

**The Self-Regulation of Drinking in College Students: Scale Development and
Validation and Relationship to Academic Performance**

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(ABSTRACT)

Despite widespread alcohol use among college students, the majority appear capable of controlling their drinking. The present study sought to develop a measure assessing college students' use of self-regulatory strategies in an effort to control their drinking. Three hundred and ten undergraduates completed questionnaires assessing a variety of alcohol-related behaviors and beliefs, as well as academic performance and strategy use. A fifty-item Drinking Self-Regulation Questionnaire (DSRQ) was developed based on social-cognitive theory, pilot data, and principal components analysis. The measure was composed of three scales (cognitive, behavioral, and environmental strategies), each evidencing good reliability. The DSRQ was negatively correlated with quantity and frequency of drinking, indicating that the more self-regulatory strategies individuals used to control their drinking, the less they drank. The DSRQ also was negatively related to alcohol-related problems, indicating that the more strategies an individual used, the fewer alcohol-related problems he or she experienced. A positive relationship was found between the DSRQ and self-efficacy for avoiding drinking heavily, suggesting that higher self-efficacy was associated with greater strategy use. In multiple regression analyses the DSRQ was shown to contribute to the prediction of drinking beyond a measure of self-efficacy, indicating that it assessed a unique

construct which may further our understanding of controlled versus excessive use of alcohol. The present study failed to find a relationship between alcohol use and academic performance. These results suggest that the present study was successful in constructing a questionnaire assessing college students' use of self-regulatory strategies to control their alcohol use.

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Introduction

Alcohol use is widespread in the college population, with data suggesting that 85% of students have used alcohol at least once in the previous year and 66% have used at least once in the previous month (Prendergast, 1994). A study by Engs, Diebold, and Hanson (1996) found that 27.4% of drinkers were considered heavy drinkers (i.e. drank more than 5 drinks at one sitting at least once a week), and that drinkers consumed an average of 10.9 drinks per week. Wechsler et al. (1994, 1998) found that 43-44% percent of students were binge drinkers (binge drinking was defined as consuming five or more drinks in a row for men and four or more drinks in a row for women during the two weeks prior to the study). These excessive drinking episodes frequently result in negative consequences such as driving while intoxicated, having legal problems, having academic problems, experiencing health problems, and engaging in unsafe sex (Engs, Diebold, & Hanson, 1996; Prendergast, 1994; Wechsler et al., 1994).

Recently social cognitive theory (Bandura, 1986; 1989; 1997) has guided research in the area of college student drinking. Self-efficacy, outcome expectancies, and self-regulation are principle constructs in this theory. Self-efficacy is one's beliefs about his or her ability to perform a specific behavior (Bandura, 1986; 1989; 1997). With regard to alcohol use, self-efficacy most often refers to an individual's confidence in his or her ability to avoid drinking or to avoid drinking heavily. Various researchers (e.g. Evans & Dunn, 1995; Soloman & Annis, 1990) have found that individuals with low efficacy are more likely to drink heavily and to relapse following treatment. Self-efficacy has been found to be negatively related to drinking frequency in college students, such that the higher one's efficacy, the less frequently he or she drinks (Baldwin, Oei, & Young, 1993;

Young, Oei, & Crook, 1991). Alcohol outcome expectancies are the effects that an individual anticipates from drinking. Studies with college students have found that individuals with positive alcohol expectancies drink higher quantities and more frequently than those with negative expectancies (Baldwin et al., 1993; Brown, 1985; Darkes & Goldman, 1993).

While studies of self-efficacy and outcome expectancies regarding alcohol use in the college population abound, research on self-regulation has, for the most part, been lacking. According to Bandura (1986; 1991; 1997), self-regulation is the process by which an individual plans, carries out, evaluates, and reacts to goal-directed behaviors. Bandura proposes that having specific goals motivates an individual's behavior, and that "the causal agency resides in forethought and in the self-regulatory mechanisms by which forethought is translated into incentives and guides for purposive action" (Bandura, 1997). Bandura (1986) further suggests that there are three subfunctions of self-regulation: self-observation, judgmental processes, and self-reaction. Self-observation primarily involves self-monitoring of the behavior an individual desires to regulate. For example, people often monitor the quality and quantity (frequency) of their actions. Judgmental processes involve the evaluation of one's behavior through personal or social comparison or through standard norms. Judgmental processes also take into consideration the value of the behavior and the individual's attribution (internal versus external) of his or her performance. Finally, self-reaction processes involve an individual's evaluative (positive or negative) and tangible (reward or punishment) reactions to his or her behavior. In addition, Bandura (1986) identifies the "development of self-regulatory skills for self-directedness" as a self-reaction process.

Zimmerman (1989) identified the three factors (behavioral, environmental, and personal) of Bandura's (1986; 1997) triadic social-cognitive view of reciprocal determinism as classes of self-regulatory strategies within the self-reaction process. Clark and Zimmerman (1993) emphasize the difference between self-regulation strategies and processes: strategies are employed to "optimize" the processes. Clark and Zimmerman (1993) present self-monitoring as an example of a process and record-keeping as an example of a strategy. In the context of drinking self-regulation, an example of a process would be controlling alcohol use and an example of a behavioral strategy would be counting the number of drinks one is consuming. A cognitive strategy example would be thinking about the potential negative consequences of having too much to drink. Finally, an example of an environmental strategy would be avoiding drinking in places where one is likely to drink heavily. Clark and Zimmerman (1993) point out that self-regulators "deliberately employ self-regulatory strategies to achieve their goals." Similarly, Bandura (1997) states that "effective self-regulation... requires the development of self-regulatory skills."

Thus, after observing and evaluating one's behavior and deciding to make a change, an individual reacts by developing behavioral, environmental, and/or cognitive strategies, which, when utilized, alter the impact of the corresponding triadic influences. Clark and Zimmerman (1990) suggest that "self-regulation is the process by which an individual attempts to control these three (triadic) factors to reach a goal." In other words, an individual who wishes to self-regulate his or her drinking would employ cognitive, environmental, and behavioral strategies in an effort to "increase one or more

triadic influences during subsequent responding” (Zimmerman, 1989). Bandura (1997) believes that each of the triadic factors contribute to long term control of substance abuse.

Despite the apparent influence of self-regulation on drinking behaviors, research examining the particular role that self-regulatory strategies play in drinking has been minimal. Alcohol use is widespread in the college population, but it appears that many students self-regulate their drinking so as to keep it under control. Little empirical research has been conducted, however, to gain a better understanding of how cognitive, behavioral, and environmental self-regulatory strategies are related to alcohol use.

Hester and colleagues (1989; 1995) discuss a treatment approach to alcoholism (Behavioral Self-Control Training) that utilizes various self-regulation components such as self-monitoring, setting limits on number of drinks consumed, controlling the rate of drinking, and setting up a reward system for success. Outcome measures from various studies (e.g., Lovibond & Caddy, 1970; Miller et al., 1992; Sanchez-Craig, 1980; Sobell & Sobell, 1973; Vogler, Compton & Weissbach, 1977) suggest that, for some individuals, this treatment is effective in helping them achieve and maintain moderate and non-problem drinking. While this is important and useful information, none of these studies made any attempt to measure the self-regulatory strategies used by the drinkers prior to being taught the self-control techniques. In addition, the population in these studies was limited to individuals who felt they had a drinking problem and were seeking treatment, thus resulting in information that may not be generalizable to more diverse drinking populations.

Werch and Gorman (1986) assessed college drinkers’ use of self-regulatory strategies by developing the Self-Control Questionnaire. This measure consists of 51

items adopted from self-help manuals and is meant to assess individuals' use of coping behaviors relevant to alcohol use. Factor analysis resulted in 7 external self-control factors and 3 internal self-control factors. Paradoxically, Werch and Gorman (1988) found that use of self-control strategies was greater in moderate drinkers (i.e., drink at least once a month with no more than three-four drinks, or at least once a week with no more than one-two drinks at any one sitting) compared to lighter drinkers. However, use of self-control strategies was also less in groups of moderate-heavy and heavy drinkers compared to moderate drinkers. Werch (1990) explains these non-linear findings by suggesting that other variables such as self-efficacy, outcome expectancies, and social influence variables may mediate the effect of control strategies on alcohol use. However, it may also be that the light drinkers are not using many strategies because they use only a few effective strategies (e.g., avoiding drinking situations), or because they use different types of strategies (e.g., cognitive or environmental) that were not adequately assessed by Werch and Gorman's (1986) measure. In fact, Werch (1990) suggests that future efforts at intervention should include cognitive, social, and environmental factors.

While the Self-Control Questionnaire assesses self-control strategies, several issues remain. First, the items were developed from various self-help books intended for individuals who wanted to change (i.e. reduce) their alcohol use. Werch and Gorman (1986) themselves admit that these items may be limited in that they "may not be representative of all self-control behaviors performed by drinking individuals". Thus, a measure consisting of items that are representative of strategies used by a college population with diverse drinking practices may prove more valid and thus have more utility in that population.

Second, although Werch and Gorman (1986) identify internal and external categories of strategies, they do not address Bandura's (1986) triadic view of reciprocal determinism. Specifically, the various strategies are not identified as behavioral, cognitive, or environmental, nor is each of these areas equally well represented. Given the role that these factors play in theory related to self-regulation, it seems important to construct a more comprehensive measure that assesses the effects of a wider range of self-regulation strategies on drinking.

Finally, Werch and Gorman (1986) studied not only strategies students use to limit their drinking, but also strategies they use to avoid negative consequences associated with their drinking. Although these two behaviors are often closely related (i.e. those who do not limit their drinking frequently experience negative consequences), some individuals may only use strategies specific to one of these goals. For example, someone may take steps to avoid negative consequences associated with alcohol use (e.g. do not ride with someone who has been drinking), but may not limit their intake of alcohol. Because self-regulatory strategies may be specific to the goal, it is important to distinguish between goals when assessing self-regulation. In summary, while Werch and colleagues' preliminary investigations into the relationship between self-regulation and alcohol use was a notable first step, more research is needed to gain a better understanding of the exact relationship between drinking behaviors and utilization of self-regulatory strategies.

Self-efficacy, a social cognitive construct noted above, appears to be related to self-regulation. Bandura (1989) suggests that self-efficacy influences the self-regulation process in important ways. He proposes that "self-efficacy beliefs function as an

important set of proximal determinants of human self-regulation” (Bandura, 1991). For example, they affect cognitive processing, causal attributions, goal-setting behaviors, and the valuation of activities. Thus, an individual who has low self-efficacy for performing a particular behavior will be less likely to identify that behavior as a goal than would someone with high efficacy for performing that behavior. In turn, if an individual does not identify a particular goal because of low self-efficacy, his or her likelihood of engaging in the self-regulation process in an effort to achieve that goal is decreased.

In the area of alcohol use, self-efficacy is most often assessed as an individual’s confidence in his or her ability to either avoid drinking altogether or to avoid drinking heavily. The focus is less on the ability to perform a specific behavior and more on the ability to perform whatever set of behaviors is necessary to accomplish the goal of avoiding drinking or drinking heavily. Thus, an individual’s repertoire of self-regulatory strategies may greatly influence his or her self-efficacy for avoiding heavy drinking. If individuals recognize that they know and use a variety of strategies, they will likely be more confident in their ability to avoid heavy drinking. Conversely, if individuals have high efficacy in their ability to avoid drinking heavily, they may be more likely to utilize strategies in an effort to achieve that goal. Marlatt and Gordon (1985) recognized this relationship, suggesting that individuals who have high self-efficacy for performing a coping response will be less likely to relapse, and that self-efficacy increases as coping responses are successfully used. Given that self-efficacy may both influence and be influenced by self-regulation strategies, it is important to include it in studies of self-regulatory processes in order to test theoretical relationships between the constructs.

Although there has been limited research on the role of self-regulation strategies in alcohol use, there has been a great deal of research on the role of self-regulation in academic performance. Schunk (1989) emphasizes the social-cognitive perspective of the self-regulation of academic performance and the behavioral, environmental, and personal (cognitive) factors previously identified by Bandura (1986). The self-regulated learner is viewed as actively involved in the learning process (Pintrich et al., 1993). Many studies have shown that those students who self-regulate are more successful in school and are more motivated, utilize more strategies, and have higher self-efficacy than those who do not self-regulate (e.g. Bouffard et al., 1995; Lindner & Harris, 1992; Pintrich & DeGroot, 1990; VanderStoep et al., 1996; see Schunk & Zimmerman, 1994 for a review).

The relationship between college students' alcohol consumption and academic performance has been investigated by a number of researchers. While one study found no relationship between these behaviors (Wiggins & Wiggins, 1987), and another found a negative relationship that was attenuated after controlling for third variables (Wood et. al, 1997), the majority of studies reported an inverse relationship between academic performance and alcohol use. For example, research has found that those students who consume more alcohol and drink more often have a lower grade point average than those who consume less alcohol and drink less often (Engs et al., 1996; Goodwin, 1990; Lall & Schandler, 1991; Maney, 1990; Wechsler et al. 1995). Similarly, students with a low grade point average are more likely to abuse alcohol than are students with a high grade point average (Pullen, 1995; Engs, Diebold, & Hanson, 1996). This negative association may exist because of a direct effect of alcohol use on academic performance. It is also

possible that this relationship could be a result of generalized deficits in the self-regulation of both of these behaviors.

Few, if any, studies have examined the relationship between academic performance and alcohol within a self-regulatory framework. In fact, there has been little research examining the relationship of self-regulation processes between any two domains. Researchers have presented differing views on the domain specificity of self-regulation. For example, Mischel's (1990) research with children's delay of gratification indicates some consistency in self-regulation across time and domain. He proposes that there is a "self-regulatory system" that involves a number of components important to goal setting and achievement. Findings from these studies suggest that the delay behavior (i.e. self-regulation) may be a "temporally stable and important human quality." Conversely, Bandura's (1986; 1997) view that self-efficacy is domain-specific suggests that self-regulation processes may also be limited to particular behavioral domains. Bandura (1986; 1997) believes that, while the concept of self-efficacy is general and applies to all domains, the actual self-efficacy judgments that an individual makes are based on the specific behavior under consideration. Similarly, an individual may self-regulate his or her academic performance but not his or her drinking. Thus, the question remains as to whether there is an underlying self-regulation personality trait that generalizes across all domains, or if self-regulation processes are specific to particular behaviors.

The overall purpose of the present study is to develop a measure of alcohol self-regulation strategies in college students and examine its relationship to a variety of theoretically consistent variables in order to build construct validity.

- It was hypothesized that those individuals who utilized more self-regulatory strategies to control drinking would drink less frequently and consume a lower quantity of drinks per drinking occasion, as well as experience fewer problems associated with alcohol use, than those who use fewer self-regulatory strategies.
- It was hypothesized that those individuals who use more self-regulation strategies would have higher self-efficacy for their ability to avoid heavy drinking in a variety of situations. We also examined whether use of self-regulatory strategies added to the prediction of drinking after controlling for self-efficacy.
- In keeping with a position that self-regulation tendencies generalize across domains, it was hypothesized that use of alcohol self-regulatory strategies would be positively related to the use of academic self-regulatory strategies.
- Finally, the relationship between drinking and academic performance was explored. Both alcohol use and academic self-regulation were hypothesized to predict academic performance. However, it was hypothesized that drinking would predict academic performance after controlling for academic self-regulation, because the use of alcohol is proposed to have direct effects on academic performance.

Methods

Participants

Three hundred and ten undergraduates were recruited from the psychology participant pool at Virginia Polytechnic Institute and State University. A folder containing a copy of the informed consent and a sign-up sheet was placed on the experiment table on the fifth floor of Derring Hall. On the front of the folder was the title

of the study, “College Students Self-Regulatory Strategies”, and a statement that only those students who had consumed alcohol at least three times in the past thirty days were able to participate. Infrequent drinkers and abstainers were excluded because it seemed likely that they would use a very limited set of environmental self-regulatory skills. The folder also indicated that participants would receive one extra credit point in their psychology courses for their participation.

The sample consisted of 190 females and 120 males. Approximately 31% of the sample were freshman, 29% were sophomores, 24% were juniors, and 16% were seniors. They ranged in age from 17 to 31, with a mean age 20 years ($SD=1.43$). Means and standard deviations for the drinking indices for the entire sample ($N=310$) are presented in Table 1.

Procedure

The author and/or trained undergraduate research assistants collected data from participants in groups of approximately 10-15 people at a time. Participants were asked to read and sign the consent form (Appendix A), which stated that “The purpose of this project is to examine the strategies that college students use to self-regulate their behavior across domains. You will be asked to complete several questionnaires that ask about your use of alcohol and the strategies you use or don’t use to regulate your drinking. Similarly, other questionnaires will assess the strategies you use to pursue other life goals and will ask you to report on various life outcomes.” Participants were then asked to complete questionnaire measures of demographics, alcohol consumption, drinking self-regulation strategies, self-efficacy, alcohol problems, and academic self-regulation. Participants also reported their previous semester and cumulative grade point averages (GPA).

Following completion of the questionnaires, participants were asked to sign a release form allowing the research staff to obtain their previous semester and cumulative grade point average from the university registrar (Appendix B). Participants were assured that refusing to give permission would not preclude them from participating in the study or from receiving extra credit. Subsequently, university registrar staff recorded the GPA's for the participants who had signed the forms and transmitted them to the researchers.

Measures

Demographic questions (Appendix C) were used to collect participants' background information.

The Timeline Followback (TLFB; Sobell & Sobell, 1996; Appendix D) was used to obtain information about the participants' quantity and frequency of alcohol use. The TLFB required participants to retrospectively report the number of drinks they consumed each day for the previous 90 days. Participants were given a calendar that had a box for each of the last 90 days, and they were asked to write in each box how many alcoholic beverages they had consumed on each day. One standard drink was defined as one 12-ounce beer, one cocktail containing 1.5 ounces of 86 proof liquor, or one 4-ounce drink of wine. Participants were encouraged to consult their personal date-books to record memory prompts such as birthdays, parties, and holidays on the TLFB calendar in an effort to aid recall. The specific alcohol indices that were calculated for the 90 days included: 1) average number of drinking days per week, 2) average number of drinks per drinking day, and 3) average number of binges per week. Several studies have found the TLFB to have good test-retest reliability, with most demonstrating r 's $> .85$ (see Sobell & Sobell, 1996 for a review). One study with college students (Sobell et al. 1986) found

test-retest reliabilities of r 's $\geq .92$ for several drinking variables over a mean of 22.96 days. The TLFB also demonstrates good validity when compared with verifiable events, collateral informants' reports, survey studies, alcohol related consequences, and biochemical tests (see Sobell & Sobell, 1996 for a review). Means and standard deviations for the drinking indices are presented in Table 1.

The Drinking Self-Regulation Questionnaire (Appendix E) assessed the use of specific strategies to control alcohol consumption. It was originally composed of 75 items that were generated from a pilot study in which 57 participants were asked to list strategies they had used in the past 90 days to control their drinking. They were asked to identify cognitive, environmental, and behavioral strategies they used before, during, and after drinking. The pilot sample was composed of 44 females and 13 males. The mean age was 18.84, and 32% were freshmen, 40% sophomores, 19% juniors, and 9% seniors. From the 1,192 strategies generated, 75 were chosen by the author based on frequency of occurrence and on representation of each of the domains of focus (cognitive, behavioral, and environmental). Thus, the measure was designed *a priori* to consist of three subscales: a cognitive and an environmental subscale, each of which contained 20 items, and a behavioral subscale that contained 35 items. Example items from the cognitive scale include "Tell myself that I'll get sick if I drink too much", "Think about the consequences of drinking too much", and "Tell myself that I do not need alcohol to have fun". "Limit the number of drinks I consume", "Stop drinking at a specific time", and "Don't drink before I go out" are examples of items from the behavioral scale. Items from the environmental scale include "Avoid places where people will be drinking heavily", "Don't play drinking games", and "Don't drink with people I don't know". The

participants were required to indicate how often they used a particular strategy on a continuum from 0 (“never”) to 4 (“often”).

The participant’s self-efficacy regarding his or her ability to resist the urge to drink heavily in a variety of situations was assessed using a modification of the Situational Confidence Questionnaire (Soloman and Annis, 1990; Appendix F). Ten items relevant to college student drinking situations were added to the original measure (Greaves and Stephens, 1992). The measure requires the participant to imagine himself/herself in 49 situations and then rate on a scale from 0 (“not at all confident”) to 100 (“very confident”) how confident he or she is that he or she would be able to resist the urge to drink heavily in that situation. For example, responders would be asked to indicate how confident they are in their ability to resist the urge to drink heavily “if I were out with friends and they stopped by a bar for a drink.” In the current study, this measure was subjected to principal components analysis which suggested two factors that corresponded to positive (e.g., “If I felt confident and relaxed”) and negative (e.g., “If I had an argument with a friend”) situations in which alcohol can be used. Items loading at .4 or above on only one factor were retained, eliminating 3 items. In addition, each scale was subjected to internal consistency analysis, and 5 additional items were eliminated from the measure because they decreased coefficient alpha. This resulted in a total of 41 items (24 positive, 17 negative), with alphas for both scales being 0.96. An average confidence score was obtained for the positive and negative scales separately. Means and standard deviations are presented in Table 1.

The Rutgers Alcohol Problem Index (Raskin et al., 1989; Appendix G) was used to assess negative consequences associated with alcohol use. The participants were asked

to indicate on a scale from 0 (never) to 4 (more than 10 times) how often they had experienced 25 negative consequences (e.g., “missed a day of school or work”) as a result of alcohol use in the past six months. This measure was found to have good internal consistency ($\alpha=0.88$) in the present study, and has been found to have convergent validity with use intensity (Raskin et al., 1989). An average score was computed for the entire measure and used in further analyses. The mean and standard deviation of the scale is presented in Table 1.

Six subscales (rehearsal, organization, metacognitive self-regulation, time and study environment management, peer learning, and help-seeking) from the learning strategies section of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1993; Appendix H) were used to assess self-regulated learning strategies. Example items included “I make lists of important terms and memorize the lists” (Rehearsal scale); “I make simple charts, diagrams, or tables to help me organize my material” (Organization scale); “When reading for class, I make up questions to help focus my reading” (Metacognitive Self-Regulation scale); “I usually study in a place where I can concentrate on my coursework” (Time and Study Environment scale); “I try to work with other students to complete the course assignments” (Peer Learning scale); and “I ask the instructor to clarify concepts I don’t understand well” (Help-Seeking scale). The student indicated on a scale from 1 (not at all true of me) to 7 (very true of me) the extent to which the 35 items applied to him/her. Scale scores were computed by taking the average of the items that compose each scale. Alpha coefficients for the six subscales (rehearsal, organization, metacognitive self-regulation, time and study environment management, peer learning, and help-seeking) were 0.71, 0.73, 0.78, 0.80,

0.69, and 0.54 respectively. Pintrich et al. (1993) found that scores on these scales showed modest to moderate correlations (r 's ranging from 0.02 to 0.30) with final class grades, suggesting some predictive validity. Means and standard deviations for each of the subscales are presented in Table 1.

Finally, several questions assessed various aspects of the participants' academic performance and goals (Appendix I). The participants were asked to report their previous semester and cumulative GPA using a 6-point scale (1.0 to 4.0, in 0.5 increments). In addition GPA's for the last semester and cumulatively were obtained from the registrar for 87% ($n = 270$) of the participants. The GPA's were reported on a scale from 0 to 4.0. Table 1 presents means and standard deviations of both the self-reported and registrar-reported GPA's.

Results

Development and factor analysis of Drinking Self-Regulation Questionnaire

Principal components analysis with a varimax rotation was conducted to extract factors comprising the DSRQ. A scree plot suggested three factors, which accounted for a total of 33% of the variance (13%, 10%, and 10% respectively). Examination of factor loadings revealed that the items loading highest on each factor were largely consistent with the *a priori* dimensions of cognitive, behavioral, and environmental self-regulatory strategies. In order to improve the discriminative validity of the subscales, items were retained if they loaded 0.4 or above on one factor only. This eliminated 25 items (8 cognitive, 16 behavioral, and 1 environmental) with either complex loading patterns or insufficient loading on any factor. In addition, 8 items that were originally on one

subscale were moved to a second scale because they loaded on the second subscale in the factor analysis. This resulted in 15 items each on the cognitive and behavioral subscales and 20 on the environmental. Appendix J includes tables presenting the factor loadings of the items on their respective scales. These subscales were then subjected to internal consistency analysis, and alpha coefficients for each of the factors were 0.86, 0.87, and 0.92 respectively. The cognitive scale was positively correlated with the behavioral scale ($r = 0.51$) and the environmental scale ($r = 0.42$), and the behavioral scale was positively correlated with the environmental scale ($r = 0.54$). The average score (See Table 1) for each of these scales was calculated and used in further statistical analyses.

Relationship between social-cognitive variables, alcohol use, and alcohol-related problems

Table 2 presents the bivariate correlations of the three DSRQ subscales and the two SCQ subscales with the alcohol use indices and the RAPI. All three of the DSRQ scales correlated negatively with all three of the drinking indices, suggesting that the more frequently individuals utilize self-regulatory strategies to control their drinking, the less they drink. The subscales of the DSRQ were negatively related to the RAPI, indicating that the more strategies an individual uses, the fewer alcohol-related problems he or she experiences. The two subscales of the SCQ correlated negatively with all three of the drinking indices (with the exception of the negative subscale of the SCQ not being related to number of drinks per drinking day), suggesting that the higher one's efficacy for avoiding heavy drinking, the less one drinks. Similarly, both SCQ subscales were inversely related to the RAPI, indicating that the higher one's efficacy for avoiding drinking heavily, the fewer alcohol-related problems one experiences.

Table 3 presents the bivariate relationships between the three DSRQ subscales and the two SCQ subscales. All three subscales of the DSRQ were positively correlated with both subscales of the SCQ (with the exception of the cognitive subscale of the DSRQ not correlating with the negative subscale of the SCQ), suggesting that the more frequently an individual uses strategies to control his or her drinking, the higher his or her efficacy for avoiding heavy drinking.

Multivariate Prediction of Drinking-Related Indices

In order to examine whether use of self-regulation strategies contributed to the prediction of drinking beyond self-efficacy, each of the drinking indices was regressed on the drinking self-regulation and self-efficacy scales simultaneously. Table 4 presents the beta weights associated with each predictor and the total amount of variance explained. Examination of the betas shows a fairly consistent pattern of relationships across the drinking-related measures. In each case, self-efficacy in positive situations makes a unique contribution to the prediction of drinking after controlling for other variables. Greater efficacy is related to less drinking. Environmental self-regulation strategies also contribute unique prediction to all drinking indices except the RAPI such that the more participants use these strategies, the less they drink. Behavioral self-regulation strategies contribute to the prediction of the number of drinks per drinking day, the number of binges, and the RAPI, but not to the number of drinking days. Cognitive self-regulation drinking strategies do not appear to contribute uniquely to any drinking index. These social cognitive variables combine to predict 24-28% of the variance in the drinking indices.

Relationship between academic self-regulation and GPA

Table 5 presents the bivariate correlations between the six subscales of the MSLQ and previous semester GPA as reported by the registrar and by the participant. The rehearsal, organization, metacognitive self-regulation, and time and study environment management scales correlated positively with the previous semester's GPA as reported by both the participant and the registrar. The peer learning and help seeking scales were unrelated to previous semester's GPA. These findings suggest that the more an individual uses strategies to manage his or her academic performance, the higher his or her GPA.

Relationship between academic and drinking self-regulation

Table 6 presents the bivariate correlations between the six scales of the MSLQ and the three scales of the DSRQ. All scales of the MSLQ were positively correlated with all scales of the DSRQ, indicating that the more an individual utilizes strategies to control his or her drinking, the more he or she uses strategies to manage his or her academic performance.

Relationship between drinking and academic performance

Table 7 presents the bivariate correlations between the alcohol indices and previous semester GPA as reported by the registrar and the participant. None of the alcohol indices were significantly related to GPA. Failure to find a zero-order relationship between alcohol use and academic performance preempted an examination of the relationship between drinking and academic performance after controlling for academic self-regulation.

Discussion

A 50-item questionnaire assessing self-regulatory strategies to control one's alcohol use was constructed based on social cognitive theory, pilot data, and principal components analysis. This measure consisted of three scales that were interpreted as corresponding to the cognitive, behavioral, and environmental factors of Bandura's (1986; 1997) triadic view of reciprocal determinism. The scales evidenced good reliability, with alpha coefficients ranging from 0.86-0.92. Furthermore, the scales were significantly correlated with several alcohol-related behaviors, including quantity and frequency of use, alcohol-related problems, and self-efficacy for avoiding heavy drinking in a variety of situations. As hypothesized, results indicated that the more individuals utilized self-regulatory strategies, the less frequently they drank, the less amount of alcohol they consumed, the fewer alcohol-related problems they experienced, and the higher their self-efficacy for avoiding drinking heavily.

Participants who used more self-regulation strategies drank less and experienced fewer alcohol-related problems. These findings suggest that the use of self-regulation strategies is important in the self-regulation of drinking. Zero-order correlations indicated that all three subscales of the DSRQ were negatively related to indices of quantity and frequency of alcohol consumption. Similarly, the behavioral and environmental subscales predicted the occurrence of problems related to alcohol use, but the cognitive subscale did not. In general, the cognitive subscale showed slightly weaker relationships to all drinking indices. These findings provide evidence of criterion validity for the DSRQ.

Participants who used more self-regulation strategies also reported higher self-efficacy for their ability to avoid drinking heavily. Zero-order correlations revealed significant positive relationships between the two scales of the SCQ and the three scales of the DSRQ, with the exception of the negative SCQ scale and the cognitive DSRQ scale. These findings are consistent with the proposed theoretical relationship between self-efficacy and self-regulation and lay the groundwork for evidence of the DSRQ's construct validity in relation to other social-cognitive constructs. However, determination of causation between these constructs cannot be made based on the present findings. It is unclear whether use of strategies increases self-efficacy or if high self-efficacy increases the probability that an individual will utilize self-regulatory strategies. Future research is needed to understand the causal relationship between these constructs.

In multivariate analyses of self-regulation strategies and self-efficacy in relation to drinking, environmental strategies were found to predict average number of drinks consumed per drinking day, average number of drinking days per week, and average number of binges per week. Behavioral strategies were found to predict average number of drinks consumed per drinking day, average number of binges per week, and scores on the RAPI. The cognitive subscale did not contribute unique prediction for any of the drinking indices.

The environmental and behavioral strategies predicted the above mentioned drinking indices even after controlling for the effect of self-efficacy. In other words, these strategies accounted for a unique amount of variance in the drinking indices beyond that explained by self-efficacy. Thus, it appears that individuals do not fully incorporate all of

their knowledge regarding their use of self-regulatory strategies when making self-efficacy judgments.

It may be that, while related, self-efficacy and self-regulation strategies are tapping into different aspects of the goal-setting process. Bandura (1997) suggests that self-efficacy determines, in part, which goals an individual sets. Perhaps, then, self-efficacy's influence on drinking is strongest at the initial goal-setting stage of the process. On the other hand, self-regulation strategies may exert their strongest influence on actual pursuit of the goal, when individuals actively engage in behaviors (i.e. utilize strategies) in an effort to achieve the goal. Bandura (1986) states that "competent functioning requires both skills and self-beliefs of efficacy to use them effectively" (p. 391). Furthermore, Bandura believes that "perceived self-efficacy is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses" (Bandura, 1986, p. 391). These statements highlight the uniqueness of self-regulatory strategies from self-efficacy. However, Bandura (1986; 1997) also indicates that people who have low efficacy are likely to abandon skills when faced with difficulties, suggesting that the two concepts also are related. In fact, he states, "perceived self-efficacy thus contributes to the development of subskills, as well as draws upon them in fashioning new behavior patterns" (Bandura, 1986, p.395). Thus, as noted previously, it appears that self-efficacy and self-regulation are related. However, findings from the current study indicate each provides unique contributions to the prediction of drinking.

One implication of the finding that self-regulation uniquely predicts alcohol use is that interventions focusing on teaching self-regulatory skills could be developed in an effort to prevent problematic heavy drinking by college students. Marlatt and colleagues (1990; 1992; 1994a; 1995) have developed an Alcohol Skills Training Program in which college students are taught “skills and strategies for managing moderate use of, or abstinence from, addictive substances” (Fromme et al, 1994). Results suggest that this intervention is successful in reducing students’ alcohol use, although no significant differences were found between this type of intervention and an alcohol information condition (Kivlahan et al., 1990). The fact that the strategies taught in these sessions were based on Marlatt and Gordon’s (1985) Relapse Prevention model may limit the relevance of the strategies to college students. Perhaps an intervention that teaches the student-generated strategies of the DSRQ would prove to be more effective in helping students control their alcohol use. Since the goal of teaching these strategies would be on moderate drinking and not necessarily abstinence, this type of intervention would likely be better received by students than those that demand abstinence. This would hopefully result in more individuals utilizing the strategies and controlling their alcohol use.

In addition to research on the efficacy of an intervention that teaches self-regulatory strategies, future studies should examine the factor structure and validity of the DSRQ with more diverse populations (e.g., age, race, drinking behaviors). Another idea for future research would be to assess participants’ self-efficacy perceptions of performing the strategies in an effort to better understand the relationship between self-regulatory strategies and self-efficacy.

At first glance, the finding of negative zero-order correlations between strategy use and alcohol use in the current study appears to be in contrast with those of Werch and colleagues (1988, 1990), who found a curvilinear relationship between these behaviors. However, closer examination of Werch and Gorman's (1988) breakdown of their sample may explain the apparent differences. They divided their sample, based on a six-item quantity and frequency measure, into 6 groups: abstainer, infrequent, light, moderate, moderate-heavy, and heavy. The present study limited the sample to only those individuals who had consumed alcohol at least once in the past 30 days. When compared to the Werch and Gorman (1988) groups, it becomes evident that all participants in the current study would be considered at least light drinkers according to Werch and Gorman's (1988) definition (at least once a month but not more than one-two drinks at any one sitting). If one examines Werch and Gorman's (1988) results excluding abstainers and infrequent drinkers, it becomes evident that these findings also suggest a negative trend between strategy use and alcohol use.

It is also important to note that the measures differed in the two studies. As discussed previously, Werch and Gorman's (1986) measure consisted of items based on self-help manuals for alcoholics, while the measure in the present study (DSRQ) consisted of items generated by college students in a pilot study. The items on the DSRQ were likely more applicable to college student drinkers and therefore a better assessment of self-regulatory strategies. Furthermore, the intent of developing the DSRQ was to include cognitive and environmental strategies that were lacking in Werch and Gorman's (1986) measure. The inclusion of strategies in these areas may have resulted in a more comprehensive measure of self-regulation strategy use.

The finding of an inverse relationship between self-regulation strategies and alcohol use may seem somewhat contradictory to research in the coping literature which has found that greater use of coping strategies is associated with higher levels of stress and/or psychopathology. However, these studies typically targeted individuals with extreme levels of stress and psychopathology rather than including individuals with mild and moderate levels of distress. Thus, it is likely that the relationship between coping and symptomatology found in this restricted clinical population is not generalizable to populations representing a more diverse continuum of behaviors, such as the one in the current study.

There was evidence of a positive relationship between academic self-regulation and GPA. Specifically, rehearsal, organization, metacognitive self-regulation, and time and study environment management strategies appear to have a positive effect on one's academic performance. In addition, all of the MSLQ scales were positively related to all of the DSRQ scales. Individuals who used self-regulation strategies to direct their academic performance also tended to use self-regulation strategies to control their drinking. However, while significant, the correlations between these scales were in the modest to moderate range (0.12-0.32). These findings suggest that the tendency to use self-regulation strategies generalizes somewhat across domains. However, it is also clear that there is room domain specificity in the practice of self-regulation.

The present study failed to find a relationship between alcohol use and academic performance, consistent with Wiggins and Wiggins (1987) findings but contrary to most others (e.g., Engs et al., 1996; Goodwin, 1990; Lall & Schandler, 1991; Maney, 1990; Pullen, 1995; Wechsler et al. 1995). One possible explanation for the failure to find a

relationship between alcohol use and academic performance may be the lack of temporal correspondence between GPA and drinking data. The time period for which participants reported alcohol use did not necessarily occur during the previous semester. Thus, previous semester GPA would not have been influenced by the drinking behaviors reported. Although it is unlikely that these students' drinking habits changed significantly from one semester to another, the lack of completely concurrent assessment limits the conclusions one is able to draw from the present findings. Furthermore, prior studies that did find an inverse relationship between academic performance and drinking also collected academic and drinking data from different time periods (Engs et al., 1996; Goodwin, 1990; Lall & Schandler, 1991; Maney, 1990; Pullen, 1995; Wechsler et al. 1995), so an explanation for the failure to find a relationship between GPA and drinking in the present study remains unclear. Future studies should examine the relationship between drinking and academic performance longitudinally and prospectively, such that participants' GPA is obtained for the semester in which data on alcohol use was collected (i.e., participant reports drinking behaviors in Spring semester and Spring GPA is obtained).

In conclusion, the present study was successful in constructing a questionnaire assessing college students' use of self-regulatory strategies to control alcohol use. The measure evidenced good reliability and validity, and appears to add to our understanding of college drinking above and beyond that explained by self-efficacy alone. One limitation to the study is the self-selected nature of the sample. Introductory psychology students who wanted extra credit for class volunteered to participate. Furthermore, the nature of the study as indicated on the sign-up folder was fairly straightforward (i.e. no

“cover” story) and thus may have had an influence on the type of individual that signed up for the study. However, given that significant relationships were found, it is unlikely that the range was restricted in this way. Nevertheless, there are limitations on the generalizability of findings. Another potential limitation may have been the ordering of the assessment measures. Asking participants to report their use of alcohol (TLFB) prior to reporting their strategy use for controlling alcohol consumption (DSRQ) may have biased them to misreport their strategy use so as to be consistent with their alcohol consumption patterns. However, it is just as likely that this ordering resulted in participants reporting their use of strategies more accurately. Future research should test the reliability and validity of this measure with other populations. Random sampling in subsequent studies may eliminate potential self-selection biases. Finally, additional studies should investigate the efficacy of a risk-reduction program in which these strategies are taught.

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Table 1

Range, Mean, and Standard Deviation for Drinking Variables and Measures

Variable/Measure	Range	M	SD
Avg. drinks per drinking day	1.20-17.02	5.11	2.47
Avg. number of drinking days per week	0.23 - 5.13	1.96	0.96
Avg. number of binges per week	0.00 - 4.28	1.25	0.96
DSRQ-cognitive	0.20 - 3.87	2.06	0.66
DSRQ-behavioral	0.20 - 3.73	2.10	0.65
DSRQ-environmental	0.05 - 3.65	1.45	0.71
SCQ-positive	0.08 - 5.00	2.81	1.16
SCQ-negative	0.00 - 5.00	3.78	1.04
RAPI	0.00 - 2.68	0.61	0.45
MSLQ-rehearsal	1.00 - 7.00	5.08	1.19
MSLQ-organization	1.00 - 7.00	4.37	1.39
MSLQ-metacognitive self-regulation	1.83 - 6.50	4.39	0.88
MSLQ-time and study environment	1.88 - 7.00	4.90	1.05
MSLQ-peer learning	1.00 - 7.00	3.85	1.41
MSLQ-help seeking	1.00 - 7.00	4.28	1.13
Self-reported previous semester GPA	0.00 - 5.00 ^a	3.26	1.28
Registrar reported previous semester GPA ^b	0.61 - 4.00	2.83	0.70

Note. DSRQ = Drinking Self-Regulation Questionnaire; SCQ = Situational Confidence Questionnaire; RAPI = Rutgers' Alcohol Problem Index; MSLQ = Motivated Strategies for Learning Questionnaire; GPA = Grade Point Average.

^a0 = 1.0-1.49; 1 = 1.5-1.99; 2 = 2.0-2.49; 3 = 2.5-2.99; 4 = 3.0-3.49; 5 = 3.5-4.0.

Table 2

Relationship Between Drinking Self-Regulation Questionnaire (DSRQ), Situational Confidence Questionnaire (SCQ), Rutger's Alcohol Problem Index (RAPI), and Drinking Indices

Measure	Avg. no. of drinks per drinking day	Avg. no. of drinking days per week	Avg. no. of binges per week	RAPI
DSRQ-C	-0.20*	-0.26*	-0.19*	-0.08
DSRQ-B	-0.41*	-0.33*	-0.37*	-0.34*
DSRQ-E	-0.34*	-0.42*	-0.43*	-0.28*
SCQ-Pos	-0.33*	-0.33*	-0.41*	-0.44*
SCQ-Neg	-0.07	-0.18*	-0.17*	-0.38*

Note. C = Cognitive; B = Behavioral; E = Environmental; Pos = Positive;

Neg = Negative.

* $p < .01$.

Table 3

Relationship Between the Subscales of the Drinking Self-Regulation Questionnaire (DSRQ) and the Situational Confidence Questionnaire (SCQ)

	SCQ-Positive	SCQ-Negative
DSRQ-Cognitive	0.18*	0.04
DSRQ-Behavioral	0.37*	0.21*
DSRQ-Environmental	0.33*	0.24*

* $p < .01$.

Table 4

Multiple Regression Analyses Predicting Drinking Indices by Self-Efficacy and
Self-Regulation

Predictor	β			
	Avg. number of drinks per drinking day	Avg number of drinking days per week	Avg number of binges per week	RAPI
Self-efficacy				
Positive	-0.25***	-0.20**	-0.31***	-0.27***
Negative	0.16**	-0.01	0.09	-0.18**
Self-regulation				
Cognitive	0.08	-0.07	0.07	0.10
Behavioral	-0.31***	-0.07	-0.15*	-0.22**
Environ.	-0.17**	-0.28***	-0.30***	-0.08
R^2	0.24***	0.23***	0.28***	0.27***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5

Bivariate Relationship Between Motivated Strategies for Learning Questionnaire (MSLQ) and Grade Point Average (GPA)

MSLQ Scale	Previous Semester's GPA-	Previous Semester's GPA-
	Registrar	Self-Report
Rehearsal	0.16*	0.16**
Organization	0.17**	0.21**
Metacognitive Self-Regulation	0.15*	0.21**
Time and Study Environment		
Management	0.30**	0.33**
Peer Learning	0.11	0.05
Help Seeking	0.10	0.06

* $p < .05$. ** $p < .01$.

Table 6

Relationship between Motivated Strategies for Learning Questionnaire (MSLQ) and
Drinking Self-Regulation Questionnaire (DSRQ)

MSLQ Scale	DSRQ-C	DSRQ-B	DSRQ-E
Rehearsal	0.25**	0.14**	0.12*
Organization	0.28**	0.23**	0.15**
Metacognitive Self-Regulation	0.32**	0.25**	0.22**
Time and Study Environment Management	0.21**	0.15**	0.14*
Peer Learning	0.26**	0.18**	0.13*
Help Seeking	0.26**	0.23**	0.12*

Note. C = Cognitive; B = Behavioral; E = Environmental.

* $p < .05$. ** $p < .01$

Table 7

Bivariate Relationship Between Grade Point Average (GPA) and Drinking Indices

Previous Semester GPA	Avg. no. drinks per drinking day	Avg no. drinking days per week	Avg. no. of binges per week	Rutger's Alcohol Problem Index
Registrar-Reported	-0.11	-0.01	-0.03	-0.10
Self-Reported	-0.11	-0.04	0.02	-0.04

Note. No relationships were statistically significant.

Appendix A

ID# _____

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY**Informed Consent for Participants
Of Investigative Projects**

Title of Project: College Students' Self-Regulatory Strategies

Investigators: Stephanie E. Adams, B.A.
Robert S. Stephens, Ph.D.**I. The Purpose of this Project**

The purpose of this project is to examine the strategies that college students use to self-regulate their behavior across domains.

II. Procedures

You will be asked to complete several questionnaires that ask about your use of alcohol and the strategies you use or don't use to regulate your drinking. Similarly, other questionnaires will assess the strategies you use to pursue other life goals and will ask you to report on various life outcomes. All of your responses will be completely anonymous and will not be associated with your name in any way.

III. Risks

Few risks are involved with participation in this study. If there are any questions that make you feel uncomfortable, you may refuse to answer those questions or discontinue your participation in the study without penalty.

IV. Benefits of this Project

You may benefit from participating in this study by learning how psychological research is conducted.

V. Confidentiality

All responses will be kept strictly confidential. Your name will not be stored with any of the data we obtained from you. The consent form will be stored separately from your responses in a locked file cabinet that is accessible only to members of the research team.

VI. Compensation

You will receive one extra credit point towards your Psychology grade for your participation in the study.

VII. Freedom to Withdraw

If, at any time during the study, you become uncomfortable, you are free to withdraw your participation without penalty. You will still receive credit for participating. You may also choose not to answer specific questions without penalty.

VIII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University (IRB # 99-017), and by the Human Subjects Committee of the Department of Psychology.

IX. Participant's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities: complete various questionnaires about my alcohol use, life goals, and strategies I use to regulate my alcohol use and achieve my goals.

X. Participant's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

Print name

Signature

Date

Should I have questions about this research or its conduct, I may contact: Investigators:

Stephanie E. Adams, B.A.	231-7631
Robert S. Stephens, Ph.D.	231-6304

IRB Representatives:

David Harrison, Ph.D. Chair, Psychology Human Subjects Committee	231-4422
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Tom Hurd, Ph.D. Chair, IRB	231-5281
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Appendix B

ID# _____

Permission to Obtain QCA Information from the Registrar

Earlier we asked you to tell us your cumulative QCA at Virginia Tech and your QCA for the Fall 1998 semester. We realize that you may not remember these numbers exactly and we would like to be able to obtain this information directly from the Virginia Tech Registrar in order to improve the scientific validity of the study. This form asks for your permission to access your cumulative QCA and QCA for the Fall 1998 semester. If you sign it, we will obtain this information, and only this information, from the University.

IMPORTANT- Signing this form and giving us your permission to access the QCA information is entirely optional and up to you. If you decide not to give us this permission, you will still receive full credit for participating in this research. Simply return the form without your signature if you do not want to give permission.

If you are willing to have us obtain your QCA information from the Registrar, please print and sign your name below.

I grant Robert Stephens, Ph.D., Associate Professor of Psychology, the right to access and record my cumulative QCA at Virginia Tech and my QCA for the Fall Semester 1998. This permission to access my records will remain in force until June 1, 1999.

Print Name

Date

Signature

Social Security Number

Appendix C

ID# _____

1. What is your sex? _____

2. How old are you? _____

3. What is your student status?

_____ Freshman

_____ Sophomore

_____ Junior

_____ Senior

Appendix D

ID# _____

INSTRUCTIONS FOR COMPLETING THE TIMELINE CALENDAR

We would like you to recall your drinking over the past **90 days**. This is really not a difficult task especially when you use the calendar for a reference. We have found calendars very useful in helping people recall their drinking. Listed below are some instructions and hints for completing the calendar.

- 1) It is important that for each day on the calendar you list the number of drinks you consumed. Remember, by one drink we mean **one 12-ounce can of beer, one standard cocktail containing 1.5 ounces of 86 proof liquor, or one 4-ounce drink of wine.**
- 2) On any day that you did consume an alcoholic beverage, write in the number of drinks you had on that day. This includes days of combined beverage use. For example, on one day if you drank a 4-ounce glass of wine and had two 12-ounce beers, you would list that as 3 drinks.
- 3) On all days that you did not drink any alcoholic beverages, write a "0."
- 4) While a precise day by day account of your drinking would be nice, all we would like you to do is use a daily estimation method which is your best recall or your best guess of what your drinking was like. So, if you are not sure, put down your best estimate.
- 5) As a way of helping you recall your drinking over the past **90 days** read the recall suggestions listed on the next page

Hints to aid your recollection:

- 1) Mark days on the calendar that are specific to you (e.g., test days, parties, band dates, birthdays etc.). Marking down these days on the calendar can aid in recall of when and how much you drank.
- 2) You may use a planner or appointment book (if you have it) to help you recall events which may have occurred where you drank alcohol.
- 3) Sometimes people have certain patterns to their drinking and this can help in filling out the calendar. For example if you usually go out with friends on the weekends, you might recall that you usually drink a certain number of drinks during those times.

Friday Jan. 1st	Saturday Jan. 2nd
New Year's Day	

Sunday Jan. 3rd	Monday Jan. 4th	Tuesday Jan. 5th	Wednesday Jan. 6th	Thursday Jan. 7th	Friday Jan. 8th	Saturday Jan. 9th

Sunday Jan. 10th	Monday Jan. 11th	Tuesday Jan. 12th	Wednesday Jan. 13th	Thursday Jan. 14th	Friday Jan. 15th	Saturday Jan. 16th

Sunday Jan. 17th	Monday Jan. 18th	Tuesday Jan. 19th	Wednesday Jan. 20th	Thursday Jan. 21st	Friday Jan. 22nd	Saturday Jan. 23rd

Sunday Jan. 24th	Monday Jan. 25th	Tuesday Jan. 26th	Wednesday Jan. 27th	Thursday Jan. 28th	Friday Jan. 29th	Saturday Jan. 30th

Sunday Jan. 31st

	Monday Feb. 1st	Tuesday Feb. 2nd	Wednesday Feb. 3rd	Thursday Feb. 4th	Friday Feb. 5th	Saturday Feb. 6th
Sunday Feb. 7th	Monday Feb. 8th	Tuesday Feb. 9th	Wednesday Feb. 10th	Thursday Feb. 11th	Friday Feb. 12th	Saturday Feb. 13th
Sunday Feb. 14th	Monday Feb. 15th	Tuesday Feb. 16th	Wednesday Feb. 17th	Thursday Feb. 18th	Friday Feb. 19th	Saturday Feb. 20th
Valentine's Day						
Sunday Feb. 21st	Monday Feb. 22nd	Tuesday Feb. 23rd	Wednesday Feb. 24th	Thursday Feb. 25th	Friday Feb. 26th	Saturday Feb. 27th
Sunday Feb. 28th						

Monday Mar. 1st				Tuesday Mar. 2nd				Wednesday Mar. 3rd				Thursday Mar. 4th				Friday Mar. 5th				Saturday Mar. 6th							
Sunday Mar. 7th				Monday Mar. 8th				Tuesday Mar. 9th				Wednesday Mar. 10th				Thursday Mar. 11th				Friday Mar. 12th				Saturday Mar. 13th			
Sunday Mar. 14th				Monday Mar. 15th				Tuesday Mar. 16th				Wednesday Mar. 17th				Thursday Mar. 18th				Friday Mar. 19th				Saturday Mar. 20st			
Sunday Mar. 21st				Monday Mar. 22nd				Tuesday Mar. 23rd				Wednesday Mar. 24th				Thursday Mar. 25th				Friday Mar. 26th				Saturday Mar. 27th			
Sunday Mar. 28th				Monday Mar. 29th				Tuesday Mar. 30th				Wednesday Mar. 31st															

ID# _____

Please use the scale below to indicate how true statements 1 through 5 are for you:

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. I enjoy drinking. 1 2 3 4 5 6 7
2. Drinking is important to my social and personal life. 1 2 3 4 5 6 7
3. I make a conscious effort to control my drinking 1 2 3 4 5 6 7
4. It is important for me to control my drinking..... 1 2 3 4 5 6 7
5. It bothers me when my drinking gets out of control. 1 2 3 4 5 6 7

6. Regarding your drinking goals, how many drinks per drinking occasion do you typically plan to consume on Sunday through Wednesday?

_____ # drinks per drinking occasion

6a. How often, in the past 90 days, did you achieve this goal?

- _____ Never
- _____ Rarely
- _____ Occasionally
- _____ Most of the time
- _____ Always

7. Regarding your drinking goals, how many drinks per drinking occasion do you typically plan to consume on Thursday through Saturday?

_____ # drinks per drinking occasion

7a. How often, in the past 90 days, did you achieve this goal?

- _____ Never
- _____ Rarely
- _____ Occasionally
- _____ Most of the time
- _____ Always

8. Regarding your drinking goals, how many drinking occasions do you typically plan to have per month?

_____ # drinking occasions per month

8a. How often, in the past 90 days, did you achieve this goal?

- _____ Never
- _____ Rarely
- _____ Occasionally
- _____ Most of the time
- _____ Always

Appendix E

We are interested in the various strategies college students use to control their drinking. Using the scale below, please indicate how often you use each of the following strategies:

ID# _____

We are interested in the various strategies college students use to control their drinking. Using the scale below, please indicate how often you have used each of the following strategies in the past 90 days:

	0 Never	1 Rarely	2 Occasionally	3 Most of the time	4 Always
1. Think about how I am acting.....	0	1	2	3	4
2. Tell myself not to drink too much.....	0	1	2	3	4
3. Think about all the work I have to do the next day.....	0	1	2	3	4
4. Think about the consequences of drinking too much.....	0	1	2	3	4
5. Think about how many calories I'm consuming.....	0	1	2	3	4
6. The next day, I think about what I did	0	1	2	3	4
7. Think about bad experiences in the past that were associated with alcohol.....	0	1	2	3	4
8. Think about how I'll feel the next day if I drink too much.....	0	1	2	3	4
9. Tell myself that I'll get sick if I drink too much	0	1	2	3	4
10. Think about what my parents/teachers/coach would think	0	1	2	3	4
11. I tell myself when I've had enough.....	0	1	2	3	4
12. I tell myself that I don't want to look stupid.....	0	1	2	3	4
13. I tell myself that it is unhealthy.....	0	1	2	3	4
14. Think about how much money I am spending	0	1	2	3	4
15. Think about how I will feel in an hour.....	0	1	2	3	4
16. Think about times when I drank too much and how bad I felt.....	0	1	2	3	4
17. Tell myself that I do not need alcohol to have fun.....	0	1	2	3	4
18. Tell myself to stop drinking	0	1	2	3	4

0 Never	1 Rarely	2 Occasionally	3 Most of the time	4 Always
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How often have you used each of the following strategies in the past 90 days?:

19. Think about how much I've had to drink..... 0 1 2 3 4
20. Think about doing something I would regret..... 0 1 2 3 4
21. Drink slowly..... 0 1 2 3 4
22. Limit the number of drinks I consume..... 0 1 2 3 4
23. Throw my cup away after I've reached my limit..... 0 1 2 3 4
24. Pace myself/drink only a certain amount per hour..... 0 1 2 3 4
25. Don't drink liquor..... 0 1 2 3 4
26. Sip my drink..... 0 1 2 3 4
27. Don't take shots..... 0 1 2 3 4
28. Avoid chugging or funneling..... 0 1 2 3 4
29. Count how many drinks I've had..... 0 1 2 3 4
30. Give drinks away..... 0 1 2 3 4
31. Eat before I drink or while I'm drinking..... 0 1 2 3 4
32. Nurse my drink..... 0 1 2 3 4
33. Engage in other activities while drinking, such as
dancing, playing cards, etc..... 0 1 2 3 4
34. Make drinks weak (i.e. not as much alcohol)..... 0 1 2 3 4
35. Go outside/Take a break..... 0 1 2 3 4
36. Drink water or non-alcoholic beverages between alcoholic drinks .. 0 1 2 3 4
37. Refuse drinks..... 0 1 2 3 4

0 Never	1 Rarely	2 Occasionally	3 Most of the time	4 Always
------------	-------------	-------------------	-----------------------	-------------

How often have you used each of the following strategies in the past 90 days?:

38. Punish myself for drinking too much (e.g. not allowing myself to drink/go out the next night; forcing myself to work through a hangover) 0 1 2 3 4
39. Reward myself for limiting my drinking (e.g. giving myself something; going out the next weekend)..... 0 1 2 3 4
40. Don't drink before I go out 0 1 2 3 4
41. Don't drink when I'm in a mood that encourages drinking (e.g. depressed, anxious) 0 1 2 3 4
42. Volunteer to be the designated driver 0 1 2 3 4
43. Limit the amount of money I take..... 0 1 2 3 4
44. Stop drinking at a specific time..... 0 1 2 3 4
45. Give myself a time to be home by..... 0 1 2 3 4
46. Only go out once a week..... 0 1 2 3 4
47. Don't start drinking until late in the evening 0 1 2 3 4
48. Stop drinking when I feel sick..... 0 1 2 3 4
49. Stop drinking when my speech is slurred or I'm not walking straight..... 0 1 2 3 4
50. Stop drinking when I get a buzz..... 0 1 2 3 4
51. Stop drinking when my stomach is full..... 0 1 2 3 4
52. Stop drinking when I get really talkative 0 1 2 3 4
53. Look in a mirror 0 1 2 3 4
54. Limit myself to one type of alcohol 0 1 2 3 4
55. Act more intoxicated than I am..... 0 1 2 3 4

0 Never	1 Rarely	2 Occasionally	3 Most of the time	4 Always
------------	-------------	-------------------	-----------------------	-------------

How often have you used each of the following strategies in the past 90 days?:

56. Go to places where there is no alcohol 0 1 2 3 4
57. Leave/avoid places where people pressure me to drink 0 1 2 3 4
58. Don't drink with people I don't know..... 0 1 2 3 4
59. Avoid places where people will be taking shots 0 1 2 3 4
60. Avoid places where people will be drinking heavily 0 1 2 3 4
61. Avoid drinking with people who drink heavily 0 1 2 3 4
62. Drink only in small groups..... 0 1 2 3 4
63. Avoid drinking in places that I don't feel comfortable
or am unfamiliar with..... 0 1 2 3 4
64. Avoid going to bars 0 1 2 3 4
65. Don't play drinking games..... 0 1 2 3 4
66. Avoid fraternity/sorority parties..... 0 1 2 3 4
67. Avoid standing near the keg or bar 0 1 2 3 4
68. Avoid places where I drink heavily..... 0 1 2 3 4
69. Avoid "free beer" parties..... 0 1 2 3 4
70. Only go out with responsible friends 0 1 2 3 4
71. Ask my friends to regulate my drinking/tell me when to stop..... 0 1 2 3 4
72. Go out with people who drink the same amount I do 0 1 2 3 4
73. Tell my friends how much I'm planning on drinking 0 1 2 3 4
74. Don't go bar or party "hopping"-stay in one place 0 1 2 3 4
75. Go to a room/section of the bar where people are not drinking..... 0 1 2 3 4

Appendix F

The following questionnaire lists a number of situations or events in which some people experience difficulty in avoiding heavy drinking. Imagine yourself in each of these situations and indicate how confident you are that you would be able to resist the urge to drink heavily (5 or more drinks).

Directions: Listed below are a number of situations or events in which some people experience difficulty in avoiding heavy drinking. Imagine yourself in each of these situations and indicate how confident you are that you would be able to resist the urge to drink heavily (5 or more drinks) according to the following scale.

not at all confident						very confident
0%	20%	40%	60%	80%	100%	

I would be able to resist the urge to drink *heavily*

1.if I felt I had let myself down	0%	20%	40%	60%	80%	100%
2.if I had just finished a long day of classes or work	0%	20%	40%	60%	80%	100%
3.if there were fights at home	0%	20%	40%	60%	80%	100%
4.if I had trouble sleeping	0%	20%	40%	60%	80%	100%
5.if I were with friends watching TV	0%	20%	40%	60%	80%	100%
6.if I had an argument with a friend	0%	20%	40%	60%	80%	100%
7.if I were out with friends at and they stopped by a bar for a drink	0%	20%	40%	60%	80%	100%
8.if I remembered how good it tasted	0%	20%	40%	60%	80%	100%
9.if other people didn't seem to like me	0%	20%	40%	60%	80%	100%
10.if I felt confident and relaxed	0%	20%	40%	60%	80%	100%
11.if I were at happy hour with a group of friends	0%	20%	40%	60%	80%	100%
12.if I were enjoying myself at a party and wanted to feel even better	0%	20%	40%	60%	80%	100%
13.if I were afraid that things in my life weren't going to work out	0%	20%	40%	60%	80%	100%
14.if other people interfered with my plans	0%	20%	40%	60%	80%	100%
15.I were at a friend's place and they were playing drinking games	0%	20%	40%	60%	80%	100%
16.if I felt drowsy and wanted to stay alert	0%	20%	40%	60%	80%	100%
17.if there were problems with people at work or school	0%	20%	40%	60%	80%	100%
18.if I felt uneasy in the presence of someone	0%	20%	40%	60%	80%	100%
19.if I were at a party and other people were drinking	0%	20%	40%	60%	80%	100%

not at all confident						very confident
0%	20%	40%	60%	80%		100%

I would be able to resist the urge to drink *heavily*

20. if I wanted to celebrate with a friend	0%	20%	40%	60%	80%	100%
21. if I passed by a liquor store	0%	20%	40%	60%	80%	100%
22. if I were out on a date and my date was drinking	0%	20%	40%	60%	80%	100%
23. if I were at a tailgate party for a football game	0%	20%	40%	60%	80%	100%
24. if I were angry at the way something had turned out	0%	20%	40%	60%	80%	100%
25. if other people treated me unfairly	0%	20%	40%	60%	80%	100%
26. if I felt nauseous	0%	20%	40%	60%	80%	100%
27. if I were visiting a friend and he/she offered me drinks	0%	20%	40%	60%	80%	100%
28. if pressure built up at work because of the demands of my supervisor	0%	20%	40%	60%	80%	100%
29. if someone criticized me	0%	20%	40%	60%	80%	100%
30. if I felt satisfied with something I had done	0%	20%	40%	60%	80%	100%
31. if I were at a fraternity party	0%	20%	40%	60%	80%	100%
32. if I were relaxed with a good friend and wanted to have a good time	0%	20%	40%	60%	80%	100%
33. if I unexpectedly found a bottle of my favorite booze	0%	20%	40%	60%	80%	100%
34. if everything was going well	0%	20%	40%	60%	80%	100%
35. if I were in a restaurant and the people with me ordered pitchers of beer and mixed drinks	0%	20%	40%	60%	80%	100%
36. if I felt confused about what I should do in the future	0%	20%	40%	60%	80%	100%
37. if I felt under a lot of pressure from family members at home	0%	20%	40%	60%	80%	100%
38. if my stomach felt like it was tied in knots	0%	20%	40%	60%	80%	100%
39. if I suddenly had the urge to drink	0%	20%	40%	60%	80%	100%
40. if I were at a bar with a friend and he or she was buying me drinks	0%	20%	40%	60%	80%	100%



I would be able to resist the urge to drink *heavily*

41.if other people made me tense	0%	20%	40%	60%	80%	100%
42.if I were out with friends on the town and wanted to increase my enjoyment	0%	20%	40%	60%	80%	100%
43.if I met a friend and he/she suggested we have a drink together	0%	20%	40%	60%	80%	100%
44.if I were not getting along well with others at work or home	0%	20%	40%	60%	80%	100%
45.if I were at a bar and the people around me were laughing and dancing	0%	20%	40%	60%	80%	100%
46.if someone pressured me to be a "good sport" and have a drink	0%	20%	40%	60%	80%	100%
47.if I wondered about my self-control over alcohol and felt like having a drink to try it	0%	20%	40%	60%	80%	100%
48.if I thought that just one drink could cause no harm	0%	20%	40%	60%	80%	100%
49.if I wanted to prove to myself that I could take a few drinks without becoming drunk	0%	20%	40%	60%	80%	100%

Appendix G

Different things happen to people when they are drinking alcohol or as a result of their alcohol use. Some of these things are listed on the next page. Please indicate how many times each has happened to you during the past six months while you were drinking alcohol or as the result of your alcohol use. Please circle the most accurate response using the rating system provided.

RAPI

INSTRUCTIONS

Different things happen to people when they are **DRINKING ALCOHOL** or as a **RESULT OF THEIR ALCOHOL USE**. Some of these things are listed below. Please indicate **how many times** each has happened to you **during the past six months** while you were drinking alcohol or as the result of your alcohol use. Please circle the most accurate response using the rating system provided below.

HOW MANY TIMES DID THE FOLLOWING THINGS HAPPEN TO YOU WHILE YOU WERE DRINKING ALCOHOL OR BECAUSE OF YOUR ALCOHOL USE DURING THE PAST SIX MONTHS?

0	1	2	3	4	
Never					
	One to two times				
		Three to five times			
			Six to ten times		
				More than ten times	
0	1	2	3	4	Not able to do your homework or study for a test?
0	1	2	3	4	Got into fights, acted bad, or did mean things?
0	1	2	3	4	Missed out on other things because you spent too much money on alcohol?
0	1	2	3	4	Went to work or school high or drunk?
0	1	2	3	4	Caused shame or embarrassment to someone?
0	1	2	3	4	Neglected your responsibilities?
0	1	2	3	4	Relative avoided you?
0	1	2	3	4	Felt that you needed more alcohol than you used to use in order to get the same effect?
0	1	2	3	4	Tried to control your drinking by trying to drink only at certain times of the day or certain places?
0	1	2	3	4	Had withdrawal symptoms, that is felt sick because you stopped or cut down on drinking?
0	1	2	3	4	Noticed a change in your personality?
0	1	2	3	4	Felt you had a problem with alcohol?
0	1	2	3	4	Missed a day (or part of a day) of school or work?
0	1	2	3	4	Tried to cut down or quit drinking?
0	1	2	3	4	Suddenly found yourself in a place that you could not remember getting to?
0	1	2	3	4	Passed out or fainted suddenly?
0	1	2	3	4	Had a fight, argument or bad feelings with a friend?
0	1	2	3	4	Had a fight argument or bad feelings with a family member?
0	1	2	3	4	Kept drinking when you promised yourself not to?
0	1	2	3	4	Felt you were going crazy?
0	1	2	3	4	Had a bad time?
0	1	2	3	4	Felt physically or psychologically dependent on alcohol?
0	1	2	3	4	Was told by a friend or neighbor to stop or cut down drinking?
0	1	2	3	4	Drove shortly after having more than 2 drinks?
0	1	2	3	4	Drove shortly after having more than 4 drinks?

Appendix H

The following questions ask about your learning strategies and study skills for class. There are no right or wrong answers. Answer the questions about how you study for class as accurately as possible. Use the scale to answer the questions.

The following questions ask about your learning strategies and study skills for class. There are no right or wrong answers. Answer the questions about how you study for class as accurately as possible. Use the scale below to answer the questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. When I study the readings for class, I outline the material to help me organize my thoughts. 1 2 3 4 5 6 7
2. During class time I often miss important points because I'm thinking of other things..... 1 2 3 4 5 6 7
3. When studying for class, I often try to explain the material to a classmate or friend..... 1 2 3 4 5 6 7
4. I usually study in a place where I can concentrate on my course work. 1 2 3 4 5 6 7
5. When reading for class, I make up questions to help focus my reading. 1 2 3 4 5 6 7
6. When I study for class, I practice saying the material to myself over and over..... 1 2 3 4 5 6 7
7. Even if I have trouble learning the material in class, I try to do the work on my own, without help from anyone..... 1 2 3 4 5 6 7
8. When I become confused about something I'm reading for class, I go back and try to figure it out. 1 2 3 4 5 6 7
9. When I study for class, I go through the readings and my class notes and try to find the most important ideas. 1 2 3 4 5 6 7
10. I make good use of my study time for class..... 1 2 3 4 5 6 7
11. If course readings are difficult to understand, I change the way I read the material. 1 2 3 4 5 6 7

1	2	3	4	5	6	7
Not at all true of me						Very true of me
12. I try to work with other students from class to complete the course assignments.	1	2	3	4	5	6 7
13. When studying for class, I read my class notes and the course readings over and over again.	1	2	3	4	5	6 7
14. I make simple charts, diagrams, or tables to help me organize course material.	1	2	3	4	5	6 7
15. When studying for class, I often set aside time to discuss course material with a group of students from the class.	1	2	3	4	5	6 7
16. I find it hard to stick to a study schedule.	1	2	3	4	5	6 7
17. Before I study new course material thoroughly, I often skim it to see how it is organized.	1	2	3	4	5	6 7
18. I ask myself questions to make sure I understand the material I have been studying in class.	1	2	3	4	5	6 7
19. I try to change the way I study in order to fit the course requirements and the instructor's teaching style.	1	2	3	4	5	6 7
20. I often find that I have been reading for class but don't know it was all about.	1	2	3	4	5	6 7
21. I ask the instructor to clarify concepts I don't understand well.	1	2	3	4	5	6 7
22. I memorize key words to remind me of important concepts in class.	1	2	3	4	5	6 7
23. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for class.	1	2	3	4	5	6 7
24. When I study for class, I go over my class notes and make an outline of important concepts.	1	2	3	4	5	6 7
25. I have a regular place set aside for studying.	1	2	3	4	5	6 7

1	2	3	4	5	6	7
Not at all true of me						Very true of me
26. When I can't understand the material in class, I ask another student in class for help.	1	2	3	4	5	6 7
27. I make sure that I keep up with the weekly readings and assignments for class.	1	2	3	4	5	6 7
28. I make lists of important items for class and memorize the lists.	1	2	3	4	5	6 7
29. I attend class regularly.....	1	2	3	4	5	6 7
30. I try to identify students in class whom I can ask for help if necessary.....	1	2	3	4	5	6 7
31. When studying for class I try to determine which concepts I don't understand well.....	1	2	3	4	5	6 7
32. I often find that I don't spend very much time on class because of other activities.	1	2	3	4	5	6 7
33. When I study for class, I set goals for myself in order to direct my activities in each study period.	1	2	3	4	5	6 7
34. If I get confused taking notes in class, I make sure I sort it out afterwards.	1	2	3	4	5	6 7
35. I rarely find time to review my notes or readings before an exam.	1	2	3	4	5	6 7

Appendix I

1. How important is it for you to do well in your classes?

- _____ Not at all important
- _____ Somewhat important
- _____ Moderately important
- _____ Very important

2. How important is it for you to achieve a high QCA?

- _____ Not at all important
- _____ Somewhat important
- _____ Moderately important
- _____ Very important

3. What QCA is your goal?

4. What is your QCA?

4a. **Cumulative** (overall) **QCA**

- ___ 3.5-4.0
- ___ 3.0-3.49
- ___ 2.5-2.99
- ___ 2.0-2.49
- ___ 1.5-1.99
- ___ 1.0-1.49

4b. **Last semester's QCA**

- ___ 3.5-4.0
- ___ 3.0-3.49
- ___ 2.5-2.99
- ___ 2.0-2.49
- ___ 1.5-1.99
- ___ 1.0-1.49

5. To what extent do you feel your drinking impacts your academic performance?

1 negative impact	2	3 no impact	4	5 positive impact
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6. To what extent do you feel your academic performance impacts your drinking?

1 negative impact	2	3 no impact	4	5 positive impact
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Appendix J

Loadings of DSRQ Items on Cognitive Factor

ITEM	LOADING ON COGNITIVE FACTOR
16. Think about times when I drank too much and how bad I felt	.71
8. Think about how I'll feel the next day if I drink too much	.66
7. Think about bad experiences in the past that were associated with alcohol	.63
12. I tell myself that I don't want to look stupid	.61
20. Think about doing something I would regret	.61
9. Tell myself that I will get sick if I drink too much	.60
6. The next day, I think about what I did	.53
4. Think about the consequences of drinking too much	.52
71. Ask my friends to regulate my drinking/tell me when to stop	.51
13. I tell myself that it is unhealthy	.50
73. Tell my friends how much I'm planning on drinking	.48
15. Think about how I will feel in an hour	.47
1. Think about how I am acting	.46
38. Punish myself for drinking too much (e.g. not allowing myself to drink/go out the next night; forcing myself to work through a hangover)	.43
33. Engage in other activities while drinking such as dancing, playing cards, etc.	.40

Loadings of DSRQ Items on Behavioral Factor

ITEM	LOADING ON BEHAVIORAL FACTOR
26. Sip my drink	.67
22. Limit the number of drinks I consume	.66
24. Pace myself/drink only a certain amount per hour	.62
32. Nurse my drink	.59
37. Refuse drinks	.59
50. Stop drinking when I get a buzz	.59
21. Drink slowly	.58
23. Throw my cup away after I've reached my limit	.56
29. Count how many drinks I've had	.52
49. Stop drinking when my speech is slurred or I'm not walking straight	.52
11. I tell myself when I've had enough	.50
30. Give drinks away	.50
28. Avoid chugging or funneling	.49
48. Stop drinking when I feel sick	.42
40. Don't drink before I go out	.40

Loadings of DSRQ Items on Environmental Factor

ITEM	LOADING ON ENVIRONMENTAL FACTOR
60. Avoid places where people will be drinking heavily	.76
61. Avoid drinking with people who drink heavily	.73
68. Avoid places where I drink heavily	.72
69. Avoid “free beer” parties	.72
59. Avoid places where people will be taking shots	.70
67. Avoid standing near the keg or bar	.70
65. Don’t play drinking games	.63
57. Leave/avoid places where people pressure me to drink	.62
62. Drink only in small groups	.59
75. Go to a room/section of the bar where people are not drinking	.59
58. Don’t drink with people I don’t know	.58
64. Avoid going to bars	.58
66. Avoid fraternity/sorority parties	.55
56. Go to places where there is no alcohol	.53
74. Don’t go bar or party “hopping”- stay in one place	.51
46. Only go out once a week	.49
63. Avoid drinking in places that I don’t feel comfortable or am unfamiliar with	.49
52. Stop drinking when I get really talkative	.45
41. Don’t drink when I’m in a mood that encourages drinking (e.g. depressed, anxious)	.43
70. Only go out with responsible friends	.40

Vita

Stephanie E. Adams was born in Aiken, SC on January 16, 1975. After graduating as valedictorian from South Aiken High School in 1993, she attended The University of South Carolina for four years. While at USC she was a student in the Honors College and a member of Phi Beta Kappa and Psi Chi honor societies. She was also a member of the Kappa Kappa Gamma sorority and served as vice president of Standards. She also worked as an undergraduate research assistant and wrote an Honor's thesis examining infants' performance on the A-Not-B task. She graduated from USC in May of 1997 with a Bachelor of Arts in Psychology. In August of 1997 she began her graduate work at Virginia Polytechnic Institute and State University. Her research focused on the self-regulatory strategies college students use to control their drinking. She received her Master of Science in May of 2000. She is continuing to pursue a Ph.D. in clinical psychology.