times
5. As a result of drinking, have you ever had delirium tremens "DT's" (seen, felt or heard things not really there)?
  - A. No
  - B. Yes, but only for a few hours
  - C. Yes, for one or two days
  - D. Yes, for many days
16. Have you passed out as a result of drinking?
  - A. No
  - B. About once a year
  - C. Twice a year or more
17. Have you had a convulsion (fit) following a period of drinking?
  - A. No
  - B. Once
  - C. Several times
18. Do you drink throughout the day?
  - A. No
  - B. Yes
19. As a result of being drunk, has your thinking been fuzzy or unclear?
  - A. No
  - B. Yes, but only for a few hours
  - C. Yes, for one or two days
  - D. Yes, for many days
20. As a result of drinking have you felt your heart beating rapidly?

- A. No  
B. Yes, once  
C. Several times
6. Can you usually drink more than others your age without getting drunk?  
A. No  
B. Yes
7. When you drink, do you stumble about, stagger and weave?  
A. No  
B. Sometimes  
C. Often
8. As a result of drinking have you felt overly hot and sweaty (feverish)?  
A. No  
B. Yes, once  
C. Yes, several times
9. As a result of drinking, have you seen things that were not there?  
A. No  
B. Yes, once  
C. Yes, several times
- A. No  
B. Yes, once  
C. Yes, several times
21. Do you almost constantly think about drinking alcohol?  
A. No  
B. Yes
22. As a result of drinking have you heard "things" that were not there?  
A. No  
B. Yes
23. Can you drink more than you used to before getting drunk?  
A. No  
B. Yes
24. Have you had weird and frightening sensations when drinking?  
A. No  
B. Yes, perhaps once or twice  
C. Yes, often
25. As a result of drinking have you "felt things" crawling on you that were not there (e.g., bugs, spiders)?  
A. No  
B. Once  
C. Several times
10. Do you panic because you fear you may not have a drink when you need it?  
A. No  
B. Yes

11. Do you usually have a bottle by your bedside?  
A. No  
B. Yes
12. Do you sneak drinks or hide bottles?  
A. No  
B. Yes
13. Have you had blackouts ("loss of memory" without passing out) as a result of drinking?  
A. No, never  
B. Sometimes  
C. Often  
D. Almost every time I drink
14. Do you carry a bottle with you or keep one close at hand?  
A. No  
B. Some of the time  
C. Most of the time
15. After a period of abstinence (not drinking), do you end up drinking heavily again?  
A. No  
B. Sometimes  
C. Almost every time
26. With respect to blackouts (loss of memory):  
A. Have never had a blackout  
B. Have had blackouts that last less than an hour  
C. Have had blackouts that last for several hours  
D. Have had blackouts that last for a day or more
27. Have you tried to cut down on your drinking and failed?  
A. No  
B. Once  
C. Several times
28. Do you gulp drinks (drink quickly)?  
A. No  
B. Yes
29. After taking one or two drinks, can you usually stop?  
A. No  
B. Yes

4. How often during the last year have you found that you were not able to stop drinking once you had started?
- ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
- ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily
9. Have you or someone else been injured as a result of your drinking?
- ① No
  - ② Yes, but not in the last year
  - ③ Yes, during the last year
10. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?
- ① No
  - ② Yes, but not in the last year
  - ③ Yes, during the last year

AUDIT Form

For the following set of questions, please fill in the answer that is correct for you during the past year

1. How often do you have a drink containing alcohol?
  - ① Never
  - ② Monthly or less
  - ③ Two to four times a month
  - ④ Two to three times a week
  - ⑤ Four or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
  - ① one or two
  - ② three or four
  - ③ five or six
  - ④ seven to nine
  - ⑤ 10 or more
3. How often do you have six or more drinks on one occasion?
  - ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
  - ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
  - ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
  - ① Never
  - ② Less than monthly
  - ③ Monthly
  - ④ Weekly
  - ⑤ Daily or almost daily

## FAMILY HISTORY

Have any of your biological relatives had what you would call a significant drinking, drug use, or psychological problem- one that did or should have led to treatment?

<u>Mother's Side</u>	<u>Father's Side</u>	<u>Siblings</u>																																													
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Grandmother Grandfather Mother Aunt Uncle	Grandmother Grandfather Father Aunt Uncle	Brother #1 Brother #2 Sister #1 Sister #2																																													

Directions: Write in the following number:

- “0” where the answer is clearly **NO** for all relatives in the category;
- “1” where the answer is clearly **YES** for any relative within the category;
- “2” where the answer is “**I don't know**” or **uncertain**;
- “3” where there **Never was** a relative from that category;

## BSI FORM

Instructions: Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please circle the response that best describes HOW MUCH THAT PROBLEM HAS BOTHERED YOU DURING THE PAST TWO WEEKS, INCLUDING TODAY.

CIRCLE ONLY ONE RESPONSE FOR EACH PROBLEM and do not skip any item.

- 0 = NOT AT ALL  
 1 = A LITTLE BIT  
 2 = MODERATELY  
 3 = QUITE A BIT  
 4 = EXTREMELY

1.	0 1 2 3 4	<i>Nervousness or shakiness inside</i>
2.	0 1 2 3 4	<i>Feeling easily annoyed or irritated</i>
3.	0 1 2 3 4	<i>Thoughts of ending your life</i>
4.	0 1 2 3 4	<i>Suddenly feeling scared for no reason</i>
5.	0 1 2 3 4	<i>Temper outbursts that you could not control</i>
6.	0 1 2 3 4	<i>Feeling lonely</i>
7.	0 1 2 3 4	<i>Feeling blue</i>
8.	0 1 2 3 4	<i>Feeling no interest in things</i>
9.	0 1 2 3 4	<i>Feeling fearful</i>
10.	0 1 2 3 4	<i>Feeling hopeless about the future</i>
11.	0 1 2 3 4	<i>Feeling tense or keyed up</i>
12.	0 1 2 3 4	<i>Having urges to beat, injure, or harm someone</i>
13.	0 1 2 3 4	<i>Having urges to break or smash things</i>
14.	0 1 2 3 4	<i>Spells of terror or panic</i>
15.	0 1 2 3 4	<i>Getting into frequent arguments</i>
16.	0 1 2 3 4	<i>Feeling so restless you couldn't sit still</i>
17.	0 1 2 3 4	<i>Feeling of worthlessness</i>

**This questionnaire assesses two things:**

- 1. What you would expect to happen if you were under the influence of alcohol, and**
- 2. Whether you think the effect is good or bad**

<b>Instructions:</b>			
1. Choose from <b>DISAGREE TO AGREE</b> depending on whether you expect the effect to happen to you <b>IF YOU WERE UNDER THE INFLUENCE OF ALCOHOL</b> . These effects will vary, depending on the amount of alcohol you typically consume. Check one answer for the first four boxes after each statement.			
2. Choose from <b>BAD TO GOOD</b> depending on whether you think the particular effect is bad, neutral, good, etc. We want to know if you think a particular effect is bad or good, regardless of whether or not you expect it to happen to you. Check only one answer for the last five boxes after each statement.			
Example: 1. I would be..... <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
	1 = Disagree	1 = Bad	
	2 = Slightly Disagree	2 = Slightly	
Bad	3 = Slightly Agree	3 = Neutral	
<b>IF I WERE UNDER THE INFLUENCE</b>	4 = Agree	4 = Slightly	
Good		5 = Good	
<b>FOR DRINKING ALCOHOL:</b>			
1. I would enjoy sex more	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
2. I would feel dizzy	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
3. I would be clumsy	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
4. I would be loud, boisterous, or noisy	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
5. I would feel peaceful	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
6. I would be brave and daring	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
7. I would be courageous	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
8. I would act aggressively	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
9. I would feel guilty	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
10. I would feel calm	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
11. I would feel moody	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
12. It would be easier to talk to people	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
13. I would be a better lover	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
14. I would take risks	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
15. I would act sociable	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	This effect is	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5

### KNOWLEDGE TEST - ASTP

Please select the correct answer.

1. The organ most responsible for breaking down or metabolizing alcohol is the:
  - a) kidney
  - b) bladder
  - c) intestine
  - d) liver
  
2. Alcohol is metabolized at a rate of about:
  - a) one drink per hour
  - b) one and one half drinks per hour
  - c) two drinks per hour
  - d) depends on body weight
  - e) depends on tolerance
  
3. Blood Alcohol Level is affected by:
  - a) how much a person drinks
  - b) how fast a person drinks
  - c) body weight
  - d) sex (being male or female)
  - e) tolerance
  - f) experience with alcohol
  - g) all of the above
  - h) a, b, c, d
  - i) e, f
  
4. Tolerance means:
  - a) that larger amounts of alcohol are required to produce an effect because the central nervous system has become less sensitive to the effects of alcohol
  - b) that oxidation rates are increased; the body is more efficient in eliminating alcohol from the bloodstream.
  - c) that the individual is stronger and can handle alcohol without losing control
  - d) that the individual has learned to function under the influence of alcohol, even though their blood alcohol level is the same as it was in the past.
  - e) a and d
  
5. Bi-Phasic response to alcohol means that:
  - a) the initial effects of alcohol are experienced as positive; later effects are more negative

- b) the initial effects of alcohol are experienced as negative; later effects are more positive
- c) some people are tolerant, others are not
- d) none of the above

6. Referring to the bi-phasic response to alcohol (in #5 above), individuals who drink a great deal, and/or those who are tolerant:

- a) experience a greater positive response
- b) experience a smaller positive response
- c) experience a greater negative response
- d) b and c

7. Alcohol, as a chemical or drug:

- a) causes people to be in better moods
- b) causes people to be more at ease meeting people
- c) improves sexual performance
- d) none of the above
- e) all of the above

8. Peoples' beliefs about alcohol affect:

- a) aggressive reactions while drinking
- b) social comfort while drinking
- c) perceived sexual arousal while drinking
- d) all of the above
- e) none of the above

9. Alcohol and barbiturates taken together will:

- a) make the effects of each other weaker
- b) make the effects of each other stronger
- c) won't affect the physiological effects of either
- d) mask the side effects of each other

10. The process in #9 above is called:

- a) cross tolerance
- b) potentiation
- c) polydrug dependency
- d) masking

11. Alcohol and cocaine taken together will:

- a) make the effects of each other weaker, tending to increase the use of both drugs

- b) make the effects of each other stronger, tending to decrease the use of both drugs
- c) won't affect the chemical effects of either
- d) none of the above
12. The process in #11 above is called:
- a) cross tolerance
- b) potentiation
- c) polydrug dependency
- d) masking
13. Which of the following increase the likelihood of heavier drinking:
- a) drinking with light drinkers
- b) drinking with heavy drinkers
- c) thinking that you will be socially comfortable if you had a drink
- d) b and c
- e) a and c
14. Which will sober-up an intoxicated person?
- a) cold shower
- b) exercise
- c) coffee
- d) a and c
- e) none of the above
15. Joe is drunk--he is at a party and drove his car there. He doesn't want to risk driving home. He thinks his BAL is at least 0.13%. He has no other way home. Joe should:
- a) stay at the party two more hours without drinking so that his BAL will go down to a safe limit
- b) spend the night at the party
- c) remember that he has high tolerance and drive anyway
- d) any of the above
16. A most reasonable strategy for limiting your drinking suggests that you should stop drinking:
- a) when one more will make you sick
- b) when one more will make you feel worse
- c) when one more will have no effect (you can not feel it)
- d) when one more will not make you feel any better

### KNOWLEDGE TEST - CD-ROM

Please select the correct answer. (No answer yet as default for every answer - 999)

1. Do you consume alcohol? (No/Yes)
2. If you drink, do you eat a full meal beforehand?  
(Never/Sometimes/Usually/Always/Not applicable)
3. How many drinks do you think the average male college student consumes in a typical week? (0-60)
4. How many drinks do you think the average female college student consumes in a typical week? (0-60)

Possible answers for following questions:

Strongly Disagree (1)

Disagree (2)

Don't Know (3)

Agree (4)

Strongly Agree (5)

No answer yet (999)

5. Warnings to young adults about the consequences of alcohol use are exaggerated
6. College students are interested in learning to use alcohol safely
7. Drinking alcohol is important for a first year student's social life
8. College students learn how to use alcohol safely just through time and experience
9. Getting wasted/sick from alcohol is an inevitable part of first-year students' life
10. First year students know the university rules and sanctions related to alcohol use
11. First year students are concerned with health and safety risks of excessive drinking
12. First year students are aware of the risks of excessive drinking and alcohol overdose
13. First year students are aware of the risks of excessive drinking and unsafe sex
14. First year students are aware of the risks of excessive drinking and aggressive or violent behavior
15. First year students are aware of the risks of excessive drinking and drunk driving
16. Drinking alcohol is an important part of my life as a student
17. I can comfortably refuse a drink I don't want
18. I have refused a drink when I didn't want it
19. I know the symptoms of an alcohol overdose
20. I know what to do for someone who looks like they have had an alcohol overdose
21. I can recognize when to intervene with a friend who has drunk too much alcohol
22. I know how to intervene with a friend who has been drinking heavily
23. Drinking alcohol was an important part of my high school social life
24. Knowing how to use alcohol safely is as important as drinking and having fun
25. I know how to set limits and follow them when I drink

26. I regularly set limits and follow them when I drink
27. I understand the relationship between time elapsed, amount of alcohol consumed, and changes in BAC
28. I understand the relationship of gender to BAC
29. I lose control of my behavior when I am drinking
30. I know how many drinks it ordinarily takes me to reach legal levels of intoxication
31. I understand the effect of alcohol on my judgment and decision-making abilities and how much it takes to lose personal control
32. I maintain personal control and safety when I drink
33. I know how many drinks in two hours it would take me to reach the legal intoxication level for drinking (BAC of .10)
34. How many drinks in two hours it would take you to reach the legal intoxication level (BAC of .10) (insert counter from 0-20)

**OVERVIEW QUESTIONNAIRE**

1. Do you consider your parents' attitude towards your use of alcohol to be:  
completely intolerant (0)  
tolerant of light use, but intolerant of heavy use (1)  
tolerant of light use sometimes and tolerant of heavy use sometimes (2)  
completely tolerant of both light and heavy use (3)
2. Do you consider your close friends' attitude towards your use of alcohol to be:  
discourage all use (0)  
encourage light use, but discourage heavy use (1)  
encourage light use sometimes and encourage heavy use sometimes (2)  
encourage heavy use (3)
3. Do you consider yourself religious?  
Not at all religious (1)  
Somewhat religious (2)  
Religious (3)  
Extremely religious (4)
4. Are you currently employed?  
Not currently employed (0)  
Part-time (1)  
Full-time (2)
5. How often do you use the Internet (other than for e-mail)?  
This is my first time (0)  
Less than once a month (1)  
Once or twice a month (2)  
Three or four times a month (3)  
Once or twice a week (4)  
Three or four times a week (5)  
Once or twice a day (6)  
Three or four times a day (7)  
More than four times a day (8)
6. Do you intend to reduce your use of alcohol in the next 3 months?  
No (0)  
Yes (1)  
Undecided (2)

7. How committed are you to decreasing your alcohol use in the next 3 months?

- 0% committed
- 10% committed
- 20% committed
- 30% committed
- 40% committed
- 50% committed
- 60% committed
- 70% committed
- 80% committed
- 90% committed
- 100% committed
- Does not apply to me

8. How confident are you that you can reach this goal?

- 0% confident
- 10% confident
- 20% confident
- 30% confident
- 40% confident
- 50% confident
- 60% confident
- 70% confident
- 80% confident
- 90% confident
- 100% confident
- Does not apply to me

### Processes Of Change - Alcohol (Snow)

Each statement describes a situation or thought that a person might use to help them not drink. Please read each statement and select the choice that best describes how often you make use of a particular situation/thought to help you not drink right now.

- 1 = Never
- 2 = Seldom
- 3 = Occasionally
- 4 = Frequently
- 5 = Repeatedly
- 999 = Unanswered

1. I do something nice for myself for making efforts to change my drinking problem.
2. I stop to think about how my drinking has hurt others around me.
3. I consider that feeling good about myself includes changing my drinking behavior.
4. I think about information from television and radio on how to quit drinking.
5. Someone in my life helps me to face my problems with alcohol.
6. I remove things from my home or work that remind me of drinking.
7. I reward myself when I don't give in to my urge to drink.
8. Warnings about the health hazards of drinking have an emotional effect on me.
9. I use will power to keep me from drinking.
10. I take some type of drugs to help me not drink.
11. Alcohol isn't as widely available at social events as it used to be.
12. I avoid situations that encourage me to drink.
13. I try to think about other things when I begin to think about drinking.
14. Stories about alcohol and its effects upset me.
15. I avoid people who are heavy drinkers.
16. I do something else when I need to deal with my problems besides drinking alcohol.
17. I have someone whom I can count on to help me when I'm having problems with drinking.
18. I spend my spare time with non-drinking friends.
19. I make commitments to myself not to drink.
20. I use smoking to help me overcome my drinking.
21. I see advertisements on television about how society is trying to help people not drink.
22. I stop and think that drinking and driving causes many problems for other people.
23. I think about the type of person I will be if I am in control of my drinking.
24. I think about information that people have personally given me on the benefits of not drinking.

## ALCOHOL USE QUESTIONNAIRE

For all questions, one drink equals:

- 4 oz. wine
- 1 10 oz. wine cooler
- 12 oz. beer (8 oz. of Canadian, Malt Liquor or Ice Beers, or 10 oz. of Microbrew)
- 1 cocktail with 1.25 oz. of 80 proof hard liquor, or 1 oz. of 100 proof hard liquor

1. Think of the occasion you drank the most this past month. How much did you drink?

<input type="checkbox"/> 0 drinks	<input type="checkbox"/>	1 <input checked="" type="checkbox"/> drink	2 <input checked="" type="checkbox"/> drinks	<input type="checkbox"/> 3 drinks	<input type="checkbox"/>
4 drinks	<input type="checkbox"/>	5 drinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 6 drinks	<input type="checkbox"/>	7 <input checked="" type="checkbox"/> drinks	<input type="checkbox"/>	8 drinks	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> drinks
10 drinks	11 drinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 12 drinks	<input type="checkbox"/> 13 drinks	14 drinks	15 or more drinks	<input type="checkbox"/>	<input type="checkbox"/>

2. Think of the occasion you drank the most this past month. How many HOURS did you spend

drinking on that occasion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0-1	1-2	2-3	3-4	4-5	5-6	<input type="checkbox"/>
<input type="checkbox"/> 6-7	<input type="checkbox"/> 7-8	<input type="checkbox"/> 8-9	<input type="checkbox"/> 9-10	<input type="checkbox"/> 10+	<input type="checkbox"/>	<input type="checkbox"/>

3. On a given weekend evening during the past month, how much alcohol did you typically drink?

<input type="checkbox"/> 0 drinks	<input type="checkbox"/>	1 <input checked="" type="checkbox"/> drink	2 <input checked="" type="checkbox"/> drinks	<input type="checkbox"/> 3 drinks	<input type="checkbox"/>
4 drinks	<input type="checkbox"/>	5 drinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 6 drinks	<input type="checkbox"/>	7 <input checked="" type="checkbox"/> drinks	<input type="checkbox"/>	8 drinks	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> drinks
10 drinks	11 drinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 12 drinks	<input type="checkbox"/> 13 drinks	14 drinks	15 or more drinks	<input type="checkbox"/>	<input type="checkbox"/>

4. On a given weekend evening during the past month, how many HOURS did you spend drinking? Estimate for the PAST MONTH.

<input type="checkbox"/> 0-1	<input type="checkbox"/> 1-2	<input type="checkbox"/> 2-3	<input type="checkbox"/> 3-4	<input type="checkbox"/> 4-5	<input type="checkbox"/> 5-6
<input type="checkbox"/> 6-7	<input type="checkbox"/> 7-8	<input type="checkbox"/> 8-9	<input type="checkbox"/> 9-10	<input type="checkbox"/> 10+	<input type="checkbox"/>

5. How many days of the week did you drink alcohol during the PAST MONTH?

- |   |   |
|---|---|
| <input type="checkbox"/> I did not drink at all     | <input type="checkbox"/> Three or four times a week |
| <input type="checkbox"/> About once a month         | <input type="checkbox"/> Nearly everyday            |
| <input type="checkbox"/> Two to three times a month | <input type="checkbox"/> Once a day or more         |
| <input type="checkbox"/> Once or twice a week       |   |

6. Consider a TYPICAL WEEK during the past month. Please fill in a number for each day of the week indicating the TYPICAL NUMBER OF DRINKS you usually consume on that day, and the TYPICAL NUMBER OF HOURS you usually drink on that day.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Number of Drinks							
Number of Hours							

7. Consider a TYPICAL WEEK during the past month. Please fill in a number for each day of the week indicating the TYPICAL NUMBER OF DRINKS a typical UW student of your same sex usually consumes on that day.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Number of Drinks							
Number of Hours							

HOW MANY TIMES DID THE FOLLOWING THINGS HAPPEN TO YOU WHILE YOU WERE DRINKING ALCOHOL OR BECAUSE OF YOUR ALCOHOL USE DURING THE FOLLOWING THREE TIME PERIODS?

- ① NEVER
- ② ONE TO TWO TIMES
- ③ THREE TO FIVE TIMES
- ④ SIX TO TEN TIMES
- ⑤ MORE THAN TEN TIMES

PAST YEAR	PAST 6 MONTHS	PAST 1 MONTH	
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	1. Not able to do your homework or study for a test?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	2. Got into fights, acted bad, or did mean things?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	3. Missed out on other things because you spent too much money on alcohol?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	4. Went to work or school high or drunk?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	5. Caused shame or embarrassment to someone?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	6. Neglected your responsibilities?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	7. Relative avoided you?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	8. Felt that you needed more alcohol than you used to use in order to get the same effect?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	9. Tried to control your drinking by trying to drink only at certain times of the day or in certain places?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	10. Had withdrawal symptoms, that is, felt sick because you stopped or cut down on drinking?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	11. Noticed a change in your personality?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	12. Felt that you had a problem with alcohol?
① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	① 1 ② 2 ③ 3 ④ 4	13. Missed a day (or part of a day) of school or work?

- 1 2 3 4    1 2 3 4    1 2 3 4    **14. Tried to cut down or quit drinking?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **15. Suddenly found yourself in a place that you could not remember getting to?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **16. Passed out or fainted suddenly?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **17. Had a fight, argument or bad feelings with a friend?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **18. Had a fight, argument or bad feelings with a family member?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **19. Kept drinking when you promised yourself not to?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **20. Felt you were going crazy?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **21. Had a bad time?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **22. Felt physically or psychologically dependent?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **23. Was told by a friend or neighbor to stop or cut down drinking?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **24. Drove shortly after having more than two drinks?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **25. Drove shortly after having more than four drinks?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **26. Experienced nausea or vomiting?**
- 
- 1 2 3 4    1 2 3 4    1 2 3 4    **27. Had a hangover?**

**SUBSTANCE USE QUESTIONNAIRE (SUQ)**  
***(Please circle correct answer)***

1. Do you smoke cigarettes now?  
No (0)  
Yes (1)
  
2. On average, how many cigarettes do you usually smoke a day? (1 pack = 20 cigarettes)  
0, <1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, >20
  
3. Do you currently consider yourself:  
to have never tried alcohol (0)  
an abstainer (1)  
a light social nonproblem drinker (2)  
a moderate social nonproblem drinker (3)  
a heavy social nonproblem drinker (4)  
a heavy problem drinker (5)  
**IF (0) THEN NO ADS, AUDIT, RAPI, URICA, QF 1-6, POC**
  
4. During the past 30 days how often have you used marijuana or hashish?  
I have not used the substance (0)  
Once or twice in the past month (1)  
Three or four times in the past month (2)  
About once a week (3)  
Two to three times a week (4)  
Four to five times a week (5)  
About once a day (6)  
Two to three times a day (7)  
Three or more times a day (8)
  
5. During the past 30 days how often have you used any other drugs?  
No (0)  
Yes (1)
  
6. During your lifetime how often have you used marijuana or hashish?  
I have not used the substance (0)  
Less than once a year (1)  
About once a year (2)  
Two to three times a year (3)  
Four to five times a year (4)

- Once every two months (5)
- About once a month (6)
- About twice a month (7)
- Three to four times a month (8)

7. During your lifetime how often have you used any other drugs?
- No (0)
  - Yes (1)

## URICA

Each statement describes how a person might feel when approaching issues in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, **MAKE YOUR CHOICE IN TERMS OF HOW YOU FEEL RIGHT NOW**, not what you have felt in the past or would like to feel.

There are five possible responses to each of the items in the questionnaire:

1 - STRONGLY DISAGREE (-2)

2 - DISAGREE (-1)

3 - UNDECIDED (0)

4 - AGREE (+1)

5 - STRONGLY AGREE (+2)

999 - Unanswered (999)

Click on the response that best describes how much you agree or disagree with each statement.

1. As far as I'm concerned, my drinking does not need changing
2. I enjoy my drinking, but sometimes I drink too much
3. I used to be concerned about my drinking, but I have made some useful changes and no longer feel a need for additional change
4. Sometimes I think I should cut down on my drinking
5. I'm hoping this project will help me better understand my drinking
6. I am really working hard to change my drinking habits
7. I have a problem with alcohol and I really think I should work on it
8. I guess I have faults, but there's nothing that I really need to change
9. Even though I'm not always successful in changing, I am at least working on changing my drinking habits
10. I thought once I resolved my drinking problem I would be free of it, but sometimes I find myself struggling with it
11. I wish I had more ideas on how to change my drinking habits
12. I may have a drinking problem, but I don't really think I do
13. I hope that someone on this project will have some good advice for me about alcohol
14. I have worries but so does everyone. Why spend time thinking about them?
15. Anyone can talk about changing, I'm actually doing something about my use
16. I would rather cope with my faults than try to change them
17. I may need a boost right now to help me maintain the changes to my drinking habits that I have made
18. I am actively working on changing my drinking habits
19. I have been successful in changing my drinking habits, but I'm not sure I can keep up the effort on my own
20. After all I had done to try to change my drinking problem, every now and again it comes back to haunt me



<p>② THREE TO FIVE TIMES ③ SIX TO TEN TIMES ④ MORE THAN TEN TIMES</p>	<p>behaviors have happened DURING THE LAST SIX MONTHS to (Subject) as a result of his/her alcohol use?</p>
<p>0 1 2 3 4</p>	<p>1. Got into fights, acted bad, or did mean things?</p>
<p>0 1 2 3 4</p>	<p>2. Missed out on other things because they spent too much money on alcohol?</p>
<p>0 1 2 3 4</p>	<p>3. Went to work or school high or drunk?</p>
<p>0 1 2 3 4</p>	<p>4. Caused shame or embarrassment to someone?</p>
<p>0 1 2 3 4</p>	<p>5. Neglected their responsibilities?</p>
<p>0 1 2 3 4</p>	<p>6. Missed a day (or part of a day) of school or work?</p>
<p>0 1 2 3 4</p>	<p>7. Passed out or fainted suddenly?</p>
<p>0 1 2 3 4</p>	<p>8. Had a fight, argument or bad feelings with a friend or family member?</p>
<p>0 1 2 3 4</p>	<p>9. Was told by a friend or neighbor to stop or cut down drinking?</p>
<p>0 1 2 3 4</p>	<p>10 Not able to do their homework or study for a test?</p>
<p>0 1 2 3 4</p>	<p>11. Drove shortly after having as many as two drinks?</p>

Your Student ID#: \_\_\_\_\_

***ASTP Participant Satisfaction Survey***

The Alcohol Skills Training Program (ASTP) you have just completed is part of a larger project studying the effectiveness of an alcohol educational program for freshmen students. We would greatly appreciate feedback from you about the program. Below are a few questions regarding the program you attended. Your candid responses will help us refine our presentations for the future. All responses are strictly confidential.

1. I consider myself:
- \_\_\_\_\_ to have never tried alcohol
  - \_\_\_\_\_ a current non-drinker
  - \_\_\_\_\_ a light social non-problem drinker
  - \_\_\_\_\_ a moderate social non-problem drinker
  - \_\_\_\_\_ a heavy social non-problem drinker
  - \_\_\_\_\_ a moderate problem drinker
  - \_\_\_\_\_ a heavy problem drinker

Please use an X to mark the box with the phrase that best signifies your answer:

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>

1. I would recommend the ASTP to a friend.
2. The information I received will cause me to change my pattern of alcohol use.
3. The information I received will cause me to decrease my alcohol use.
4. The information I received will cause me to increase my

Your Student ID#: \_\_\_\_\_

Disagree Agree alcohol use

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

5. The ASTP was what I expected.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

6. The ASTP was thorough and complete.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

7. The peer facilitators seemed well-organized.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

8. The peer facilitators seemed well-informed about what goes on in regards to alcohol use on this campus.

**Please Turn Over**

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

9. The peer facilitators seemed competent and well-trained.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

10. The peer facilitators seemed warm and understanding.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

11. The peer facilitators seemed competent and well-informed about the role alcohol plays for freshmen college students.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
-------------------	----------	-----------	-------	----------------

12. I left the ASTP with a specific goal in mind about changing my drinking habits.

*Your Student ID#:* \_\_\_\_\_

13. What part of the ASTP was **MOST USEFUL?**

14. What part of the ASTP was **LEAST USEFUL?**

Your Student ID#: \_\_\_\_\_

### *CD-ROM Participant Satisfaction Survey*

The Alcohol 101 CD-ROM Group Program you have just completed is part of a larger project studying the effectiveness of an alcohol educational program for freshmen students. We would greatly appreciate feedback from you about the program. Below are a few questions regarding the program you attended. Your candid responses will help us refine our presentations for the future. All responses are strictly confidential.

1. I consider myself: \_\_\_\_\_ to have never tried alcohol  
\_\_\_\_\_ a current non-drinker  
\_\_\_\_\_ a light social non-problem drinker  
\_\_\_\_\_ a moderate social non-problem drinker  
\_\_\_\_\_ a heavy social non-problem drinker  
\_\_\_\_\_ a moderate problem drinker  
\_\_\_\_\_ a heavy problem drinker

Please use an X to mark the box with the phrase that best signifies your answer:

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
--------------------------	-----------------	------------------	--------------	-----------------------

1. I would recommend the CD-ROM to a friend.

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
--------------------------	-----------------	------------------	--------------	-----------------------

2. The information I received will cause me to change my pattern of alcohol use.

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
--------------------------	-----------------	------------------	--------------	-----------------------

3. The information I received will cause me to decrease my alcohol use.

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
--------------------------	-----------------	------------------	--------------	-----------------------

4. The information I received will cause me to increase my alcohol use

Your Student ID#: \_\_\_\_\_

- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
5. The CD-ROM was what I expected.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
6. The CD-ROM was thorough and complete.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
7. The group leader seemed well-organized.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
8. The group leader seemed well-informed about what goes on in regards to alcohol use on this campus.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|

**Please Turn Over**

- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
9. The group leader seemed competent and well-trained.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
10. The group leader seemed warm and understanding.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
11. The group leader seemed competent and well-informed about the role alcohol plays for freshmen college students.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|
12. I left the CD-ROM program with a specific goal in mind about changing my drinking habits.
- |                          |                 |                  |              |                       |
|--------------------------|-----------------|------------------|--------------|-----------------------|
| <i>Strongly Disagree</i> | <i>Disagree</i> | <i>Undecided</i> | <i>Agree</i> | <i>Strongly Agree</i> |
|--------------------------|-----------------|------------------|--------------|-----------------------|

*Your Student ID#:* \_\_\_\_\_

13. What part of the CD-ROM was **MOST USEFUL**?

14. What part of the CD-ROM was **LEAST USEFUL**?

**Freshman Lifestyles Project  
Peer Facilitator's Adherence Measure (ASTP)  
SLLR's Vade Mecum**

\_\_\_\_\_ Peer Facilitator being rated:  
 \_\_\_\_\_ Peer Facilitator being rated:  
 \_\_\_\_\_ Adherence rater  
 \_\_\_\_\_ Date  
 \_\_\_\_\_ Start time of session:  
 \_\_\_\_\_ End time of session:  
 \_\_\_\_\_ Session Code (leave blank, we will assign later)

**Directions:**

The purpose of this measure is to determine if the content and style of the Alcohol Skills Training Program (ASTP) was delivered as intended. Therefore, one form should be completed for each training session. If there is more than one facilitator for a group, the ratings should be based on the team, not individual facilitators.

There are four sections of this form, to be completed for both sessions of each intervention. The four sections are: 1) ASTP content; 2) Peer Facilitator Skills; 3) Participant Factors; and 4) Miscellaneous. Please complete section 1, rating each component as the content is presented. Rate sections 2-4 at the end of the session. The ratings for sections 2-4 should reflect ratings for the facilitators and participants over the course of the entire session.

On section 1, ASTP Content, each item on the checklist has a number ranging from 1 to 3 at the end of the prompt. These numbers are weights used to describe the importance of that topic, where 1= a basic topic; 2= an important concept, and 3= absolutely critical concept. If a topic is presented, write the number that corresponds to it in the column on the left side of each prompt. If a topic is not presented, please fill in the space to the left with a "0". A total score should be calculated by summing the weights of the topics presented, plus any zeros for areas not covered. The maximum score is 11. Locate the likert rating(s) that are applicable, given the number of elements presented, and then rate whether the content was delivered in either a vague or clear manner --- in other words was it more vague than clear or more clear than vague. Write this rating to the left of the component title.

If a checklist is not used, please rate the section using a scale from 1 to 7. Descriptions are provided for odd numbered scale points. If you believe the best response for the item you are rating falls between the two descriptors, select the intervening even number (2, 4, 6).

**Note: Some components have the element “Elicit questions.” This item should only be counted if the facilitator has explicitly asked the following, “Do you have any questions about (the component topic)?” Vague questions such as “How does that sound” or “OK” are not sufficient for endorsement.**

**Note: If a peer facilitator says something that seems wrong or inconsistent or just plain curious to you, please make a note of it at the bottom of the page.**

**SESSION I:****I. ASTP Content****\_\_\_\_\_ Component 1: Orientation and building rapport**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Inform participants of observers (1)
- \_\_\_\_\_ Attendance and Introduction (of peer facilitators) (1)
- \_\_\_\_\_ ASTP Philosophy (2)
- \_\_\_\_\_ Program structure (1)
- \_\_\_\_\_ Introduction of participants (1)
- \_\_\_\_\_ Ice breaker exercise (1)
- \_\_\_\_\_ Describe confidentiality (1)
- \_\_\_\_\_ Ask participants if they can adhere to confidentiality or have questions (1)
- \_\_\_\_\_ Elicit questions (1)
- \_\_\_\_\_ Total (10 possible)

- 0 None covered
- 1 1 element covered, but vaguely
- 2 2-3 elements covered, but vaguely
- 3 2-3 elements covered, clearly
- 4 4-5 elements covered, but vaguely
- 5 4-5 elements covered, clearly
- 6 6-7 elements covered, but vaguely
- 7 6-7 elements covered, clearly
- 8 8-9 elements covered, vaguely
- 9 8-9 elements covered, clearly
- 10 10 elements covered, but vaguely
- 11 10 elements covered clearly

**\_\_\_\_\_ Clarity of Peer Facilitator's Presentation**

1 Peer facilitator's presentation was plagued by vague and confusing explanation of concepts. Ideas and/or concepts were clearly defined or expressed less than 25% of the time.

3 Peer facilitator's explanation of concepts was frequently vague and confusing. Ideas and/or concepts were clearly defined or expressed less than 50% of the time.

**5 Peer facilitator's explanation of concepts was frequently precise, straightforward, and succinct. Ideas and/or concepts were clearly defined or expressed more than 50% of the time.**

**7 Peer facilitator's presentation was characterized by precise, straightforward, and succinct explanation of concepts. Ideas and/or concepts were clearly defined or expressed 75-100% of the time.**

\_\_\_\_\_ **Component 2: Assessment of Use**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Explain a standard drink (3)  
 \_\_\_\_\_ Verify that participants understand “standard drink” (3)  
 \_\_\_\_\_ Discuss college student drinking norms (3)  
 \_\_\_\_\_ Elicit questions (1)  
 \_\_\_\_\_ Total (10 possible)

- 0 None covered  
 1 1 element covered, but vaguely  
 2 2-3 elements covered, but vaguely  
 3 2-3 elements covered, clearly  
 4 4-5 elements covered, but vaguely  
 5 4-5 elements covered, clearly  
 6 6-7 elements covered, but vaguely  
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\_\_\_\_\_ **Component 3: Alcohol 101: Alcohol and the Body**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Define alcohol (1)  
 \_\_\_\_\_ Explain how alcohol gets into your system (1)  
 \_\_\_\_\_ Explain what influences rate of absorption (Ex: food)(2)  
 \_\_\_\_\_ Explain how alcohol leaves the system (2)  
 \_\_\_\_\_ Explain rate of metabolism (sobering up) (2)  
 \_\_\_\_\_ Explain myths (coffee, shower, throwing up, exercise, etc.) (1)  
 \_\_\_\_\_ Elicit questions (1)  
 \_\_\_\_\_ Total (10 possible)

- 0 None covered  
 1 1 element covered, but vaguely  
 2 2-3 elements covered, but vaguely  
 3 2-3 elements covered, clearly  
 4 4-5 elements covered, but vaguely  
 5 4-5 elements covered, clearly  
 6 6-7 elements covered, but vaguely  
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\_\_\_\_\_ **Component 4: Blood Alcohol Level (BAL)**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Define blood alcohol level (BAL) (1)  
 \_\_\_\_\_ Identify factors that influence BAL (quantity, rate, weight, time)(1)  
 \_\_\_\_\_ Explain effects of alcohol at different BAL's using short chart (.02, .04, .06, .08, .10, .15-.25, .25-.35, .40) (2)  
 \_\_\_\_\_ Clarify that the legal limit vacillates between .08 and .10. (1)  
 \_\_\_\_\_ Reiterate rate of sobering up = .016 per hour (1)  
 \_\_\_\_\_ Emphasize that reaction time is affected after the first sip (1)  
 \_\_\_\_\_ Gender differences and BAL (1)  
 \_\_\_\_\_ Describe Alcohol Myopia (must use that term) (1)  
 \_\_\_\_\_ Elicit questions (1)  
 \_\_\_\_\_ Total possible (10)

- 0 None covered  
 1 1 element covered, but vaguely  
 2 2-3 elements covered, but vaguely  
 3 2-3 elements covered, clearly  
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 5 4-5 elements covered, clearly  
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\_\_\_\_\_ **Component 5: Biphasic Effects of Alcohol**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Review pro/con list of drinking (2)  
 \_\_\_\_\_ The biphasic curve (2)  
 \_\_\_\_\_ Two types of tolerance (1)  
 \_\_\_\_\_ Advantages & disadvantages of tolerance (physical & behavioral)  
 (1) \_\_\_\_\_ Emphasize that reaction time AND BAL are immune to tolerance  
 (1) \_\_\_\_\_ Identify strategies to reduce tolerance (1)  
 \_\_\_\_\_ Drug interaction effects (1)  
 \_\_\_\_\_ Elicit questions (1)  
 \_\_\_\_\_ Total possible (10)

- 0 None covered  
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 2 2-3 elements covered, but vaguely  
 3 2-3 elements covered, clearly  
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\_\_\_\_\_ **Component 6: Monitoring Drinking Behavior**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Provide rationale for monitoring drinking behavior (2)  
 \_\_\_\_\_ Review advantages of monitoring drinking behavior (1)  
 \_\_\_\_\_ Review disadvantages of monitoring drinking behavior (1)  
 \_\_\_\_\_ Describe how to self-monitor (2)  
 \_\_\_\_\_ Distribute self-monitoring cards (2)  
 \_\_\_\_\_ Clarify goals of assignment (2)
- \_\_\_\_\_ Total (10 possible)

- 0 None covered  
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75-100% of the time.

## **II. Peer Facilitator Skills**

### **\_\_\_\_\_ Structuring the session**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The group controlled the pacing of the session.
- 3 The peer facilitators had some control, but the discussion tended to wander away from content relevant to the ASTP program.
- 5 The peer facilitators controlled the pacing of the session, and made sure that the group did not get them off track, but sometimes used abrupt, non-supportive techniques.
- 7 The peer facilitators controlled the pacing of the session, made sure that the group did not get them off track, yet were not dismissive or invalidating in the manner in which control was maintained.

### **\_\_\_\_\_ Discussion vs. Lecture**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators conducted the session like a lecture and spoke 95% or more of the time. Did not elicit any comments from the group.
- 3 The peer facilitators conducted the session like a lecture and spoke 75% or more of the time and only occasionally elicited comments from the group.
- 5 The peer facilitators conducted the session like a discussion but there were occasions in which they could have opened up a topic for group discussion and did not.
- 7 The peer facilitators conducted the session like a discussion and were able to balance providing information with eliciting comments from the group members. There was approximately an even (50/50) distribution of time spent talking by the facilitators and group members.

### **Organization**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators were impossible to follow.
- 3 The peer facilitators meandered through the components of the manual and it was difficult to figure out which component they were facilitating.
- 5 The peer facilitators were easy to follow through the components of the ASTP manual, with only minimal detours unrelated to participant questions.
- 7 The peer facilitators were extremely easy to follow through the entire session. The only detours were in response to participant questions and the peer facilitators were easily able to get back on track.

### **Reflective Listening Skills**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitator had rigid body posture (and possibly was not facing the audience), no eye contact, did not use verbal encouragers and did not repeat or paraphrase. Overall, the peer facilitators sent the message that they did not hear what the group was saying, or if they heard, they did not understand. This rating would also apply if there was no opportunity for reflective listening, (e.g. as in the CD-ROM condition).
- 3 Some skills, but need improvement. Responded to comments occasionally, but did not repeat/paraphrase to indicate understanding. The peer facilitators missed several opportunities to use reflective listening to develop discrepancies.
- 5 Good demonstration of skills most of the session. Responded to comments most of the session, used verbal encouragers, yet did not use the information provided by participants to lead into next point or transition. The peer facilitators missed occasional opportunities to use reflective listening to development discrepancies.
- 7 The peer facilitators used many verbal encouragers (yes, aha, exactly, correct, etc.), and either paraphrased or repeated information. Overall, the peer facilitators sent the message that they were listening and understood what the group members were trying to say. The

**peer facilitators used reflective listening to develop discrepancies on a majority of occasions.**

### **Motivational Interviewing Skills**

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- 1 The peer facilitators were confrontational or judgmental and spoke in a way that made participants respond in a defensive manner (arguing, walking out, etc.)
- 3 At times, the peer facilitators came across as confrontational or judgmental. They were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 5 The peer facilitators used a style that was nonconfrontational and nonjudgmental, but were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 7 The peer facilitators used a style that was nonconfrontational, nonjudgmental, and used participants’ comments and questions as a means to raise the awareness of participants and help the participants develop discrepancies.

### **Adherence to ASTP Factual Content (NOTE: “outside facts” refers to any information that was NOT written in the ASTP manual or distributed readings and therefore could not be verified).**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The facilitators did not cover the factual content from ASTP manual and readings, but instead interjected “outside facts” in an authoritative manner.
- 3 The facilitators covered a small portion of the factual content from the ASTP manual (less than 25%) and interjected “outside facts” the majority of the time.
- 5 The facilitators covered the ASTP manual the majority of the time (at least 50%), and may have interjected “outside facts” a minority of the time.
- 7 The facilitators covered (75-100%) of the factual content of the ASTP manual and did not interject “data/facts” not described in the manual or readings.

### **\_\_\_\_\_ Peer Facilitator Knowledge of ASTP “factual” Content**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

**1** The peer facilitators did not demonstrate any knowledge and therefore read directly from the ASTP manual or written materials 75-100% of the time.

**3** The peer facilitators demonstrated minimal knowledge of the ASTP content, and read directly from the ASTP manual or written materials 50-75% of the time.

**5** The peer facilitators demonstrated adequate knowledge of the ASTP content, and referred to the ASTP manual or written materials between 25-50% of the time.

**7** The peer facilitators demonstrated extensive knowledge of the ASTP content, and may have referred to the ASTP manual or written materials less than 25% of the time.

### **\_\_\_\_\_ Communicating Understanding/Empathy**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

**1** Peer facilitators repeatedly failed to understand what group members said and thus consistently missed the point. Needs substantial improvement in empathy. Used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 0% of the session.

**3** Peer facilitator was able to reflect or rephrase what the client explicitly said but repeatedly failed to respond to more subtle communication. Limited ability to listen and empathize. Used empathy skills (comments such as, “that sounds scary”, “Wow, that must have been difficult”, etc.) 25% of the session.

**5** Peer facilitator generally seemed to grasp the group member’s point of view as reflected in both what the client explicitly said and what the group members communicated in more subtle ways. They demonstrated the ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult.” etc.) 50% or more of the session.

**7 Peer facilitator seemed to have an excellent grasp on what the group members were saying both explicitly and by what was communicated in more subtle ways. They demonstrated an excellent ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 75-100% of the session.**

### **\_\_\_\_\_ Interpersonal Effectiveness**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitator had poor interpersonal skills. Seemed hostile, demanding, or judgmental, or made inappropriate self-disclosures.
- 3 Peer facilitators had significant interpersonal problems. At times appeared impatient, aloof, insincere, or had difficulty conveying confidence. The facilitators used self-disclosures not appropriately linked to the content of the discussion.
- 5 Peer Facilitators displayed a satisfactory degree of warmth, concern, confidence, genuineness and professionalism (started and ended on time). The facilitators self-disclosed appropriately.
- 7 Peer facilitators displayed optimal levels of warmth, concern, confidence, genuineness, and professionalism (started and ended on time). The facilitators self-disclosed appropriately and used the disclosure to emphasize a point.

### **\_\_\_\_\_ How would you rate the facilitators as a team overall for this session?**

**NOTE: Do not rate the potential for improvement. Rate their actual behavior during this session.**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 They were terrible. They did not compliment each other and may have argued while running the session. They said snide things about the other person or engaged in nonverbal behaviors that suggested a lack of respect (rolling their eyes, openly disagreeing, etc.).
- 3 They were ok. Overall, they got through the session, but there were times when it appeared that they were not sure who was responsible for covering particular topics or when to switch to other topics.
- 5 They were good. Overall they were able to work together. There were a small number of occasions in which they may have had trouble covering topics or switching to another topic, but overall the flow of information was smooth.

7 They were a great combination. Overall, they were able to work extremely well together. They were able to move from one topic to another or use the other person to demonstrate particular concepts. They were able to keep each other focused or use information presented to lead into another topic.

**\_\_\_\_\_ If you were conducting an outcome study of ASTP, do you think you would select this team to participate at this time (assuming this session is typical)?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 Definitely NOT.

3 Probably not.

5 Yes

7 Definitely YES.

### **III. Participant Factors**

\_\_\_\_\_ **As a whole, how difficult did you feel this group of participants was to work with?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 They were a nightmare. They were hostile, talked during the sessions or engaged in other non-task behaviors, slept, were intoxicated, etc.

3 A minority of the participants were enthusiastic and participated, but the majority more closely resembled the definition of the nightmare category and set the tone for the group as a whole.

5 There may have been a mincristy of nightmare participants, but overall the majority of participants were in the dream category and they set the tone for the group as a whole.

7 They were a dream. They were enthusiastic, paid attention, asked questions, and did their homework.

### **Group Participation**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 It was impossible to get anyone from the group to speak. Participants spoke 0% of the entire session.

3 Participants spoke very little, or only a few volunteered information or asked questions. The majority were silent. Participants spoke approximately 25 % of the session.

5 A few of the participants were silent, but the majority were willing to have an interactive discussion about alcohol. Some of the participants spoke at least 50% of the session, however others may not have spoken that much.

7 Overall the group was talkative and willing to have an interactive discussion about alcohol.. Most of the participants spoke and contributed to the session and overall the participants spoke for 50% or more of the session.

**\_\_\_\_\_ Participants Overall experience with alcohol**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Majority have never have tried alcohol..
- 3 Majority do not currently use alcohol and only a minority have had some negative experiences with alcohol.
- 5 Majority have had some negative experiences with alcohol.
- 7 Majority have had many negative experiences with alcohol.

**IV. Overall Ratings**

Did any special problems arise during the session? (problems with room, unexpected scheduling problems, etc.)

If yes, please describe

**SESSION 2:**

**\_\_\_\_\_ Component 7: Feedback/Drinking**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Discuss self-monitoring exercise (2)
- \_\_\_\_\_ Review effects of BAL using short chart (.02,.04,.06) (2)
- \_\_\_\_\_ Introduce BAL chart by describing how to read it, what it can be use  
for(2)
- \_\_\_\_\_ Distribute personalized BAL chart (1)
- \_\_\_\_\_ Discuss personalized BAL charts (3)
- \_\_\_\_\_ Total (10 possible)

- 0 None covered
- 1 1 element covered, but vaguely
- 2 2-3 elements covered, but vaguely
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- 4 4-5 elements covered, but vaguely
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### **\_\_\_\_\_ Component 8: Feedback- Expectancies**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- way \_\_\_\_\_ Review expectations from alcohol (Ex: Do you always feel the same  
when you drink? (2)
- and \_\_\_\_\_ Discuss how men vs. women drinking alcohol influences behavior  
alcohol effects (1)
- (3) \_\_\_\_\_ Define set and setting and review the influences of set and setting
- \_\_\_\_\_ Describe balanced placebo design (2)
- \_\_\_\_\_ Summarize expectancies (1)
- \_\_\_\_\_ Elicit questions (1)
- \_\_\_\_\_ Total Possible (10)

- 0 None covered
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- 2 2-3 elements covered, but vaguely
- 3 2-3 elements covered, clearly
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### **Component 9: Risk Reduction Tips**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Review moderate drinking guidelines (Emphasize .05-.06 as max BAL)(1)
- \_\_\_\_\_ For those who choose to drink less or NOT to drink – good for you. (1)
- \_\_\_\_\_ Review moderate drinking strategies (1)
- \_\_\_\_\_ Explicitly list negative consequences of heavy alcohol use (2)
- \_\_\_\_\_ Review tips for reducing risk (alcohol and sex) (2)
- \_\_\_\_\_ Review tips for reducing risk (alcohol and driving) (2)
- \_\_\_\_\_ Elicit questions (1)
- \_\_\_\_\_ Total Possible (10)

- |    |                                   |
|----|-----------------------------------|
| 0  | None covered                      |
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**\_\_\_\_\_ Component 10: Goals and Wrapping Up**

Please check each area presented: (If not presented, write 0 in space, otherwise, write the number in parenthesis).

- \_\_\_\_\_ Summarize main goals of ASTP (2)  
 \_\_\_\_\_ Discuss how to identify problem drinking in self/others in future (2)  
 \_\_\_\_\_ Elicit feedback about the program (2)  
 \_\_\_\_\_ Discuss referral options (2)  
 \_\_\_\_\_ Elicit questions (1)  
 \_\_\_\_\_ Hand out feedback sheets (1)
- \_\_\_\_\_ Total Possible (10)

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### **\_\_\_\_\_ Discussion vs. Lecture**

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- 1 The peer facilitators conducted the session like a lecture and spoke 95% or more of the time. Did not elicit any comments from the group.
- 3 The peer facilitators conducted the session like a lecture and spoke 75% or more of the time and only occasionally elicited comments from the group.
- 5 The peer facilitators conducted the session like a discussion but there were occasions in which they could have opened up a topic for group discussion and did not.
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- 5 Good demonstration of skills most of the session. Responded to comments most of the session, used verbal encouragers, yet did not use the information provided by participants to lead into next point or transition. The peer facilitators missed occasional opportunities to use reflective listening to development discrepancies.
- 7 The peer facilitators used many verbal encouragers (yes, aha, exactly, correct, etc.), and either paraphrased or repeated information. Overall, the peer facilitators sent the message that they were listening and understood what the group members were trying to say. The

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- 3 At times, the peer facilitators came across as confrontational or judgmental. They were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 5 The peer facilitators used a style that was nonconfrontational and nonjudgmental, but were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 7 The peer facilitators used a style that was nonconfrontational, nonjudgmental, and used participants’ comments and questions as a means to raise the awareness of participants and help the participants develop discrepancies.

### **Adherence to ASTP Factual Content (NOTE: “outside facts” refers to any information that was NOT written in the ASTP manual or distributed readings and therefore could not be verified).**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The facilitators did not cover the factual content from ASTP manual and readings, but instead interjected “outside facts” in an authoritative manner.
- 3 The facilitators covered a small portion of the factual content from the ASTP manual (less than 25%) and interjected “outside facts” the majority of the time.
- 5 The facilitators covered the ASTP manual the majority of the time (at least 50%), and may have interjected “outside facts” a minority of the time.
- 7 The facilitators covered (75-100%) of the factual content of the ASTP manual and did not interject “data/facts” not described in the manual or readings.

### **Peer Facilitator Knowledge of ASTP “factual” Content**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators did not demonstrate any knowledge and therefore read directly from the ASTP manual or written materials 75-100% of the time.
- 3 The peer facilitators demonstrated minimal knowledge of the ASTP content, and read directly from the ASTP manual or written materials 50-75% of the time.
- 5 The peer facilitators demonstrated adequate knowledge of the ASTP content, and referred to the ASTP manual or written materials between 25-50% of the time.
- 7 The peer facilitators demonstrated extensive knowledge of the ASTP content, and may have referred to the ASTP manual or written materials less than 25% of the time.

### **Communicating Understanding/Empathy**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitators repeatedly failed to understand what group members said and thus consistently missed the point. Needs substantial improvement in empathy. Used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 0% of the session.
- 3 Peer facilitator was able to reflect or rephrase what the client explicitly said but repeatedly failed to respond to more subtle communication. Limited ability to listen and empathize. Used empathy skills (comments such as, “that sounds scary”, “Wow, that must have been difficult”, etc.) 25% of the session.
- 5 Peer facilitator generally seemed to grasp the group member’s point of view as reflected in both what the client explicitly said and what the group members communicated in more subtle ways. They demonstrated the ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult.” etc.) 50% or more of the session.

**7 Peer facilitator seemed to have an excellent grasp on what the group members were saying both explicitly and by what was communicated in more subtle ways. They demonstrated an excellent ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 75-100% of the session.**

### **\_\_\_\_\_ Interpersonal Effectiveness**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 Peer facilitator had poor interpersonal skills. Seemed hostile, demanding, or judgmental, or made inappropriate self-disclosures.

3 Peer facilitators had significant interpersonal problems. At times appeared impatient, aloof, insincere, or had difficulty conveying confidence. The facilitators used self-disclosures not appropriately linked to the content of the discussion.

5 Peer Facilitators displayed a satisfactory degree of warmth, concern, confidence, genuineness and professionalism (started and ended on time). The facilitators self-disclosed appropriately.

7 Peer facilitators displayed optimal levels of warmth, concern, confidence, genuineness, and professionalism (started and ended on time). The facilitators self-disclosed appropriately and used the disclosure to emphasize a point.

### **\_\_\_\_\_ How would you rate the facilitators as a team overall for this session?**

**NOTE: Do not rate the potential for improvement. Rate their actual behavior during this session.**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 They were terrible. They did not compliment each other and may have argued while running the session. They said snide things about the other person or engaged in nonverbal behaviors that suggested a lack of respect (rolling their eyes, openly disagreeing, etc.).

3 They were ok. Overall, they got through the session, but there were times when it appeared that they were not sure who was responsible for covering particular topics or when to switch to other topics.

5 They were good. Overall they were able to work together. There were a small number of occasions in which they may have had trouble covering topics or switching to another topic, but overall the flow of information was smooth.

7 They were a great combination. Overall, they were able to work extremely well together. They were able to move from one topic to another or use the other person to demonstrate particular concepts. They were able to keep each other focused or use information presented to lead into another topic.

**\_\_\_\_\_ If you were conducting an outcome study of ASTP, do you think you would select this team to participate at this time (assuming this session is typical)?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 Definitely NOT.

3 Probably not.

5 Yes

7 Definitely YES.

### **III. Participant Factors**

**\_\_\_\_\_ As a whole, how difficult did you feel this group of participants was to work with?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 They were a nightmare. They were hostile, talked during the sessions or engaged in other non-task behaviors, slept, were intoxicated, etc.

3 A minority of the participants were enthusiastic and participated, but the majority more closely resembled the definition of the nightmare category and set the tone for the group as a whole.

5 There may have been a minority of nightmare participants, but overall the majority of participants were in the dream category and they set the tone for the group as a whole.

7 They were a dream. They were enthusiastic, paid attention, asked questions, and did their homework.

### **\_\_\_\_\_ Group Participation**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 It was impossible to get anyone from the group to speak. Participants spoke 0% of the entire session.

3 Participants spoke very little, or only a few volunteered information or asked questions. The majority were silent. Participants spoke approximately 25 % of the session.

5 A few of the participants were silent, but the majority were willing to have an interactive discussion about alcohol. Some of the participants spoke at least 50% of the session, however others may not have spoken that much.

7 Overall the group was talkative and willing to have an interactive discussion about alcohol.. Most of the participants spoke and contributed to the session and overall the participants spoke for 50% or more of the session

**\_\_\_\_\_ Participants Overall experience with alcohol**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Majority have never have tried alcohol..
- 3 Majority do not currently use alcohol and only a minority have had some negative experiences with alcohol.
- 5 Majority have had some negative experiences with alcohol.
- 7 Majority have had many negative experiences with alcohol.

**IV. Overall Ratings**

Did any special problems arise during the session? (problems with room, unexpected scheduling problems, etc.)

If yes, please describe

**Freshman Lifestyles Project  
Peer Facilitator's Adherence Measure (CD-ROM)  
SLLR's Vade Mecum**

\_\_\_\_\_ Peer Facilitator being rated:  
 \_\_\_\_\_ Peer Facilitator being rated:  
 \_\_\_\_\_ Adherence rater  
 \_\_\_\_\_ Date  
 \_\_\_\_\_ Start time of session:  
 \_\_\_\_\_ End time of session:  
 \_\_\_\_\_ Session Code (leave blank, we will assign later)

**Directions:**

The purpose of this measure is to determine if the content and style of the Alcohol 101 (CD-ROM intervention) was delivered as intended. Therefore, one form should be completed for each training session. If there is more than one facilitator for a group, the ratings should be based on the team, not individual facilitators.

There are four sections of this form, to be completed for both sessions of each intervention. The four sections are: 1) CD-ROM content; 2) Peer Facilitator Skills; 3) Participant Factors; and 4) Miscellaneous. Please complete section 1, rating each component as the content is presented. Rate sections 2-4 at the end of the session. The ratings for sections 2-4 should reflect ratings for the facilitators and participants over the course of the entire session.

On section 1, CD-ROM Content, please make a check mark if a topic is covered, and if it is not covered, please fill in the space to the left with a "0". A total score should be calculated by summing the number of topics presented for each section.

If a checklist is not used, please rate the section using a scale from 1 to 7. Descriptions are provided for odd numbered scale points. If you believe the best response for the item you are rating falls between the two descriptors, select the intervening even number (2, 4, 6).

Note: Some of the ratings will not apply to the CD-ROM intervention. Please indicate by using a 999

Note: If a peer facilitator says something that seems wrong or inconsistent or just plain curious to you, please make a note of it at the bottom of the page.

**\_\_\_\_\_ Component 1: INTRODUCTION****\_\_\_\_\_ Introductions****\_\_\_\_\_ CD-ROM Information/Background****\_\_\_\_\_ Get Demographic Information for hypothetical student from group**

- Name: John
- Age: 18
- Weight: 160 pounds
- Height: 5 feet 10 inches
- Gender: Male

**\_\_\_\_\_ Select music****\_\_\_\_\_ Select game plan****\_\_\_\_\_ Select drinking plan****\_\_\_\_\_ Select what have you eaten****\_\_\_\_\_ Select how are you feeling****\_\_\_\_\_ Select feedback - Yes****\_\_\_\_\_ Select how many drinks "John" has in a typical week?****\_\_\_\_\_ Select how many drinks the average male college student has in a week?****\_\_\_\_\_ Select how many drinks the average female college student has in a week?****\_\_\_\_\_ Total Possible (12)****\_\_\_\_\_ Component 2: JOINING THE PARTY****\_\_\_\_\_ Computer automatically goes to the bar and explains BAC****\_\_\_\_\_ In the virtual bar room, click on the lamp by the bar (Norm's Question #1 on BAC)****\_\_\_\_\_ Move to the Party Room****\_\_\_\_\_ Move to the TV Room****\_\_\_\_\_ Click on the flying blender (Norm's Question #16 on mixers)****\_\_\_\_\_ Move to the Reality Wall****\_\_\_\_\_ Move back to the Bar****\_\_\_\_\_ Total Possible (7)**

\_\_\_\_\_ **Component 3: THE VIRTUAL BAR**

\_\_\_\_\_ Move to the bar and experiment with BAL two times

\_\_\_\_\_ Select drinks

\_\_\_\_\_ Explain the drinking speeds: sipping takes 40 minutes per drink, drinking takes 20 minutes, and slamming is instantaneous.

\_\_\_\_\_ Explain the effects you might be feeling after drinking first drink.

\_\_\_\_\_ Click on Friends

\_\_\_\_\_ Explain that this display shows what other people will have for a BAC if they drink the same things we did. It varies based on gender, height, and weight.

\_\_\_\_\_ Move back to the bar

\_\_\_\_\_ Click on Food

\_\_\_\_\_ Explain what "**John's**" BAC would be if he had eaten before drinking.

\_\_\_\_\_ Move back to the bar

\_\_\_\_\_ Click on reset, and go through for the second time

\_\_\_\_\_ Select drinks

\_\_\_\_\_ Explain the effects you might be feeling after drinking this.

\_\_\_\_\_ Click on Friends

\_\_\_\_\_ Explain that this display shows what other people will have for a BAC if they drink the same things we did. It varies based on gender, height, and weight.

\_\_\_\_\_ Move back to the bar

\_\_\_\_\_ Click on Food

\_\_\_\_\_ Explain what "**John's**" BAC would be if he had eaten before drinking.

\_\_\_\_\_ Move back to the Party

\_\_\_\_\_ Click on the piñata in the bar room (Norm's Question #2 on body weight)

\_\_\_\_\_ Select **Parting Gifts** - "How much is too much?"

\_\_\_\_\_ Click on the guy leaning against the bar

\_\_\_\_\_ Query group: e.g. "What do you guys think of this list?," "Do you think it's pretty accurate?," "Do you agree with this?"

\_\_\_\_\_ Total Possible (23)

**\_\_\_\_\_ Component 4: THE PARTY ROOM**

\_\_\_\_\_ Move forward into the party room

\_\_\_\_\_ Click on the globe on the mantel (Norm's Question #6 on tolerance)

\_\_\_\_\_ Click on the dartboard over the fireplace (Norm's Question #7 on metabolizing alcohol)

\_\_\_\_\_ View video: Alcohol Overdose

\_\_\_\_\_ Click on Andre (of the 2 guys talking in front of the HWY 10 sign, he's the one on the right)

\_\_\_\_\_ Select stop Andre from drinking (then go back 1 step)

\_\_\_\_\_ Select **Let him continue drinking**

\_\_\_\_\_ Select **Keep trying to wake him**

\_\_\_\_\_ Select **Let him sleep it off**

\_\_\_\_\_ Select **Call 911**

\_\_\_\_\_ Total Possible (10)

**\_\_\_\_\_ Component 5: THE RAVE ROOM**

\_\_\_\_\_ Move to the Rave Room (1<sup>st</sup> topic)

\_\_\_\_\_ (2<sup>nd</sup> topic)

\_\_\_\_\_ (3<sup>rd</sup> topic)

\_\_\_\_\_ (4<sup>th</sup> topic)

\_\_\_\_\_ Total Possible (4)

**\_\_\_\_\_ Component 6: DRINKING FEEDBACK**

\_\_\_\_\_ Click on the exit signs until you get to the feedback information

\_\_\_\_\_ Exit through credits

\_\_\_\_\_ Total Possible (2)

\_\_\_\_ **Component 7: WRAP-UP**

\_\_\_\_ Elicit questions and/or comments on the CD-ROM so far.

\_\_\_\_ Total Possible (1)

## **II. Peer Facilitator Skills**

### **\_\_\_\_\_ Structuring the session**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The group controlled the pacing of the session.
- 3 The peer facilitators had some control, but the discussion tended to wander away from content relevant to the ASTP program.
- 5 The peer facilitators controlled the pacing of the session, and made sure that the group did not get them off track, but sometimes used abrupt, non-supportive techniques.
- 7 The peer facilitators controlled the pacing of the session, made sure that the group did not get them off track, yet were not dismissive or invalidating in the manner in which control was maintained.

### **\_\_\_\_\_ Discussion vs. Lecture**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators conducted the session like a lecture and spoke 95% or more of the time. Did not elicit any comments from the group.
- 3 The peer facilitators conducted the session like a lecture and spoke 75% or more of the time and only occasionally elicited comments from the group.
- 5 The peer facilitators conducted the session like a discussion but there were occasions in which they could have opened up a topic for group discussion and did not.
- 7 The peer facilitators conducted the session like a discussion and were able to balance providing information with eliciting comments from the group members. There was approximately an even (50/50) distribution of time spent talking by the facilitators and group members.

### **Organization**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators were impossible to follow.
- 3 The peer facilitators meandered through the components of the manual and it was difficult to figure out which component they were facilitating.
- 5 The peer facilitators were easy to follow through the components of the ASTP manual, with only minimal detours unrelated to participant questions.
- 7 The peer facilitators were extremely easy to follow through the entire session. The only detours were in response to participant questions and the peer facilitators were easily able to get back on track.

### **Reflective Listening Skills**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitator had rigid body posture (and possibly was not facing the audience), no eye contact, did not use verbal encouragers and did not repeat or paraphrase. Overall, the peer facilitators sent the message that they did not hear what the group was saying, or if they heard, they did not understand. This rating would also apply if there was no opportunity for reflective listening, (e.g. as in the CD-ROM condition).
- 3 Some skills, but need improvement. Responded to comments occasionally, but did not repeat/paraphrase to indicate understanding. The peer facilitators missed several opportunities to use reflective listening to develop discrepancies.
- 5 Good demonstration of skills most of the session. Responded to comments most of the session, used verbal encouragers, yet did not use the information provided by participants to lead into next point or transition. The peer facilitators missed occasional opportunities to use reflective listening to development discrepancies.
- 7 The peer facilitators used many verbal encouragers (yes, aha, exactly, correct, etc.), and either paraphrased or repeated information. Overall, the peer facilitators sent the message that they were listening and understood what the group members were trying to say. The

peer facilitators used reflective listening to develop discrepancies on a majority of occasions.

### **\_\_\_\_\_ Motivational Interviewing Skills**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators were confrontational or judgmental and spoke in a way that made participants respond in a defensive manner (arguing, walking out, etc.)
- 3 At times, the peer facilitators came across as confrontational or judgmental. They were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 5 The peer facilitators used a style that was nonconfrontational and nonjudgmental, but were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 7 The peer facilitators used a style that was nonconfrontational, nonjudgmental, and used participants’ comments and questions as a means to raise the awareness of participants and help the participants develop discrepancies.

### **\_\_\_\_\_ Adherence to ASTP Factual Content (NOTE: “outside facts” refers to any information that was NOT written in the ASTP manual or distributed readings and therefore could not be verified).**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The facilitators did not cover the factual content from ASTP manual and readings, but instead interjected “outside facts” in an authoritative manner.
- 3 The facilitators covered a small portion of the factual content from the ASTP manual (less than 25%) and interjected “outside facts” the majority of the time.
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- 7 The facilitators covered (75-100%) of the factual content of the ASTP manual and did not interject “data/facts” not described in the manual or readings.

### **\_\_\_\_\_ Peer Facilitator Knowledge of ASTP “factual” Content**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators did not demonstrate any knowledge and therefore read directly from the ASTP manual or written materials 75-100% of the time.
- 3 The peer facilitators demonstrated minimal knowledge of the ASTP content, and read directly from the ASTP manual or written materials 50-75% of the time.
- 5 The peer facilitators demonstrated adequate knowledge of the ASTP content, and referred to the ASTP manual or written materials between 25-50% of the time.
- 7 The peer facilitators demonstrated extensive knowledge of the ASTP content, and may have referred to the ASTP manual or written materials less than 25% of the time.

### **\_\_\_\_\_ Communicating Understanding/Empathy**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitators repeatedly failed to understand what group members said and thus consistently missed the point. Needs substantial improvement in empathy. Used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 0% of the session.
- 3 Peer facilitator was able to reflect or rephrase what the client explicitly said but repeatedly failed to respond to more subtle communication. Limited ability to listen and empathize. Used empathy skills (comments such as, “that sounds scary”, “Wow, that must have been difficult”, etc.) 25% of the session.
- 5 Peer facilitator generally seemed to grasp the group member’s point of view as reflected in both what the client explicitly said and what the group members communicated in more subtle ways. They demonstrated the ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult.” etc.) 50% or more of the session.

**7 Peer facilitator seemed to have an excellent grasp on what the group members were saying both explicitly and by what was communicated in more subtle ways. They demonstrated an excellent ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 75-100% of the session.**

### **\_\_\_\_\_ Interpersonal Effectiveness**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitator had poor interpersonal skills. Seemed hostile, demanding, or judgmental, or made inappropriate self-disclosures.
- 3 Peer facilitators had significant interpersonal problems. At times appeared impatient, aloof, insincere, or had difficulty conveying confidence. The facilitators used self-disclosures not appropriately linked to the content of the discussion.
- 5 Peer Facilitators displayed a satisfactory degree of warmth, concern, confidence, genuineness and professionalism (started and ended on time). The facilitators self-disclosed appropriately.
- 7 Peer facilitators displayed optimal levels of warmth, concern, confidence, genuineness, and professionalism (started and ended on time). The facilitators self-disclosed appropriately and used the disclosure to emphasize a point.

### **\_\_\_\_\_ How would you rate the facilitators as a team overall for this session?**

**NOTE: Do not rate the potential for improvement. Rate their actual behavior during this session.**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 They were terrible. They did not compliment each other and may have argued while running the session. They said snide things about the other person or engaged in nonverbal behaviors that suggested a lack of respect (rolling their eyes, openly disagreeing, etc.).
- 3 They were ok. Overall, they got through the session, but there were times when it appeared that they were not sure who was responsible for covering particular topics or when to switch to other topics.
- 5 They were good. Overall they were able to work together. There were a small number of occasions in which they may have had trouble covering topics or switching to another topic, but overall the flow of information was smooth.

7 They were a great combination. Overall, they were able to work extremely well together. They were able to move from one topic to another or use the other person to demonstrate particular concepts. They were able to keep each other focused or use information presented to lead into another topic.

**\_\_\_\_\_ If you were conducting an outcome study of ASTP, do you think you would select this team to participate at this time (assuming this session is typical)?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 Definitely NOT.

3 Probably not.

5 Yes

7 Definitely YES.

### **III. Participant Factors**

\_\_\_\_\_ **As a whole, how difficult did you feel this group of participants was to work with?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 They were a nightmare. They were hostile, talked during the sessions or engaged in other non-task behaviors, slept, were intoxicated, etc.
- 3 A minority of the participants were enthusiastic and participated, but the majority more closely resembled the definition of the nightmare category and set the tone for the group as a whole.
- 5 There may have been a minority of nightmare participants, but overall the majority of participants were in the dream category and they set the tone for the group as a whole.
- 7 They were a dream. They were enthusiastic, paid attention, asked questions, and did their homework.

### **Group Participation**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 It was impossible to get anyone from the group to speak. Participants spoke 0% of the entire session.
- 3 Participants spoke very little, or only a few volunteered information or asked questions. The majority were silent. Participants spoke approximately 25 % of the session.
- 5 A few of the participants were silent, but the majority were willing to have an interactive discussion about alcohol. Some of the participants spoke at least 50% of the session, however others may not have spoken that much.
- 7 Overall the group was talkative and willing to have an interactive discussion about alcohol.. Most of the participants spoke and contributed to the session and overall the participants spoke for 50% or more of the session

**\_\_\_\_\_ Participants Overall experience with alcohol**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Majority have never have tried alcohol..
- 3 Majority do not currently use alcohol and only a minority have had some negative experiences with alcohol.
- 5 Majority have had some negative experiences with alcohol.
- 7 Majority have had many negative experiences with alcohol.

**IV. Overall Ratings**

Did any special problems arise during the session? (problems with room, unexpected scheduling problems, etc.)

If yes, please describe

**CD-ROM SESSION #2**

**\*\*\* Have CD-ROM started (and at the map) before the session begins.**

**\_\_\_\_\_ Component 1: INTRODUCTION**

\_\_\_\_\_ Elicit any feedback from the previous session.

\_\_\_\_\_ With map on the screen: "We're going to be moving around a lot today so I wanted to show you the party's layout to refresh your memory before we start."

\_\_\_\_\_ Explain that this session will focus on some of the negative consequences of drinking.

\_\_\_\_\_ Total Possible (3)

**\_\_\_\_\_ Component 2: ASSAULT**

\_\_\_\_\_ Go to the Reality Wall

\_\_\_\_\_ Click on the Alcohol Involved story

\_\_\_\_\_ Total Possible (2)

**\_\_\_\_\_ Component 3: GARDENER TV**

\_\_\_\_\_ Click on the TV in the TV Room

\_\_\_\_\_ Ask group for responses during video as appropriate

\_\_\_\_\_ Total Possible (2)

**\_\_\_\_\_ Component 4: ALCOHOL POISONING**

\_\_\_\_\_ Go to Reality Wall

\_\_\_\_\_ Select **College Student Dies** story

\_\_\_\_\_ Move to the TV Room

\_\_\_\_\_ Click on the guy passed out on the couch (“How to deal with a medical emergency”)

\_\_\_\_\_ Total Possible (4)

**\_\_\_\_\_ Component 5: DRUNK DRIVING**

\_\_\_\_\_ Click on the flying donut in the Reality Wall room (Question #20 on DUI)

\_\_\_\_\_ Go to the Virtual Bar room

\_\_\_\_\_ Select the **Black man in the orange shirt by the bar**

\_\_\_\_\_ Select **Meet TJ** (Click on Start the story)

\_\_\_\_\_ Select **Let him go** (Go back 1 step)

\_\_\_\_\_ Select **get caught** (Go back 1 step)

\_\_\_\_\_ Select **Worse** (Go back 2 steps)

\_\_\_\_\_ Select **Stop**

\_\_\_\_\_ Select **Sleep here**(Go back 1 step)

\_\_\_\_\_ Select **Get another ride** (Return to party)

\_\_\_\_\_ Move to the TV Room

\_\_\_\_\_ Click on the picture behind the TV (Question #13 on Friends & Drinking)

\_\_\_\_\_ Move to the Reality Wall

\_\_\_\_\_ Select **Student Crashes Car** story

\_\_\_\_\_ Select **Drunk Driving Information**

\_\_\_\_\_ Move to the Virtual Bar room

\_\_\_\_\_ Click on the bar

\_\_\_\_\_ Click on the steering wheel at the bottom of the screen

\_\_\_\_\_ Total Possible (18)

\_\_\_\_\_ **Component 6: SEX**

\_\_\_\_\_ Move to the Party Room

\_\_\_\_\_ Click on the telephone (Question #8 on Women & Drinking)

\_\_\_\_\_ Go to the Reality Wall

\_\_\_\_\_ Click on the **Sexual Assault Charged!** Story

\_\_\_\_\_ Move to the Party Room, click on Allison (the girl with the red shirt and black skirt)

\_\_\_\_\_ Select **Meet Dante** (click on start story)

\_\_\_\_\_ Select **Decline**

\_\_\_\_\_ Select **Makes a joke** (go back 1 step)

\_\_\_\_\_ Select **Makes a move** (go back 1 step)

\_\_\_\_\_ Select **Tells the truth** (go back 2 steps)

\_\_\_\_\_ Select **Accepts another drink**

\_\_\_\_\_ Select **Sheri stops them** (go back 1 step)

\_\_\_\_\_ Select **Perry stops them** (go back 1 step)

\_\_\_\_\_ Select **Let them go**

\_\_\_\_\_ Select **Next morning - Allison** (go back 1 step)

\_\_\_\_\_ Select **Next morning - Dante** (return to party)

\_\_\_\_\_ Click on the couple making out in front of the Reality Wall - Sex Information

\_\_\_\_\_ Total Possible (17)

\_\_\_\_\_ **Component 7: CONCLUSIONS & TIPS**

\_\_\_\_\_ Move to the TV Room

\_\_\_\_\_ Click on the fan on the TV (Question #12 on HALT)

\_\_\_\_\_ Move to the Party Room

\_\_\_\_\_ Click on the HWY 10 sign ("10 Ways to turn down a drink")

\_\_\_\_\_ Ask the group what they think of this list. Is it realistic?

\_\_\_\_\_ Click on an exit sign

\_\_\_\_\_ At the Parting Gifts menu, click on Safety and Control Tips

\_\_\_\_\_ Total Possible (7)

## **II. Peer Facilitator Skills**

### **\_\_\_\_\_ Structuring the session**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The group controlled the pacing of the session.
- 3 The peer facilitators had some control, but the discussion tended to wander away from content relevant to the ASTP program.
- 5 The peer facilitators controlled the pacing of the session, and made sure that the group did not get them off track, but sometimes used abrupt, non-supportive techniques.
- 7 The peer facilitators controlled the pacing of the session, made sure that the group did not get them off track, yet were not dismissive or invalidating in the manner in which control was maintained.

### **\_\_\_\_\_ Discussion vs. Lecture**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators conducted the session like a lecture and spoke 95% or more of the time. Did not elicit any comments from the group.
- 3 The peer facilitators conducted the session like a lecture and spoke 75% or more of the time and only occasionally elicited comments from the group.
- 5 The peer facilitators conducted the session like a discussion but there were occasions in which they could have opened up a topic for group discussion and did not.
- 7 The peer facilitators conducted the session like a discussion and were able to balance providing information with eliciting comments from the group members. There was approximately an even (50/50) distribution of time spent talking by the facilitators and group members.

### **Organization**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators were impossible to follow.
- 3 The peer facilitators meandered through the components of the manual and it was difficult to figure out which component they were facilitating.
- 5 The peer facilitators were easy to follow through the components of the ASTP manual, with only minimal detours unrelated to participant questions.
- 7 The peer facilitators were extremely easy to follow through the entire session. The only detours were in response to participant questions and the peer facilitators were easily able to get back on track.

### **Reflective Listening Skills**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitator had rigid body posture (and possibly was not facing the audience), no eye contact, did not use verbal encouragers and did not repeat or paraphrase. Overall, the peer facilitators sent the message that they did not hear what the group was saying, or if they heard, they did not understand. This rating would also apply if there was no opportunity for reflective listening, (e.g. as in the CD-ROM condition).
- 3 Some skills, but need improvement. Responded to comments occasionally, but did not repeat/paraphrase to indicate understanding. The peer facilitators missed several opportunities to use reflective listening to develop discrepancies.
- 5 Good demonstration of skills most of the session. Responded to comments most of the session, used verbal encouragers, yet did not use the information provided by participants to lead into next point or transition. The peer facilitators missed occasional opportunities to use reflective listening to development discrepancies.
- 7 The peer facilitators used many verbal encouragers (yes, aha, exactly, correct, etc.), and either paraphrased or repeated information. Overall, the peer facilitators sent the message that they were listening and understood what the group members were trying to say. The

**peer facilitators used reflective listening to develop discrepancies on a majority of occasions.**

### **\_\_\_\_\_ Motivational Interviewing Skills**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators were confrontational or judgmental and spoke in a way that made participants respond in a defensive manner (arguing, walking out, etc.)
- 3 At times, the peer facilitators came across as confrontational or judgmental. They were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 5 The peer facilitators used a style that was nonconfrontational and nonjudgmental, but were not able to find the “hook” to help participants develop discrepancies between their self perceptions and drinking behavior.
- 7 The peer facilitators used a style that was nonconfrontational, nonjudgmental, and used participants’ comments and questions as a means to raise the awareness of participants and help the participants develop discrepancies.

### **\_\_\_\_\_ Adherence to ASTP Factual Content (NOTE: “outside facts” refers to any information that was NOT written in the ASTP manual or distributed readings and therefore could not be verified).**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The facilitators did not cover the factual content from ASTP manual and readings, but instead interjected “outside facts” in an authoritative manner.
- 3 The facilitators covered a small portion of the factual content from the ASTP manual (less than 25%) and interjected “outside facts” the majority of the time.
- 5 The facilitators covered the ASTP manual the majority of the time (at least 50%), and may have interjected “outside facts” a minority of the time.
- 7 The facilitators covered (75-100%) of the factual content of the ASTP manual and did not interject “data/facts” not described in the manual or readings.

### **Peer Facilitator Knowledge of ASTP “factual” Content**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 The peer facilitators did not demonstrate any knowledge and therefore read directly from the ASTP manual or written materials 75-100% of the time.
- 3 The peer facilitators demonstrated minimal knowledge of the ASTP content, and read directly from the ASTP manual or written materials 50-75% of the time.
- 5 The peer facilitators demonstrated adequate knowledge of the ASTP content, and referred to the ASTP manual or written materials between 25-50% of the time.
- 7 The peer facilitators demonstrated extensive knowledge of the ASTP content, and may have referred to the ASTP manual or written materials less than 25% of the time.

### **Communicating Understanding/Empathy**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitators repeatedly failed to understand what group members said and thus consistently missed the point. Needs substantial improvement in empathy. Used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 0% of the session.
- 3 Peer facilitator was able to reflect or rephrase what the client explicitly said but repeatedly failed to respond to more subtle communication. Limited ability to listen and empathize. Used empathy skills (comments such as, “that sounds scary”, “Wow, that must have been difficult”, etc.) 25% of the session.
- 5 Peer facilitator generally seemed to grasp the group member’s point of view as reflected in both what the client explicitly said and what the group members communicated in more subtle ways. They demonstrated the ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult.” etc.) 50% or more of the session.

**7 Peer facilitator seemed to have an excellent grasp on what the group members were saying both explicitly and by what was communicated in more subtle ways. They demonstrated an excellent ability to listen and empathize and used empathy skills (comments such as, “that sounds scary,” “Wow, that must have been difficult,” etc.) 75-100% of the session.**

### **\_\_\_\_\_ Interpersonal Effectiveness**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Peer facilitator had poor interpersonal skills. Seemed hostile, demanding, or judgmental, or made inappropriate self-disclosures.
- 3 Peer facilitators had significant interpersonal problems. At times appeared impatient, aloof, insincere, or had difficulty conveying confidence. The facilitators used self-disclosures not appropriately linked to the content of the discussion.
- 5 Peer Facilitators displayed a satisfactory degree of warmth, concern, confidence, genuineness and professionalism (started and ended on time). The facilitators self-disclosed appropriately.
- 7 Peer facilitators displayed optimal levels of warmth, concern, confidence, genuineness, and professionalism (started and ended on time). The facilitators self-disclosed appropriately and used the disclosure to emphasize a point.

### **\_\_\_\_\_ How would you rate the facilitators as a team overall for this session?**

**NOTE: Do not rate the potential for improvement. Rate their actual behavior during this session.**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 They were terrible. They did not compliment each other and may have argued while running the session. They said snide things about the other person or engaged in nonverbal behaviors that suggested a lack of respect (rolling their eyes, openly disagreeing, etc.).
- 3 They were ok. Overall, they got through the session, but there were times when it appeared that they were not sure who was responsible for covering particular topics or when to switch to other topics.
- 5 They were good. Overall they were able to work together. There were a small number of occasions in which they may have had trouble covering topics or switching to another topic, but overall the flow of information was smooth.

**7 They were a great combination. Overall, they were able to work extremely well together. They were able to move from one topic to another or use the other person to demonstrate particular concepts. They were able to keep each other focused or use information presented to lead into another topic.**

**\_\_\_\_\_ If you were conducting an outcome study of ASTP, do you think you would select this team to participate at this time (assuming this session is typical)?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

1 Definitely NOT.

3 Probably not.

5 Yes

7 Definitely YES.

### **III. Participant Factors**

**\_\_\_\_\_ As a whole, how difficult did you feel this group of participants was to work with?**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 They were a nightmare. They were hostile, talked during the sessions or engaged in other non-task behaviors, slept, were intoxicated, etc.
- 3 A minority of the participants were enthusiastic and participated, but the majority more closely resembled the definition of the nightmare category and set the tone for the group as a whole.
- 5 There may have been a minority of nightmare participants, but overall the majority of participants were in the dream category and they set the tone for the group as a whole.
- 7 They were a dream. They were enthusiastic, paid attention, asked questions, and did their homework.

### **\_\_\_\_\_ Group Participation**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 It was impossible to get anyone from the group to speak. Participants spoke 0% of the entire session.
- 3 Participants spoke very little, or only a few volunteered information or asked questions. The majority were silent. Participants spoke approximately 25 % of the session.
- 5 A few of the participants were silent, but the majority were willing to have an interactive discussion about alcohol. Some of the participants spoke at least 50% of the session, however others may not have spoken that much.
- 7 Overall the group was talkative and willing to have an interactive discussion about alcohol.. Most of the participants spoke and contributed to the session and overall the participants spoke for 50% or more of the session.

**\_\_\_\_\_ Participants Overall experience with alcohol**

*Use 999 for scales in which the responses do not apply or there was no opportunity to rate the construct.*

- 1 Majority have never have tried alcohol..
- 3 Majority do not currently use alcohol and only a minority have had some negative experiences with alcohol.
- 5 Majority have had some negative experiences with alcohol.
- 7 Majority have had many negative experiences with alcohol.

**IV. Overall Ratings**

Did any special problems arise during the session? (problems with room, unexpected scheduling problems, etc.)

If yes, please describe

**APPENDIX B: ALCOHOL SKILLS TRAINING PROGRAM PEER FACILITATORS  
TRAINING MANUAL**

**The Alcohol Skills Training Program  
Facilitator's Manual**

**Addictive Behaviors Research Center  
Department of Psychology  
University of Washington**

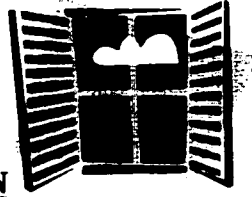
**April, 1998**

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### III. Appendices



## **I. INTRODUCTION**

### **A. Helping Participants Move Safely Through a Window of Risk**

We don't have to delve into the research literature to make you aware of a simple fact of life on American college campuses; namely, that college students drink. Most readers probably had firsthand exposure to college student drinking during their own undergraduate years. Further, the news media provide us with constant reminders of this behavior and its sometimes tragic consequences. In a recent survey of over 17,000 college students across the country, 90% of them reported consuming alcohol, and 40% reported consuming 5 or more drinks in a row during the past two weeks (Weschler et al., 1994). Despite decades of prevention efforts and attempts to prohibit or regulate access to alcohol on campus, these rates have remained remarkably constant since the early 1950's (Strauss & Bacon, 1953). ASTP is unlike most alcohol programs because it acknowledges this basic fact of campus life: students drink. As a result, this innovative program engages participants who would otherwise "just say no" to alcohol programs with an unrealistic emphasis on complete abstinence.

While most college students consume alcohol, not all of those who drink experience the alcohol problems commonly seen on college campuses (e.g. impaired academic performance, violent behavior, and unplanned or risky sexual behavior). Furthermore, not all college students who abuse alcohol during their college years go on to develop alcohol dependence in adulthood. In fact, research suggests that most go on to become moderate social drinkers (Monitoring the Future, 1993). ASTP acknowledges that episodic heavy drinking in this population is generally normative and transitional. We think of the college years as a window of risk through which students pass. Most students pass safely through this period of risk without experiencing alcohol-related problems. Just as driver's education teaches students the rules of the road in an effort to decrease the incidence of traffic accidents in the high-risk population of teenage drivers, the ASTP program strives to reduce the risks associated with college student drinking by teaching participants who choose to drink the skills that they need to drink in a less risky or dangerous way. Furthermore, just as those who wait to learn how to drive until later in life are often the safest drivers, ASTP recognizes that participants who choose to abstain from alcohol are at the least risk of alcohol-related harm. Thus, in this program, participants who choose to abstain from alcohol are respected and supported in their decision not to drink.

Before proceeding any further, it is important to acknowledge that this ASTP program is not for everyone. ASTP is not intended to be used to treat those who meet criteria for dependence on alcohol, nor

for those participants who are most at risk for continued alcohol-problems associated with chronic heavy alcohol use. Fortunately, the initial assessment phase of the ASTP program will enable you to quickly identify those participants who are in need of more intensive clinical services and provide them with the appropriate referrals for treatment. While no program is right for all individuals, ASTP makes sense for the majority of college students.

## **B. The Motivational Approach: Meeting Participants Where They Are At**

### 1. Education or motivation?

Traditional alcohol programs offered in the college setting often respond to excessive alcohol use through education. The educationally-based programs assume that increased knowledge about alcohol and the negative consequences is sufficient to change behavior. However, research has long established that information alone does not necessarily change behavior (Engs, 1976). In fact, participants can often speak quite intelligently about how long it takes to oxidize a drink and list the negative consequences of drinking without showing any evidence of the information changing their own behavior.

Unlike more traditional approaches, our intervention uses information about alcohol as only the first building block of a much more comprehensive framework. We conceptualize problematic college student drinking as both a skills-based and motivational problem. The goal of the ASTP program is to go beyond just educating participants about alcohol-related facts to increasing the participants' interest in critically examining their drinking pattern and eventually implementing the skills they learn. In doing so, participants can learn to recognize high risk situations and to minimize the potential of alcohol-related harm through preventive action, reduced consumption, or abstinence. This manual provides the theory and technique that will enable a facilitator to move participants in this direction. First, we introduce a conceptual framework for understanding and recognizing how college students differ in their readiness to change their behavior. We also provide the key elements of a practical stylistic tool called motivational interviewing which was developed to assist professionals in moving individuals in a direction of increased motivation to change their problematic behaviors. This stylistic tool has been extended to our work with college students in a group format.

### 2. All program participants are not created equal: Sensitivity to stages of change

The stages of change framework has gained much attention in recent years. This model has been used primarily in the area of health behavior change; it describes the stages through which individuals move as they attempt to change their behavior. Applying the conceptual framework of this theory has been a helpful tool in facilitating behavioral change in our work with college students. According to this theory, an individual's behavioral change process involves progression through six stages. These six stages of change are as follows: *precontemplation, contemplation, preparation, action, maintenance, and relapse*. It

may be most helpful to understand these stages in terms of students whom you have encountered.

**Stage 1 (Precontemplation):** *“What’s the big deal? This is what college is all about.”* This statement best characterizes the precontemplative student who has no intention of changing his or her behavior. These students are often unaware that they are experiencing problems, and therefore they may be resistant to having any discussion about their drinking. Others in the precontemplation stage may be willing to discuss their behavior, but minimize the negative effects that they have experienced. Traditionally, these students may have been regarded as in “denial” and requiring confrontation to force them to make changes.

**Stage 2 (Contemplation):** *“Yea, sometimes I think maybe I better cut back, but a party wouldn’t be a party without alcohol.”* This statement best characterizes a student who is in contemplation. Individuals who are in this stage are aware that a problem exists; some may even begin to consider how they can deal with the problem. However, students in this stage are known for their ambivalence. They recognize that drinking has some undesirable effects but they go back and forth between considering what they like and dislike about it. They think about making changes, but they are not ready to take action to make these changes.

**Stage 3 (Preparation):** *“Getting that DWI was a big deal; I’ve gotta do something.”* This statement best characterizes the student who is in preparation. At this stage, the ambivalence shifts in favor of making a change. Students realize that the cons of their current drinking or drinking-related behavior outweigh the pros, and they begin to make plans for what goals they have and how they will make the changes to reach them. These students are in a stage of heightened awareness and are getting ready to take action.

**Stage 4 (Action):** *“I’m finding other activities to do and I’m saving the money that I would have spent on more alcohol for going to see my favorite band.”* This statement would characterize a student who is in action. It is in this stage that individuals modify their behavior, experiences, or environment in order to address their problems. The action stage requires the most energy, commitment, and skills since the goal is for the student to experiment with a new behavior or to cut down or eliminate an existing behavior.

**Stage 5 (Maintenance):** *“Yea, I stuck with my goal for two whole months, but this week is going to be hard because everyone gets drunk before the homecoming game.”* This statement characterizes the student who is struggling in the stage of maintenance. The challenge posed in maintenance is to stick with the original goals and to hold onto the gains already made. During this stage, the student will be struggling with practicing the habits that they established during the action stage (e.g., drinking only on Friday and Saturday nights, having an upper limit of 3 drinks, etc.) and planning ahead for possible relapses in which old habits return.

***Stage 6 (Relapse): I drank more than I wanted to last night. Should I just bag this whole thing or can I keep up with my goal?*** This statement characterizes the student in the relapse stage. During this stage, students experience a slip or full-blown relapse into old behaviors and habits which are exactly the behaviors that they initially wanted to change. The challenge posed in this stage is to respond to the return of old habits by getting right back into the process of making these changes. As the statement above demonstrates, an individual can respond to the return of old habits by judging themselves as a failure and giving up or by using the situation to figure out how they can respond more effectively the next time they encounter a difficult or risky situation. When viewed as a natural part of the change process, the return of old behaviors can be used as an opportunity for both learning and building a sense of confidence in the students' ability to cope with similar situations in the future.

An important point to keep in mind is that students will commonly cycle in and out of these stages, not necessarily going through them in a strict step-by-step manner. For example, a student may move from precontemplation to contemplation. However, over time, he or she may move back to precontemplation until he or she once again, encounters a new situation which makes him or her re-think his or her situation during contemplation (see Figure 1--this will be the wheel of change /see MI p. 15).

By asking a few key questions you can assess where each of the participants are in the stages of change model. We suggest incorporating a brief version of the University of Rhode Island Change Assessment (URICA) or the Stages of Change Readiness and Treatment Eagerness Survey (SOCRATES) (see Appendix B). With this information, you can begin to meet them where they are in the process of looking at the way drinking and drinking-related problems fit into their lives. There are some stylistic techniques that you can use to move in the direction of this goal; motivational interviewing will provide you with the skills you need.

### 3. Using motivational interviewing to facilitate change

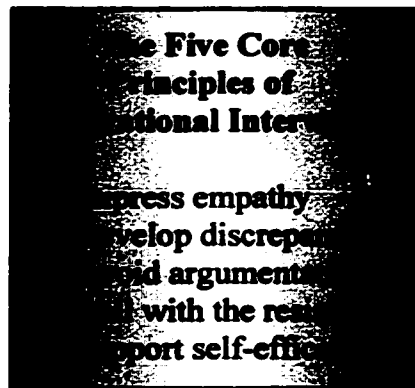
Educationally based programs have commonly been conducted using fear-arousal tactics to scare individuals into making a change in their behavior. However, it is clear from the literature, that confrontational, fear-arousing strategies are not effective. An alternative to a fear-based approach has been developed to increase an individual's motivation for change no matter where the person is along the stages of change. This therapeutic approach is called motivational interviewing (Miller, 1983). We use this technique to raise participants' awareness of personal responsibility for their alcohol-related problem(s) and to instill a commitment to change in the individual.

This approach is not about labeling participants; rather the underlying strategy is to create a discrepancy between the participant's personal goals and his or her current behavior. One of the key

elements of motivational interviewing is to get the participants themselves to articulate the types of negative consequences they or their peers have experienced and to elicit a willingness to make a change to reduce these consequences. Using this approach, the facilitator does not participate in a power struggle to convince participants they have a problem. Rather, the technique is used to allow participants to come to their own conclusions about their drinking.

There are five core principles to be mindful of when facilitating a program using a motivational style. Although we have been focusing on individuals up until this point, we will now describe how the following techniques are generalizable to individuals in a group format. Using participant involvement is a skill that develops over time; it plays a key role in being able to use the motivational interviewing techniques with groups in a powerful and effective way. Utilizing participant contributions, the facilitator can naturally expand the individualized motivational frame to a group format. For example, there may be instances where several participants already know some of the basic information. Facilitators can seize upon the opportunity to incorporate them into a program by asking them to share what they know about a particular concept. In doing so, the facilitator has already successfully engaged participants in the process.

The five core principles of a motivational interviewing approach are summarized as follows:



1) ***Expressing empathy*** is a basic technique which is used throughout the ASTP program. This principle is important in being able to develop relationships with the participants who attend your program. Through the expression of empathy, you let the participant know that you understand them or that you are working towards an understanding of their situation. Empathy can be expressed through acceptance, reflective listening, and understanding the participant's potential ambivalence toward wanting to make changes. It is possible to indicate acceptance without agreeing with the participant's choices or behaviors. For example, if an alcohol program is organized by the residence hall council and you hear that the participants really don't want to be there, the facilitator might say, "What a bummer. . you were asked to come to this program and some of you may not even want to be here." This statement demonstrates that you can have empathy for the group, not just for an individual in the group. Many reflective listening

exercises might suggest that empathy be provided using standard phrases such as “It sounds like. . .” or “What I hear you saying. . .” We suggest that you work within your own interpersonal style to figure out what feels most comfortable for you. You may find that you simply paraphrase what the participant has already stated, “So, you’re pretty bummed about the social life here.”

2) ***Developing discrepancy*** gets to the heart of motivational interviewing by creating and amplifying the discrepancy between the participants’ present behavior and self-image. For example, someone may have an image as a light social non-problem drinker, yet consume enough alcohol to reach a BAL above 0.55 four times a week with occasional blackouts. Developing this discrepancy in a non-confrontational way can be a valuable motivator and may initiate movement from precontemplation to contemplation, for example. A fundamental goal of the ASTP program is to get participants to begin evaluating the way their present behavior is counterproductive to reaching their broader goals. Given this goal, developing discrepancies between excessive alcohol use and academic achievement or athletic performance may be promising. You will find that you can either utilize other participants in the group to establish this point or allow interactions to happen in the group spontaneously. For example, one program participant said, “Yea, well, I drink beers because I like the taste.” After finding out that he averages six drinks per occasion, another participant from the same floor said, “Wow Dave, you say you drink beers because you like the taste and yet you had 6 beers last night...” Dave confusedly responded, “Hmmm. . .yeah, that’s true. I’m not sure what to make of that.” As is evident here, assisting participants in clarifying their goals is a key part of developing discrepancy. In a group format, it can be difficult to clarify detailed goals for each individual. However, when doing so it is important *not* to use confrontational strategies as a way of developing discrepancy. We find that if an individual is given the opportunity to articulate the discrepancy him or herself, the information will be integrated more readily. We find that the groups most often agree that their broad goal is to maximize what they like about drinking and to minimize what they don’t like.

Providing *feedback* also plays an integral part in developing discrepancy between a participant’s current perceptions and the information provided by more objective data collected through surveys. In this program, participants are presented with normative information describing the drinking patterns of their college student peers, and they are asked to compare their current patterns with those of their college student peers. Because students often perceive that everyone in college drinks a lot and in fact, often overestimate the drinking levels of their peers (Berkowitz, ?), it is helpful to provide a way for participants to compare their drinking to other college students. For example, often students use their circle of friends as the group by which to evaluate their own drinking. In fact, many heavy drinking students hang out with heavy drinking friends and therefore see themselves as drinking an average amount. By presenting this information, the facilitator helps develop a discrepancy between the participants’ self-perception of his or her drinking and the more objective data provided by the normative information. You may find that you have participants who drink less than average compared to the normative information provided. In order to

avoid possible complacency, you can also present the idea that alcohol use lies along a *continuum of risk*. That is, the more alcohol consumed, the greater the risk of experiencing alcohol-related problems. This emphasizes a point which is addressed at several points in our program--that no use is the sure way to avoid negative alcohol-related consequences, but that any change that is made in that direction is a positive step in reducing one's risk.

3) **Avoid Argumentation** is a principle which highlights the importance of not engaging the participant in a battle of right and wrong. You might imagine that in an argument, participants would most likely prepare for battle dressed in armor to protect themselves. However, by engaging in an interactive, nonjudgmental exploration of drinking and its related consequences, the facilitator can meet participants where they are and provide a place where participants can bring themselves and the possible concerns they may have about their drinking. By avoiding argumentation and instead redirecting the energy to engage in a dialogue with the group, the facilitator communicates that each participant has an individual responsibility to examine and change their own behavior to obtain their goals. This does not mean that the facilitator cannot give advice, assist the participants in identifying their high risk behavior, discuss why change is important, or move the participants toward specific changes in their behavior. It does mean that each of these directive strategies be achieved using the core principles.

One way of avoiding the trap of defending a particular view is to acknowledge the participants' ambivalence about making a change. For example, you may brainstorm and subsequently explore the things that the group likes about drinking (e.g., taste, way of celebrating, etc.), and the things that they don't like (e.g., hangovers, bedspins, etc.). Acknowledging both sides of the coin provides an opening to discuss how the participant can move towards maximizing what they like and minimizing what they don't like about drinking. Focusing on the possible positive and negative effects and consequences of drinking without trying to convince or pressure participants to change builds a safe place for them to talk openly about the risky behaviors in which they may engage. Joined by the techniques of empathy and developing discrepancy, avoiding argumentation is critical in the process of allowing participants to come to their own decisions and conclusions about alcohol.

4) **Rolling with the Resistance** refers to the principle of acknowledging the participants' reluctance and ambivalence as expected aspects of the process of change, rather than responses which need to be broken down. Viewing the ambivalence of the participant as having a door half open rather than having a door half closed, you may find that you can respond to them with more empathy. In doing so, the facilitator can engage with the participants through understanding and respect, while asking them to consider new information and /or perspectives. The assumption that must be made in motivational interviewing is that any behavior change is up to the participant. Despite the responsibility of change being in the participants' court, the facilitator can take an active role in generating a menu of possible options of why and how this change can happen. The participants are a valuable resource in this process of

brainstorming solutions or risk reduction methods to address the problems that they are experiencing because they are, of course, the most familiar with the situations and challenges that they face. For example, you might ask a group to generate the ways that they might respond to an event where alcohol is being served but they don't want to drink. By generating a menu of options, the facilitator provides the participants with *choices* so that participants can take what they want and leave the rest.

In motivational interviewing, resistance or defiance is not viewed as a personal characteristic but a by-product of the client-therapist interaction. Part of the appeal of this approach is that it challenges the idea of a "successful outcome" with the idea of moving someone along a continuum of readiness to change. Rolling with resistance involves acknowledging that ambivalence is OK, even expected.

5) **Supporting self-efficacy** refers to taking steps to build confidence in a participant's ability to handle a particular situation or to perform a specific task successfully. For example, a participant may have self-efficacy about limiting her drinks to weekend consumption, but she may not have self-efficacy about being able to limit herself to no more than 3 drinks on one occasion. The goal is to help the participant see how s/he can be successful in coping with a particular situation or sticking to one's goals. This might involve examining the skills that the participant already has, generating a toolbox of skills to use in certain situations, and practicing the skills in the program. For example, the facilitator might say, "Is it easy to go to a party and not drink on this campus?" This gives the group an opportunity to discuss whether they feel self efficacious about not drinking at a party and subsequently for the facilitator to follow-up with ways that participants could deal with such a situation.

Motivational techniques are continuously woven into the framework of our program. After an initial assessment, you will have an idea of the individual drinking levels as well as where the participants are along the continuum of "readiness to change." The diversity of the group requires that the facilitator act as a guide who interacts with the group as a whole (while at the same time being mindful of each individual and where they are along the continuum); it requires the facilitator to use his or her own influence as well as the influence of the group members skillfully. In doing so, one creates a dynamic setting in which peers are answering and challenging the thoughts and behaviors of other peers. It is extremely important that the facilitator model a supportive, non-judgmental, and non-confrontational manner for group participants. One participant challenging the behavior of another in a confrontational manner defeats the purpose as much as the facilitator interacting in a confrontational manner.

#### **4. Using reflective listening skills**

Discussion of required readings in the back of the manual; role plays

1. "Listening is more than merely hearing" from Chapter Three of People Skills , Bolton (1986).
2. "Four skills of reflective listening" from Chapter Four of People Skills , Bolton (1986).
3. "Brief intervention: More pieces of the puzzle" from Chapter Three of Motivational Interviewing,

Miller

4. "Principles of motivational interviewing" from Chapter Five of Motivational Interviewing, Miller

There are other articles following these four. Please read them as background. Feel free to discuss them with the group or with your trainers!!

**C. What About Liability Issues?**

Many college administrators are justifiably concerned about liability issues surrounding alcohol use among students on campus. In their efforts to decrease liability risk to their institutions, college administrators have historically pursued "zero tolerance" policies toward drinking among college students. According to such zero-tolerance policies, drinking among students who are minors is strictly forbidden and punishable by sanction or mandate. Some administrators have gone so far as to make their campuses "dry" by forbidding students, regardless of their age, from possessing or consuming alcohol.

One potential objection to the ASTP program outlined in this manual is that it may be perceived as inconsistent with prohibition policies in effect on many campuses. College administrators lacking complete information may construe this program as encouraging students to drink. In fact, nothing could be further from the truth. As the reader will soon discover, a primary tenet of the ASTP program is to reduce the rates of drinking in program participants, thereby reducing the prevalence of problems resulting from such drinking across campus, and consequently reducing the liability risk to which the institution is exposed.

In essence, the adoption of an ASTP program, even with an official campus policy prohibiting alcohol consumption, is a pragmatic move. Administrators and law enforcement officials have been "cracking down" on college drinking for many years, yet a recent nationwide survey found that over 40% of students consume 5 or more drinks in a row over a two week period, and that the majority of underage students do in fact consume alcohol (Weschler et.al., 1994). Traditional approaches attempt to get participants who engage in what is essentially normative drinking behavior in their environment to accept the label "alcoholic" and maintain a lifetime of abstinence. Conversely, ASTP accepts some drinking in this population as a starting point, and in keeping with the tenets of motivational interviewing, meets participants where they are at by helping them identify specific behavioral strategies that they can employ to reduce the risks associated with their drinking.

Rather than increasing liability risk, all of the available evidence suggests that programs like ASTP may actually decrease it. By directly targeting heavy episodic drinking as the cause of alcohol-related problems (rather than attempting to eliminate drinking per se) programs such as ASTP focus on

eliminating the very risky behavior that leads to liability claims. ASTP has successfully been implemented in a modified form with the athletic teams here at the University of Washington with no liability problems. Similar lack of liability exposure has been the experience of health educators at Western Washington University, who have been using ASTP-based programming for a number of years. If you are concerned, you should discuss your thoughts with a supervisor.

#### **D. Program Overview**

The Alcohol Skills Training Program is divided into 10 conceptually distinct, stand-alone components.

The first component engages participants in an informal discussion about their experiences with alcohol. This fairly flexible introduction is necessary for **Component 2. *Assessment of Use***. From an informal discussion in Component 1, participants move to a more structured overview of individual alcohol consumption as compared to national college drinking norms. The goal of Component 2 is to identify the discrepancies between participants' present drinking behavior and their personal goals as a means of motivating them to learn the skills of the program. In addition, subjects receive such information as the definition of a "standard drink" and what to do if they are alcohol-dependent (**Component ???**).

**Component 3. *Alcohol and the Body*** builds on some material covered earlier and provides further information about the way that alcohol is absorbed, processed, and eliminated from the human body. Despite the different make-up of the audience, the educational information presented here is vital for further intervention. Thus, the participants who already know about alcohol metabolism, tolerance, and drug-interaction effects will reinforce their knowledge, while others learn about it for the first time. Similarly, **Component 4. *Blood Alcohol Levels (BAL) and Tolerance*** not only explains what BAL is, but integrates all information presented earlier into a functional way of individual alcohol assessment. Participants can better relate to this material when they see that BAL is individualized by gender, weight, quantity and rate of consumption. Looking up their personal data on the BAL chart suddenly makes drinking a very relevant and personal issue. Likewise, the BAL effects chart converts the numbers into a meaningful picture of our body transformation when affected by alcohol. Given the essential Alcohol 101 information, **Component 5. *The Biphasic Effects of Alcohol*** takes the group one step further. With the understanding of biphasic response to alcohol, as illustrated by BAL curve, this component provides information related to developing moderate drinking skills, which are designed to facilitate positive and safe drinking experiences. Participants learn about the point of diminishing returns and the cultural myth that "more alcohol is better." Along the same lines, **Component 6. *Monitoring Drinking Behavior*** is specifically designed to teach participants how to monitor their drinking behavior. Moreover, it provides an incentive for self-monitoring and identifying both positive and negative sides for this. The break between sessions presents an opportunity to utilize the provided information, so if there is a drinking

episode, it will result in careful monitoring of the amount consumed and close adherence to the point where negative effects replace positive effects. Session Two starts with **Component 7. Feedback - Drinking**, which is very informal because facilitators need to re-establish their rapport with participants. Participants review the main concepts covered in Session 1 by reviewing their drinking patterns from the previous week, calculating the peak BAL, and relating self-monitoring to the biphasic effect. Having refreshed the relevant material, the group moves on to **Component 8. Feedback - Expectancies**. This part of the ASTP is crucial for the targeted change in one's drinking behavior because it challenges the participants' alcohol expectancies, which are influential in developing a motivation to drink. First, facilitators assess the belief system of the group while highlighting physical, social, emotional, and psychological aspects of expected drinking effects. Then, using the balanced placebo design, the group learns about the expectancy effects, which underscore how powerful the psychological aspects of set and setting are in comparison to the chemical and physiological effects of alcohol. This information ties in with **Component 9. Risk Reduction Tips**, which culminates with establishing the main purpose of ASTP—teaching participants essential skills to reduce their risk from drinking. Here, the facilitators point out safe drinking guidelines separately for men and women, provide specific tips to reduce the risk from alcohol, to reduce risk associated with alcohol and sex, and tips for avoiding drinking and driving. Finally, **Component 10. Goals and Wrapping it up** is solely geared towards answering questions, providing more feedback, and summarizing the learned material in a practical and effective way for participants so they can apply the ASTP to their personal experiences with alcohol.

Although it is recommended that you go through each of the 10 components in order, we've divided up the program in this way so that you can change the program in response to scheduling demands. For example, if you can only do the program in three one hour chunks, you might go through components 1-4 in session one, 5-7 in session 2, and 8-10 in session 3. In addition, you may find there are specific aspects, resources, ideas relevant to your college student life that should be incorporated in this manual. **ARE THERE ANY OTHER QUESTIONS? LET YOUR TRAINER KNOW YOUR CONCERNS!!!**

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## **II. THE COMPONENTS OF ASTP**

### **BEGIN SESSION ONE**

#### **Component 1: Orientation and Building Rapport**

##### **Goals**

- Rapport and group assessment
- Introductions
- Describe ASTP philosophy
- Abstinence
- Describe program structure
- Discuss confidentiality
- Engage participants and build motivation to engage in the program

## Step-by-step

### Building Rapport

Motivational interviewing is a tool which is important in setting the stage for establishing and maintaining rapport with the group throughout the program. However, the other basic building blocks which makeup this area are as follows:

- 1) ***Pay attention to what you are conveying.*** This is a simple reminder about how clothing, setting, presentation style, and language can convey a message to an audience. Students tend to dress very casually. You might think about how a suit and tie would come across to the students with whom you're working. Also, pay attention to how the facilities may work with the presentation style that we have described here. We realize that you may not have a choice as to the setting of your program; therefore, you may need to be creative in organizing a room to be more conducive to open discussion.
- 2) ***Be approachable.*** Acknowledging participants as more than just warm bodies is important in establishing rapport with them from the beginning. Remember that given the nature of the topic, you may already be grouped together with other alcohol and drug abuse prevention counselors they have observed. Therefore, participants may already be tuned out before the program even begins because of their previous experience with programs that have used fear tactics or a "just say no" approach. Thus, it's critical that you *use your personal style to convey your approachability from the beginning*--whether you greet them as they enter the program room, ask them about whether they had any trouble finding the location, etc. The motivational interviewing principles provide the tools that you need to continue conveying your approachability throughout the program, while also motivating the participants to move along the stages of change.
- 3) ***Discussion versus lecture.*** One of the most crucial aspects in building rapport with participants is the presentation style. We have found that a discussion rather than a lecture format is critical in this regard. As we described earlier, it is also helpful when much of the information and skills are generated by the participants' own experiences.
- 4) ***Do your homework about the student social scene.*** It is also helpful to be in tune with the student social scene. In order to be a credible facilitator, we encourage you to actively participate in the preparation for this critical role. You should know what the rituals are around going to sports events, where and when the on-campus and off-campus parties take place, which residence halls/fraternity houses have heavy drinking reputations, and what events are notorious for heavy drinking. You can personalize your presentation by asking the participants to give more explicit responses within the group discussion. In doing so, you essentially cue the participants to think about a specific high risk occasion which might pose

the greatest risk for them.

TIP: As you go thru training, ask your co-facilitators for their input on the different social scenes OR discuss questions with your trainers who can ask general questions of the group.

5) ***Be authentic & maintain boundaries.*** It is important that the facilitator be comfortable being authentic without trying to be like the participants. College students can see through a facilitator's attempt to be something they are not in an effort to "get in" with them. Although you want to be approachable, you also want to maintain your boundaries so that participants are aware that although prevalence rates of drinking among college students are high, it is accompanied by statistics which demonstrate the seriousness of the problems associated with alcohol among this age group. It is important to convey the message that high risk behavior is a serious matter and has potentially harmful consequences—including death.

6) ***Be creative.*** The program which we describe has many openings for the facilitator to be creative, energized, and dynamic about the presentation. For example, you might find that using role plays for some of the skills training components is an effective way for participants to rehearse refusing drinks. Different types of visuals are also a good way to increase understanding of information. How about FOOD? Can you come up with some other creative ideas? List them below and discuss with the trainers!!!



## **1. ASSESS YOUR GROUP**

As a facilitator, you are constantly thinking of ways to create questions or to coax responses which are personally relevant to the individuals in the group. In the next section, we have included some creative ways that you can adapt your program to include activities which engage participants, while also incorporating the components of our program.

### **Group Make-up**

You may find that you conduct a program with 10 abstainers and one drinker or vice versa. When you have individuals who may experience participation as speaking for an entire group or feel isolated by being the only one who is either a drinker or abstainer, you will want to keep this imbalance in mind. You might ask other individuals to imagine what friends of theirs would say to your questions rather than singling out the only representative of that group to answer the questions about how much they drink or how they are able to refuse drinks as an abstainer.

### **Challenging Groups**

You may find that building rapport is particularly challenging with some groups. Try not to single people out or put them on the spot. However, this may be difficult in some situations. We've identified some common difficult situations and provided suggestions for how to respond to them.

**A. *The Silent Group*** You may also encounter groups in which participants do not participate. You may want to experiment with eliciting their participation. A participant's silence may signal that he or she is hearing things for the first time and trying to take it all in, or maybe the information really hits home – which may feel overwhelming. You could check in with this participant at the end of the session to try and get an idea of what is going on. If you view the silence as resistance, remember to “roll with it.” Questions like:

“what do you think about all this?”

“does this ring true for you?”

“does this fit with your experience?”

“I've been talking a lot and I'd really like to hear from you--what are your thoughts on what I just talked about?”

**B. *Apathy*** This is a difficult one. Depending on how the participants were invited to the program, some may be apathetic about participating. These participants can either be invited to help out (e.g., ask lots of general questions like above, perhaps they know a lot about how alcohol affects the stomach lining) or may be left alone.

**C. *The disruptive participant.*** You may encounter a resistant participant who acts out by making snide comments or snickers while others are talking. Individuals who clearly do not want to be in the group may be asked to leave after a warning, particularly if they are disrupting the ability of others to attend to the discussion. This goes a long way in helping you establish rapport with the rest of the group.

**CAN YOU THINK OF SOME OTHER WAYS TO RESPOND TO THESE SITUATIONS?**

## **2. Attendance and introductions**

Greet participants as they arrive in the room. Introduce yourself to them, including

- your name,
- the organization that is sponsoring the program, and
- your role as a facilitator.

Ask participants to introduce themselves to each other once everyone has arrived. Including a rapport building exercise goes a long way - consider asking each participant to share something about themselves; where they are from, why they chose UW, if they could be any animal, what would it be?, etc. Do you

have any other ideas for icebreakers? Write them down below and discuss them with the trainers!

**BRAINSTORM!**



**3. Description of ASTP Philosophy—Not a “Just Say No”, but not a “Just Say Yes”**

**It’s a rules of the road approach!!!!**

The point here is to help underage participants appreciate that this program will treat them as responsible adults with regard to their alcohol consumption. While it is important to remind underage group members that it is against the law for them to drink, it is even more important for participants to understand that you are not here to enforce the law, and that you support each individual participants’ decision about his or her drinking. The purpose of this program is to help those participants who do choose to drink to make informed decisions about their drinking. For the ASTP program to be effective, underage group members must come to believe that you are going to work with them to minimize the potential negative consequences of their drinking, rather than telling them to “Just say no.” One example that we have often found useful in helping participants to understand the ASTP approach is telling them that learning to drink less dangerously and in a less risky way is like learning how to drive a car – you have to learn the rules of the road in order to minimize the dangers of driving. ASTP will provide them with that set of rules.

The key message to be conveyed is that for those who choose to drink, we aim to promote less risky and less dangerous drinking patterns.

As facilitators, you have already read about group makeup. Remember, you may lose the non-drinkers’ attention!! Be sure to include them by restating this information may be helpful for a friend or for future reference if they or anyone they know chooses to drink!!

**4. A note on abstinence**

The ASTP philosophy essentially empowers participants to make informed decisions about their own drinking. When introducing the program, it is important to emphasize that participants who choose to abstain from alcohol are highly respected and supported in that decision. The ASTP philosophy is based on acceptance, both of those who choose not to drink, and those who do.

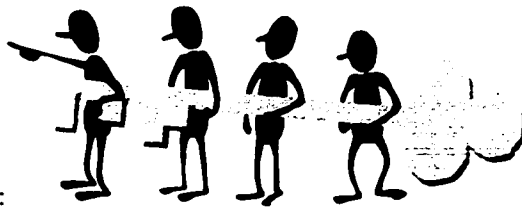
**5. Description of the structure of the ASTP**

Tell participants that the group will meet today for one and ½ hours today, and then again for another 1 ½ hours next week at the same place and same time. Outline program content:

- WEEK 1:       - What does your drinking look like in comparison to college student norms?  
                   - The physiological and psychological effects of alcohol.  
                   - How to monitor your drinking.
- WEEK 2:       - How to get more of what you want from drinking (and less of what you don't)

#### 6. Discussion on Confidentiality "Everything said here stays within these four walls."

Because this program is peer-based, and participants are encouraged to discuss sensitive issues such as underage drinking, it is of utmost importance for participants to understand that that you will not share anything that they say with anyone outside of the group. Explain that group members are also asked to treat what is said here as confidential, and not to talk about what is said in the group to family or friends. Explain that these rules are intended to help everyone feel like the group is a safe place to talk about their experiences without having to worry who might find out about it. Offering this kind of environment is intended to promote a safer atmosphere so that participants feel free to discuss things they might not otherwise discuss.



Key Points:

- How does the group make-up "feel"? Hopefully, comfortable and interested!
- Does everyone understand the PHILOSOPHY and STRUCTURE of the ASTP? We respect individual choice!! This is a rules of the road approach; not just say no, not just say yes . . . .
- This is all confidential.
- If you brought food, did you invite all to enjoy?
- Any other questions? Please write them down and if you're asked a question by a participant and you're not sure about something, that's fine; just say you'll answer it via email or at the next session! Your trainers are there to help clarify!



**IMPORTANT!**

This component is **ESSENTIAL**. If the people in your group perceive you (the facilitators) as trustworthy and approachable, it will encourage them to feel comfortable in a small discussion setting and encourage

As you can see, if you have a drink out of a container (a can or bottle) it is fairly easy to know how much alcohol was consumed. Often however, participants will have to do a bit of estimation to convert the amount that they remember consuming into standard drinks. For example, a participant who reports drinking three 16-ounce pints of beer at a party would actually have consumed four “standard” 12 ounce beers. We have often found it useful to ask participants what types of drinks they usually have, and help them convert the amounts into standard drinks.

**RIGHT HERE IS AN EXCELLENT OPPORTUNITY TO DEVELOP DISCREPANCIES.**



(i.e. how many of you are on sports teams or exercise regularly?)

Here’s some more interesting stuff on calorie info!!!

12oz. beer, light = 100, regular = 146, porters, stouts = 300-350  
 4 oz. wine = 100-160  
 12 oz. wine cooler = 140-230  
 1 oz of 80 proof liquor = 65  
 1.25 oz. of 100 proof = 74  
 1.50 oz. of 100 proof = 83

As you can see, a lot of empty calories, which are harder to burn than regular calories . . . .

**TIP:** If you’ve got a quiet group, you could ask them to calculate a standard drink. (“Number of standard drinks in a Colt 40 . . .”)

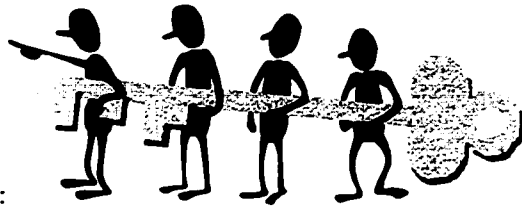
### 3. Discussion of college student drinking norms

Ask all participants to pull out the yellow sheet from their folders and answer the following question: Think of the occasion that you drank the most this past month. How much did you drink? Give them some time to recall and record the information. Then ask them to guess (first on paper, then out loud) how the typical college student would have responded to that question. Share with them that, on average, 90% of college students drink and of those that drink, the average number of drinks per week is 10.

**DISCUSSION TIP:** What do you think about these stats?

Often participants who guess toward the lower end of the spectrum will discuss their responses with participants who guess in the upper range. If they do not, ask some questions to spark the conversation. Discuss how people’s perceptions of what is “average” or “typical” drinking can be distorted:

- A) Some participants are surrounded by a group of friends who drink heavily and thus heavy drinking may seem more “normal” to them than it really is
- B) Everyone has heard stories of heavy partying, but no one tells stories about the times that they only drank 2 or 3 beers.



**Key Points:**

- **Maybe ask participants to share their environments . . .**
- **\*\*\*Emphasize that not all students drink\*\*\***
- **Did the participants get the main message?**
  - Standard drink and how to calculate**
  - Norms**
- **Remember to write down all questions and get clarification from trainers!**

### Component 3: Alcohol 101: Alcohol and the Body



#### Goals

- Cover basic information about the way alcohol is absorbed, processed and eliminated

#### Overview

In this component, participants are provided with educational information about:

- **how alcohol is metabolized, and**
- **the phenomena of tolerance, potentiation and cross-tolerance.**

Due to the amount of information that needs to be presented in a short time, this component is designed to be mainly didactic (i.e. delivered in lecture format). Although many program participants have probably been exposed to this basic information during other prevention programs, it is important to go through it again. Asking Socratic questions of those participants who demonstrate knowledge of this area can keep them involved and keep other group members listening (e.g. “Does anyone know some of the factors that influence how fast the alcohol that you drink enters your bloodstream?”). Outlining the main points on a blackboard or easel as you go through them can also help keep participants interested. This component is written in script form, so that those who are unfamiliar with the material can simply read it the first few times you facilitate an ASTP group.

#### Step-by-step

##### 1. What is alcohol?

There are different types of alcohol; methyl, isopropyl, and ethyl. Ethyl alcohol, also known as ethanol, is by far the *most widely used drug in the world*. **Ethanol is classified as a sedative/hypnotic due to the physiological effects; an initial decrease in anxiety and the phenomenon of disinhibition, under certain circumstances.** With increased amounts, these responses are followed by impairment in activities associated with higher brain processing, such as speech, planning, judgment, complex motor behavior. Higher doses will lead to unconsciousness.

Ethanol is produced by yeast’s interaction with glucose and water through a process called fermentation. During fermentation, sugars are converted to ethanol and carbon dioxide. Yeast dies in high concentrations of ethanol and thus the absolute concentration of ethanol for most beer and wine will typically be about 15%. Through distillation, the process of removing some of the water from the fermented solution, the ethanol concentration is increased. Because alcohol has a higher boiling

temperature than water, when the fermented solution is boiled it emits a vapor with more ethanol than water and can be collected and condensed to create a beverage with an even higher ethanol content. Brandy, whiskey, vodka, and rum, for example, have gone through the distillation process. Fortified wines, such as sherry and vermouth, go through a process by which ethanol is simply added to the fermented beverage. **In short, alcohol can be made from any starch, grain because starches can be broken down into sugars. The idea is to add yeast and let it ferment.**

Most often the amount of ethanol in a beverage is expressed by the “proof,” which is two times the absolute percentage of ethanol in the solution. So the beer and wine, as discussed above, with 15% ethanol would be 30 proof. Given the wide variety of ethyl alcohol beverages to choose from, it takes some thought to calculate the amount of alcohol consumed.

## 2. How does alcohol get into your system?

When you swallow a drink, the alcohol first travels to the stomach. There, some of the alcohol (approximately 20%) begins going through the stomach wall and into your bloodstream through a process called **absorption**.

The rest of the alcohol then travels to the small intestine, where it enters the bloodstream rapidly and completely, regardless of the food content in it. Therefore, once the alcohol reaches the intestine the rate of absorption is fairly standard.

## 3. What influences the rate of absorption?

How fast alcohol is absorbed from your stomach and intestine into your bloodstream will determine how quickly you will feel intoxicated. This rate of absorption is determined by a number of things that you may already know about:

- A) The higher the concentration of alcohol in your beverage, the faster it will be absorbed into your blood stream. For example, shots of liquor are absorbed faster than a bottle of beer. Also, beverages with effervescence will trigger the muscle between the stomach and the small intestine, called the pylorus sphincter, to open and thus will reach the small intestine quickly resulting in faster intoxication.
- B) When you have eaten recently and there is still food in your stomach, the movement of alcohol from the stomach to the small intestine will be delayed and thus absorption of alcohol will be slower than if you are drinking on an empty stomach.
- C) People who weigh less will absorb alcohol more quickly than heavier people because the total volume of blood in their bodies is lower.
- D) And of course, the faster you drink, the faster the alcohol will get into your bloodstream.

## 4. How does alcohol leave the system?

Approximately 90% of alcohol is broken down, or **metabolized**, in the body primarily by the liver, and to a lesser extent, in the stomach lining. When alcohol is metabolized it is first changed into a toxic chemical called **acetaldehyde**, but is quickly changed into a less toxic chemical called **acetate**. Eventually acetate is changed to **carbon dioxide and water** which are returned to the bloodstream to be filtered out by the kidneys and eventually excreted as urine.

The 10% alcohol that is not oxidized in the liver gets out of the body through sweat, breath or directly through urine.

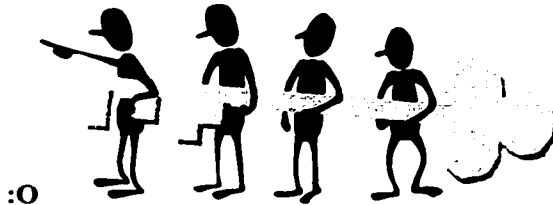
## 5. The rate of metabolism

### **TIP: Ask people how/what are some of the things people do to “sober up”?**

Compared to how quickly your body can absorb alcohol, the rate of metabolism is very slow; the liver can only metabolize .016% of the alcohol per hour. The rate of metabolism can be thought of as the speed of “sobering up.” When participants view their personalized BAL charts, this number will make more sense. It is extremely important to emphasize .016 per hour as the take home message! There are no significant differences in the rate of alcohol metabolism among individuals. The liver can only break down approximately one drink of alcohol in one hour. Even more importantly, **this process cannot be speeded up**. Contrary to popular beliefs, neither several cups of strong coffee, nor a cold shower, nor exercise will sober up an intoxicated person. For example, if someone had 5 drinks in a relatively short period of time, it will take approximately 5 hours for the body to completely metabolize all the alcohol. Also, because alcohol is primarily metabolized by the liver, excessive drinking damages the liver.

On a related note, some people think that making themselves vomit will get the alcohol out of their systems quickly. This is also a myth. Absorption happens so quickly (usually within 10 minutes), that by the time a person is vomiting, most of the alcohol consumed is already in the bloodstream. **Vomiting, in fact, can be dangerous**, particularly if enough alcohol has been ingested to disrupt motor behavior (e.g., choking on vomit can occur).

Key Points: “I got that peaceful, queasy feeeeeeeeeeeeling!”



- Are there any questions? Write them down and ask the trainer to clarify if you’re not sure!!
- Did they get the main message? “ya get it in, it’s gonna get through and get out” --defining this process—
- “Sobering up” --myths and truths--

## **Component 4: Blood Alcohol Level**

### **Goals:**

- Define Blood Alcohol Level (BAL)
- Identify factors that influence BAL
- Explain alcohol effects at various BALs
- Highlight gender differences in BAL

### **Overview**

The information collected via the initial written assessment and the self-monitoring exercise described in the previous component is most influential when it is summarized in the construct of **blood alcohol level**.

A major focus of the remainder of the ASTP program is helping participants to understand:

- what BAL is,
  - what factors influence it, and
- how keeping their BAL within certain moderate drinking guidelines will help them to **get more of what they want out of drinking, and less of what they don't**.

When discussing the effects of various BALs it is important to emphasize that **reaction time is impaired from the moment alcohol gets into the blood stream** and regardless of tolerance and perceived effects, reaction time makes driving at any BAL a risky and dangerous option.

### **Step by Step**

#### **1. Definition of blood alcohol level (BAL) BAL = BAC (blood alcohol content)**

- Begin by asking participants if they can define what BAL is.
- Blood Alcohol Level is defined as the ratio of alcohol to blood in the bloodstream and is determined by calculating the milligrams of alcohol in a person's body per 1000 milliliters of blood.
- BAL is usually calculated as a percentage. Thus, an individual who achieves the legal limit of .10% BAL has a concentration of alcohol in the bloodstream equal to one part alcohol for every thousand parts of blood.
- Identify the well-known limit of drinking and driving as .10% (.08 in some states and counties, .02 for minors) and ask what this means.

- **WHAT IT DEFINITELY IS NOT:** *the number of drinks a person consumes*

## 2. Identification of factors that influence BAL

Once group members grasp what BAL is, ask them to generate a list of factors that might influence it. For example, caffeine (drinking coffee to be less drunk) and physical activity (walking it off) might be two examples of factors that do **not** affect BAL, whereas weight, gender, rate of consumption, food consumed would be factors that affect BAL. The following factors influence BAL:

### LET'S USE Insert General Name AS AN EXAMPLE:

- A) **Quantity:** The more alcohol you drink, the higher your blood alcohol level will be.
- B) **Rate:** The faster you consume alcohol, the higher your blood alcohol level will be. Your liver is the principle means by which alcohol is removed from the bloodstream. It can break down no more than approximately one drink per hour. If you drink more than this amount, you put alcohol into your body faster than it can be removed. Thus, drinking four beers in one hour will result in a higher blood alcohol level than drinking one beer every hour for four hours. You cannot maintain a set rate without seeing an eventual rise in BAL.
- C) **Weight:** The more you weigh, the lower your blood alcohol level will be. Your weight reflects the volume of fluid in your body. Since BAL represents the ratio of alcohol to overall fluid volume, a person who weighs 200 pounds and drinks one beer will have a lower concentration of alcohol in the bloodstream than a person who weighs 100 pounds and also drinks one beer.
- D) **Time:** Over the course of a drinking occasion, the amount of alcohol you can consume per hour to maintain a constant BAL will decrease. Your liver metabolizes approximately one beer per hour, but it slowly falls behind. Thus, some of the effects of each drink accumulate.
- E) **Gender:** Explained next.

So if General Person drinks this much, this fast, weighs this, this gender . . . what's up with his/her BAL?

## 3. Explanation of alcohol effects at various levels of BAL

- Remember that BAL is the percentage of alcohol in the blood. For example, someone with a BAL of .10% would have one part alcohol for every one-thousand parts of blood.

- These numbers won't really mean anything to participants unless they know what effects that they can expect to feel at each BAL.
- Present the table below, and discuss the effects at each level, being sure to point out the BAL limit for legal intoxication in your state of locality (typically .10%, sometimes .08%). Discuss the differences between MIP, Minor DUI and DUI.
- Let participants know that they will receive their own personalized BAL charts, generated specifically for each of them, in the next session and a copy of the effects chart (see below). (The appendix contains a set of BAL charts for both men and women of varying weights)

.02-.03%	No loss of coordination. May experience slight euphoria and loss of shyness.
.04-.06%	May experience euphoria, feeling of well-being, relaxation, lowered inhibitions, sensation of warmth, minor impairment of reasoning and memory, lowering of caution.
.07-.09%	Legally intoxicated in many states. May experience euphoria, slight impairment of balance, speech, vision, reaction time, hearing. Also experience reduced judgment and self-control. Definite impairment of muscle coordination and driving skills. Increased risk of nausea and slurred speech.
.10%	<b>Clear deterioration of reaction time and control. Legal Intoxication.*</b>
.10-.12%	May experience euphoria, significant impairment of motor coordination, loss of good judgment, slurred speech, impaired balance, vision, reaction time and hearing.
.13-.15%	Euphoria is reduced. Dysphoria (anxiety, restlessness) begins. Gross motor impairment, lack of physical control, blurred vision, major loss of balance. Risk of blackouts and accidents.
.16-.24%	Dysphoria (anxiety, restlessness) predominates. Nausea may appear. "Sloppy drunk."
.25-.29%	May experience dysphoria, total mental confusion. Need assistance in walking. Nausea and vomiting.
.30-.39%	May experience loss of consciousness
.4 and up	May experience onset of coma. Death due to respiratory arrest.

\*The highest legal driving limit in some counties and states is .08%.

**DISCUSSION TIP:** What do you guys think about this legal limit? Should it be lowered? Raised? What issues does this raise?

The nuts and bolts version of the BAL chart that will be clearer for purposes of presentation is the following:

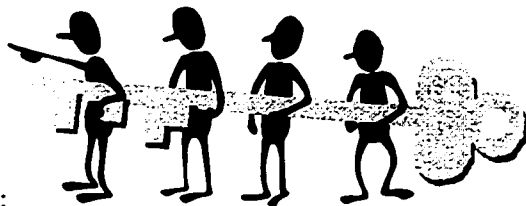
.02	relaxed
.04	Relaxed
.06	decrease in cognitive judgment

.08	decrease in motor coordination (lightweights will likely experience nausea)
.10	Clear deterioration of cognitive judgment and motor coordination
.15-.25	blackout range
.25-.35	lose consciousness/pass out
.40	Death by coma or toxicity
	<b>REACTION TIME IS ALWAYS IMPAIRED</b>

#### 4. Gender differences in BAL

The same quantity and frequency of alcohol use will have different physiological effects for men and women because they will achieve different BALs. There are a number of reasons for this.

- **Different fluid volume.** It is estimated that where an average male body is composed of approximately 60% water, an average female body is only 50% water. Lower fluid volumes in women result in higher concentration levels of alcohol in the bloodstream.
- **Different enzyme levels.** Levels of gastric alcohol dehydrogenase, an enzyme that aids in the decomposition of alcohol, are significantly lower in women compared to men.
- **Different body weight.** An average male weighs 40lbs more than an average female. Because body weight reflects fluid volume, an average male will achieve a lower BAL than a female with the same number of drinks.
- **Different hormone levels.** The hormone levels change during the luteal phase of a woman's menstrual cycle such that she will feel the effects of alcohol intoxication for an extended length of time. This is true for woman taking oral contraceptives, as well.



Key Points:

- BAL clear?
- Factors that influence it?
- **REACTION TIME IS ALWAYS IMPAIRED!!!!!!!!!!!!!!!!!!!!!!**

## Component 5: Biphasic Effects of Alcohol and Tolerance

### Goals:

- Debunk the cultural myth that “more alcohol is better”
- Introduce the biphasic curve
- Describe the biphasic response to alcohol: how ascending BAL is associated with euphoric effects, and descending BAL with depressant effects.
- Identify the point of diminishing returns as an optimal moderation goal.
- Discuss tolerance, how it can be problematic, and how it can be reduced.
- Explore the dangers of drug interaction effects including potentiation and cross-tolerance.
- Alcohol Myopia

### Step-by-step:

#### 1. The changing effects of alcohol over time.

- A) Solicit an exhaustive list of what participants expect to get from alcohol. **SAVE THIS**

#### **LIST!!!**

What are the **positive effects** of alcohol in a social situation?

What are the **negative effects** of alcohol in a social situation?

(Write this list down and save it. You will need it again for Session 2)

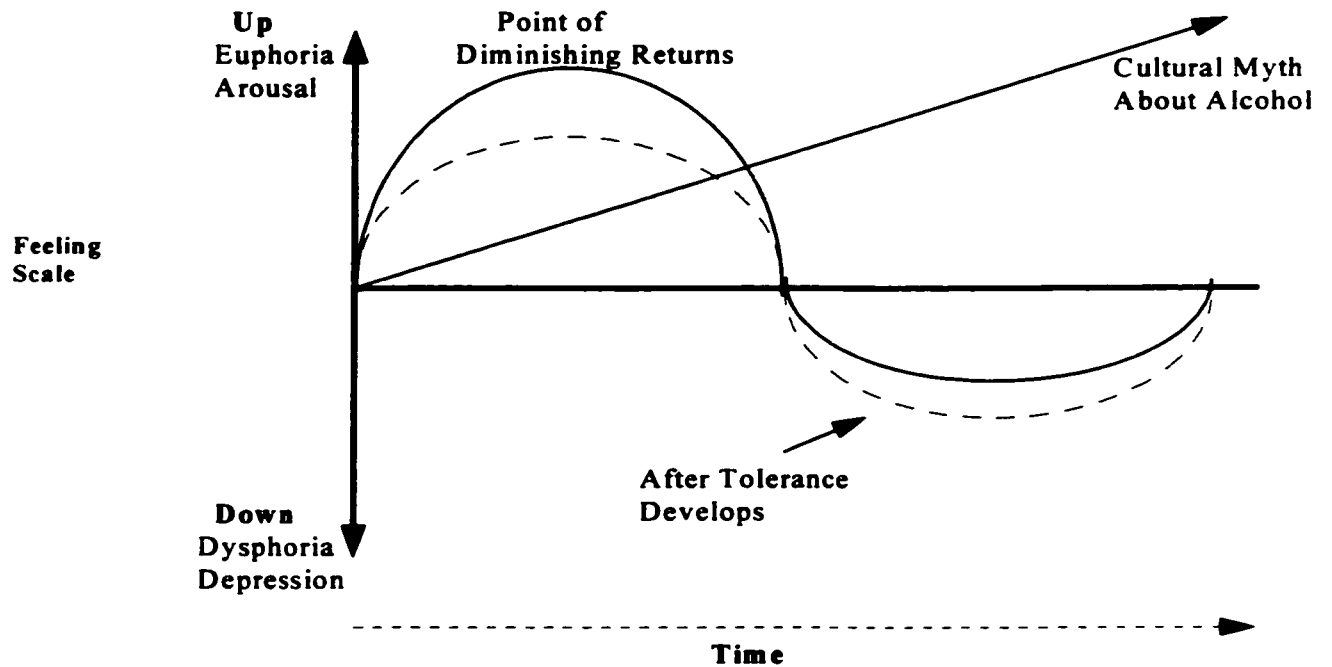
- B) Ask participants whether they notice any changes in the effects of drinking over the course of the evening? How do they feel after the first drink? The second drink? The sixth drink?
- C) The objective of this discussion is to help participants appreciate that the subjective effects of alcohol can be divided into two phases:
- **Initial period:** mild arousal effects, characterized by euphoria (feeling good) and increased energy. Most of the positive effects listed will belong here
  - **Subsequent period:** depressant effects characterized by fatigue, slowing down, lack of coordination. Most of the negative effects listed will belong here

#### 2. The biphasic curve

It is important to convey that the biphasic response to alcohol is more complicated than there is time available, so for purposes of explanation and for the sake of simplicity a reduced version of the biphasic response to alcohol will be presented here. Invite participants to discuss the details with you outside of the current program. The initial positive feelings, and subsequent negative feelings that

participants experience during the course of a drinking episode are related to the rise and fall of their blood alcohol level. This relationship is captured in this graph, called the biphasic curve.

## The Biphasic Response to Alcohol



Describe this chart, remembering to point out the following features:

- Over time, as blood alcohol levels begin to fall, individuals begin to experience more of the negative, depressant effects. This is the time that people often drink more in an attempt to get back their initial euphoria. This does not work.
- **Cultural myth about alcohol:** The assumption that increased drinking will result in increased positive mood is demonstrated in the graph as the straight line labeled “cultural myths about alcohol” This line is inaccurate because it ignores the inevitable shift toward the depressant effects that are always experienced as BAL begins to drop. The more alcohol that is consumed, the greater both the arousal and the depressant effects will be
- **Point of diminishing returns:** At some point during the drinking episode, the stimulating effects of a rising blood alcohol level will not add to the euphoria experienced during drinking. The point at which an increase in BAL will not result in elevated mood or energy is known as the point of diminishing returns. For most people, that point is a BAL of .05 to .06. BUT IT COULD BE LOWER FOR SOME PEOPLE WHICH IS GREAT!!!! “speed limit” -

-- driving analogy --- what we are getting at here is there is no real specific point. And, of course, the only way to experience NO negative consequences is not to drink.

- **Tolerance and the biphasic effect:** Notice that tolerance has a differential impact on the two stages of the biphasic curve. Increased drinking over time will lead to a decrease in the initial euphoric effects of alcohol consumption and an increase in the dysphoric effects. Thus, tolerance serves as a drinking liability. When severe tolerance exists, there are no euphoric effects experienced and instead alcohol serves as decreasing withdrawal symptoms, nothing more.

### 3. Two types of tolerance

- A) **Physiological tolerance:** I'm sure you've all noticed that some people are able to "hold their liquor" better than others, that they have to drink more than other people to feel the same effects. These people are said to have developed tolerance. *When someone develops tolerance, it means that over time, they have to drink more alcohol to feel drunk, or that when they drink the same amount of alcohol as they always have, they feel less drunk than they did previously.* People develop tolerance because they have adapted, both physiologically and psychologically, to having alcohol in their system. As a matter of fact, very heavy drinkers adapt so well that they need to have alcohol in their system at all times, otherwise they experience withdrawal symptoms.
- B) **Behavioral tolerance:** People can also develop a behavioral tolerance to alcohol which means they can drink more before showing the typical effects of alcohol. In a sense, the central nervous system "learns" that certain environmental cues signal the presence of a particular drug in the system, and those cues will be sufficient to trigger an anticipatory compensatory response to the drug effects before the actual presence of the drug (Diaz, 1997). On one hand, this is a benefit because behavioral tolerance allows experienced drinkers to be more in control of familiar actions in familiar surroundings with higher levels of alcohol in their bodies. Behavioral tolerance however, is limited to familiar actions and situations only. Friday night at home with friends and Saturday night at a new bar can produce very different effects and the danger here is when the different effects are not anticipated. For instance, it is well documented that many overdoses occur in unfamiliar settings. This can be partially attributed to the fact that the users were not able to detect the usual cues for quitting.

### 4. Advantages and disadvantages of tolerance?

Tolerance may seem like a good thing because it allows heavy drinkers to function when they

have high levels of alcohol in their bodies. **Tolerance is not really an advantage though.** When people with a low to average level of tolerance have one too many drinks, their bodies let them know (by getting dizzy or nauseous). In essence, they have a built in warning system that prevents them from doing serious damage to their bodies. Since people who have developed tolerance don't experience these negative reactions, they can continue drinking. However, the alcohol that the tolerant person ingests does just as much damage to their bodies as it does to other people.

**Tolerance short-circuits people's warning system,** so tolerant individuals are able to keep high levels of toxins in their bodies for long periods of time, which puts lots of stress on the functioning of their organs and increases the chances that they will develop long-term health problems. Tolerance offers a false sense of security.

**People with tolerance may be unaware of how impaired they really are and drink to a near-lethal or lethal limit.** Additionally, it is important to convey that reaction time is immune to the effects of tolerance so even though someone with tolerance feels "OK" to drive, he or she is just as impaired as someone at the same BAL without tolerance.

Participants will most likely relate to the following negative consequences of developing tolerance. It may be beneficial for the facilitator to elicit these types of things from the participants.

- Costs more money if you have to drink more to feel the effects, (and this *sucks*)
- Leaves more toxins in the body the next day (effects physical and mental capacity, i.e. Hangovers are **NO FUN**)
- Decreases the positive effects of alcohol and increases the negative effects (note the biphasic curve),
- Disrupts REM sleep to a greater extent (which increases grogginess for the 2 days following a drinking episode, so say ya gotta test the next day, you may still be intoxicated . . . hmmm, not exactly a good thing ).

##### **5. What you can do to reduce tolerance?**

The good news is that you can decrease your tolerance (and all the health risks that are associated with it), fairly easily. Tolerance can be gradually reversed through either moderating the quantity and frequency of your drinking, or taking a break from alcohol for a few weeks.

##### **6. Drug Interaction Effects**

Has anyone ever mixed drugs and alcohol? What kinds? What happened? You've probably heard that you shouldn't drink alcohol when you're taking other drugs. There are two reasons why that's good

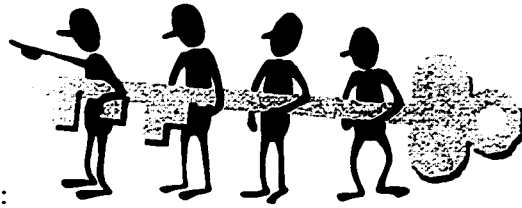
advice

- **Potentiation:** When you drink alcohol and take certain drugs, the effects are stronger than if you take the same amount of either drug alone. For example, alcohol potentiates or multiplies the effects of central nervous system depressants (e.g. barbiturates), and can lead to an overdose when you take them with alcohol even if you take the same dose that you normally do when you're not drinking.
- **Cross-tolerance:** When you drink alcohol and take certain drugs, the alcohol can work against the effects of the other drugs, and increase tolerance for each of those drugs. For example, someone who drinks alcohol while using cocaine can ingest large amounts of each without feeling the full negative effects of either. As with simple tolerance for alcohol, cross-tolerance can lead to a very dangerous situation because your body's warning system is being short-circuited, and you might consume enough substances to kill you without knowing that it's time to stop.

**THE THING TO TAKE AWAY HERE IS THAT MIXING DRUGS IS NEVER A GOOD THING!!!**

### **7. Alcohol Myopia**

If you actually draw this figure while you explain it, it will help to conceptualize its meaning. Basically, this happens when a person drinks and over time, their ability to concentrate and focus things going on around them becomes limited. Your trainers will describe this phenomenon as they draw it. It is easier to conceptualize if done this way. Copy their artwork in the space below for your personal reference!!



**Key Points:**

- **Biphasic curve**
- **Ask participants if they have any questions about effects of tolerance to BAL and alcohol use in general.**
- **Interaction effects**
- **Alcohol Myopia**

**Remember to write down all questions!! (yours and theirs!)**

## **Component 6: Monitoring Drinking Behavior**

### **Goals**

- Provide a rationale for monitoring drinking behavior
- Review the advantages and disadvantages of self-monitoring drinking
- Explain how to monitor drinking behavior
- Clarify that this exercise is not a mandate for participants to drink

### **Overview**

Recall that one of the primary goals of ASTP is to help participants critically evaluate their drinking patterns. Feedback from the assessment that they fill out at the beginning of the session is one vehicle for helping them do so. Another important means of increasing awareness of drinking patterns is teaching participants how to monitor their drinking as it happens.

### **Step by Step**

**DISCUSSION TIP:** Why should we be aware?

#### **1. Rationale for monitoring drinking behavior**

After people engage in a particular behavior for weeks, months or years, they may become less and less aware that they are doing it. For example, if you've been driving to school on the same route for a long time, chances are pretty good that you're not going to be aware of the traffic lights and left and right hand turns that you make. Similarly, the more often you make your favorite sandwich for lunch, the less likely it is that you'll be paying attention to the steps involved in the process - e.g. taking out the bread, spreading the mayo etc. The same thing can happen with your drinking. If you drink pretty regularly in the same situations, for example with the same friends, in the same bars, you may not be aware of how much alcohol you drink, or how quickly you drink. One way of becoming more aware of how much and how often you drink is to monitor your drinking behavior. Self-monitoring means paying close attention to your drinking as it happens, and keeping track of it as you go.

For this exercise to be meaningful it will be important for participants to record their drinking behaviors on their monitoring cards. This exercise will insure that reading and understanding the personalized BAL charts in the next session will be personally relevant.

#### **2. Advantages of monitoring drinking behavior --- Get your friends to do it!! If you choose not to drink, monitor friends who do, or, what's really great is that **YOU CAN MONITOR ANY BEHAVIOR!!!****

After defining what self-monitoring is, and providing a brief rationale for doing it, we recommend

asking group members to come up with some advantages and disadvantages of this process. The following are some advantages and disadvantages that should emerge from group discussion.

- **Increased awareness:** Some potential advantages of self-monitoring include becoming aware of: how often drinking occurs; how much alcohol is consumed; people associated with drinking; places associated with drinking; moods that are associated with drinking.
- **Possible behavior change:** Sometimes when people self-monitor their drinking behaviors, they become aware of patterns that they want to change. One potential advantage of self-monitoring is that participants may begin to change their drinking behavior as a result of this increased awareness.

### 3. Disadvantages of monitoring drinking behavior

- **It is time consuming:** Doing self-monitoring does take some time. One way of making the process more streamlined is to use the prepared monitoring cards.
- **It may feel awkward to self-monitor while drinking:** People sometimes say that they don't want to carry around the monitoring cards while they are drinking. There are two potential responses to this. First, some people have told their friends that it is a school assignment or experiment and they are supposed to collect data. The other option is to try to mentally keep track of the information and write it down as soon as possible.
- **It may be unwelcome information:** Some people find the reality of their alcohol patterns a little disconcerting. It will be reassuring if you mention this reaction at the outset and encourage discussion about this topic. Reiterate that if people are concerned about their use of alcohol this is a great opportunity to get a closer look at it and gain a better understanding of how alcohol fits into their lives – and if they are interested in making changes you can help.



### 4. How to self-monitor

The self-monitoring of drinking behavior is a skill that students need to be taught. Although it is fairly straightforward, it's safe to say that most participants have not had experience with this process, so it is important to explain it clearly as possible, being sure to use concrete, specific examples. Pass out the monitoring cards to participants. Instruct participants that every time they drink, or have the urge to drink, they should pick up the card and

- Write down the date, time, and location.
- Write down who they were with and what your mood was like.
- Write down the type of drink (beer, wine, margarita, rum & coke, etc.) and how much alcohol

was in each drink. (The following is an example of a completed monitoring card)

Date	Time	am/pm	Drink Type	Amount (ozs.)	Where (code)	W/whom (code)	Mood BAL	Comments
Mon	8:00	p.m.	Beer	12 oz.	4	5	11	TV Night
Mon	8:30	p.m.	Beer	12 oz.	4	5	4	TV Night
Wed	6:00	p.m.	Margarita	~3 oz.	6.a	5	5	TV Night
Wed	10:00	p.m.	Kamikaze	~1 oz.	6.b	5	12	Coming Down off first drink
Fri	11:00	p.m.	Wine cooler	10 oz.	3	7& 6 Roommate and Friends	6	Worked Late
Sat	4:00	p.m.	Liquor Punch	1/2 oz.	7	5	12	Tired
Sat	7:00	p.m.	Wine	4 oz.	2	5	12	Still tired, not in mood to party

<p><b>For ALL questions, one drink equals:</b></p>  <p>4 ozs. wine, or 1 cooler</p>  <p>12 ozs. beer 1 cocktail or 1 shot</p>	<p><b>Codes for MOOD STATES</b></p> <p>1? Happy 2? Outgoing 3? Romantic/sexy 4? Relaxed 5? Desire to celebrate 6? Sad/depressed 7? Frustrated 8? Shy/self-conscious 9? Angry 10? Anxious/stressed 11? Restless/bored 12? Other (specify)</p>	<p><b>Codes for WITH WHOM</b></p> <p>1? Alone 2? Relatives including family 3? Male friend (s) 4? Female friend (s) 5? Friends of both sexes 6? Strangers or people you've met after beginning to drink 7? Other (specify)</p>	<p><b>Cod</b></p> <p>1? Tave 2? Rest 3? Own 4? Other 5? Work 6? Private 7? Social party 8? In a c 9? Out-c 10? Other</p>
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##### 5. Clarification of the goals of the assignment (emphasize that drinking is NOT required)

Before completing this component, it is a good idea to review the purpose of the self-monitoring exercise with your group. You might ask them to summarize the rationale for you. Remind them that they are doing this to become more aware of their drinking pattern, including how often they drink, how much



## BEGIN SESSION TWO

### Component 7: Feedback - Drinking

#### Goals:

- Debrief self-monitoring exercise
- Distribute personalized BAL charts
- Use self-monitoring data to relate peak BAL and the biphasic response to participant's own experiences.

#### Overview

This first component of session two is an opportunity:

- to re-establish rapport with your group,
- to review the concepts that were covered in the first session, and
- to relate those concepts to participants' own drinking experiences during the past week.

This component is designed to be fairly unstructured so as to allow you to be flexible in your group discussion.

#### Step-by-step

##### 1. Discussion of the self-monitoring exercise

- How was filling out the cards? Was it difficult? How did they explain it to their friends? Did they find out anything about their drinking pattern that they didn't know before?
- If there are any participants who did not fill out the self-monitoring cards, give them a few minutes now to try to reconstruct their drinking over the past week.
- For research purposes, it will be important to note which participants filled out their monitoring cards during the drinking episode, immediately following (the next day), or did not fill them out at all (either because they did not drink or because they forgot or lost the cards, etc.).
- **Have list of Pros & Cons from previous session** (on the board or a poster, for example . . . and **DO THEY WANT TO ADD**) as well as the biphasic curve. Ask participants to recall the previous week. Ask them to identify the episode when they drank the most in one day. For those who did not drink, ask them to recall a similar experience from the previous month. For those who abstain, ask them to consider a friend's recent experience.
- Elicit the points on the biphasic curve that match with each participant's experience. At what point during the drinking episode did they reach the "point of diminishing returns?" How

many standard drinks, how much time? Did they drink beyond that point? Why, what was going on for them, what were they thinking or feeling (situational effects)? Did they feel the effects of tolerance? Did they have a hangover the next day? **WHAT DO YOU GUYS THINK ABOUT THIS EXERCISE?????????**

## 2. Introduction of BAL chart

### POSTER AGAIN!!! Remember this?

Put the nuts and bolts version of the BAL effects chart on the board. This chart can act as a way to review the effects of alcohol and the relation to BAL. Give directions on how to read the chart as you hand it out and be sure all participants understand how to read their BAL charts. The first column is for the number of drinks consumed. The first row is the amount of time spent drinking. With these two pieces of information, we can use this chart to look up what BAL is reached during a particular drinking episode.

Let's take an example. Jim is a 160 lb. male who had five 12-ounce beers in a 3 hour period. Using this chart, can you figure out BAL would he reach? That's right, approximately .069.

Number of Drinks	Number of Hours									
	0	1	2	3	4	5	6	7	8	9
1	.023	.007	0	0	0	0	0	0	0	0
2	.046	.030	.014	0	0	0	0	0	0	0
3	.070	.054	.038	.022	.006	0	0	0	0	0
4	.093	.077	.061	.045	.029	.013	0	0	0	0
5	.117	.101	.085	.069	.053	.037	.021	.005	0	0
6	.140	.124	.108	.092	.076	.060	.044	.028	.012	0
7	.164	.148	.132	.116	.100	.084	.068	.052	.036	.020

- **The effects of each drink on BAL is cumulative**

Notice that the number of drinks that you can consume per hour to maintain a constant BAL decreases with each hour. That's because your liver can only metabolize a small amount of alcohol each hour, and it falls slowly behind. Therefore, even if Jim drank only three drinks in the 3 hour period, he would still have a minimal amount of alcohol left to be metabolized (.022).

- **BAL is specific to gender and weight**

Remember that because gender and body weight have such a big influence on BAL, when you are figuring out your own BAL, it is important to use a chart that is appropriate for your weight and sex. Since the numbers in this chart were generated for a 160lb male, trying to use it to figure out the BAL of a 120 woman would seriously underestimate her blood alcohol level. **POSTER!!!!!!!!!!**

- **BAL tables are estimates only**

Finally, it's important to appreciate that calculating BALs from charts like this results in *estimates*

only. Remind participants that these personalized BAL charts are only an approximation (the estimation depends on all the things that we spoke of in session one that impact how BAL can be effected; sex, food intake, muscle to fat ratio, amount of alcohol, etc.) and they shouldn't be used to determine whether or not someone should drive, etc.

### 3. Distribution and discussion of personalized BAL charts.

- **Compare self-monitoring to assessment data**

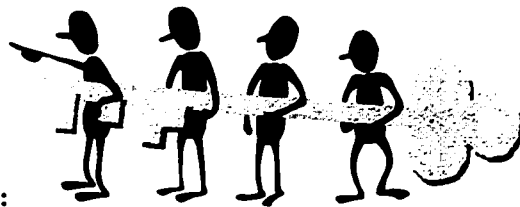
Ask participants to compare the drinking pattern from the assessment results with the self-monitoring cards. Were their previous estimates close to the amount that they actually drank this past week? Would they consider this past week to be a "typical" week for them with regard to their alcohol consumption?

- **Calculate peak BAL for past week**

Ask participants to look at their individualized BAL charts and their self-monitoring cards, and to figure out their peak alcohol consumption for the past week. What was it? How were they feeling at the time?

- **Relate self-monitoring data to the biphasic effect**

Did participants drink beyond the "point of diminishing returns" (BAL of .055)? What were their experiences? What do "buzz" and "drunk" mean to them? How does that point of being "buzzed" or "drunk" relate to the .055 recommended moderation limit? Does it seem like a reasonable goal to keep within that limit? If not, why not? Were participants able to get what they wanted out of drinking, while minimizing the negative effects? What can they do to make drinking a safer, more pleasurable experience? What are risky situations for each participant? Suggest thinking about how to handle these situations before they occur.



#### Key Points:

- Ask participants if they have any questions
- Any questions about how to read the BAL charts

Remember to write down all questions!! (you know the drill)

## **Component 8: Feedback - Expectancies**

### **Goals**

- Encourage individuals to describe the beliefs they hold about the effects of alcohol.
- Challenge the perception that alcohol is directly responsible for these effects and introduce the role of psychological expectations.
  - (mind)set
- Involve participants in an exploration of how the environment plays a role in the expectations of alcohol use and encourage experimentation with the ideas presented.
  - setting

### **Step-by-Step**

#### **1. Expectations from alcohol?**

#### **POSTER OF Positives and Negatives!!**

In component 5, participants were asked to generate a list of positive and negative effects of drinking. Put this list up once again, and ask participants if they can think of anything else to add to it. The goal in this component is to find the “hook.” By demonstrating where use may be causing a problem for those participants who were not impressed or affected by previous attempts (such as normative feedback, etc.), there may be an opportunity through another avenue. You must pay close attention to the types of examples the participants offer in order to identify where strategies for decreasing risky alcohol use will be welcomed. Asking participants to take out a piece of scrap paper to jot down their thoughts will be helpful to them.

- **Encourage participants to talk about what they enjoy about drinking.** What kinds of positive things do you associate with drinking? How do your feelings about yourselves change when you drink?
- **Ask participants if they expect any negative things to occur when they drink.** What are some less desirable things that can happen when you are drinking? Are there things that you have said or done when you have been drinking that you would not have under different circumstances?
- **Ask participants to put each of the effects of drinking that they listed into one of the following categories**
  - ⇒ Physical
  - ⇒ Social
  - ⇒ Emotional

⇒ Psychological

## 2. Discussion of the perceptions of alcohol's effects on men vs. women

- Do men and women respond to alcohol differently?
  - ⇒ Stereotypically, what are men like when they drink?
  - ⇒ Stereotypically, what are women like when they drink?
  - ⇒ However, doesn't alcohol effect people the same way?
  - ⇒ What could explain the differences? (social expectations, etc.)

## 3. Influences of set and setting

- Can alcohol have different effects depending on the environment you are in?
  - ⇒ Are the effects of alcohol the same in different environments or with different people?
  - ⇒ Do you feel the same after a couple beers at a party as you might when having a glass of wine with dinner when you are with friends?
  - ⇒ Do you feel any different if you are drinking at a football game, and when you watch the game on TV?

**KEY PHRASE:** WHAT'S IN YOUR *HEAD* **verses**



WHAT'S IN YOUR *CUP*!!!!

## 4. The balanced placebo design --video clip?--

- Tell participants that psychologists have developed a method for separating the “chemical effects of alcohol” from the “psychological effects of drinking.”
- Define **placebo**: a substance having no medication that is administered for its psychological effect
- The balanced placebo design is an experiment where some people are given drinks that they think contain alcohol, but really do not (that is, they get placebo drinks). Other subjects in the experiment get drinks containing alcohol, but are told that the drinks contain only tonic water.

- Draw the picture below on the board, and use it to help explain the four different conditions in the balanced placebo design.

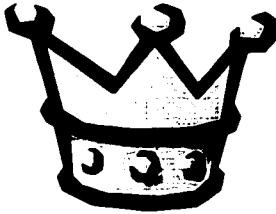
## The Balanced Placebo Design

		<i>Subject Expects</i>	
		Alcohol	Tonic
<i>Subject Receives</i>	Alcohol	1	2
	Tonic	3	4

- There are four conditions in the balanced placebo design. These four conditions correspond to the numbers on the figure above
  - 1) Subjects expect to drink alcohol and actually receive alcohol
  - 2) Subjects expect to drink tonic water but actually receive alcohol
  - 3) Subjects expect alcohol and receive a placebo (a nonalcoholic beverage or tonic, prepared to simulate an actual alcoholic beverage)
  - 4) Subjects expect tonic water and receive tonic water.
- Ask participants how they think subjects in each of the conditions responded. In particular, you might ask participants how they think participants responded in conditions 2 and 4 (where they received something different from what they were expecting).
- Describe how actual subjects in each condition responded.
  - ⇒ In condition 1 where subjects expected to receive alcohol and did receive alcohol, they acted pretty much the way we would think they might act. The subjects became more talkative, louder, and more flirtatious with each other.

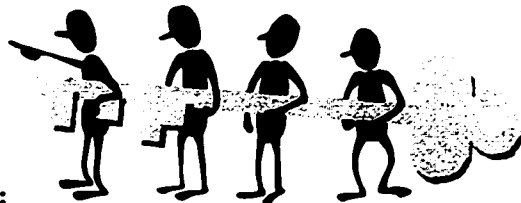
- ⇒ Subjects who thought they were only drinking tonic water but received alcohol did not act like this at all. They generally reported feelings of fatigue, flushing, lack of coordination, but did not appear more social or talkative. The key is that they attributed the resultant effects to things other than alcohol; being tired, coming down with the flu, being clumsy, etc. This gets at the **physiological effects** of alcohol.
- ⇒ The group that expected alcohol but received only tonic water acted much like this group and seemed to become louder, more verbal, and more flirtatious. This gets at the **expectancies** of alcohol.

## **IMPORTANT:** CONDITION 2 and CONDITION 3



### **5. CONCLUSION: research suggests that for social behaviors, the expectancy effect is more powerful than the chemical or physiological effects of alcohol.**

- The effects of moderate drinking depend less on the actual alcohol content of the drink than on the prior perceptions and expectations that we bring to a drinking situation and the situation itself.
- For both men and women in nonsocial behaviors, such as reaction time or performance on various cognitive or motor tasks, alcohol does have an adverse effect regardless of expectations.



#### **KEY POINTS:**

- Expectations, positive and negative, from alcohol
- Are set and setting clear?
- Any questions about the balanced placebo design (what's in your cup v. what's in your head)

- Ask participants if they have any questions . . . write'em down!

### **Component 9: Risk Reduction Tips**

**Tip: It might be fun to role play a pre-party scene, party scene, and post-party scene.**

**Goal:**

- Outline safe drinking guidelines
- Provide specific strategies participants can use to reduce their risk from drinking

**Step-by-step**

**1. Moderate drinking guidelines**

- Hopefully, by this point in the program, participants have become motivated not to drink to excess. They have learned how to estimate their BAL, and to monitor their drinking behavior.
- Here, you should provide them with what various health authorities have determined to be safe drinking guidelines.

**FOR ALL WHO CHOOSE TO DRINK: DO NOT EXCEED A BAL OF .05 - .06**

**2. Moderate drinking strategies**

Ask group members to discuss ways that they can keep the amount that they choose to drink within safe drinking guidelines. This discussion might include ideas about how to limit the number of drinks that they consume during a drinking episode, as well as non-drinking social activities that they might enjoy during those days of the week when they choose not to drink.

**3. Tips for reducing the risk of negative consequences associated with heavy alcohol use**

It is hard to know who will be participating in your group, however, there will undoubtedly be some who are interested in learning how to reduce their risk and they need specific directions for doing this

safely and effectively. By setting up the question in such a way that it doesn't put anyone on the spot you will likely get plenty of participation and some really good ideas. **The best way, we have found, to begin brainstorming ideas for reducing risky drinking practices is to ask the participants what they would suggest to a friend who asked for advice on this topic.** You might even write them on the board. That way you'll know if you've covered all of them. The following are some practical and realistic tips so be sure you include them in your discussion. Suggest that by experimenting with these someone can figure out which ones work for them and which ones do not.

- *Set your drinking limit before a social drinking occasion.* It is more difficult to set a limit when under the influence of alcohol or social pressures. Plus, it is easier to forget why you set the limit when under the influence.
- *Keep track of how much you drink.* You can keep the bottlecaps in your pocket or come up with some other creative way to keep count. This is particularly important if you have set a limit that you want to stick to, but find it difficult to remember how much you drink in the moment. If you do this, be sure to take count throughout the night so you don't find out the next day you drank more than your limit.
- *Space your drinks.* By spacing your drinks your BAL will not get so high so quickly and you will have more control over the situation. Try setting a time limit for each drink. For example, if you plan to drink 4 drinks over 2 hours, allow yourself a new drink every 30 minutes. Keep track of the time and do not allow yourself to get a new drink until the 30 minutes have passed.
- *Alternate alcoholic drinks with non-alcoholic beverages.* This is a great way to keep your BAL at a steady and comfortable level AND to decrease the chances of having a hangover the next day!
- *Drink for quality not quantity.* Consider substituting the cheaper and less tasty beers and wines, etc., with some that are more appealing to your palate. Even though they cost a little more, you can drink less and enjoy the taste more for the same cost.
- *Avoid drinking games.* Drinking games are a sure way to lose track of how much you are drinking and a sure way to increase the risk of a BAL that rises too quickly without warning. This can lead to nausea and vomiting, blacking out, passing out, etc.
- *Learn drink refusal skills.* This can be harder than it sounds. For example, some people don't accept "no thanks" and will continue to pressure you to drink. Also, some people will not feel comfortable just saying "no thanks." So there are some other ways to say no: I have a

commitment early tomorrow morning, I am on medication that requires I do not drink, I am coming down with a cold, I just finished one, maybe in a little while, I haven't decided yet, or you can always accept it and just put it down somewhere without actually drinking it.

- *Find other stuff to do.* There are always lots of activities to get involved with around the community individually or with a group of friends. Have a late night game of baseball, go out for pizza, a movie, play kick-the-can, host a scavenger hunt, or flag football. Volunteer. Take up a hobby like writing, gardening, collecting, exploring, or hiking.
- *If you choose to drink, drink slowly and in a safe environment.*



Can you think of any others? **Brainstorm!**

#### 4. **Tips for reducing risks of negative consequences associated with alcohol and sex**

**KEEP THIS GENDER NON-SPECIFIC. KEEP THIS GENDER NON-SPECIFIC.**

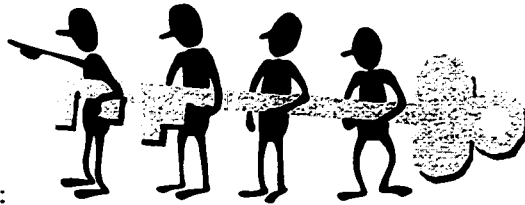
- Unwanted or unprotected sex often occurs under the influence of alcohol
  - 75% of acquaintance rapes involve alcohol
- On initial dates or in larger parties, be selective about when and how much you drink
- Remember that alcohol doesn't improve your sexual performance or enjoyment
- Watch out for your friends - a friend who has been drinking may have impaired judgment and may need your help to avoid making poor decisions about sex.
- Rohypnol – “Roofies” also known as the “date rape drug”
  - in pill form, but just recently discovered to be in liquid form also

#### 5. **Tips for reducing risks of negative consequences associated with drinking and driving**

- Arrange for all of your transportation needs well in advance of a party or drinking occasion
- Select a reliable designated driver who agrees to stay sober throughout the party
- Leave your car keys at home, or in the possession of the designated driver
- Bring enough cash with you in case you need to call a cab for a ride home

- Always carry a quarter so you can call a buddy for a ride home
- We recommend no driving if you have consumed any alcohol at all. If you are under age 21, you can be cited for Driving Under the Influence (DUI), or Minor In Possession (MIP) even if your BAL is below the legal limit. In fact, even those over 21 can be cited for DUI with a BAL as low as .07 if their driving appears at all impaired.

#### 6. Questions and answers



Key Points:

- **Alcohol clearly changes the situation.**
- Tips for reducing negative consequences associated with alcohol use, alcohol and sex, and alcohol and driving

## **Component 10: Goals and Wrapping it up**

### **Goals:**

- Summarize program goals and answer any remaining questions that participants may have about the material presented in the program
- Provide participants with a forum to ask other questions that they have about alcohol and/or other substance use
- Ask participants to think about the future, and how they would know if their drinking was at a point when they might want to make changes.
- Ensure that participants know who to contact and how if they desire more information, evaluation, or assistance.
- Solicit feedback from participants about the program
- Discuss referral options

### **Step-by-Step**

#### **1. Summary**

Remind participants about the main goals of ASTP. At this point, the meaning of this training must be clear and internalized by them. **One of the messages that they should leave with is that alcohol consumption is a complicated issue with positive and negative consequences.** The choice of whether to drink or not to drink is really up to them and only them. Thus, our lab's approach cannot be simplified to a "just say no" method, but must evaluate the risks and benefits associated with drinking, i.e. **a harm reduction approach.** On the one hand, alcohol is often viewed as a means of socialization and an integral part of college partying. On the other hand, the participants have learned about the biphasic response to alcohol and subsequent ways to insure a positive and safe experience by drinking moderately. The specific tips from Component 9 have addressed the issue of impaired judgment and what participants can do to avoid drinking and driving, unplanned sex, and alcohol overdose.

#### **2. Questions and answers**

Solicit any questions that group members may have. If there are questions that you are unable to answer, ask group members to **write down their name and address** so that you can send them a written response to your question later.

#### **3. Discussion of the future**

Few participants will identify themselves as having a "problem" with alcohol, or needing help to

change behavior in the group setting. Further, for many participants who may be “contemplative” about alcohol (more so now than before the program, hopefully), it can be useful to engage them in a brief discussion about what signs might lead them to feel concern in the future. Typically, participants reply that if they were drinking alone or drinking to medicate depression that would mean it is a problem. This response allows the group leader to ask for more subtle signs that might be observed, before it gets that far, and to emphasize that there is no reason for alcohol to interfere with functioning at all. Issues of grades, accidents, and embarrassment can be raised again as signs that risk reduction would be appropriate.

#### 4. Feedback about the program

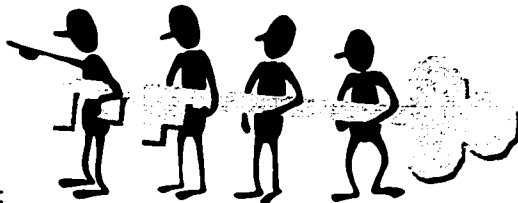
Ask participants how they liked the program. What parts about it did they like? What parts didn't they like? You might collect these comments and send them to the Addictive Behaviors Research Center so that they can be taken into account.

Address: Addictive Behaviors Research Center  
Annex 3  
University of Washington  
Seattle, WA 98195

#### 5. Discuss referral options and hand out review/referral sheet

It is important when concluding the program to provide information so that those who are interested in more support know who to call, when, and how. Some participants may have identified themselves or friends or family members who might benefit from additional assistance. **Provide referral information.** At the University of Washington we have a referral service for a Substance Use Evaluation & Consultation. Dr. Ruby Takushi is the current contact person for this service and she can be reached at (206) 685-1200.

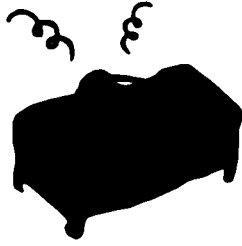
#### 6. Last questions . . . .



Key Points:

- Get feedback—the more, the better!
- Hand out evaluation forms?
- Hand out referral forms?
- Get those last minute questions and ask for a place you can get in touch with the individual!!! (email,

address, phone, etc.)



**THAT'S IT!! Time for pizza . . .**

### **III. APPENDICES**

**Appendix A: To be added**

**Appendix B: Assessment Measures**

#### **The Role of Data Collection and Feedback in ASTP**

In ASTP, participants are asked to fill out an assessment form during the first group meeting. The information thus obtained has two main purposes. First, scores on certain screening instruments included in the assessment battery are used to determine whether an individual participant is experiencing clinically significant alcohol dependence, and thus might be better suited for a more traditional abstinence-based program. Secondly, scores on individual items are used to help develop discrepancy between an individual's present drinking behavior and important personal goals, in keeping with the principles of motivational interviewing. More specifically, an individual's response to a particular item can be compared to the responses generated by previous program participants, other participants at a particular institution, or the population at large. For example, a participant who reports that he or she consumes seven to nine drinks containing alcohol on a typical day when he or she is drinking may feel that his or her drinking pattern is within the normal range for college students. Providing that individual with normative data suggesting that 90% of the college population report typically drinking less than that might help build motivation to reduce consumption.

Here is a brief overview of the measures that are included in the ASTP Assessment. Since feedback plays a central role in ASTP, careful thought has gone into the measures that are administered to participants. These measures are some of the most widely-used and well-validated instruments available for assessing the quantity and frequency of alcohol consumption, as well the experience of alcohol-related problems and the presence or absence of the characteristic features of alcohol dependence. These measures are included in the appendix, and the reader is invited to refer to them as they are discussed below.

- **Quantity-Frequency Measures (Q/F)**

Five items in the ASTP assessment that measure quantity and frequency of alcohol consumption come from a large-scale longitudinal study of young adults that began in 1978 (The Monitoring the Future Study, see Johnston et.al., 1991). These questions were chosen because normative data has been obtained on them from thousands of college age individuals, and thus the responses of participants in your programs can be compared not only to the other participants, but to the population at large. We have included an item from the DDQ that asks participants to indicate how many drinks they consume per day during an average week and how many hours per day to consume those drinks.

- **Alcohol Use Disorders Test (AUDIT)**

This is a 10-item questionnaire that covers the domains of hazardous consumption/recurrent intoxication, abnormal drinking behavior (at least one element of dependence at specified minimum frequency) and alcohol-related problems in the last year. This questionnaire was derived on the basis of large-scale cross-national research and has been used with many different populations.

Scoring: Responses to each question are scored from 0 to 4, giving a maximum possible score of 40. Among those diagnosed as having hazardous or harmful alcohol use, 90% of respondents have been found to have an audit score of 8 or more (Saunders, Aasland, Babor, De La Fuente & Grant, 1993). Fleming, Barry & MacDonald (1991) studied a sample of 989 undergraduate students and found that 40% of the subjects screened positive at a cut-off score of 11 or greater. Furthermore, these authors found that 25% of the students they studied drank more than six drinks at one time one or more times per week, 4% reported being unable to stop drinking once they started, 2% said they failed to fulfill responsibilities due to drinking.

- **Alcohol Dependence Scale (ADS)**

The ADS is a 29-item instrument designed to identify and assess alcohol abuse and dependence including impaired control over alcohol use, salience of drink-seeking behavior, tolerance, withdrawal symptoms and a compulsive drinking style (Skinner & Horn, 1984). Again, the ADS was chosen to be used as a feedback measure in ASTP because of its reliability and validity as a clinical instrument, and because good normative data exists that can be used for comparison with program participants.

Scoring: The optimum cut-point for the ADS has been found to be a score of 12. Scores above 12 reliably correlate with a diagnosis of Alcohol Dependence.

- **Alcohol Related Problems (RAPI)**

Subjects will complete the Rutgers Alcohol Problem Inventory (RAPI; White & Labouvie, 1989),

which asks subjects to rate the frequency of occurrence of 23 items reflecting alcohol's impact on social and health functioning over the past six months. Sample items include "Not able to work or study for a test," "Caused shame or embarrassment," "Was told by a friend or neighbor to stop or cut down on drinking." This scale has high internal reliability (.92) and accurately discriminates between normal and clinical samples (White & Labouvie, 1989). The scale can be scored to reflect both number of problems as well as severity of problems experienced. The primary dependent variable for determining intervention efficacy will be the number of problems reported on this measure.

- **University of Rhode Island Change Assessment (URICA)**

Motivation and readiness to change will be operationally defined as self-reported increases in contemplation to change, increased action to achieve change, reported increases in readiness to change, increases in utilization of the processes of change, and increased levels of self-efficacy. Four measures of motivation will be completed during each assessment period. A modified version of the University of Rhode Island Change Assessment (URICA; Prochaska & DiClemente, 1986) will be used to measure subject's increases in contemplation and action scores as well as readiness to change behavior. The URICA has been adapted to reflect stages of change for alcohol use, rather than smoking, and has been shortened to include only those items relevant for the college aged student. Sample items include: *As far as I'm concerned, my drinking does not need changing; Sometimes I think I should cut down on my drinking; I have a problem with alcohol and I really think I should work on it.*

- **Commitment to Change (CTC)**

A single item measuring participant's commitment to change drinking behaviors will be included. They will rate their commitment on a scale from 0 to 100% committed to quitting or decreasing alcohol use in the next 3 months.

- **Alcohol Outcome Expectancies (CEA)**

Alcohol Outcome Expectancies are often based on myths about alcohol's chemical effects and tend to be stronger and more positive among heavy drinkers than lighter drinkers. A modified version of the Comprehensive Effects of Alcohol questionnaire (CEA; Fromme, Stroot, & Kaplan, 1994) is a 15-item measure of common outcome expectancies, which assesses both perceived likelihood of various effects and perceived value of the effect independent of likelihood. The personalized feedback will incorporate information gleaned from subject responses. Given that previous prevention programming has not demonstrated an effect on outcome expectancies, this measure will likely not be used as a dependent measure.

- **Family History of Alcohol Use**

Family History of alcohol problems has shown to be a risk factor associated with long-term alcohol dependence (Sher, 1987). Therefore, family history of alcohol problems will be assessed using a scale from Brief Drinker Profile (BDP; Miller & Marlatt, 1984) administered in questionnaire format and used for purposes of personalized feedback.

- **Brief Symptoms Inventory (BSI)**

Psychiatric Symptomatology will be assessed with a modified version of the Brief Symptoms Inventory (BSI; Derogatis & Spencer, 1982) (17-item) and will be used primarily as a clinical screening tool to determine whether reports of suicidality or other psychiatric complications make alcohol use contraindicated. Subject's rate levels of distress across 9 primary symptom dimension using a 5-point scale ranging from (0) not at all to (4) extremely. The dimensions include: (S) somatization, (OC) obsessive-compulsive, (IS) interpersonal sensitivity, (D) depression, (A) anxiety, (H) hostility, (PA) phobic anxiety, (PI) paranoid ideation, and (PSY) psychoticism.

- **Knowledge Test (KT)**

Basic Alcohol Knowledge will be assessed using two combined measures. Subjects will be administered 55 multiple choice items at baseline and again at 2 post-intervention assessments. Items will cover basic knowledge about the effects of alcohol including rates of absorption, elimination, and tolerance. In addition, subjects will be administered a 28-item questionnaire developed by the Alcohol 101 CD-ROM staff required for data collection purposes. The response options for these questions range from strongly disagree to strongly agree.

- **Collateral Questionnaires**

Collateral Questionnaires will be administered to a random subset of collaterals in January, 1998, to verify subjects' self-reports. The 19-item questionnaire will include quantity and frequency of drinking and a shortened version of the RAPI. Evidence suggests subject expectation of collateral information increases self-report reliability (ref?). these questionnaires will take approximately 5-10 minutes to complete.

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VITA

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