EXAMINING COLLEGE STUDENTS' BELIEFS AND BEHAVIORS REGARDING RESPONSIBLE ALCOHOL CONSUMPTION

A Dissertation

by

ADAM ETHERIDGE BARRY

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: Health Education

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Approved by:

Chair of Committee,	Patricia Goodson
Committee Members,	Maurice Dennis
	James Eddy
	Jan Hughes
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ABSTRACT

Examining College Students' Beliefs and Behaviors Regarding

Responsible Alcohol Consumption. (August 2007)

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This dissertation presents three separate studies designed to provide structure and evidence-based insight into the characteristics associated with responsible drinking. First, a primer on the responsible drinking message will be presented discussing: (a) the origins and evolution of this message, (b) alcohol product advertisements evincing a responsible drinking prevention message, and (c) practical and ethical concerns associated with brewer-sponsored responsible drinking campaigns. Additionally, the primer will also present systematic reviews of twenty (n=20) empirical studies utilizing the responsible drinking concept to determine the manner in which researchers currently conceptualize and explain characteristics of responsible drinking in their reports.

Secondly, a qualitative examination of college students' beliefs, motivations, intentions, and behaviors regarding responsible drinking will be presented. Employing an emergent design, the data collection process encompassed four focus group sessions and three separate, personal interviews. The final sample size comprised thirteen individuals (Focus Group n=10; Personal Interview n=3). A conceptual model will also

be proposed to assist in interpreting the qualitative findings and theorizing about factors influencing intentions to drink responsibly.

Lastly, drawing upon the theoretical model and qualitative findings, the development and rigorous psychometric testing of a web-based instrument - *Characteristics of Responsible Drinking Survey* (CHORDS) – will be discussed. *Zoomerang*™ served as the host-site for both the pilot- and final testing phases of the CHORDS. The final sample (n=729) comprised a random set of individuals drawn from all currently enrolled students (undergraduate and graduate) attending Texas A&M University (TAMU) in College Station. Principal components exploratory factor analysis revealed the CHORDS consists of five scales (61 total items) whose scores exhibit high internal consistency reliability. These scales include: Behavioral Beliefs, Motivation, Self-Efficacy, Barriers and Behavioral Intention. Scales were found to measure the same underlying construct, as outlined in the theoretical model.

Prior to this study, scientific literature contained *no* scholarly attempts to distinguish responsible drinking characteristics; *no* theoretically-based explanation or examination of the interactions among responsible drinking variables; and *no* instruments expressly intended to measure responsible drinking intentions. Thus, this study represents the first step toward addressing the limitations associated with responsible drinking and filling the apparent conceptual gaps.

DEDICATION

To my mother and father for their unfaltering support and love

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CHAPTER I

INTRODUCTION

Alcohol researchers and prevention experts consistently document alcohol advertisings' impact - especially upon adolescents - on the attitudinal and behavioral beliefs shaping one's drinking behavior (Grube & Wallack, 1994; Saffer, 2002; Wyllie, Zhang & Casswell, 1998). Due to the impact associated with alcohol advertising, public health officials have lobbied for the strict regulation of alcohol-related advertising and possibly its complete elimination (Agostinelli & Grube, 2002; Mosher, 1994). Consequently, in an attempt to suppress controversies surrounding alcohol advertising, alcohol brewers have purposefully positioned product marketing within the context of "responsible drinking."

Since its inception, the concept of responsible drinking has steadily morphed from a prevention-based message into a marketing strategy (Milgram, 1996). This change, partially due to the alcohol industry's promotion of the responsible consumption of their products, began in the early 80's and today represents the status-quo. Critics of brewer-sponsored campaigns evincing a responsible drinking message contend that these campaigns are "soft sell" versions of traditional public service announcements (Atkin, Smith & Bang, 1994), displaying elements of public service persuasion strategies, advertisements, and public relation campaigns (DeJong, Atkin & Wallack, 1992; Smith, Atkin & Roznowski, 2006). Overall, alcohol advertisements revolving around the central theme of responsibility possess several limitations and also ignore important

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This dissertation follows the style of *Health Education & Behavior*.

public health objectives (DeJong, Atkin & Wallack, 1992; Holder, 2005; McCreanor, Casswell & Hill, 2000; Milgram, 1996; Wolburg, 2005).

The waters surrounding responsible drinking are further muddied by the fact that alcohol researchers have failed to develop or to agree upon a consensus definition of what is means to drink responsibly. In attempting to articulate the definition or context of responsible drinking, researchers utilize subjective notions and personal ideas, thus not differentiating the construct's meaning from the one it acquires in brewer-sponsored campaigns. Overall, scholarly articles remain consistently inconsistent in their interpretation and application of this construct. Therefore, misunderstanding stemming from the ambiguity, inconsistency, and overall counter-intuitive nature of brewer-sponsored responsible drinking campaigns is further compounded by prevention researcher's inconsistent and incoherent use of the term responsible drinking in their scholarly reports.

If practitioners plan on promoting responsible drinking in their alcohol education/prevention programs and researchers plan on further examining this construct in their scholarly reports, then the first and most vital step is to conceptualize the notion of responsible drinking by identifying how lay-persons define, interpret and practice responsible drinking in their own lives. In other words, if responsible drinking is ever to free itself from the subjective notions of researchers and the restrictive impressions attached to it by the alcohol-industry, then the characteristics individuals personally associate with responsible drinking (i.e. how one interprets, perceives, and practices drink responsibly) must be systematically explored and examined through scientific and

theoretical lenses. More specifically, conceptual and methodological gaps surrounding responsible drinking requiring systematic attention include answers to questions such as these: How do individuals personally define responsible drinking? How do individuals practice drinking responsibly? What beliefs and behaviors are commonly associated with responsible drinking? What motivates and/or inhibits an individual from drinking in a responsible manner?

The overarching rationale for this document is to provide evidence-based insight into the limitations - methodological and conceptual – associated with the responsible drinking construct. More specifically, this dissertation will: (1) Examine the current body of literature regarding prevention strategies encouraging responsible drinking. Moreover, the ethical/practical issues associated with brewer-sponsored responsible drinking campaigns will be discussed. Further, the manner in which researchers conceptualize and operationalize responsible drinking in the current scientific literature will also be examined; (2) Present findings from focus group and personal interview sessions identifying how a sample of college students defines, interprets, and practices the concept of responsible drinking. Additionally, intrinsic and extrinsic factors motivating / inhibiting responsible drinking are also noted. Further, a theoretical model is developed, hypothesizing the various influences upon the likelihood that an individual will drink in a responsible manner; and (3) Discuss the development, testing, and validation of scores from an instrument designed to measure the dimensions of responsible drinking identified through the qualitative phase of this research. Resulting scales and their psychometric properties are discussed in detail.

The current document is separated into five distinct sections/chapters. It should be noted that Chapters II-IV were written as manuscripts that will serve as independent pieces to be submitted for publication in peer-reviewed journals. Below is a description of each of the chapters herein:

- Chapter I: Presents a succinct overview of the topic to be examined in greater detail throughout the document. In addition, the purpose of, and rationale for the project are outlined.
- Chapter II: The current body of literature regarding prevention strategies encouraging responsible drinking are discussed. In addition, the ethical/practical issues associated with brewer-sponsored responsible drinking campaigns are presented. Lastly, the manner in which researchers conceptualize and operationalize responsible drinking in their scholarly reports also are assessed. The chapter will represent the first journal article.
- Chapter III: Qualitative findings from a series of focus group and personal interview sessions are presented. Findings examine college students' beliefs, behaviors, perceptions, norms, and attitudes regarding the responsible use of alcohol. This chapter will represent the second journal article.
- Chapter IV: Reports on the development, pre-testing and validation of scores from an instrument designed to measure college students' beliefs,

behaviors, attitudes, norms, and perceptions regarding the responsible use of alcohol. This chapter will represent the third and final journal article.

- Chapter V: General conclusions regarding the project as a whole are presented. In addition, implications for the fields of health education and alcohol abuse prevention/education are identified and discussed. Further, directions for future research are also offered. Appendices including supporting documentation will follow this chapter.

CHAPTER II

USE OF THE RESPONSIBLE DRINKING PREVENTION MESSAGE IN SCIENCE AND COMMERCIAL ADVERTISING

Interpersonal factors such as parental and peer interactions, in addition to other environmental factors, are influential components shaping how one forms his/her alcohol-related beliefs and behaviors. However, alcohol advertising is another important resource receiving considerable attention and examination by alcohol researchers and prevention experts. For example, Grube & Wallack (1994) documented children (participants were between the ages of ten and fourteen) who have an increased awareness of beer advertisements as more likely to: hold favorable attitudes about drinking, intend to drink frequently as an adult, and possess a greater knowledge of beer brands and advertising slogans. In a longitudinal study following seventh graders through grade nine, researchers documented a "nearly universal" (p100) exposure to alcohol advertising among both drinkers and non-drinkers. More specifically, by the spring of ninth grade, 90% reported having been exposed to alcohol advertising either through television, in-store beer displays, or concession stands at sporting and/or concert events (Ellickson, Collins, Hambarsoomians & McCaffey, 2005). Providing further support to research documenting alcohol advertising's influence upon adolescents' drinking behavior(s), Wyllie, Zhang & Casswell (1998) report an increase of current drinking frequency and expected future drinking among individuals possessing positive

responses to beer advertisements. Moreover, in a review of empirical studies examining the impact of alcohol advertising, Saffer (2002) asserts that there is sufficient support to conclude that alcohol advertising does increase overall alcohol consumption as well as alcohol misuse.

Due to the prevalence and impact of alcohol advertising, public health associations and officials have lobbied for the strict regulation and possible elimination of alcohol-related advertising (Agostinelli & Grube, 2002; Mosher, 1994). However, in a commentary addressing the concerns associated with alcohol advertising, James Sanders, former president of the Beer Institute – an alcohol industry lobbying organization representing American brewer's and beer supplier's interest before Congress- asserts that alcohol advertising does not cause abuse of alcohol. Mr. Sanders further contends that this claim is supported by "years of government and private research" (p132). Of note however, is the lack of specific references/citations for the scientific or governmental studies supporting his assertion (Sanders, 1994).

Additionally, Mr. Sanders states, "Brewers advertise responsibility and under tight supervision. All beer ads on TV have been through a very demanding review and approval process. Ads must be reviewed by company lawyers, they must conform to company and industry ad codes, and they must meet the networks' standards and practices guidelines – before hitting the air" (p133) (Sanders, 1994). While it is evident from Mr. Sanders' declaration that a number of 'reviewers' examine brewer advertisements before being broadcast, it is not difficult to imagine that none of these reviewing entities are specifically motivated by public health goals or concerns. As

McCreanor, Casswell, and Hill (2000) state in an editorial published in **Addiction**, a journal publishing peer-reviewed alcohol, tobacco and illicit drug research as well as behavioral addiction studies: "Alcohol producers are engaged in a campaign to capture the hearts and minds of alcohol researchers and public health people, as part of a major effort to win the war of ideas that shape alcohol policy at the national and international level. They are driven by the imperative for sales and profits, which is often in fundamental conflict with the public health goal of reducing hazardous drinking and alcohol-related harm. This essential tension cannot be argued away" (p179).

Therefore, in attempting to quell the controversy/debate surrounding alcohol advertising, the alcohol industry has purposefully anchored marketing efforts in the responsible drinking message. These voluntary, brewer-sponsored campaigns have been developed to portray the alcohol industry as a viable contributor and partner addressing the public health concerns associated with alcohol consumption. The face-validity of these campaigns is exemplified in findings from a 2005 telephone survey conducted by Data Development Worldwide on behalf of Anheuser-Busch. The poll assessed whether a sample of 956 Americans thought, "it is a good thing or a bad thing that the beer industry works to address the responsible consumption of alcohol among adults of legal drinking age?" Nearly the entire sample (91%) believed it was a 'good thing' (Anheuser-Busch, 2005).

Even though the alcohol industry is attempting to promote responsible drinking - albeit in a response to growing public health concerns and criticism - this does not change the fact that their ultimate goal is profit. In other words, as with all for-profit

businesses, the alcohol industry's main objective is to sell more products. As was the case with the American tobacco industry vehemently denying any association between its product and lung cancer (despite overwhelming epidemiological data to the contrary), the alcohol industry is not an appropriate authority for safety concerns regarding its product(s). Consequently, Holder (2005) contends "given the desire for profit by business, it is not sensible to expect the alcohol industry to be active and positive participants in any public health efforts, especially those which might limit the sales and associated profit potential" (p1558).

Therefore, given (a) the impact of alcohol advertising, (b) the alcohol industry's rationale for promoting responsible drinking, (c) the underlying sales- and profit-goals of brewers, and (d) the American public's overwhelmingly positive opinion of responsible drinking campaigns, the purpose of this manuscript is to systematically examine and organize the current body of scientific literature associated with responsible alcohol consumption (i.e. responsible drinking). More specifically, the current study will discuss the origins of the responsible drinking message, the alcohol industry's adoption of this prevention message in the advertisement of their products, and the practical and ethical concerns associated with brewer-sponsored campaigns touting a responsible drinking message. Additionally, available empirical studies investigating the 'responsibility' concept will be identified and examined to assess how researchers conceptualize responsible drinking and delineate its characteristics in their studies. Furthermore, other pertinent material, such as government reports, will also be discussed to ensure better coverage of the topic.

Systematic literature reviews such as this one, enable scholars to characterize published studies and "form a systematic map of research in the area, extracting relevant data to establish the value of findings, and synthesizing and reporting outcomes" (Bennett, 2005, p387). Further, systematic reviews are beneficial in establishing scientific and ethical justification (Clarke, 2007); providing evidence to support research, practice, and instruction (Bowman, 2007); and in demonstrating intervention effects, as well as particular conditions impacting identified effects (Forbes, 2003). Overall, systemic reviews have been documented as "having a useful place in a research cycle that wishes to inform and be informed by practice and policy" (Andrews, 2005, p399).

The following research questions guided the analysis of reviewed articles and organization of this review's results: (1) How do brewer-sponsored commercials address responsible alcohol use? (2) Are there any ethical and/or practical considerations associated with the alcohol industry's promotion of responsible drinking? (3) How do researchers operationalize responsible drinking in their scholarly reports?

METHODS

Search and Inclusion Criteria

In order to identify empirical studies and commentaries associated with the concept of "responsible drinking," I utilized the electronic databases Cambridge Scientific Abstracts (CSA), EBSCO HOST (Academic Search Premiere), and ISI Web of Knowledge. Examined academic fields included Health (Health Sciences: SAGE,

Safety Science and Risk), Education (ERIC, Education: SAGE), Sociology (Sociology: SAGE), Psychology (Psych INFO, Psychology: SAGE), and Medicine (MEDLINE). All results were limited to English-only journal articles, published before January 2007. No restriction was placed upon country of origin. Search descriptors utilized to identify relevant English-language studies included: *responsible, responsibility, drinking, alcohol, brewer, and campaign.* Various combinations (using Boolean connectors) and usages of each key word were also employed.

Inclusion in this review required studies to published in a peer-reviewed journal and meet one of the following specifications: (1) Discussed the origin and/or evolution of the responsible drinking prevention message, (2) Examined ethical and/or practical dilemmas associated with brewer-sponsored responsible drinking campaigns, or (3) Discussed or empirically examined how individuals develop, interpret or practice responsible drinking prevention strategies. Articles were excluded if at least one of these three components was not addressed in either the abstract, results or discussion section(s) of the respective study.

Sample

Reviewed publications were identified using the aforementioned key terms and specified inclusion criteria. The search process yielded a total of eighteen appropriate studies. Two additional articles meeting the inclusion criteria were unearthed by examining the bibliographies of resources identified through the initial search process. In all, twenty (n=20) articles constituted the final sample of studies addressing the concept of responsible drinking. Despite not being included in the final sample size

numbers, one government report that distinctively addressed the origins of the responsible drinking message was utilized in the presentation of results, even though these materials were not from peer-reviewed sources.

The Matrix Method (Garrard, 1999) was employed as the strategy for organizing and abstracting pertinent information from these publications. Peer-reviewed research meeting the outlined criteria ranged from as early as 1981 to the most recent 2006. Published articles were drawn from a variety of peer-reviewed journals, including *Journal of American College Health, Journal of Studies on Alcohol, American Journal of Health Promotion, Journal of Alcohol and Drug Education, Addiction,* and *Journal of College Student Development.*

FINDINGS

Eng (1981) contends that the philosophy of responsible drinking originated in 1969, first propositioned by churches at a North Conway Institute (NCI) symposium. [Note: NCI is a non-profit organization based in Boston, MA that works with religious and secular groups to address issues associated with alcoholism and alcohol abuse (Archives of the Episcopal Church, 2003)]. However, responsible drinking was first utilized as a prevention message nationally in 1973 when the Education Commission of the States (ECS) and the National Institute of Alcohol Abuse and Alcoholism (NIAAA) partnered to form the ECS Task Force on Responsible Decisions About Alcohol (ECS, 1977). The impetus of the task force was to utilize prevention as a means to combat the issues associated with the misuse of alcohol, instead of focusing on treatment and

rehabilitation exclusively. More specifically, the task force sought the avoidance of alcohol-related problems by educating individuals to make "responsible decisions regarding the nonuse and use of alcoholic beverages" (ECS, 1977 p11). Along with several other conclusions regarding alcohol-related issues, the task force reached the following consensus: "There are two responsible decisions a person can make about alcohol - either not to use it or to use it responsibly" (ECS, 1977, p12).

By the late 1970s, many alcohol prevention/education programs incorporated the responsible drinking doctrine. Examples include the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) demonstration projects: Seattle's Education Service District #121 "Here's Looking at You" and the Cambridge-Somerville Program for Alcoholism Rehabilitation (CASPAR), "Decisions About Drinking." *Here's Looking at You* attempted to build healthy coping skills and decision making processes by presenting grade-specific alcohol-related material aimed at cognitive and affective student development (Williams & Vejonska, 1981). *CASPAR* trained teachers as well as student leaders to communicate alcohol-related facts and information within the community and school setting. Similar to *Here's Looking at You*, *CASPAR* addressed physiological effects of alcohol, individual beliefs, consumption patterns and decision making skills (Williams & Vejonska, 1981).

In the early 1980s, as responsible alcohol consumption prevention programs were becoming more prevalent, the alcohol industry began to run advertisements promoting the responsible consumption of their products (i.e. alcoholic beverages). This practice continued throughout the 80's and 90's and currently the nation's three largest brewer

companies - Anheuser-Busch, Coors, and Miller Brewing Company - promote responsible drinking campaigns. Descriptions and specifics regarding these full-scale marketing endeavors revolving around the guiding theme of *responsibility* can be found on the brewer's respective websites.

In order to understand the prevalence of responsible drinking campaigns, one should consider the following: In November of 2000, Anheuser-Busch declared that between the years of 1982-2000, approximately $300 million were spent on alcohol education and awareness endeavors, including consumer responsibility campaigns. However, $320 million were spent on product advertisements in the year 1999 alone (Center for Science in the Public Interest, 2000). Thus, when considering the full gamut of marketing and advertising expenditures by brewers, funds committed to responsible drinking campaigns/efforts do not appear as generous.

How Do Brewer-sponsored Commercials Address Responsible Alcohol Use?

In a critical review of thirty-one brewer-sponsored ads aired on American television through 1991, Dejong, Atkin, and Wallack (1992) contend that overall, "brewers have used vague slogans and other advertising strategies that fail to define 'moderate' drinking and have overlooked the fact that certain people should avoid alcohol consumption altogether" (663). Furthermore, responsibility campaigns were found to exude pro-drinking themes and inconsistencies between the visual and verbal message communicated (Dejong, Atkin, & Wallack, 1992).

In the promotion of responsible drinking, brewing companies also tend to utilize ironic catch-phrases such as "Think When you Drink" (Miller Brewing Company, 2006) and "Know When to Say When" (Anheuser-Busch, 2006b), which ignore the cognitive impairment associated with alcohol use, assume that alcohol consumption will occur, and fail to articulate situations in which individuals should not drink. Specifically, Anheuser-Busch's "Know When to Say When" is unclear in explaining "when" to cease drinking – either in terms of amount consumed or level of intoxication - as well as how a person will "know" when the point to stop has been reached (Atkin, Smith & Bang, 1994). Due to alcohol's effect upon cognitive abilities, slogans such as these become quite sardonic. Consequently, researchers maintain that more fitting mottos would be "Think Before You Drink" (Dejong, Atkin & Wallack, 1992) and "Know When to Say No" (Kilbourne, 1991).

Alcohol industry-sponsored responsibility campaigns are also found to situate the concept of responsible drinking around the recommendation to designate a driver. In doing so, brewers are implying that "drinking excessively can still be done responsibly as long as no driving is involved" (Wolburg, 2005, p176). Therefore, individuals are left to assume that as long as one does not drive intoxicated, then he/she is practicing responsible drinking. Yet, a focus upon intoxicated driving fails to consider specific issues associated with segments of the heavy drinking population, most notably college students. As a result, such recommendation ignores binge drinking college students who are many times within walking distance of bars (Wolburg, 2005).

Concerning this industry practice, Dejong, Atkin and Wallack (1992) alert the public: the "designated driver is a made-to-order idea for the beer industry, a partial solution to the problem of alcohol-impaired driving that puts the spotlight on individual consumers rather than on industry practices" (p665-666). Furthermore, researchers have identified dissention associated with the definition of what it means to serve as, or be, a designated driver. In other words, while some individuals feel a designated driver should completely abstain from alcohol consumption, drinkers have been documented as defining a designated driver as the individual who drives best whilst intoxicated (Wolburg, 2001). In other words, many times designated drivers are in excess of the legal definition of impairment (i.e. blood alcohol concentration above 0.08%), yet are chosen to drive because they have successfully driven while intoxicated previously without penalty (Wolburg, 2001). While anti-drunk driving messages ("Friends don't let friends drive drunk") and public education campaigns ("If you drink, drink responsibly") may have raised the public's awareness and increased its knowledge, these campaigns fail to effect any significant behavior change (Jacobs, 1989).

Further, brewer-sponsored responsible drinking advertisements never articulate the strict separation between the acts of consuming alcohol and driving. More specifically, "featuring a car that conceptually links drinking and driving in a supposed prevention message is both unnecessary and inappropriate" (Dejong, Atkin & Wallack, 1992, p668). Consequently, despite a lack of scientific evidence revealing a positive impact as a result of designated driver programs (Dejong, Atkin & Wallack, 1992), the alcohol industry has steadily embraced this concept. Gual (2004) echoes this sentiment,

asserting, “there is striking evidence that the alcohol (and tobacco) industry support all those preventative strategies that lack proven effectiveness, and fight against those which do not have a real effect on consumption levels” (p1376).

Additionally, the beer industry also situates responsible drinking within the context of underage drinking (Chapman, 1991; Wolburg, 2005). Researchers however, differ in their interpretations of the facets that comprise this theme. Wolburg (2005), for instance, asserts that responsible drinking campaigns imply “binge drinking can be accomplished responsibly, as long as the drinker is not under the minimum legal drinking age of twenty-one” (Wolburg, 2005, p177). Yet, Chapman (1991) states that the industry implies alcohol consumption by individuals under the minimum legal drinking age “may be deemed responsible if other criteria are met” (p382). An example of such behavior would be refraining from drinking and driving. Nevertheless, even if scholars disagree on the dimensions of underage drinking addressed in brewer-sponsored commercials, they concur that by concentrating on the age of the drinker instead of the amount of alcohol consumed, the onus of alcohol abuse is situated upon the drinker and not the industry’s product.

Lastly, responsible drinking advertisements fully deny there are some individuals (i.e. alcoholics and pregnant women) for whom consumption of any amount of alcohol would undoubtedly be *irresponsible*. These campaigns also fail to establish that choosing to abstain from using alcohol is a socially acceptable choice and that no level of alcohol consumption is completely risk free (Chapman, 1991; Dejong, Atkin & Wallack, 1992; Milgram, 1996; Wolburg, 2001; Wolburg, 2005).

Are There Any Ethical and/or Practical Considerations Associated with the Alcohol Industry's Promotion of Responsible Drinking?

First and foremost, obvious conflicts of interest are evident in the alcohol industry utilizing a prevention strategy for marketing purposes. Due to the sales-driven nature of the alcohol industry, responsible drinking messages counteract its productivity goals, overall earnings drive, and integral purpose of alcohol advertising. The apparent counter-intuitiveness of this marketing strategy strongly suggests the concept of responsible drinking must meet other alcohol industry needs. Dejong, Atkin and Wallack (1992) epitomize these concerns, stating "There is little doubt, then, that this advertising, voluntarily produced and aired by beer producers, meets the industry's public relations agenda" (p662). The alcohol industry's efforts to encourage responsible drinking magnify their corporate image and fulfill public relations objectives more successfully than modifying consumer behavior (Wolburg, 2001).

Atkin, Smith and Bang (1994) contend that brewer-sponsored responsible drinking campaigns constitute "soft-sell" (p264) versions of traditional public service announcements (PSAs), displaying elements of public service persuasion strategies, advertisements, and public relations campaigns. However, rather than relying on free-time slots provided by television networks and stations (as is the case with PSAs), alcohol-industry campaigns utilize paid placements. In other words, these messages attain an increased viewership and reach specific target audiences. Additionally, because brewer-sponsored responsibility campaigns also work to increase sales revenue and enhance public relations (along with communicating a prevention message); these

campaigns can be more accurately termed “private service messages” (Smith, Atkin & Roznowski, 2006 p1).

While these campaigns create both a positive image/reputation and sense of social conscientiousness for the alcohol company, they also promote product consumption and brand preference. More specifically, “the apparent good faith effort that is ambiguously symbolized in these messages serves a subtle public relations function that may disarm critics, impress opinion leaders, and engender good will with the general public” (Smith, Atkin & Roznowski, 2006 p9). Consequently, responsible drinking campaigns are more influential in improving the reputation of alcohol companies than in preventing problematic alcohol consumption behaviors. For example, in a study utilizing “laboratory response testing” among 326 participants (N=174 young adults aged 19-22 and N=152 teenagers aged 16-18) individuals exposed to responsible drinking advertisements felt that sensible advice was offered and identified the ads were somewhat influential in promoting drinking responsibly (Atkin, Smith & Bang, 1994).

As seen in the previous example, due to the strategically ambiguous nature of responsible drinking advertisements, individuals have been documented as positively evaluating both the messages’ content and the company’s overall image (Smith, Atkin & Roznowski, 2006). Further, “the ambiguity in the ‘drink responsibly’ advertisements enables the audience to draw primarily reinforcing implications that will not substantially reform improper drinking patterns” (Smith, Atkin & Roznowski, 2006, p10).

Lastly, opponents of a responsible drinking prevention message affirm the term "responsible" – when communicated in brewer-sponsored advertisements - conveys that only one choice can be made, to drink. In other words, critics imply that "the responsible decision-making concept motivates drinking" (Milgram, 1996, p360). When individuals with alcoholism are taken into account, responsible drinking becomes impractical due to the compulsiveness inherent in the disease of alcohol dependence. For that reason, drinking responsibly "makes perfect sense [only] to the individual who does not have or does not fully understand the disease of alcoholism" (Chapman, 1991, p382).

The alcohol industry's use of a responsible drinking prevention message ignores important public health objectives, exhibits several limitations, and, as seen above, may actually motivate drinking. For instance, researchers assert that individuals experiencing psychological discomfort (i.e. dissonance) associated with their individual alcohol-related beliefs and/or behaviors might find resolve through exposure to the messages depicted in brewer-sponsored responsibility campaigns (i.e. pro-drinking themes and alcohol use in inappropriate settings) (Barry, 2007). Brewers purposely promote responsible drinking in the "hope to head off further regulations efforts, enhance their image, and gain credibility as good corporate citizens who want what is best for society" (Wolburg, 2005, p176). As is evident by the themes displayed in responsible drinking campaigns and the concerns voiced by researchers, the objectives of the alcohol industry are being amply met though the utilization of a responsible drinking message. Thus, these campaigns serve as nothing but a face-valid, publicly sanctioned, liability shield.

How Do Researchers Operationalize Responsible Drinking in Their Scholarly Reports?

While the alcohol industry's advertising efforts promoting responsible drinking are problematic, at best, serious limitations pervade the realm of health promotion and prevention research, as well. Among the eleven peer-reviewed articles that dealt specifically with programs or interventions addressing the responsible drinking concept in either the implementation process or the articulation of results, only eight (72.7%) explicitly stated characteristics encompassing responsible drinking. Other studies, while utilizing responsible drinking as a variable or outcome, failed to associate any specific characteristic with drinking responsibly. Consequently, findings uncovered in scientific studies will be presented, here, in two sections: the first section focuses on studies articulating responsible drinking characteristics and the second, on studies lacking specific characteristics of responsible drinking.

The first sub-section provides an in-depth examination into the manner in which researchers characterize responsible drinking beliefs and/or behaviors. During the presentation of these characteristics, methodological and/or practical limitations are discussed as needed. The second sub-section examines all articles that discussed or utilized responsible drinking, without explicitly stating beliefs and/or behaviors associated with drinking responsibly. Particular attention is paid to the implications researchers supply regarding responsible drinking despite lacking specific descriptions or dimensions.

Studies Articulating Responsible Drinking Characteristics

Dowling, Clark, and Corney (2006) assert individuals "require knowledge in relation to responsible drinking practices so they can make informed decisions" (p42). In order to examine such knowledge, the researchers utilized a short, self-administered instrument "relating to responsible drinking practices" (p44). This questionnaire assessed participants' ability to identify which drinks ('pot of regular beer,' 'nip of spirits,' 'small glass of wine,' 'can of low alcohol beer,' 'can of pre-mixed spirits' or 'cocktail') constitute a standard drink. In addition, participants were asked to identify the quantity of alcoholic drinks both males and females can consume within an hour and remain under a 0.05% blood alcohol concentration (BAC) - the legal driving limit for all Australian states and territories. Finally, individuals were required to identify which of the following behaviors could effectively lower an individual's BAC: coffee, cold shower, vomiting, and eating (the authors were attempting to identify participants who subscribed to commonly held drinking myths; none of these behaviors can lower BAC). In all, 948 male first-year apprentices in the building and construction industry were compared to 192 university students (39 males, 148 females, 5 unknown).

For the purposes of their study, knowledge relating to responsible drinking was classified into three categories: (1) identification of standard drinks; (2) minimum number of drinks required to reach the legal BAC limit in relation to driving; and (3) actions that could be employed to effectively lower one's blood alcohol concentration (Dowling, Clark, & Corney, 2006). It is noteworthy, however, that this study does not discuss how these responsible drinking factors were identified, nor does it provide a

rationale for why these three factors formed the construct. In addition, Dowling, Clark, and Corney (2006) strictly examine knowledge associated with their personal, proposed notion of responsible drinking. The investigators fail to systematically examine the interpretations and characteristics that young people (in this case Australian apprentices and university students) believe constitute responsible drinking behaviors. Lastly, *no* psychometric properties of the instrument utilized are discussed.

Fisher, Simpson, and Kapur (1987) acknowledge that many prevention programs are built around the concept of the responsible drinker; however the researchers contend that such programs "are reticent in stating how many drinks constitute responsible drinking" (p300). Fisher and colleagues (1987) situate the concept of responsible drinking squarely on the notion of intoxication and one's blood alcohol concentration (BAC). Therefore, the researchers present tables identifying BACs resulting from five standard drinks consumed over a maximum of six hours, taking into consideration individual factors such as gender and body weight. Additionally, BAC charts identifying the maximum number of standard drinks that can be consumed within a six hour timeframe resulting in a BAC under .08% and .05% are also provided. Again, gender- and body-weight-specific numbers were taken into account. The authors conclude, "Generally, it would seem that having tables at hand and counting drinks is the simplest way of drinking and / or serving responsibly" (p.301). The variable nature of intoxication across individual differences (i.e. gender, weight), presence of food in the stomach, and time spent drinking were acknowledged; yet the researchers insisted that the use of BAC tables as a reference guide would ultimately assist individuals in

accomplishing responsible drinking. This study however, does not apply these assertions to a sample of participants, nor are the proposed responsible drinking reference guides associated with a prevention program.

It is important to note that the principle of counting drinks and BAC reference guides outlined by Fisher, Simpson, and Kapur (1987) is based upon the assumption that a standard drink is equivalent to the quantity of alcohol found in a 5oz glass of wine (12% alcohol), 1.5oz of distilled spirits (40% alcohol or 80-proof), or a 12oz beer (5% alcohol). Unfortunately, the practical limitations associated with such an assumption are numerous. First, beers, wines, and/or distilled spirits do not contain equivalent percentages of alcohol as outlined by the standard drink assumption. Secondly, alcoholic beverages are not measured and served in precise quantities (i.e. free pouring). Lastly, the cognitive skills and mental abilities needed to utilize a BAC reference guide are impaired through the use of alcohol. More specifically, maintaining a running drink count and calculating alcohol percentages based upon the different sized alcohol containers and specific type of alcohol being consumed becomes an increasing difficult task as an individual drinks in greater quantities.

Other studies also centered responsible drinking on the notion of an individuals' BAC. In a paper presenting the findings from an intervention designed to promote responsible drinking in hotel lounge areas, McLean, Wood, Montgomery, Davidson and Jones (1994) report "on a trial which tested the feasibility of intervention in hotels to promote responsible drinking, and in particular to decrease drink-driving" (p248). In particular, the intervention focused upon providing information concerning the

relationships among drinking, eating, and BAC to individuals working at the hotel bar, as well as to patrons. In addition, patrons were encouraged to use breathalyzers provided by the investigators to measure their respective BAC. Eighteen hotels (previously surveyed by the researchers in a prior study) were allocated to either a control or intervention group. Patrons exiting the hotel during the intervention evenings were approached and invited to be interviewed. Researchers probed into participants': social setting for the occasion, transport arrangements, amount of food and drink consumed, routine alcohol consumption levels, estimated BAC, opinion of servers' attitude towards his/her drinking, and mindfulness of campaign material. Individuals were also 'breath tested.' A sample of 575 participants represented the final sample size for this study.

While the intervention promoted responsible drinking by providing accurate BACs of patrons and disseminating information regarding the impact of food on the absorption of alcohol, the basis of the intervention was to prevent drunk driving. More specifically, participants who demonstrated an intent to drive and also registered a BAC above the legal limit were "counseled against doing so" (p249). In other words, as evident in brewer-sponsored campaigns, the researchers of this study positioned responsible drinking within the dimension of preventing drunk driving.

In an 'effectiveness' evaluation of a worksite health promotion Kishchuk and colleagues (1994) identify the experimental group having significantly more socially responsible attitudes toward the use of alcohol than the control group ($p<.01$). Effect sizes were noted to be relatively small, however. After completing a baseline survey

(n=387) among employees across four branches of an organization based in Quebec, Canada, the researchers conducted an effectiveness evaluation (n=268) of two, half-hour sessions delivered one week apart. The program aimed at enabling "nondependent drinkers to consume alcohol in a healthy and socially responsible manner" (p353). Specific program dimensions addressing socially responsible attitudes toward alcohol consumption included material focusing upon "protecting ones' family and friends from drinking-related harm, reduction of social cost of alcohol by reinforcing individual responsibility, and responsible behavior when drinking" (p359). The five-item social responsibility scale created for this intervention achieved a Cronbach alpha of $\alpha = .68$, yet the specific items forming that scale were not divulged.

Kishchuk et al. (1994) addressed the evaluation of socially responsible alcohol consumption with relative vagueness, allowing readers to draw their own conclusions as to the specific manner in which responsible alcohol consumption was discussed or promoted in sessions with the participants (i.e. workers). Therefore, conclusions regarding the effectiveness of this intervention to instill social responsibility of alcohol consumption lacked supporting documentation. However, one major difference setting this study apart from others in the sample is that the current study examined 'socially responsible drinking.' In other words, persons were instructed to watch for dangers/warning signs in regards to other persons' alcohol consumption instead of focusing upon personal responsible drinking. For example, participants were supplied information on how to intervene with a friend or family member who has consumed too much alcohol, how to prevent someone from driving after drinking, how to invite a

person to stay overnight to prevent drunk driving, and how to offer non-alcoholic drinks during a social gathering (Kishchuk, Peters, Towers, Sylvestre, Bourgault & Richard, 1994).

In a two-theme media campaign focusing upon responsible alcohol use, McKillip, Lockhart, Eckert and Phillips (1985) assert, "the focus of programming activities is the prevention of alcohol-related problems among the student body by promoting responsible alcohol use" (p90). More specifically, the authors promoted responsible alcohol use via a media campaign exposing students of Southern Illinois University to posters, advertisements, and large window displays throughout campus. Furthermore, the following beliefs were identified as characteristics of responsible drinking: (1) refusing a drink is not rude, and (2) friends don't let friends drive drunk. In evaluating the efficacy of the campus prevention program, students reported whether they had seen the prevention poster on more than one occasion.

McKillip and colleagues (1985) contend that results from the study indicate "a media campaign can be launched which will have strong effects on college students' awareness of responsible alcohol use themes" (p95). Potential behavioral impacts, as outcomes of the campaign, were not discussed, however. It is noteworthy that the two responsible drinking themes identified in this article (avoiding alcohol impaired driving and the individual right to abstain from alcohol use) were 'selected' by program staff. More specifically, themes were selected due to previous university research revealing: (1) "most [university students] thought that their peers expected them to drink heavily" and (2) "drinking and driving was the most frequently encountered problem of 15

[various problems] investigated" (p89). Thus, the responsibility themes identified in this article centered more on alcohol-related problem areas present at the university under investigation, than on responsible drinking factors, specifically.

In a qualitative study conducted in three freshmen-level residence halls (specific university, geographic area, and sample not provided), researchers assessed variations in residential assistants (RAs) performance as prohibition agents. In other words, the authors examined reasons why an RA would, and would not, 'write someone up' for violating university guidelines regarding alcohol consumption in the dormitories (i.e. no-alcohol for minors). Overall, RAs were categorized as either 'by-the-book,' 'laid-back,' or 'in-between.' As a result of the qualitative process, RAs proposed that if dormitory residents drank responsibly, then it was easy to look the other way. More specifically, participants (RAs) revealed that "responsible drinking means drinking that goes on behind closed doors and makes no public trouble. Drinking that is not disorderly, disruptive, or destructive, is considered responsible" (Rubington, 1995, p332). Thus, responsible drinking, in this case, revolved around the notion of preventing raucous and harmful behavior while drinking within the confines of the dormitory.

In a survey examining the relationship between beliefs about drinking and alcohol use/abuse among 526 undergraduate students attending a mid-seized, private, Midwestern university, Klein (1992) contends that students included in the study "tended to agree with statements representing responsible drinking practices more than with those indicating less-than-responsible alcohol use patterns' (p48). In the instrument utilized for this survey, specific items assessing responsible drinking practices included:

(1) “Individuals giving a party should always ensure nonalcoholic drinks were readily available;” (2) “It is okay to say no to someone who offers you a drink;” (3) “As long as they don’t harm anyone else, individuals should be able to drink as much as they want;” and (4) “If offered a beer by someone else and you do not want it, then is it acceptable to ask for a nonalcoholic drink as an alternative.” Additionally, survey items identified as addressing irresponsible drinking included: (1) “A real man should be able to hold his liquor;” and (2) “It is okay to drive after you have had a few (four) drinks.” Since students participating in this survey were documented as agreeing with practices the researchers identified as ‘responsible’ and disagreeing with practices the researchers identified as ‘irresponsible,’ Klein (1992) reached the following conclusion: “By and large, these beliefs represent relatively mature, responsible attitudes with respect to alcohol consumption” (p48).

This previous study exemplifies researcher’s use of subjective, personal ideas when attributing characteristics to responsible drinking. The items that were utilized In Kleins’ (1992) instrument were: (a) not taken or adapted from previous survey questions that specifically addressed responsible drinking, (b) not based upon research examining what college students identified as responsible drinking practices or attitudes, and (c) not based in theory-based propositions of the responsible drinking construct. Therefore, any conclusions regarding responsible drinking practice are based upon the researchers’ personal beliefs concerning what constitutes drinking responsibly. To illustrate even further, one need only examine the responsible drinking survey item stating “People should be able to drink as much as they want as long as they don’t harm anyone else”

(p47). One does not have to be an alcohol expert to identify the practical flaws associated with implying one can consume any amount of alcohol desired, as long as others are not harmed or endangered. What becomes of the harm imposed upon the drinker? Lastly, the lack of reliability and validity assessments of the survey items and the responsible drinking scales upon which all these results are based allude to the subjective manner in which they were developed.

The most specific examples of characteristics of responsible drinking were documented in an article outlining an exercise utilizing role play to teach responsible alcohol consumption. Temple and Lyde (1998) present a teaching technique intended to assist university students in identifying and describing actions of both a responsible and a negligent host. The authors assert that "responsible behaviors include knowing your limit, eating foods while drinking, pacing consumption, planning ahead, and respecting others" (p33). Furthermore, Temple and Lyde (1998) contend "these behaviors ensure that the negative results of alcohol consumption will be avoided or mitigated and enjoyment will be enhanced" (p33).

While the Temple and Lyde (1998) report did specify which behaviors constitute responsible drinking, the methodological and practical limitations associated with the behaviors specified were neither clearly conveyed nor addressed. More specifically, the components/behaviors the authors associated with responsible drinking were not based upon prior research trial, program or study. Furthermore, references were not provided to substantiate the claim that practicing the aforementioned behaviors will "*ensure*" negative alcohol-related consequences are prevented or diminished.

As evident in the aforementioned studies, when providing characteristics of responsible drinking, researchers utilize subjective and often times personal notions of what factors constitute this construct. Furthermore, *no* study reviewed discussed the steps taken, either in practice or concept, to elicit and construct the characteristics that were associated with responsible drinking. Finally, the responsible drinking factors articulated in the reviewed studies were *not* evidence-based *nor* were they grounded in prior research specifically examining responsible drinking among any population.

Studies Lacking Specific Characteristics of Responsible Drinking

While some studies specifically stated what constituted responsible drinking (regardless of the associated limitations), still others failed to denote any amount of detail regarding beliefs and/or behaviors that represented drinking responsibly. For instance, Look and Rapaport (1991) examine the concept of responsible drinking in their evaluation of an Alcohol Education Discipline Program (AEDP) among 172 male and female undergraduate students attending a Midwestern university. The purpose of the program was to reduce the prevalence of abusive alcohol consumption on campus by educating students - referred to the program by a campus proceedings officer - on facts about alcohol and instilling the value that "abusive drinking is inappropriate and irresponsible" (p.89). One group session utilized by the ADEP focused on defining drinking typologies, specifically "abstainers, responsible drinkers, problem drinkers, psychologically dependent drinkers and alcoholics" (p.90). Unfortunately, definitions or descriptions of these typologies were not provided, nor were examples of characteristics

that would classify an individual into one of the typologies. Thus, readers were left to their own conclusions.

Furthermore, in this forced referral program, researchers documented that participants benefited by being provided a "chance to discuss their new-found knowledge with roommates and friends and to try out responsible drinking in between sessions and share their observations and results in the next group session" (p.93). However, the text contains no observations or results regarding the responsible drinking practices mentioned. Nor are there descriptions of the discussions that emerged from individuals sharing their personal responsible drinking behaviors in which they practiced.

Finally, Look and Rapaport (1991) contended that as a result of this referral intervention, those involved "have changed their pattern of consumption to a responsible level" (p94). While continuing to refer to responsible alcohol use, the researchers consistently fail to discuss or divulge the meaning of responsible alcohol use, how alcohol could be used irresponsibly, or how an individual would achieve a responsible drinking level.

In order to reduce "negative" alcohol-related events on campus and prevent individuals from forming dangerous alcohol consumption patterns, researchers intervened with high-risk first-year male college students (n=120) during their initial six weeks in college. More specifically, LaBrie, Pederson, Lamb and Bove (2006) utilized motivational interviewing to provide feedback on normative drinking and change students' perceptions, identify inconsistencies with goals and behavior, and promote

strategies to deal with high-risk situations. The authors asserted the intervention described is "nested within a series of broader campus community initiatives that encourage and support students in practicing responsible behavior when making choices about alcohol use" (p302). Additionally, the final step of the intervention involved participants setting personal behavioral goals in regards to their drinking during the next month. LaBrie et al. (2006) contend that during this time, "the facilitator reinforces goals relating to responsible behavior or reductions in drinking" (p302). Moreover, the respective program attempts to "provide the campus with an environment supportive of responsible drinking choices" (p303). While the implications of this program appear to be quite useful to a college campus on the surface, the validity of these claims becomes questionable when considering that the researchers failed to delineate what it means to engage in responsible drinking behavior. Further, examples of the 'responsible behavior' a program facilitator would encourage were also absent.

A qualitative investigation based upon observational data, focus group findings, and key informant interviews discussed reactions among blue-collar workers to a worksite alcohol awareness program. Observations were collected during two thirty-minute health promotion sessions, administered to workers in Montreal, Quebec, Canada. For the purposes of their study, healthy (i.e. 'sensible') drinking was defined as "drinking in a responsible manner that will not lead to problems for oneself and others, within specified safe drinking limits per occasion, while recognizing situations where one should not drink" (p.57). The researchers document participants responding well when the atmosphere of group sessions was encouraging, highlighting ways to enjoy

alcohol while preventing associated risk. As such, the investigators changed their emphasis from problem drinking to a "discussion of the enjoyment of responsible drinking during social occasions and avoidance of alcohol in situations where it would be unhealthy or dangerous" (Towers, Kishchuk, Sylvestre, Peters & Bourgault, 1994, p61). Overall, researchers identified this change as a "positively orientated approach."

While the concept of responsible drinking was continuously described as a portion of the intervention and even used to define healthy drinking, the researchers failed to articulate what *specific* actions comprised 'drinking in a responsible manner.' It is noteworthy, however, that this study was the only one reviewed that alluded to refraining from drinking during certain situations (i.e. time in which alcohol use would be 'unhealthy' or 'dangerous'). In identifying responsible drinking practices, Towers and colleagues (1994) focused upon the minimization of potential alcohol-related problems.

As evident in the articles summarized in this section, researchers have not only failed to identify evidence-based dimensions and/or characteristics of responsible drinking; some, in fact, have forgone any attempt to define the construct. Instead, scholarly reports refer to responsible drinking as a commonly known fact, almost an *assumption*, not requiring definition or clarification. Furthermore, program conclusions and implications revolve around this concept, yet *no* specific behaviors, beliefs, and or attitudes potentially connected to the concept, are described.

CONCLUSION

The purpose of this review is not to negatively spotlight individual studies inside this body of literature. Instead, published, peer reviewed articles were utilized in this review to provide a heuristic example of the widespread limitations associated with the use of the term/concept "responsible drinking," within the scientific domain of health promotion. In other words, this study aims at uncovering the lack of conceptualization of the responsible drinking construct, an issue which appears to permeate the entire field and all alcohol-related work regarding responsible drinking, not simply a handful of published research articles.

An examination of the current scientific literature associated with responsible alcohol consumption reveals many methodological and conceptual gaps. In addition to lacking a consensus definition among researchers and practitioners, additional grey areas surrounding responsible drinking include: How do individuals personally interpret (define) what it means to drink responsibly? How do individuals practice responsible drinking behaviors? Are there particular beliefs and behaviors commonly associated with "responsible drinking?"

Overall, researchers in the fields of alcohol education / prevention assert that "responsible" is a term that has been seized by the alcohol beverage industry (Wolburg, 2001) and designated as a marketing strategy (Milgram, 1996). Brewer-sponsored advertisements promoting responsible drinking are all presumably developed to support non-detrimental, conscientious drinking; yet, critical analysis of the material displayed and messages inferred through responsible drinking advertisements reveals ambiguity

towards drinking and driving, and inconsistencies between visual and verbal messages. Furthermore, these media campaigns possess several practical and ethical limitations which overall, fail to recognize important public health concerns. Researchers contend that brewer-sponsored responsible drinking content reflects a "hybrid of commercial, public relations, and public service persuasion strategies" (Agostinelli & Grube, 2002, p18).

In articulating the definition of "responsible drinking," researchers utilize very subjective notions and personal ideas, similar to their marketing counterparts. Overall, researchers were found to be consistently inconsistent in identifying specific health measures that promote or contradict responsible alcohol consumption. In addition, the health measures that were provided were not evidence-based nor were they grounded in past research. Consequently, misunderstanding stemming from the vagueness, inconsistency, and overall counter-intuitive nature of brewer-sponsored responsible drinking campaigns is further compounded by prevention researchers' use of the term/concept responsible drinking in their scholarly reports. In other words, researchers are "playing into the hands" of brewing companies by discussing a concept in the scientific arena that lacks a systematic definition and/or set of characteristics.

Originally developed and touted as a prevention message, responsible drinking has now evolved into a marketing ploy utilized by the alcohol industry. Wolburg (2005) contends that "alcohol companies do not promote 'irresponsible drinking,'" however "perhaps it is time to evaluate whether 'responsible' drinking is really a misplaced message" (p177). Through the use of imprecise slogans and other advertising tactics the

alcohol industry has cleverly turned a prevention message into a face-valid throw away phrase.

Unfortunately, due to the alcohol industry's adoption of the responsible drinking prevention message, the usefulness and benefits of this concept may be far too distorted to be effectively utilized in today's alcohol abuse prevention programs – especially in its current form. While the alcohol industry's efforts to encourage responsible drinking magnify their corporate image and fulfill public relations objectives more successfully than modifying consumer behavior (Wolburg, 2001), use of the responsible alcohol consumption concept diminishes the effectiveness of prevention efforts based on the same premise. As Milgram (1996) asserts, "both the confusion between responsible drinking and responsible decision making and the industry's use of the term responsible has made it difficult to discuss the benefits of using the responsible decision making approach with young people" (p360).

In order to elude the negative connotations and misnomers associated with brewer-sponsored responsible drinking campaigns while maintaining the original intent of the ECS' Task Force on Responsible Decisions About Alcohol, the responsible drinking concept needs to be clarified and systematically explored. In other words, researchers must utilize theoretically sound research in answering the following questions: How do individual conceptualize what it means to drink responsibly? How do individuals personally practice responsible drinking? What are the barriers preventing one from carrying out responsible drinking practices? What are the motivations of individuals who practice responsible drinking characteristics?

If current practices continue, then researchers will further emulate the restrictive ideas purposefully promoted by the alcohol industry. Furthermore, unless the aforementioned questions are systematically and theoretically attended to, then the author's contention is that researchers cease using the responsible drinking concept all together.

CHAPTER III

EXAMINING COLLEGE STUDENTS' DEFINITION AND PRACTICE OF RESPONSIBLE DRINKING

In an effort to appease critics of the alcohol industry's advertising practices - especially television advertising - brewers have steadily focused upon encouraging responsible drinking (Atkin, Smith & Bang, 1994; Dejong, Atkin & Wallack, 1992; Smith, Atkin & Roznowski, 2006; Wolburg, 2005). However, the notion of responsible drinking is not novel, nor was it originally developed by the alcohol industry. In fact, it was 1973 when the Education Commission of the States' (ECS) Task Force on Responsible Decisions About Alcohol (a partnership between the ECS and the National Institute of Alcohol Abuse and Alcoholism [NIAAA]) first introduced the responsible drinking prevention message, nationally (ECS, 1977). The task force proposed to tackle the public health concerns associated with alcohol abuse by educating the public on how to make responsible decisions regarding the use and/or non-use of alcohol. More specifically, the task force concluded there were only two responsible decisions one could make regarding alcohol consumption: "either not to use it or to use it responsibly" (ECS, 1977, p12). By the late 1970s, multiple alcohol-related programs and interventions imparted this message (Williams & Vejonska, 1981).

As responsible drinking education programs started to take hold nation-wide the alcohol industry began, concurrently, to encourage individuals to drink their products "responsibly." Presently, the nation's three largest brewing companies (Anheuser-

Busch, Coors, and Miller Brewing Company) maintain responsible drinking advertisements, some of which are modified slogans from campaigns promoted throughout previous years. For example, as discussed on their respective websites, responsible drinking campaigns include Miller Brewing Company's "Live Responsibly" campaign (2006), previously "Think When You Drink;" and Anheuser-Busch's "Responsibility Matters" (2006b) campaign, formerly "Know When to Say When."

Yet, alcohol industry-sponsored ads concentrating on the notion of responsibility are not the only public messages prompting individuals to drink in a responsible manner. For example, during December of 1992, between the Christmas and New Year's holidays, then President-elect Bill Clinton addressed the nation regarding upcoming celebrations. In a videotaped message broadcast by major television networks, Clinton urged the American public:

> We start the New Year with a sense of hope and possibility. Let's also start it safely. In 1991, 20,000 people died because of drunk driving. Don't let his year's statistics include you. If your New Year's celebration includes alcohol, please, for yourself and your friends, take responsibility, drink in moderation, choose a designated driver who doesn't drink at all.

While this message appears sensible and pertinent, *The Alcoholism Report* – a newsletter for professionals in the field of alcoholism and drug dependence - critiqued the address for its use of "controversial terminology" (pg 7). More specifically, the newsletter asserted that alcohol and other drug professionals oppose terms such as 'moderation' and 'responsible drinking' because these expressions do not account for the

vast number of individuals enduring alcoholism and other drug-related problems, for whom responsible drinking and drinking in moderation represent unrealistic objectives (NCADD, 1993). Despite professional critiques regarding the limitations associated with the former-presidents' address, Milgram (1996) contends, "more than any other societal event, this pronouncement offered a message to the alcohol field that the term responsible was again legitimate" (p360).

While the former-president's appeal that the American public drink responsibly seems genuine and prudent, it actually becomes quite ambiguous when taking into account the scarcity of objective, scientific research regarding the characteristics associated with responsible drinking. For example, scholarly research currently contains no references to specific, evidence-based characteristics identifying how individuals - regardless of demographic group or social attributes – conceptualize, interpret, and/or practice responsible drinking. In other words, independent scientific research is riddled with conceptual gaps regarding the notion of responsible drinking (See Chapter II for an in-depth treatment of this topic).

Despite the lack of scientific research identifying components of responsible drinking, the National Collegiate Athletic Association (NCAA) currently mandates a "drink responsibly" tagline be utilized by beer and wine advertisements during NCAA sponsored events (Horovitz, Howard & Petrecca, 2005). While this requirement was developed and implemented as a preventive measure, it may, in fact, serve the interests of the alcohol industry since researchers assert, "the ambiguity in the 'drink responsibly' advertisements enables the audience to draw primarily reinforcing implications that will

not substantially reform improper drinking patterns" (Smith, Atkin & Roznowski, 2006, p10). In addition to potentially reinforcing effects, researchers have also documented contradictions between the visual and verbal messages communicated in brewer-sponsored responsible drinking advertisements as well as overall pro-drinking themes, thus, further contributing to the alcohol industry's overall objective(s) and potentially ineffective preventive outcomes (Dejong, Atkin, & Wallack, 1992).

The waters surrounding the responsible drinking concept become even more muddled when a telephone survey conducted by Harris Interactive on behalf of Anheuser-Busch is taken into account: findings reveal 94% of participants twenty-one or over who identified themselves as drinkers (n=816), reported that they drank responsibly and in moderation. John Kaestner, Vice President of Consumer Affairs for Anheuser-Busch, contends that "these findings confirm government research that shows the majority of adults who drink alcohol beverage do so moderately and responsibly" (Anheuser-Busch, 2006a). Even if momentarily ignoring Mr. Kaestner's conflict of interest, as well as the source of the survey, the credibility of such a claim is called into question by the lack of published research, conducted by either government organizations or independent researchers, articulating what it means to drink in a responsible manner. In other words, current measures or factors associated with responsible drinking have their grounding neither in peer-reviewed studies nor in scholarly research.

As a result of these limitations associated with responsible drinking, the following questions are manifest: How do individuals personally ***define*** what it means

to drink responsibly? How do individuals ***practice*** responsible drinking behaviors? Are there particular ***beliefs and behaviors*** commonly associated with responsible drinking?

Therefore, if either: (1) brewer-sponsored campaigns are going to promote responsible drinking; (2) organizations are going to mandate that responsible drinking be used as a prevention message in advertisements; (3) practitioners are going to recommend that it be practiced by individuals; and (4) researchers are going to examine its dimensions and prevalence, then it is imperative to investigate the questions outlined above and the conceptual and methodological issues related to this concept.

In order to provide a basis for understanding how individuals interpret, define and practice this notion, therefore, the purpose of the current study was to explore the ***personal beliefs, motivations, intentions, and behaviors*** associated with responsible drinking among a sample of college students. This study utilizes systematic research methods to shed light upon the characteristics of responsible drinking, in order to counter the potentially biased personal interpretations of researchers and the restrictive impressions of the alcohol industry.

METHODS

Due to the paucity of systematic data on the topic of responsible drinking (See Chapter II) as well as the researcher's desire to explore college students' beliefs and behaviors regarding "responsible drinking," a series of focus group sessions were conducted (Morgan, 1998). According to Morgan (1998), "Because of their emphasis on discovery and exploration, less structured groups are the best choice when you are

uncertain about what you need to know" (p48). In addition to a less structured format, an "emergent design" approach directed the data collection process (Lincoln & Guba, 1985, p225). These approaches provided the focus group moderator flexibility to explore intriguing and relevant concepts that came to light throughout the focus group process, which may have not been known or previously considered. Consequently, both the approach and the design allowed for participants to inform the researcher regarding previously undocumented or unacknowledged aspects that needed further examination or clarification in upcoming sessions. As no prior studies were available to inform this research or provide direction, it was necessary to allow the participants the maximum amount of freedom possible, to explore and articulate beliefs and behaviors personally associated with the notion of drinking responsibly. Lastly, due to the nature of naturalistic inquiry, a theoretical framework was not specified a priori. Selecting a theory or combination of theories, would infringe upon the data collection process and limit the researcher's ability to 'flush out' emerging factors or concepts (Lincoln & Guba, 1985).

Participant Recruitment

Following the study's approval by the Institutional Review Board (IRB) for the Protection of Human Subjects, recruitment of participants began by inviting undergraduate students attending classes offered by the Department of Health and Kinesiology, at Texas A&M University, to participate. More specifically, students present in Women's Health, Environmental Health, Health Program Evaluation, and First-Aid were invited to participate. At the beginning of each class, information

regarding the purpose and overall objectives for the study were divulged. Once informed about the objectives, students were supplied an information card. Individuals documented their interest in the study by writing "YES" in the space provided on their card; those who did not wish to participate simply wrote "NO" or left the information sheet blank. In addition, students also provided their name, e-mail address, and the most convenient day(s) and time(s) for meeting with a focus group.

Next, interested students were sorted into potential focus group sessions based upon their availability. Once grouped into a potential session, the researcher contacted potential participants via the e-mail address supplied to confirm availability. If scheduling difficulties arose, volunteers were asked to provide another time in which they could participate in an individual session, should they be willing. Participating students received no incentive or extra credit; participation was completely voluntary.

Sample

Originally, Morgan's (1998) *Planning Focus Groups* guided the choice of sample size and number of focus groups needed to conduct the current study. However, due to scheduling conflicts, the fact that no incentives were offered to persons participating, as well as individuals failing to attend scheduled appointments, a total of four focus group sessions were conducted. Furthermore, three additional, separate, personal interview sessions were also conducted. The initial, ideal number of participants to be included in each focus group ranged between three and eight; however, due to the previously identified limitations, the conducted focus group sessions included between two and three individuals. Thus, the final sample size comprised thirteen

individuals - two males and eleven females (Focus Group N = 10; Personal Interview N = 3). This group represents a convenience sample of college students enrolled in Texas A&M University health-related courses in the fall of 2006.

Data Collection

A sample of questions utilized in the focus group and personal interview sessions are displayed in Table 3.1. The 'question route' employed was developed based upon sequencing categories outlined in Krueger and Casey's (2000) *Focus Groups: A Practical Guide for Applied Research*. Question categories included Opening Questions, Introductory Questions, Transition Questions, Key Questions and Ending Questions.

During each focus group and interview session, handwritten field notes documented participants' abridged oral responses to the questions posed, as well as nonverbal cues. Furthermore, each session was audio-taped with written permission from interviewees. Confidentiality was ensured by omitting any identifying characteristics or personal descriptions (i.e. name, age) from the typed transcripts as well as from any presented or published accounts of the sessions.

Analysis

After each session, the investigator compared the written field notes to the sessions' audio-taped record. During this comparison, formal typed transcripts were prepared, taken verbatim from participants' audio-taped contributions. Additionally, the field notes for each respective session were utilized during the transcription process to

Table 3.1 - Questions Utilized to Explore Responsible Drinking Characteristics

Question Type	Specific Question(s) Asked
Opening Statement	- Thank you all for agreeing to participate in today's focus group session. For the next few minutes we are going to have an open discussion regarding your beliefs, behaviors, attitudes, and perceptions concerning the concept of "responsible drinking." Everything you say today will remain within the walls of this room. The only ones who will know what you said are those currently present. I ask that you please be respectful of everyone's comments and feelings throughout the session. Please remember that there are no 'right' or 'wrong' answers here, today; we are interested in your personal views and opinion and this is *not* a test of any kind. - Let me begin by first telling you some of the questions we hope to shed some light upon with today's discussions: 1. How do individuals personally define what it means to drink responsibly? 2. How do individuals practice responsible drinking behaviors? Are there particular beliefs and behaviors commonly associated with "responsible drinking?" 3. Are there particular beliefs and behaviors commonly associated with "responsible drinking?"
Opening	- Let's start by telling everyone your name, what year you are, and where you are from.
Introduction	- When I say "drink responsibly," what immediately comes to mind? - Can any of you recall where you have heard the message to "drink responsibly?" o *Probe for exposure to the message. For example, health class, parental instructions, alcohol commercials, etc.*
Transition	- What would be examples of drinking responsibly?

	- What would be examples of not drinking responsibly?
Key	- How do you personally practice responsible drinking? o *Probe for personal actions and the actions of friends. Are these actions/strategies premeditated?* - How would you personally define "drinking responsibly?" - Considering the definitions you provided, how many of you feel you practice responsible drinking? How many of your peers? - Can you think of any barriers preventing you or your peers from drinking responsibly? o *Probe for norms, attitudes, or beliefs. For example, peer pressure to hangout, worry about missing out on socializing, worry about being ostracized by others.*
Ending	- Can you think of a situation in which it would be impossible for someone to drink responsibly? - Provide some examples of how you could drink in a more responsible manner?

provide clarification (if needed), to ensure statements were not misinterpreted, and also to minimize the introduction of bias.

Upon generating the transcripts, the "constant comparison model" (Lincoln & Guba, 1985) was employed to separate and categorize records by recurrent or significant themes inherent in the raw data. This process involved identifying (highlighting the text) and separating (cutting and pasting the text into an unconnected document) each discrete idea/thought from the transcript, while documenting each segment's transcript of origin. In order to accurately trace the origin of participants' contributions, a code was developed and assigned to each respective session[2]. Ideas or thought units could comprise a single phrase/sentence, or one or more paragraphs.

Once identified and taken from the transcript, each distinct thought was then grouped with similar ones, into an overarching category - i.e. theme. For example, when asked to express what comes to mind when one hears the phrase "responsible drinking" or to personally define this concept, the sample communicated a variety of different characteristics that were identified as components of drinking responsibly. After identified concepts were placed in an overarching theme – such as characteristics of responsible drinking – then that theme was further examined and broken down into related sub-themes. For instance, one prevalent factor identified as a characteristic of responsible drinking was 'refraining from drinking and driving.' Sub-themes such as these represented a group of discrete and interconnected concepts, united by the

[2] Each code contains a combination of seven characters. The first three characters represent the date the session was conducted (i.e. 920 = September 20th). The next three characters represent the time of day the session took place (i.e. 1PM = one o'clock in the afternoon). The final character represents the number of individuals participating in the session (i.e. 4 = four participants). Individual contributions taken from sessions with multiple participants were cited under the reference for the entire focus group.

overarching theme in which they were categorized. This process was conducted until every relevant distinct idea/thought offered by the participants was accounted for and placed in an overarching theme and/or sub-theme. Identifying prevailing themes in this manner has also been labeled the "general inductive approach" (Thomas, 2006).

FINDINGS

Seven prominent features (i.e. sub-themes) emerged from the analysis process, representing the various characteristics that the current sample of college students associated with the construct of "responsible drinking." (the main theme). Participants believed that in order to drink responsibly, one must engage in the following self-monitoring behaviors: (1) refrain from drinking and driving, (2) drink in moderation, (3) monitor and limit the amount of alcohol one consumes, (4) pace the rate at which one drinks, (5) know one's personal limits, (6) take precautions to avoid intoxication, and (7) plan ahead.

Throughout the presentation of findings, readers will notice that the author contributes discussion based upon specific participant-provided characteristics of responsible drinking. Commentary associated with participants' contributions is intended to identify any practical limitations associated with a respective belief and/or behavior. In other words, participants proffered multiple characteristics of responsible drinking, some of which contained ideas and/or views which – in comparison to established scientific evidence - revealed potentially harmful health-related implications.

In such cases, the author invoked scientific knowledge and literature to shed light upon these potentially problematic ramifications.

Characteristics of Responsible Drinking

The following section discusses the seven sub-themes in detail, providing insight into the current sample of college student's conceptualization of responsible drinking.

Refrain From Drinking and Driving

Opponents of brewer-sponsored responsible drinking campaigns often criticize the alcohol industry's inclination to associate the concept of drinking responsibly merely with avoiding drunk driving (Wolburg, 2005). Consequently, it is not surprising that the most frequently mentioned characteristic of responsible drinking, comprised drinking and driving (9254PM2; 9279AM3; 9272PM3; 10611AM1; 10304PM1; and 10304PM2). For example, participants felt that persons "should not get in a car after [they] drink" (9254PM2); and one should "know how you are going to get home" (9279AM3). In addition, another interviewee felt that "whoever is going to be the driver on the way back needs to establish that ahead of time" (9279AM3).

However, participants also revealed that while refraining from drinking and driving is highly desirable, persons established as the designated driver might not necessarily be eager to fulfill this role and abstain from consuming alcohol. For example, one participant stated "You shouldn't be punished for being the designated driver" (9279AM3). This sentiment seemed to be echoed in other sessions when a participant proposed an additional method of preventing drunk driving, stating "you can use Carpool [a local free safe-ride program operated by the University], that way you

can still have a good time" (10611AM1). As evident in these statements, individuals strongly believed that driving an automobile after consuming alcohol is an example of irresponsible drinking; however, there seemed to be an underlying stigma attached to actually serving as the designated driver. In other words, participants felt one should not be penalized or suffer for having to avoid alcohol use, thus preventing these designated drivers, also, from having a 'good time.'

Furthermore, as research relating to the concept of designating a driver suggests, individuals serving as a designated driver to college students do not always refrain from consuming alcohol. In fact, the blood alcohol concentrations (BAC) of a sample of designated drivers in a large, southeastern university community were documented at an average of 0.06% (Timmerman, Geller, Glindemann & Fournier, 2003). The current sample of college students appeared to be aware of this potential complication, when one participant asserted: "... [but] the designated driver should not be the person who is least drunk" (9279AM3).

Lastly, in documenting the profiles of individuals who serve as a designated driver, Caudill and Harding (2000) contend that these persons are more likely to drink more frequently outside the home, achieve a higher BAC when drinking outside the home, to be heavier drinkers [as indicated by the Quantity-Frequency-Variability Index (Cahalan, Cisin & Crossley, 1969)], and to be problem drinkers [as indicated by his/her CAGE score (Mayfield, McLeod & Hall, 1974)]. As if aware of these concerns, participants in the current study felt that a 'back-up plan' may be necessary due to the drinking behavior of a designated driver. More specifically, one participant asserted:

> Usually before we go out we make sure that we have someone who can get us home. But you kind of just play it by ear as the night goes along because that person [the designated driver] could decide later that they are having such a good time that they don't want to stop drinking, so you have to have a backup plan (10611AM1).

It is important to note however, that a 'backup plan' would not be necessary if the individual serving as the designated driver abstained from alcohol use entirely.

Drink in Moderation

Drinking in 'moderation' was also proposed as a characteristic of responsible drinking in both the focus groups and interview sessions (9254PM2; 9279AM3; 1034PM1; 10611AM1; 10314PM1). Since participants were recruited from health-related courses, a number of individuals interviewed were Community Health majors. Thus, these individuals had previous exposure to the concept of moderate drinking in their courses and even went so far as to utilize the definition of moderate drinking utlined by the United States Department of Agriculture and Department of Health and Human Services(USDHHS & USDA, 2000) in their interpretations: "Only having the recommended one drink a day for females and two drinks a day for males" (9254PM2). As indicated by this participant's citation of the guideline for moderate drinking, there are separate tenets for men and women. This is a result of research findings revealing that a similarly-sized woman will become more intoxicated than a man when consuming an equivalent dose of ethyl-alcohol. Yet, not all participants recognized gender alcohol-related differences, asserting that daily allowances should be "no more than two drinks

for any person" (9279AM3). Currently, debate surrounding moderate drinking not only stems from the complications associated with identifying a specific number of alcoholic beverages that can be consumed, but also from adverse consequences of alcohol that may occur even at low level BACs, such as alcohol-related automobile crashes (NIAAA, 1992).

While some participants could easily quantify (i.e. attach a numeric value to) their personal definition of drinking in moderation, others remained somewhat vague in terms of their interpretation. As an issue of Alcohol Alert, published by the National Institute on Alcohol Abuse and Alcoholism, states, "Moderation drinking is difficult to define because it means different things to different people" (NIAAA, 1992). The difficulty for some persons to define moderate drinking was evident in one individual's admission, "Just a couple of drinks, not too much" (1034PM1). When pressed to provide specifics regarding this line of reasoning, the participant elaborated: "Don't drink so much that you are going to throw-up. Not drinking to where it will inhibit your ability to do stuff" (10314PM1).

Therefore, while college students participating in this study closely linked the concept of moderate drinking with responsible drinking, it is clear that these individuals have quite different views on exactly how much alcohol can be consumed and still be classified as drinking in moderation. These findings also embody the highly subjective nature of the term 'moderate': "What one person considers to be moderate drinking, another person may view as heavy drinking" (Dufour, 1999). Lastly, due to the varying

definitions of moderate drinking utilized by researchers themselves (Dufour, 1999), it is not surprising that lay-persons also differ in personal interpretations.

Monitor and Limit the Amount One Consumes

In addition to drinking in moderation, the notion of monitoring the number of drinks one consumes - or ensuring that one consumes no more than an amount he/she determines before drinking begins - was also associated with responsible drinking. For example, participants felt that responsible drinking consisted of not only "monitoring how many drinks you have had" (10611AM1), but also "limiting the amount you drink" (9272PM3).

While the previously discussed theme of moderate drinking centered on the idea of consuming only a specific number of drinks as well, the difference between the two themes (moderate drinking and monitoring/limiting) was a matter of *emphasis*. While the first theme focused, mainly, on the amount of alcohol consumed in general (or for the general population), in the second theme, the emphasis was on the individual's personal decision regarding how much alcohol represents an acceptable level of consumption for *them*, individually. Such decision-making is rarely based upon text-book or researchers' definitions and guidelines. Instead, the chosen, personal cut-off-point is solely guided and determined by personal experience and interpretations.

More specifically, in our study, participants articulated how a certain number of drinks made them 'feel.' For instance:

> So when I hit that second drink, that's it for the night. That point where you kind of feel it [effects of alcohol] but you don't. That was where I feel I need to stop. I feel two drinks is enough (9279AM3).

Further building upon this theme, another participant contends, "I know I feel the effects of alcohol after two drinks, so I make sure not to have more than that when I go out" (9254PM2).

While it is commendable to set a limit on the number of drinks one is going to consume and make sure that the limit is not surpassed (i.e. monitor consumption), basing these consumption levels upon how one is feeling at the time of drinking comes with complications. First and foremost, alcohol impairs one's overall cognitive functioning (NIAAA, 2004; NIAAA, 2001; Oscar-Berman, Shagrin, Evert & Epstein, 1997). Thus, when consuming alcohol, an individual diminishes his/her ability to accurately analyze and interpret how he/she feels or what he/she is perceiving due to the sensitivity of the brain's frontal lobe to low levels of alcohol. More specifically, "first affected are processes that depend on previous training and experience and that govern self-restraint and inhibition. Memory, fine discrimination, and concentration functions are dulled as the blood alcohol level rises…" (Garriott, 2003, p27). Consequently, both judgment and inhibition are the first decision-making faculties to be impaired by drinking. One participant exemplified these conclusions, volunteering, "If I am thinking I am starting to get a buzz, then I am probably really buzzed" (9272PM3).

As evident in the participants' contributions, the theme of monitoring and limiting one's consumption does not define two drinks as a cut-off or 'magic number'

which cannot be surpassed in order to drink responsibly. Instead, the underlying concept is that individuals in the current study are limiting the amount of alcohol each of them consumes, individually, based upon their perception of the *effects* of alcohol (i.e. how alcohol makes them feel). In other words, drinking is monitored and limited (i.e. ceased) once participants begin to notice the effect alcohol is having on their respective bodies, not because they consumed a total of two alcoholic beverages (i.e. moderation).

Pace the Rate at Which One Drinks

Another characteristic of responsible drinking emerging from the group and individual meetings with students focused upon the speed at which one drinks. In other words, pacing the rate at which alcohol is consumed. Accordingly,

> You can have the same amount of beers as someone else in one night, but if you did it over four hours and they did it in two, then there is a big difference in how it will affect you (9272PM3).

This statement links the pace (speed) at which one drinks with an associated sub-theme, the amount of time that passes during a drinking episode. Thus, participants felt that responsible drinking could be accomplished if one "spread out the amount you drink over a long period of time" (1034PM1).

In order to accomplish "responsible drinking," individuals referred to the practice of drinking no more than one drink an hour in three separate interview or focus group sessions (9254PM2; 10304PM2; 10314PM1). This notion links both the concept of pacing one's drinking and allowing time to pass during a drinking episode. However,

the one drink an hour notion (a commonly held belief among the general public and even some educators) has the potential to be quite dangerous.

Utilizing a Blood Alcohol Concentration (BAC) calculator (TCADA, 1997) provides a heuristic example of why consuming one drink an hour has the potential to be unsafe. Momentarily assuming one's body actually removes a total of one drink an hour, then a 110 lb individual who consumes six drinks (defined as 1oz of 86-proof alcohol or approximately one 12oz beer for the purposes of this calculator) over a six hour time period, should have a BAC of 0.0% at the conclusion of six hours. However, utilizing a BAC calculator reveals not only that this hypothetical 110lb individual would have a BAC over 0.0%, in fact, he/she would actually have an approximate BAC of 0.085%. Furthermore, a BAC calculator that takes into account gender-related differences (Lawyers & Judges Publishing Company, 2000) also documents for both a 110lb male and female, BAC levels well above the legal limit of intoxication. Additionally, an extensive literature review documents a majority of studies reporting impairment due to alcohol once a BAC of 0.05% is reached (Moskowitz & Fiorentino, 2000). These examples become even more pertinent considering there is evidence that certain driving-related abilities are impaired with any departure from a 0.0% BAC. Therefore, some individuals subscribing to a "pacing" guideline, consuming no more than one drink an hour, could be drinking to a level of significant impairment as well as intoxication.

Additionally, playing drinking games in which alcohol consumption takes place at an accelerated rate or in a manner that is not paced, was cited as a particular example of irresponsible drinking by this study's participants. More specifically, participants

mentioned drinking games such as “power hour” (9272PM3). “Power hour” consist of participants drinking a shot glass worth of beer every minute for one hour. In all, this would be the equivalent to consuming 7.5 standard 12oz beers in one hour (assuming participants are utilizing 1.5oz shot glasses).

Considering the aforementioned issues, one participant articulated the underlying concern permeating through the theme of pacing one’s drinking, stating “Your goal for alcohol has to be a lot different if you are drinking it quickly. I also think that the outcome of drinking is a lot different depending on the speed that you drink” (9272PM3).

Know One’s Personal Limits

Another characteristic the current sample of college students associated with responsible drinking was the notion of knowing one’s alcohol-related limit. Or, as one participant described, “knowing your [alcohol-related] boundaries; knowing at what point you need to stop [drinking], and feeling comfortable in doing that” (9272PM3).

When discussing what it meant to ‘know one’s limit’ or alcohol-related ‘boundaries,’ participants associated a wide range of beliefs with their interpretations. For example, participants felt that knowing one’s alcohol-related limits ranged from staying in control of one’s self (9272PM3; 0314PM1) to remaining coherent (9279AM3). When pressed to explain what was meant by ‘staying coherent,’ participants asserted: “Know your tolerance. Because you do not want to be completely incoherent where you cannot remember what happened the night before and you have to ask your friends” (10611AM1). Another participant felt that coherence involved

"getting to the point where I consciously still know what is going on around me" (9279AM3).

While staying in control and remaining coherent were interpretations of how individuals conceptualized the notion of 'knowing one's limit,' other participants felt that this characteristic meant preventing illness/sickness due to consuming alcohol. For example, one participant stated "knowing before you get alcohol poisoning. I think people don't know that, the correct amount per person" (9279AM3). While knowing how much alcohol one can drink in order to prevent becoming sick or before acquiring alcohol poisoning was 'correct' for that participant, another individual equated 'knowing one's limit' with "Not blacking out" (10314PM1) – i.e. being able to recall everything that happened during the previous drinking episode. Yet another person felt that knowledge of one's limit meant remaining "under 0.08% BAC" (1034PM1). Since conceptually there are numerous problems associated with individuals interpreting their BACs while/during drinking, the participant was asked to provide additional detail. As a result, the participant proffered, "Throwing up is too much, but buzzing is alright" (1034PM1).

As evident in these participant contributions, the notion of 'knowing one's limit' is not devoid of potentially serious problems. First, alcohol affects individuals differently, depending upon (but not limited to), individualized factors such as gender and body size. Thus, a person cannot be told what his/her specific, personal, alcohol-related 'limit' might be. Therefore, in order to understand one's personal alcohol-related boundaries, it is logical to assume that one must experiment with various levels of

alcohol consumption. This was clearly evident in one participant's assertion, "Everything else [about drinking] I knew, but you never know your own limits until you try" (10304PM2). This person elaborated, calling the experimentation "a trial and error process. That is because I did not know my own limits. That is what I tested" (10304PM2). These sentiments were echoed by another participant: "A lot of people start drinking in high school or their freshmen year in college and that is when you are learning how to drink" (10314PM1). The belief that an individual has to go through a 'trial and error' process or a period of time were he/she 'learns how to drink' exposes an individual to a myriad of alcohol-related problems, not limited to: alcohol poisoning, engaging in unsafe and potentially detrimental behaviors, endangering one's own health as well as the health of others, and breaking alcohol-related laws.

Furthermore, the concept of 'knowing one's limit' seems illogical when considering the insidious nature of alcohol, inhibiting one's judgment process and personal inhibitions. One participant validated this concern when discussing the manner in which one would know his/her alcohol-related limit: "Being in tune with myself; asking, am I starting to feel this? Should I stop now? Just listening to what my body is telling me, and knowing that I am actually worse off than I think" (9272PM3). Clearly, this individual recognized that his/her judgment will be impacted by consuming alcohol; however, this person also believed that the impairment to judgment he/she experiences can be overcome by simply assuming one is slightly more impaired than he/she may actually feel.

Consequently, is it possible to know one's limit, when the very nature of ethyl alcohol impacts individuals' cognitive processes (i.e. ability to 'know' or understand)? Prior research has addressed this very question, criticizing former brewer-sponsored responsibility programs prompting individuals to "Think When You Drink" and to "Know When to Say When." In response to the industry's inability to take into account alcohol's effects, the following, more appropriate, slogans were offered: "Think Before You Drink" (Dejong, Atkin & Wallack, 1992) and "Know When to Say No" (Kilbourne, 1991). In addition, as evident in the multitude of interpretations associated with knowing one's limit, participants in our study identified a number of various alcohol-induced states as 'appropriate.' These consumption levels included drinking an amount that allows: staying in control; remaining coherent; experiencing a 'buzz;' refraining from 'blacking out;' and preventing an overdose on alcohol (i.e. alcohol poisoning).

Take Precautions to Avoid Intoxication

Focus group and interview sessions also provided insight into a variety of preventive measures to be taken if one is going to consume alcohol responsibly. Overall, these encompassed various methods to slow the absorption of alcohol and attempt to prevent intoxication. For example, participants felt that in order to slow the absorption of alcohol one should not drink on an empty stomach (9279AM3; 9272PM3; 10304PM2). One individual explained the rationale behind this logic, asserting "Alcohol is going to be absorbed faster if you do not have food in your stomach" (9272PM3). In order to avoid intoxication and drink responsibly, participants also revealed that one should consume water between alcoholic drinks (9272PM3; 1034PM1;

10304PM2). Putting preventive measures such as these into practice was described by one participant as "taking precautions to take care of yourself" (9272PM3).

Plan Ahead

Another dimension of responsible drinking emerging from the analysis was the idea of planning out one's drinking behaviors before they occurred. One participant articulately explained this concept, asserting:

> I would say responsible drinking is considering when you are going to drink, how much you are going to drink, and where you are going to drink, before you actually start to drink. Basically, planning for the evening and the consequences of whether you do or don't drink. Just taking the time to think about what you are doing and what your actions mean (9272PM3).

Overall, this notion involved thoughtfully examining ["planning ahead" (9279AM3)] one's behavior ["what you are going to do, how much you are going to drink" (9272PM3)] and considering the ramifications of carrying out that behavior in the near future ["taking into account the consequences of your actions, as far as socially and emotionally before you drink, to help you make wise decisions when you drink" (9272PM3)]. Another participant even provided the cognitive steps involved in the planning procedures. For example, this participant asked the following questions to him/herself before deciding a course of action: "Am I going to drink tonight? Am I not? How much am I going to drink? When am I going to start saying no? Am I going to take any shots?" (9272PM3). This individual felt that it was important to think about one's drinking before starting to drink and stick to the plan formed.

While planning out one's drinking behaviors before they occur emerged as a characteristic of drinking responsibly, this concept also revealed an associated sub-theme: individuals' inability to carry out the plan developed. For example, one participant stated:

> Sometimes when I know I am going somewhere and I want to drink, I will say to myself 'ok, I am going to be here for so many hours, I might have a drink or I want to try and only have three drinks during the night.' But, it never works out. My plan never goes. So you don't always do what you plan (9279AM3).

This sentiment was endorsed by another individual, asserting "I had a plan, but then I got encouraged and it totally threw my plan away" (9279AM3). Thus, while it was apparent that participating individuals thought 'planning ahead' was a necessary component in order to drink responsibly, a number of them revealed that these plans - developed before drinking occurred – were no longer valid once drinking began or once an outside influence was introduced. For instance,

> There are times where I have said I am not drinking tonight, but yet I end up drinking. You tell yourself that you are going to go out and not drink. I am going to go home early. But then you come home at three o'clock in the morning. And you think to yourself, that was not my plan at all. I am not a big drinker, but sometimes it just happens (9279AM3).

Factors Influencing Responsible Drinking

In addition to the seven predominant characteristics college students associated with responsible drinking, the sample also provided insight into various intrinsic and

extrinsic factors influencing one's ability to put these responsible drinking factors into practice. To assess these influences, participants were asked to provide insight into the barriers that prevent one from drinking responsibly and how one could drink more responsibly (See Table 3.1). In other words, what affects college students' ability to perform/execute these behaviors viewed as components of responsible drinking?

Intrinsic Factors

Motives

In order to drink responsibly, one participant revealed that an examination of one's personal motives must take place. In other words, one must ask oneself, "Why am I drinking?" More specifically, "Am I drinking just to get drunk? Or, am I just having a drink while I relax?' (9254PM2).. Examining one's personal motives for alcohol use is understandable, considering the fact that using alcohol as a coping measure is a sign of problem drinking (Kessler et al., 1997).

Personal Responsibilities

Participants identified their school-related obligations as a factor impacting their drinking behavior and contributing to "responsible drinking." For example, one participant considered the following days' school schedule as a factor impacting decision making, stating "Do I have class at eight in the morning? If so, maybe I shouldn't stay out until four o'clock" (9272PM3). Another, provided insight into various school-related considerations, asserting:

> You may go somewhere [social environment, bar, etc.] knowing you have a test the next day and say 'I am just going to go for a little bit. I will just have one or

> two drinks.' But then if you have one or two drinks, you might come home and be tired, not study for that test like you were supposed to, and do poorly (9279AM3).

Since the sample for this study comprised currently enrolled college students, school was a predominant aspect of the participants' lives. As such, it is conceivable that in a similar fashion, work-related responsibilities would emerge as a factor if examining individuals not currently enrolled in a college or university.

In addition to school-related factors, participants also identified various personal situations that must be considered in order to for an individual to drink responsibly. One such example revolved around the issue of considering the health of an unborn baby, or "not drinking during pregnancy" (9254PM2). While certainly not the norm among college students, one participant also identified her motherly duties as an influence on her drinking behaviors, stating:

> I know that if I go somewhere and I drink and then I have to come home and take care of my kids I know I cannot do it well if I have had drinks, or maybe the next morning I will not be able to be as attentive as I would have been if I didn't have drinks (9279AM3).

Therefore, personal responsibilities, whether school, work, or family-related, emerged as intrinsic factors influencing one's ability and decision to drink responsibly.

Personal Circumstances or Emotions

The emotional state of an individual was also cited as potentially having an impact upon his/her drinking behavior and ability to drink responsibly. This idea

involved feelings such as anxiety, stress, or depression. For example, one participant stated, "sometimes you are feeling depressed or stressed out and you want to get away from that, and that causes people to drink more than they usually would" (9279AM3). The role of mental depression was elaborated upon by another participant, stating "There are people who have other problems like depression who turn to alcohol and unless they seek help, then, they will always drink" (10611AM1).

Finally, participants also cited specific, hypothetical instances that could impact one's ability to drink responsibly. Some of these instances, mentioned as inhibiting the ability to drink in a responsible manner, ranged from work-related circumstances ["a bad day at work" (1034PM1)] to relationship problems ["boyfriend or girlfriend broke up with them" (1034PM1)].

Extrinsic Factors

Monetary Considerations

An external factor participants felt impacted one's ability to drink responsibly revolved around the issue of money. More specifically, individuals felt that carrying an excess of money while in a social setting such as a bar, could affect drinking behavior by allowing a person to purchase additional drinks, should he/she feel the urge. For instance, one participant revealed that he/she will "only bring enough money for a certain amount of drinks. That way you cannot afford to have more, you aren't tempted to drink more because you don't have the money for it" (9254PM2). Another participant echoed this sentiment, stating "I make sure not to bring a bunch of money to the bar that I could spend on drinks" (9254PM2). Furthermore, an emerging sub-theme associated

with money, was the utilization of credit cards. Credit cards were viewed as a detriment to drinking behavior due to one's ability to have an 'open tab.' More specifically, one can easily loose track of the amount spent on alcohol as well as the number of drinks consumed. For these reasons, one participant identified credit card use at a bar as "terrible" (9279AM3). This individual elaborated, stating "my friends get open tabs with their credit cards and by the end of the night they are like 'wow, I did not realize this!'" (9279AM3).

Basically, individuals revealed that allocating a particular amount of money to an evening's worth of alcohol assisted them in stopping their consumption and prevented them from giving in to temptation. In other words, persons used money as a meter for determining how much had been consumed; once the money was gone, drinking stopped. In addition to applying this concept in a social setting, others implemented this strategy when purchasing alcohol for consumption at home. For instance, "I only like to buy a certain amount because I will know exactly how much I am going to drink. That makes me feel very comfortable" (9279AM3). In order to develop this point, the participant provided the following analogy: "It is like cooking extra, if you don't cook extra food then you will not eat more" (9279AM3).

Environment

Another external factor cited as potentially impacting one's ability to drink responsibly was the surrounding social environment. This notion applied not only to the physical environment, but also the individuals present in that environment. In regards to the physical environment, participants felt one needs to "be in a safe setting"

(10304PM2). One student offered a depiction of what a safe environment would comprise, stating, "go to someone's house to drink all night and stay the entire night there" (9279AM3). In addition to considering where one will drink, participants insisted the individuals present should also be considered. As one person stated: "If you are going to drink alcohol you should feel comfortable and trust people you are around" (10304PM2). Thus, not only is it important to consider the physical environment, but also who is present in those surroundings and how well one knows them. One participant asserted,

> You need to make sure that you are around people you are familiar with. You have to trust the people you are around. If you are just in a bar getting drunk, you do not know the people you come into contact with (9279AM3).

Overall, individuals felt that considering the surroundings in which drinking was going to take place, as well as the individuals present, are necessary for one to drink responsibly.

To this end, multiple female participants discussed the dangers of leaving a drink unattended. More specifically, "Watch your drink. Do not set them down because people could always put something in them" (10304PM2). These female participants were wary of other individuals and fearful of being dosed with a 'date rape drug' (9279AM3; 10314PM1). These admissions clearly point to a gender-related concern. For instance, no males in the current sample discussed or alluded to concerns associated with leaving his drink unattended. Hindmarch and Brinkmann (1999) assert that the term 'date rape drug' refers to substances utilized by perpetrators to "intoxicate or

incapacitate victims, rendering them more vulnerable to sexual assault and less able to remember details of the events surrounding the crime" (225). Some commonly listed date rape drugs include Rohypnol (i.e. flunitrazepam) and GHB (i.e. hydroxybutryate).

Competition

As previously discussed, the current sample identified participation in drinking games as precluding drinking in a responsible manner (9272PM3). Scholarly research supports this notion, documenting drinking games as significantly contributing to heavy college drinking (Borsari, 2004). Furthermore, as indicated in their titles, these games foster a sense of competition among participants (1034PM1): "Drinking games often stimulate a competitive environment, replete with winners, losers and spectators" (Borsari, 2004, p37). One participant echoed this sentiment, likening participation in a drinking game to "the same as if you were in sports or an athletic competition" (9272PM3). The participant elaborated upon this concept, asserting, "this person says that they can do this many shots, well then I have to one up that. I cannot let that person out show me" (9272PM3).

Therefore, not only does competition foster drinking at an increased rate, but it also encourages consuming a greater amount of alcohol in an effort not to be one-upped by another person. Johnson and Sheets (2004) conclude "available evidence suggests that drinking games are associated with greater or more rapid consumption of alcohol than in other contexts" (p91). As evident in these statements, responsible drinking would be difficult to accomplish if one was participating in a drinking competition or

situation that called for drinking large amounts of alcohol in order to demonstrate dominance.

Other Individuals

Lastly, other persons were also cited as impacting one's ability to drink responsibly. Scholarly reports consistently note the substantial influence peers have on the development and maintenance of drinking behaviors among college students (Borsari & Carey, 2001). For example, researchers note peer drinking as a significant predictor of alcohol misuse among adolescents (Tyler, Stone & Bersani, 2006) and identify perceived peer norms as correlating greatly with alcohol consumption rates (Olds & Thombs, 2001). Overall, the "prevalence of alcohol-based social opportunities on campus contributes to the potency of peer influence on individual attitudes and behaviors" (Borsari and Carey, 2001, p392).

One form of influence alluded to in the current sample revolved around the concept of peer pressure (9272PM3; 9254PM2). However, participants provided insight into two, distinct types of peer pressure influencing responsible drinking: indirect and direct. Borsari and Carey (2001) characterize these separate, specific types of peer pressure in a review of the scientific literature relating to peer influences on college alcohol use, stating: "Direct (or active) peer influences explicitly focus on getting a person to drink, and can range from polite gestures (e.g., offering to get a peer a drink, buying a round) to overt commands or encouragement to drink (e.g., forcing others to drink during drinking games)" (p 393). Indirect peer pressure, however, included providing "information about what behaviors are accepted and admired, what is

considered appropriate in a given social context, and therefore what behaviors are likely to lead to social acceptance and reinforcement" (p393).

Instances exemplifying direct peer pressure among the current sample were those including situations such as hazing (9254PM2; 9272PM3). In addition, participants also revealed the role others could have on their actions, by simply offering a drink. More specifically, "I think a single girl just going to the bar with her friends to have fun and plans on not drinking, then a cute guy buys her a drink, I think that she would probably take it" (9279AM3). Thus, by either being propositioned or forced to consume alcohol, one's ability to drink responsibly was cited as being hindered by direct peer pressure.

Examples of indirect peer pressure come from within the overall socialization process. As one participant explains, "if all your friends' activities revolve around drinking, then it becomes part of hanging out. You don't want to miss out on time with your friends so you drink too" (9254PM2). Another participant provided further insight into indirect peer pressure, stating, "If everyone is at the party and everyone is drinking then you might feel left out" (10314PM1). Both the direct and indirect pressures articulated by participants coincide with research findings, noting the significant role of alcohol on the college campus and overall culture, due to its presence at most social gatherings and functions during peer interactions (Thombs, 1999).

A sub-theme associated with the influence that other persons have on one's own responsible drinking behavior emerged in the concept of a "designated care-taker." Participants in our study identified this drinking "buddy-system," as having another individual, whom the drinker trusts, make decisions for the drinker while he/she is

intoxicated. This practice was identified as a method not only to ensure the drinker's safety, but also to accomplish responsible drinking. As one participant explained, a care-taker is "there to watch out for you and make sure that you are going to have a safe way to get home and that no one can take advantage of you" (9272PM3). At its core, this theme centered on the concept of having a known, trusted friend who could "make wise choices about any situation that may arise that night" (9272PM3). In order to provide additional insight, the participant equated a designated care-taker as "a sort of mother hen" (9272PM3).

The emergence of this theme, within our study sample, is significant because, to date (and to the best of our knowledge), none of the scientific literature associated with alcohol use/abuse or collegiate alcohol issues addresses the notion of entrusting one's decision making to another person while under the influence of alcohol, i.e. a designated caretaker. Therefore, further research into the concept and practice of a designated caretaker may prove beneficial in understanding the alcohol-related practices of college students.

Other Considerations

In order to further examine researchers' assertions that responsible drinking messages fail to declare this goal is unattainable for certain individuals, such as alcoholics and pregnant women (Dejong, Atkin, & Wallack, 1992; Milgram, 1996; and NCADD, 1993), participants in our study were asked to identify any situations or circumstances in which drinking responsibly might be 'impossible' (see Table 3.1). In answering this question, two predominant themes became evident.

The first of these themes was the impact *alcoholism* has on one's ability to drink responsibly. Participants asserted that individuals suffering from alcoholism should refrain from drinking, since it would be impossible for them to drink in a responsible manner (1034PM1). One participant elaborated upon this theme, stating that any alcohol consumption by those addicted to alcohol (i.e. alcoholics) would be "irresponsible" (9254PM2). Another participant pointed to addiction as impacting one's ability to drink responsibly, stating:

> If you do not have that control factor, you cannot stop. You will always have that urge and that addiction. It is just like an addicted smoker, they do not have to pick up that next cigarette, but that mental pull and desire is totally different from someone who is not addicted or lacking that desire (9279AM3).

The genetic concerns associated with alcoholism, and the role it can play in the lives of alcoholics' offspring were also addressed: "I think it gets passed down. People who have parents who are alcoholics, they have to try harder [to drink responsibly]" (10611AM1).

While some individuals felt that personal struggles, such as the disease of alcoholism, would interfere with one's ability to drink responsibly, other participants could not identify any barriers that would prevent "responsible drinking." Thus, the second emergent theme was the notion that there were no situations in which it would be impossible for an individual to drink responsibly. Participants situated the ability to drink responsibly squarely on the proverbial shoulders of the individual drinker. For example, a participant asserted, "It is up to the person [to drink responsibly], it is your choice" (1034PM1). In addition, another participant implied that "there is never a

situation where you cannot say no" (10611AM1). Further elaborating on the concept of personal choice, another individual stated "you always have the ability to say no and you can always make up your own mind" (10314PM1). Yet, later, this participant qualified the statement by adding, "I guess if you were held hostage, but I don't think that is going to happen. Everyone has the ability to decide" (10314PM1). Lastly, the personal belief that there are *no* barriers or situations that would prevent one from drinking responsibly, was characterized by the following statement:

> Ultimately you are the one who is in control of what you are consuming so it is the individual who determines, even if there is peer pressure or external factors, it is ultimately your mouth and what is going in it (9272PM3).

The resulting themes emerging from these contributions exemplify the concerns of alcohol researchers who affirm the responsible drinking model "regards alcohol as a neutral substance that is problematic only when users make wrong decisions" (Wolburg, 2005, p176). Thus, the onus of responsibility is shifted away from the product and onto the user.

THEORETICAL APPLICATION

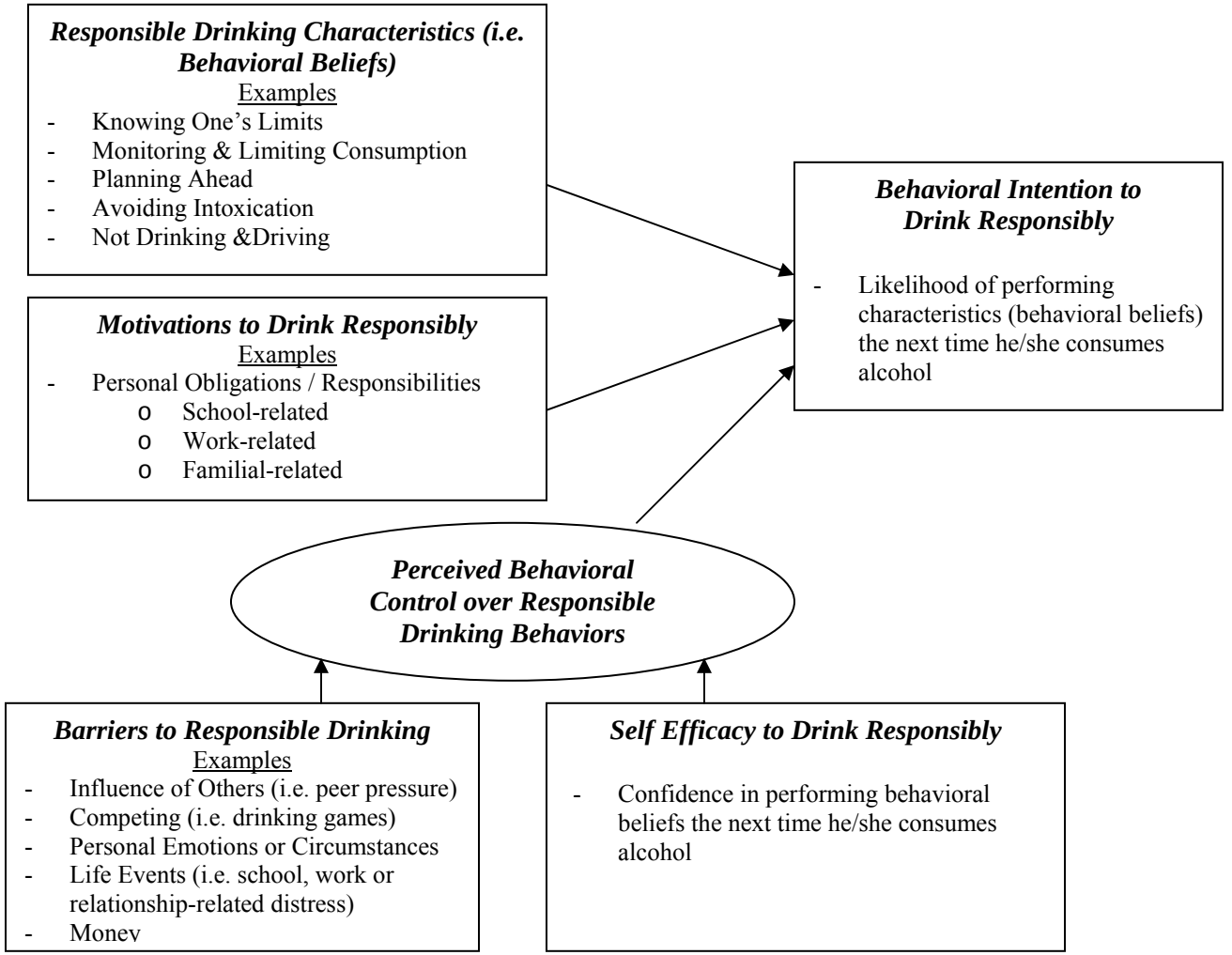
As previously stated in the methods section, a theoretical framework was not specified or employed *a priori*, in this study. Due to the nature of naturalistic inquiry, in addition to the scarcity of previous research examining characteristics of responsible drinking, selecting a theory beforehand would have infringed upon the data collection process and limited the researcher's ability to fully examine emerging themes. Thus,

theory was applied subsequent to the initial data analysis, to provide further meaning and insight into the collected data. Since theory can assist the researcher with the interpretation of study findings, superimposing a theoretical framework onto the identified themes helps to understand the interactions among them.

Figure 3.1 outlines the theoretical model explaining the interaction of the themes discussed throughout this manuscript, as well as their hypothesized influence upon the likelihood that an individual will drink in a responsible manner. In developing this model, the following theories were chosen as contributors to the interpretation of the identified themes: Theory of Reasoned Action (TRA) (Fishbein, 1967), Theory of Planned Behavior (TPB) (Ajzen, 1991), and Social Cognitive Theory (SCT) (Bandura, 1986). This study utilized a mixture of constructs from the aforementioned theories; however, the overall structure of the model remains similar to that of the TPB. The strength of that model lies in examining a person's actions by identifying and measuring key attitudinal (beliefs and values) and efficacy-related factors.

The behaviors individuals identified in their personal interpretation of responsible drinking are represented by the TPB construct, b*ehavioral beliefs*. Behavioral beliefs are defined as an individual's belief about outcomes or attributes of performing a given action (in our case, drinking responsibly) (Montano & Kasprzyk, 2002). Similar to the TPB, the proposed model for this research asserts that behavioral beliefs directly relate to behavioral intention. More specifically, the model asserts that

Figure 3.1 – Theoretical Model



the behavioral beliefs one attributes to responsible drinking, directly influence one's intent to drink responsibly.

Additionally, the motivational attributions one identifies for drinking responsibly are also directly related to intent to drink in a responsible manner. The current models' construct *motivation* is based upon the 'motivations to comply' concept in the TPB. Motivations to comply relate to one's motivation to do what a particular referent believes the individual should do (Montano & Kasprzyk, 2002). The current model however, adapts this construct to focus not on motivation to comply with other people's beliefs, but on personal motivators for responsible drinking (as identified in the focus groups and interviews): school and/or work responsibilities (i.e. have to get up early in the morning, a test the next day), familial responsibilities (i.e. caring for an infant), and monetary concerns (i.e. desire not to spend an excessive amounts of money on alcohol). Thus, while the TPB proposes that motivations to comply revolve around the notion of meeting another individual's approval or disproval of a particular action, the current model suggests motivators can be either internal, external, or both. These motivations are postulated, in the model, to directly affect intentions to drink responsibly. Consequently, the more motivated an individual is to drink responsibly, the stronger their intention to engage in that behavior, and the stronger the likelihood that the behavior will occur.

Perceived behavioral control is included in the current model (as a latent variable) for the same reason that the proponents of the TPB added the construct to the

TRA: “in an effort to account for factors outside of the individual’s control that may affect his or her intention and behavior” (Montano & Kasprzyk, 2002,p74). Additionally, considering alcohol’s intoxicating nature and the cognitive impairment resulting from drinking, factors outside of one’s control become especially relevant. An example of such factors is evident in participants discussing the theme of “planning ahead”. More specifically, “I had a plan, but then I got encouraged and it totally threw my plan away” (9279AM3). As this statement reveals, both the barriers (i.e. being encouraged by others) associated with responsible drinking and one’s self-efficacy (i.e. they my plan away) mutually influence and constitute the two dimensions of the perceived behavioral control factor.

The model’s construct *barriers* (to drinking responsibly), is based upon the ‘environment’ concept outlined in the SCT. In SCT, environment refers to “objective factors that can affect a person’s behavior but that are physically external to that person” (Baranowski, Perry & Parcel, 2002, p168). In the current model, barriers also refer to factors physically external to an individual that may influence behavior; however, this construct also includes intrapersonal factors such as experiencing school-, work-, or familial-related hardships. In other words, in addition to external factors such as peer pressure and competing in drinking games, internal factors can also represent barriers preventing an individual from drinking responsibly (i.e. personal emotions of distressing life events).

Self-Efficacy represents the other dimension of one’s perceived behavioral control. Self efficacy is a concept taken directly from the SCT and relates to “the

confidence a person feels about performing a particular activity, including confidence in overcoming barriers to performing that behavior" (Baranowski, Perry & Parcel, 2002, p173). In other words, having confidence to drink responsibly could overcome the barriers (either internal or external) influencing an individual's behavior. For example, consider the previous participant quote: "I had a plan, but then I got encouraged and it totally threw my plan away" (9279AM3). If an individual were extremely confident in his/her ability to practice responsible drinking (execute the plan he/she had originally developed) then the influence from others (external barrier) might not necessarily cause his/her plan to be 'thrown away.' Thus, the barriers one associates with responsible drinking as well as one's confidence in performing the behaviors associated with responsible drinking (i.e. self-efficacy) need to be considered together to determine one's overall perceived behavioral control.

Therefore, based upon the findings of this study, and upon the behavioral theories we invoked, the proposed model states that an individual's intention to drink responsibly is directly impacted by his/her (1) behavioral beliefs associated with drinking responsibly, (2) motivations personally relevant to responsible drinking, and (3) perceived behavioral control (i.e. barriers to drinking responsibly and confidence in performing responsible drinking behaviors).

Since a universally accepted (or even proposed) definition of responsible drinking does not exists, the behavioral beliefs an individual associates with this concept can be utilized to form one's definition / interpretation of responsible drinking. Thus, in order to further examine this concept in an intervention or program, the current study

proposes that all factors in this model be considered. However, the proposed model should be tested empirically, both with college students and other populations, given the absence of any other scholarly theoretical framework focusing exclusively on responsible drinking. Consequently, a structural equation modeling analysis would provide great insight into the current model's ability to determine the characteristics individuals personally associate with responsible drinking and to identify the direction and magnitude of the effects of the model's various constructs.

RECOMMENDATIONS & IMPLICATIONS

Despite (1) the lack of a consensus definition of responsible drinking among alcohol researchers, and (2) the restrictive concepts that the alcohol industry attaches to the notion of drinking responsibly, the current sample of college students demonstrated well-defined behavioral beliefs (albeit imprecise and reflecting potentially harmful aspects, at times) that formed their interpretation of this message. In addition, this sample was also able to articulate numerous intrinsic and extrinsic individual factors impacting one's ability to practice responsible drinking.

Of note however, is the fact that many of the characteristics that participating college students identified as exemplifying responsible drinking were actually comprised of numerous potentially harmful elements. Therefore, if researchers plan on promoting responsible drinking in the implementation of their alcohol education/prevention programs or on further examining this construct in their scholarly reports, then the characteristics outlined in this paper must be examined in order to prevent any harmful

behaviors from being unintentionally encouraged. Future research should also systematically test these characteristics to establish not only the generalizability of these findings, but also determine the prevalence of the behavioral beliefs among samples of college students at different institutions and geographic regions.

Lastly, this paper is a valuable asset to the literature because it represents the *first* scholarly attempt to identify the characteristics that college students - and laypersons in general – associate with responsible drinking. In addition, the various factors impacting one's ability to practice these beliefs have also not been identified or discussed in previous research. Thus, this study is not only the first of its kind, but also the initial step toward scholarly researching responsible drinking and potentially eliminating the restrictive notions the alcohol industry has attached to this one-time prevention message.

DISCLOSURE

In qualitative research, the researcher serves as the data collection tool (Lincoln & Guba, 1985). Therefore, since each individual possesses personal biases and predispositions (whether intentional or not), it is important to divulge my personal characteristics and views that may have impacted the current study.

Originally, I became interested in the concept of responsible drinking after witnessing multiple beer commercials conclude their advertisements with the following statement: "(the respective company) reminds you to drink responsibly." Being proficient in research methods and having an extensive knowledge of the alcohol-related scientific literature (including the impact of advertising), I found it humorous and an

oxymoron that the alcohol industry would promote responsible drinking given the industry's overall goal was that of sales and profits. Therefore, after academically investigating the concept more closely, I documented that this concept was once a prevention message which had been taken over by brewers and utilized as a marketing tool. Thus, from the outset of my research, I held that the alcohol industry's promotion of responsible drinking was strategic and unethical.

I then set out to *define* responsible drinking. Yet, almost immediately I realized the scope of this concept and felt that responsible drinking could not be quantified in the same manner that binge drinking had been [Men consuming five or more drinks in a row and women consuming four or more drinks in a row, at least once in the past two weeks (Wechsler, Davenport, Dowdall, Moeykens & Castillo, 1994)]. In order to measure responsible drinking, I concluded that individuals might be able to define it themselves, by sharing how they personally interpreted the concept. Due to my beliefs at the time, I felt that participants would mimic the ideas associated with responsible drinking that were prominent in brewer-sponsored advertisements. Because I held such expectations, and consumed alcohol myself, I withheld personal beliefs from participants, in order not to influence their responses. Lastly, I felt confident in my ability to understand participants' contributions due to my own personal experiences and those of my drinking peers.

LIMITATIONS

An important limitation of the current study concerns the size and characteristics of the sample. Due to multiple methodological restrictions, including (1) scheduling conflicts, (2) individuals failing to show for appointments, and (3) lack of incentive(s) for those choosing to participate, the overall sample size turned out to be smaller than originally intended. As a result, the initial plan to carry out only focus group sessions had to be adjusted. Consequently, individual sessions were also conducted (utilizing the same questions as for the group settings) to gather the maximum number of participants as possible. While the current sample is small in terms of numbers, the findings affirm that saturation was evident towards the final sessions conducted. In other words, participants in the later sessions began to repeat the contributions of earlier participants (Lincoln & Guba, 1985). Overall, participants were only providing additional support for the notions of others and were not offering novel concepts.

In addition, the current study is also limited due to the skewed gender distribution of the current sample. More specifically, the vast majority of this study's participants were females. Therefore, male insight and opinions were not as evenly accounted for as those of females. Moreover, the current sample was also homogeneous in terms of age and ethnicity. In other words, the sample was comprised predominantly of college-age Caucasians. As such, contributions from individuals (both male and female) of diverse ethnicities or age ranges were limited. Future qualitative investigations into the concept of responsible drinking should focus upon acquiring a sample that is more evenly distributed across gender, age and ethnicity. Consequently,

the study is limited in its ability to generalize to other populations or even make broad claims regarding all college students.

Lastly, this study is also limited by the fact that it is the first of its kind. While this fact denotes how significant the current research is to the field, it also hurts the study because no prior research could be drawn upon for insight into the development of questions and/or interpretation of results. Nevertheless, findings from the current study demonstrated great potential not only to contribute to the understanding of college students' interpretations of responsible drinking, but also to guide future research into this concept. In that regard, the data collected in this study will be utilized to direct the development of an instrument designed to measure the prevalence of the intentions, beliefs, motivations and perceived behavioral control, among populations of college-aged youth.

CHAPTER IV

DEVELOPMENT AND PSYCHOMETRIC TESTING OF MEASURES ASSESSING RESPONSIBLE DRINKING COGNITIONS AND BEHAVIORS

Alcohol industry pundits maintain that alcohol advertising has no effect on alcohol abuse and that "brewers advertise responsibly" (Sanders, 1994, p133). Conversely, public health officials have called for the stringent regulation and/or elimination of alcohol advertising due to its documented influence on individuals' beliefs and behaviors regarding alcohol consumption (Agostinelli & Grube, 2002; Mosher, 1994; Grube & Wallack, 1994; Saffer, 2002; Wyllie, Zhang & Casswell, 1998). Caught in the midst of this paradox, Americans are inundated with recommendations to 'drink responsibly,' the central message of both industry-sponsored campaigns and alcohol-abuse education/prevention efforts implemented by public health entities.

Examples of brewer-sponsored responsible drinking advertisements include Anheuser-Busch's "Responsibility Matters" campaign (2006b); Miller Brewing Company's "Live Responsibly" campaign (2006); and Coors' "21 Means 21" campaign (2006). Critics claim, nonetheless, that these promotional efforts are ambiguous attempts by the industry to curtail increasing criticism, prevent additional advertising regulations, boost public image, and create a more credible reputation (Atkin, Smith, & Bang, 1994; McCreanor, Casswell, & Hill, 2000; Smith, Atkin, & Roznowski, 2006; Wolburg, 2005).

Moreover, recent surveys of the general public have documented that 91% of Americans polled in 2005 [telephone survey of 956 Americans] considered it a 'good thing' the beer industry attempts to address responsible drinking (Anheuser-Busch, 2005). Yet, multiple studies have indicated serious limitations in brewer-sponsored responsible drinking campaigns, including: pro-drinking influences (Atkin, Smith, & Bang, 1994; Dejong, Atkin, & Wallack, 1992), failure to insist upon the separation of drinking and driving (Dejong, Atkin, & Wallack, 1992) and inconsistencies between visual and verbal message communicated (Dejong, Atkin, & Wallack, 1992). Overall, "the ambiguity in the 'drink responsibly' advertisements enables the audience to draw primarily reinforcing implications that will not substantially reform improper drinking patterns" (Smith, Atkin & Roznowski, 2006, p10).

While some research documents shortcomings in the manner in which public health scholars define responsible drinking in their own work (see Chapter II), the health promotion/public health literature contains no accounts of attempts to systematically *conceptualize* or *operationalize* the concept of "drinking responsibly." Scientific studies purportedly examining responsible drinking, instead, rely upon researchers' subjective notions of this construct (for a detailed review of this issue, see Chapter II). In other words, "misunderstanding stemming from the vagueness, inconsistency, and overall counter-intuitive nature of brewer-sponsored responsible drinking campaigns is further compounded by prevention researchers' use of the term/concept responsible drinking in their scholarly reports" (Chapter II, p 38). Consequently, researchers often fail to differentiate the concept of responsible drinking from the meanings the alcohol industry

has construed and attached to the concept, thus, further cementing the conceptualization/definition of a non-evidence-based construct in the public health arena (for a more in-depth analysis of the implications of such failure, see Chapter II).

This study begins to fill such conceptual void, by developing appropriate measures to assess responsible drinking. The construction of these measures was grounded in systematically-collected evidence and in health behavior theories. Specifically, the purpose of this manuscript is to report the development and psychometric testing of an instrument designed to measure college students' beliefs, motivations, intentions, and behaviors regarding responsible drinking.

THEORETICAL RATIONALE

Due to the paucity of scholarly-defined, evidence-based factors identified as dimensions of, or factors associated with responsible drinking, prior research could not inform the development of questions designed to assess the prevalence of specific cognitions and behaviors, in various populations. Thus, before a pool of sample items could be generated, qualitative research was conducted (see Chapter II) to first explore the beliefs, motivations, intentions, and behaviors college students associate with responsible drinking. Findings from this qualitative examination led to the development of a theoretical model hypothesizing specific relationships among these cognitive and behavioral elements. In order to test the theoretical model, further, specific measures needed to be created. The development of these measures was, therefore, grounded in

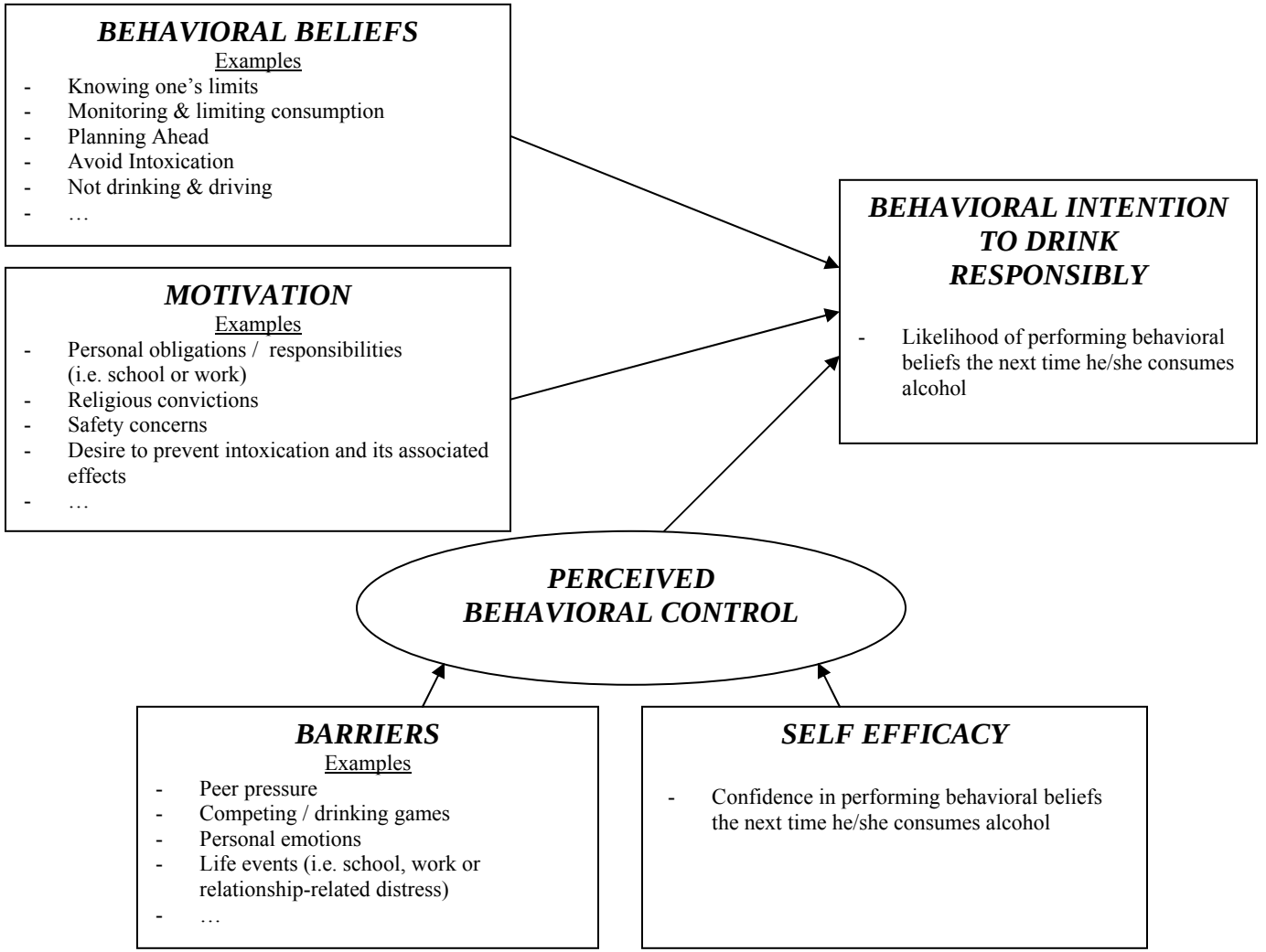
both the qualitative findings, and on the theoretical propositions (invoked to interpret the findings and develop the model -- see Chapter II).

The various dimensions/factors associated with responsible drinking, as well as their proposed interactions, are graphically displayed in Figure 4.1. The figure depicts behavioral beliefs, motivation, barriers, and self-efficacy as predictors or determinants of intention to drink responsibly. According to the Theory of Reasoned Action (TRA) (Fishbein, 1967) and the Theory of Planned Behavior (TPB) (Ajzen, 1991), behavioral intentions are the best single predictor of actual behavior, and are influenced/determined by individuals' beliefs, motivations, and perceived behavioral control.

The specific dimensions or factors that college students conceptualize as 'responsible drinking' are represented by the TPB construct, *behavioral beliefs*. Montano and Kasprzyk (2002) define behavioral beliefs as an individual's beliefs about outcomes or attributes of performing a given action (i.e. drinking responsibly). In order for responsible drinking to occur, individuals' beliefs and intentions should be strongly correlated.

The construct *motivation* is adapted from the 'motivations to comply' concept in the TPB. Motivations to comply relate to one's motivation to do what a particular referent believes should be done (Montano & Kasprzyk, 2002). Individuals are motivated to perform a behavior depending upon the approval or disapproval of another individual. Yet, the current model's construct of motivation is an adaptation of the TPB's motivations to comply concept, as motivations for drinking can be either intrinsic,

Figure 4.1 – Model



extrinsic, or both. The motivations outlined in the model are hypothesized to directly influence one's intention to drink responsibly. As a result, the more motivated an individual is to drink responsibly, the stronger their intention to engage in that behavior, and the stronger the likelihood that the behavior will occur.

Originally, the TRA specified that behavioral intention is affected only by attitudes (beliefs) and subjective norms (motivation to comply with others). The proponents of the TPB added the concept *perceived behavioral control* to the original formulations of the TRA "in an effort to account for factors outside of the individual's control that may affect his or her intention and behavior" (Montano & Kasprzyk, 2002, p74). This concept is included in the current model for similar reasons. One rationale for addressing factors outside of an individual's control in this model is the intoxicating nature of alcohol and the fact that cognition is impaired when alcohol is consumed. Another reason for accounting for factors outside an individual's control is the addictive nature of alcohol consumption (for predisposed individuals), making it difficult for an alcohol-dependent individual to have complete control over his/her behaviors.

In order to address the measure of perceived behavioral control, we included the construct in the model as a latent variable, measured by two indicators: barriers and self-efficacy. More specifically, the obstacles (i.e. barriers) to responsible drinking, as well as one's confidence in performing behaviors associated with responsible drinking or overcoming those barriers (i.e. self-efficacy) need to be considered in unison to determine one's overall perceived behavioral control.

The indicator *barriers* assesses those factors that would inhibit one's ability to drink responsibly. Moreover, a specific behavior is less likely to occur, if obstacles interfere with the intended action. This construct is based upon Social Cognitive Theory's (SCT) concept of 'environment.' Environment is defined as "objective factors that can affect a person's behavior but that are physically external to that person" (Baranowski, Perry & Parcel (2002) define p168; Bandura, 1997). Based on previous qualitative findings however (see Chapter III), the author learned that participants refer to barriers to drinking responsibly as factors both physically external to an individual, as well as internal (e.g., intrapersonal factors such as experiencing school-, work-, or familial-related hardships). Thus the measures developed in this study focused both on intrinsic and extrinsic barriers.

Another dimension of one's perceived behavioral control, *self-efficacy* must also be considered. Self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p3). Adapted for this study from SCT, in our model self-efficacy represents one's confidence in performing the behavioral beliefs he/she associates with responsible drinking, the next time he/she consumes alcohol.

In summary, the current model proposes that an individual's intent to drink in a responsible manner is directly related to his/her (1) behavioral beliefs, (2) motivations to drink responsibly, and (3) perceived behavioral control (i.e. the barriers inhibiting responsible drinking as well as confidence in performing the responsible drinking

behaviors subscribed to). All constructs represented in the current model were grounded in the qualitative data described in detail in Chapter III.

METHODS

Item Development

Subsequent to the development of the model portrayed in Figure 4.1, the author generated an initial pool of items using established question-writing criteria outlined by Dillman (2007). Each item's underlying objective focused upon measuring a specific factor emerging from the qualitative data and depicted in the model (O'Rourke & O'Rourke, 2001). In other words, the author formulated questions measuring intentions, behavioral beliefs, motivation and perceived behavioral control associated with the notion of 'responsible drinking' (see Chapter III). Questions were categorized in logical order, mirroring the organization of the theoretical model (Dillman, 2007).

Instrument Scales & Structure

In total, the *Characteristic of Responsible Drinking Survey* (CHORDS) contains 78 items, 64 of which were uniquely developed for this study and 14 were taken from the American College Health Association's (ACHA) National College Health Assessment (NCHA). Further, the questionnaire is conceptually divided into 6 different sections/dimensions, the last of which comprises demographic items and alcohol consumption questions, taken from NCHA. Each section, with the exception of the last, corresponds to a respective construct in the model and represents a scale (See Figure 4.1).

Behavioral Beliefs

This dimension contains 8 items addressing behavioral beliefs regarding responsible drinking. Items ask participants to identify whether they believe a person must perform the described behavior(s), in order to drink responsibly. Respondents note whether it is important that these behaviors occur (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always, when drinking any alcohol. Specific characteristics addressed include: drinking and driving, knowing one's limits (i.e. how much alcohol one can handle), maintaining a blood alcohol concentration (BAC) below the legal limit, planning ahead (i.e. when, how much, and where one is going to drink, before actually starting to consume alcohol), drinking in moderation , monitoring and limiting alcohol consumption, pacing the speed at which one drinks, and taking actions to avoid intoxication and slow the absorption of alcohol. For example, "In order to drink responsibly, a person must take action(s) to avoid intoxication and slow the absorption of alcohol" (see Appendix A for the complete details).

Motivations

This dimension includes 21 items addressing participants' motivations for drinking responsibly. For each item, respondents indicate whether given conditions/situations serve as a potential motivator for drinking responsibly (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always. These items address both intrinsic and extrinsic factors motivating one to drink in a responsible manner. More specifically, the following factors are examined: school- or work-related responsibilities, driving-related concerns (i.e. either driving one's self or serving as a

designated driver for others), safety-concerns (i.e. looking after friends, fear of being taken advantage of), environmental concerns (i.e. where drinking takes places, who is present), and personal considerations (i.e. religious convictions, fear of acting out of character / regret, monetary issues, desire to remain in control or coherent, and preventing illness). For example, "When I drink responsibly, one of my motivations is because I have to drive myself home" (see Appendix A for the complete details).

Self-Efficacy

The self-efficacy dimension of the CHORDS assesses individuals' confidence in performing specific responsible drinking actions / behaviors when consuming alcohol. The 8 items present are reiterations of behavioral beliefs discussed previously. However, because the items measure self-efficacy, respondents indicate *how confident* they are in performing the described behaviors the next time they drink. The response scale ranges from 0% (having no confidence) to 100% (extremely confident) (Bandura, 1997). For example, "The next time I drink alcohol, I feel confident in my ability to pace the speed at which I drink…" (see Appendix A for the complete details).

Barriers

The fourth dimension of the CHORDS consists of 16 items, examining circumstances (i.e. barriers) that interfere with one's ability to drink responsibly. Respondents identify how much of an obstacle/problem each item would be, assuming they planned to drink responsibly in the future. Participants indicate whether each item would be an obstacle to drinking responsibly (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always. Specific barriers addressed through the items

include: stress, personal difficulties, school- and/or work-related issues, relationship problems, others' alcohol consumption, peer pressure, being looked after by others, and celebrating a 21st birthday. For example, "The next time I drink alcohol, I would not be able to drink responsibly if I had recently broken-up with my significant other" (see Appendix A for the complete details).

Behavioral Intentions

The fifth and last dimension of the instrument assesses individuals' intentions to drink responsibly. Once again, the 8 items in this section are reiterations of the behavioral beliefs previously discussed. Respondents are asked to consider the next time they will drink alcohol, and indicate the likelihood of personally performing the behavior described. Participants identify whether they are (1) not likely at all, (2) seldom likely, (3) somewhat likely, (4) likely, or (5) extremely likely, to perform these behaviors, the next time they drink. For example, "The next time I drink alcohol, how likely or probable is it that I will monitor and limit my alcohol consumption by stopping my drinking after consuming a specific number of drinks" (see Appendix A for the complete details).

Skip Patterns

In addition to the aforementioned scales, three skip questions were strategically placed throughout the instrument. These items were included to identify respondents who either abstain from drinking, or believe they will be unable to drink responsibly the next time they consume alcohol. Skip questions were placed before sections addressing motivations to drink responsibly, confidence in performing responsible drinking

behaviors, and barriers to drinking responsibly. Thus, persons who believed they would not be able to drink responsibly the next time they consumed alcohol, were prevented from responding to questions about motivations for, or barriers to, responsible drinking. Individuals identifying themselves as abstainers only answered questions addressing behavioral beliefs (as well as demographic questions). Thus, the use of a skip pattern eliminated "unnecessary questions that are not relevant to some respondents" (O'Rourke & O'Rourke, 2001, p157).

Additional Questions

In addition to the 64 items specifically developed for this research, the instrument also drew upon 14 questions from the NCHA, 5 of which were alcohol-related and 9 assessed demographic characteristics. This section was placed at the end of the instrument (O'Rourke and O'Rourke, 2002). Questions designed to assess individuals' alcohol consumption habits included items such as "Within the last 30 days did you drive after having 5 or more drinks?" Demographic questions assessed participants' age, gender, year in school, full-time student status, race/ethnicity, international student status, current residence, and Greek membership status (National Interfraternity Conference, National Panhellenic Conference, or National Pan-Hellenic Council - see Appendix A for the complete details).

In forming the NCHA, the ACHA utilized previously established surveys as a foundation for the questionnaire's development and comparison for construct validity analysis (ACHA, 2005). While reliability and/or factor loadings regarding the NCHA's sub-scales (alcohol, tobacco and other drug use for example) are not available, ACHA

does provide insight into the testing of the instrument. More specifically, ACHA (2005) asserts, "the reliability analyses of the ACHA-NCHA findings showed consistent standardized alphas and average interiterm correlation coefficients when compared with the NCHRBS [National College Health Risk Behavior Survey]" (p200). Furthermore, "the construct validity analyses showed similar correlation coefficients when compared with the NCWSV [National College Women's Sexual Victimization Study]" (p200).

Pre-testing

Pilot-testing procedures were identified to ensure the CHORDS would generate valid and reliable data. Adapted from recommendations by DeVellis (2003) and Dillman (2007), the following phases represent the checks and balances enacted in order to validate the current instrument: (1) Assessment of content validity (DeVellis, 2003; Dillman, 2007); (2) Assessment of the cognitive and motivational qualities of the instrument (Dillman, 2007); (3) Implementation of a pilot study (DeVellis, 2003; Dillman, 2007); and (4) Evaluation of the items (DeVellis, 2003).

Pretesting Phase 1 – Assessment of Content Validity

In the first pretesting phase, a panel of experts reviewed a preliminary version of the instrument and its respective items. The underlying rationale for eliciting expert feedback concerns "maximizing item appropriateness" and examining the extent to which the proposed items cover all potential dimensions of the factors (DeVellis, 203, p50).

A total of five experts (n=5) reviewed and provided feedback regarding the CHORDS. As obtaining feedback from individuals with varied and diverse experience

is particularly valuable in this phase, panel members included persons with knowledge and expertise in the paradigms of health education, alcohol and safety, and educational psychology (Dillman, 2007). The experts were asked to specifically address: (a) the applicability of each item, (b) whether the item addressed the construct it was designed to measure, (c) the coverage of items (whether additional items should be added or were being neglected), as well as (d) the instrument's design.

Subsequent to the experts' input, the author addressed each panel member's concerns and/or comments. Most notably, Likert-type response scales were expanded from four possible answer choices to include five possible responses. One reviewer was concerned about the original scales' capacity to capture variability across participant responses. Minor editorial (i.e. wording) and format (i.e. presentation) changes also resulted from reviewer feedback. However, no items/concepts were recommended for deletion or addition. The overall structure of the instrument remained unchanged.

Pretesting Phase 2 – Assessment of the Cognitive and Motivational Qualities of the Instrument

In this phase, the author conducted a series of cognitive interviews. The cognitive interviewing process attempts to determine whether respondents comprehend questions as intended by the researcher. Further, this process provides insight into the following questions: (1) "Are all the words understood?" (2) "Are all the questions interpreted similarly by all respondents?" (3) "Do all the questions have an answer that can be marked by every respondent?" (Dillman, 2007, p141).

During the cognitive interview process, the author asked participants to read through the questionnaire, and to 'think out loud' as they proceeded through the survey.

In addition, the author probed respondents in order to get a better understanding of how each question was being interpreted and whether the intent of the question was being realized (Dillman, 2007).

Six cognitive interviews (n = 6) were conducted. Based on the feedback, a total of seven items were eliminated from the instrument. Six items from the motivation scale were either removed due to redundancy or amalgamated with other questions with similar content. For example, the item - "When I drink responsibly I do so because I have school work to complete" was deleted since multiple other items addressed school-related responsibilities, previously. Additionally, the item "When I drink responsibly I do so because I do not want to do anything out of my character that I may later regret" was formed by combing two separate items: "…. because I do not want to do anything I may later regret" and "… because I do not want to do anything out of my character." Furthermore, one item was removed from the barrier scale since multiple participants felt it was non-applicable: "The next time I drink alcohol, I would not be able to drink responsibly if being hazed by my fraternity brothers / sorority sisters."

Pretesting Phase 3 – Implementation of a Pilot Test

The third phase of pretesting involves administering the instrument to a developmental sample to emulate the proposed data collection procedures for the final testing of the instrument (Dillman, 2007). This phase not only assists in identifying any difficulties in the procedures to be utilized, but also allows the researcher to "make reasonably precise estimates as to whether respondents are clustering into certain categories of questions" (Dillman, 2007, p147). In other words, data from pilot testing

can provide information on the overall variability of responses. Additionally, a pilot study provides insight into particular questions which frequently go unanswered (i.e. patterns in missing data); investigates whether the scales in the theoretical framework are measuring intended factors; and determines whether particular items should be discarded before final testing.

Pilot Procedures

While previous studies have documented relatively poor response rates among web-survey applications (Archer, 2003; Dillman, 2000), some researchers have documented promise among samples accustomed to e-mail and web access (Kiernan, Kiernan, Oyler & Gilles, 2005, p250). Due to the potential displayed among samples with computer e-mail access as well as the large amount of electronic communication that transpires among students attending a university, a web-based survey design was deemed the most appropriate choice for the current study. *Zoomerang*™ served as the host-site for both the pilot- and final testing phases of the CHORDS (www.zoomerang.com).

Invited participants (see description of samples, below) were allotted approximately one week (seven days) to complete the pilot-survey once the initial e-mail was sent (see Appendix B). After three days, a reminder e-mail (see Appendix C) was sent to all potential participants reminding them of the deadline. However, only those who had not already completed the survey or had not chosen to 'opt out' received the reminder. An additional e-mail reminder was sent after five days. At the conclusion of seven complete days, the link to access the survey was de-activated.

In order to reach the survey, individuals clicked on a weblink inside the invitation e-mail. Subsequently, persons were redirected to an Information Sheet (i.e. Informed Consent Form – see Appendix D). By choosing the "Go to Survey" link located at the end of the information sheet, individuals confirmed their understanding and voluntary compliance with the details of the study (i.e. purpose, selection criteria, expectations, risk, compensation and confidentiality). The Institutional review Board (IRB) of Texas A&M University aproved this research project.

Lastly, because available research documents significant increases among response rates when a token financial incentive is offered (Dillman, 1991), participants were provided the option of entering a drawing for one of three MP3 players. After completing the survey, participants were able to enter the drawing by following a separate link at the end of the survey. By utilizing a separate weblink, identifying information associated with the incentive drawing was kept separate from individuals' responses, thus maintaining the confidentiality of the survey.

Pilot Sample

In order to obtain a representative sample, the author purchased a list of all currently enrolled undergraduate and graduate students attending Texas A&M University (TAMU) in College Station. This list contained students' full names and their corresponding e-mail addresses. Using the list as a sampling frame, a random sample was invited to participate in the pilot-test study via e-mail (see sample size and descriptions below).

To represent the population of students at this university ($N_{2006\text{-}2007}$ = 41,364), it was estimated that a minimum of 383 completed, usable surveys would be needed (Salant & Dillman, 1994). Prior dissertations (Rasberry, 2006; Dunsmore, 2005) using the same data collection procedures with similar populations (Texas A&M University System students) achieved response rates ranging between 14% and 20% (with incentives). Therefore, a randomly selected sample of 2,500 students (taking into account a 20% response rate) was contacted via e-mail to participate in the pilot-test phase. Participants were selected by utilizing the Statistical Package for Social Science (SPSS®) software to identify 2,500 random cases out of the total population.

Exactly 2,494 individuals received an e-mail solicitation to participate in the pilot, because six emails were undeliverable. The final sample consisted of 243 usable, returned surveys. This sample (n=243) represented a response rate of approximately 9.7%. While the response rate was lower than expected, the pilot sample size did prove adequate for the reliability and validity tests to be conducted. Further, for the purposes of pilot-testing, some scholars suggest a sample size of 100-200 as adequate (Dillman, 2000).

Pilot Data Analysis

Upon close of the survey, a downloadable Microsoft® Excel file containing participants' responses to each survey item was retrieved directly from *Zoomerang*™. The data were then transferred into SPSS® for analysis. This process eliminated any potential input error. SPSS® version 14.0 for Windows was utilized for analyses.

Pretesting Phase 4 – Evaluation of the Items

As item evaluation provides information regarding which items are appropriate to include in the construction of scales (DeVellis, 2003), the final phase of pretesting involved evaluating each of the questions in the CHORDS to determine their performance. For this evaluation, examination of missing data, normality (items' skewness and kurtosis), scales' internal consistency, factor analysis, and split-half reliability analyses were performed.

In the analysis of the pilot-test data, two items were found not to be normally distributed: "In order to drink responsibly, a person must not drink and drive. In other words designate a driver, take a taxi/cab, or use a free safe-ride program;" and "The next time I drink alcohol, I feel confident in my ability to not drink and drive." While these two items did not exhibit normality, they were retained in the final version of the instrument, on theoretical grounds [i.e. brewer-sponsored responsible drinking campaigns situate this concept within the realm of preventing drunk driving and designating a driver (Dejong, Atkin & Wallack, 1992; Wolburg, 2005)]. All other findings from the pilot test validated the procedures to be used for the final testing, and none of the items were candidates for deletion in the final version of the questionnaire.

Final Test

Sample

All persons contacted for participation in the pilot-test were omitted from the sample framework utilized for the final test. The population from which the final sample

was randomly selected consisted of 38,864 potential participants (i.e. Original population $_{41,364}$ - Pilot-test participants $_{2,500}$).

Exactly 2,491 individuals received an e-mail solicitation to participate in the final test, because nine emails were undeliverable. The final sample consisted of 486 usable, returned surveys. This sample (n=486) represented a response rate of approximately 19.5%. For the final test phase, a total of four reminder e-mails were sent to those who had not already completed the survey or had not chosen to 'opt out.' Similar to the pilot test however, participants had approximately seven days to complete the CHORDS.

All data collection and analysis procedures (with the exception of more reminders sent to the final test sample) mirrored those carried out during pretesting. Moreover, because (1) no changes were made to the instrument based on the pilot-test results, (2) administration of both pilot and final test were completed very close in time (April 7th and May 6th 2007, respectively), and (3) the procedures utilized remained similar, usable pilot-test surveys were aggregated into the final sample for data analysis. Detailed item analysis is presented below, utilizing the aggregated sample data. This aggregated sample included 729 individuals (Prestest n $_{243}$ + Final test n $_{486}$), representing a response rate of 14.6% (Usable Surveys$_{729}$ / Radomly selected participants $_{4,985}$).

Missing Data

Before the items were evaluated, however, the raw data file was cleaned (Tabachnick & Fidell, 2007). This process involved discriminating between unanswered questions due to missing data, and blank responses resulting from a skip pattern (or not

applicable). Inconsistencies, when they occurred, were examined on a case-by-case basis. Multiple checkpoints (i.e. items relating to alcohol consumption habits and skip questions) were assessed to identify whether the respondent was a drinker (should have answered all questions) or a non-drinker (should have only responded to behavioral belief and demographic questions).

Furthermore, in order to determine the usefulness of partially completed surveys, individuals missing large percentages of survey responses were examined to determine if they significantly differed from individuals with few missing responses. This assessment attempted to determine whether the missing data were missing completely at random (MCAR) or whether certain patterns may have influenced non-response (Tabachnick & Fidell, 2007).

Individuals who had answered one third or fewer questions were compared to those who had responded to at least two-thirds of the questionnaire. However, because respondents answering only a third of the items focused on the first third of the questionnaire, they failed to answer the last section, containing the demographic characteristics items. Consequently, a comparison based upon characteristics such as sex, age, year in school, ethnicity, relationship status, and place of residence was not possible. In lieu of comparisons on demographic factors, the author chose to compare respondents on their average behavioral belief scores. In terms of their mean behavioral beliefs, those who answered less of the survey were found not to differ significantly from those who answered most of the questions [$F(0.006) = .012$, $p < .913$]. Given that

respondents did not differ in this focal variable in this study (behavioral belief scale), the incomplete surveys were retained for analysis.

Due to the low percentage of missing responses for each item – less than ten percent of the total responses - missing values in the dataset were determined to be non-problematic. In other words, it was determined that data were missing at random (MAR) for items utilized in the CHORDS. Researchers categorize data MAR as "ignorable" (Buhi, Goodson, & Neilands, 2007). Consequently, due to the lack of large amounts of missing data as well as the manner in which data were missing, the author could not justify using complex analytical technique(s) to calculate imputable scores. Therefore, missing data was deleted from analysis.

Reliability

Reliability means, essentially, 'consistency' and refers to various types of 'stability' checks to which research data should be submitted (Huck, 2004). The internal consistency of the CHORDS' scales and subscales (Behavioral Beliefs, Motivations, Self-Efficacy, Barriers, and Likelihood) was estimated utilizing Cronbach's coefficient alpha (Thompson, 2003). Alpha was employed to identify the "proportion of variance in the scale scores that is attributable to the true score" (DeVellis, 2003, p95). More specifically, Cronbach's alpha provides insight into how well a set of item scores measures a single latent construct. The stability this statistic assesses, regards whether all items in the scale – if, in fact, they are measuring a common, underlying concept – exhibit a similar pattern of responses.

Scale alphas ranged from .846 (behavioral beliefs) to .913 (barriers). Scales exhibiting coefficient alphas within this range have been deemed "very good," as the alpha values theoretically range from 0.0 to 1.0 (DeVellis, 2003, p96). Consequently, the measures in the CHORDS were found to "hang together," exhibiting high internal consistency reliability (Huck, 2004; Stevens, 1986). Table 4.1 details the means, standard deviations, corrected item-total correlations, and Cronbach alphas for each scale and its respective items.

Stability

Typically, the ability of a measure to generate the same responses each time it is utilized is evaluated through a procedure known as 'test-retest reliability' assessment. Using a simple correlation analysis, in measuring stability one is examining whether scores remain constant across instrument implementations (i.e. over elapsed time) within the same group (DeVellis, 2003; Huck, 2003). However, the web-based administration of the CHORDS precluded such testing; therefore, a split-half reliability analysis was used as a proxy measure for stability of scores (DeVellis, 2003; Huck, 2004). Spearman-Brown coefficients ranged from .819 (behavioral beliefs) to .894 (barriers). Results indicated positive, and strong correlations between halves of each scale. See Table 4.2 for detailed split-half reliability results for each CHORDS scale.

Table 4.1. Means, Standard Deviations, Item-Total Correlations and Cronbach Alpha for Scale Items

Behavioral Belief Scale (8 items) N= 715 Response Scale = (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always	M	SD	Item-Total r
In order to drink responsibly, a person must …			
1. not drink and drive…	4.54	.89	.20
2. know his/her personal limits (how much alcohol he/she can handle) and when to stop drinking…	4.65	.60	.50
3. ensure that his/her Blood Alcohol Concentration (BAC) stays below 0.08%.	3.65	1.20	.71
4. consider when, how much, and where he/she is going to drink, before he/she actually starts to consume alcohol…	4.23	.92	.59
5. consume no more than one drink a day if female, and no more than two drinks a day if male	2.83	1.28	.62
6. monitor the amount of alcohol he/she consumes and stop drinking once he/she has reached a specific number of drinks	3.95	1.03	.67
7. pace the speed at which he/she drinks…	4.01	1.02	.68
8. take action(s) to avoid intoxication and slow the absorption of alcohol…	3.66	1.15	.72
Scale	31.52	5.72	
Internal Consistency (Cronbach alpha)		α = .85	
Motivations Scale (21 items) N=519 Response Scale = (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always			
When I drink responsibly, one of my motivations is...			
1. because I do not want to get drunk	3.56	1.14	.47
2. because I have to look out for one of my friends	3.44	.95	.43
3. because of my religious convictions	2.33	1.44	.36
4. because I do not want to do anything out of my character that I may later regret	3.71	1.22	.57
5. because I do not want to spend a lot of money on alcohol	3.19	1.18	.33
6. because my significant other or parent(s) will be upset with me if I drink too much	2.60	1.26	.41
7. because I have to drive myself home	3.72	1.21	.28
8. because I do not want someone to take advantage of me	2.86	1.54	.59
9. because I am afraid of getting in trouble with law enforcement	3.43	1.37	.47
10. because I do not want to develop a drinking problem	2.50	1.49	.56
11. because I want to have control over my actions	3.89	1.11	.61

Table 4.1. Continued

Motivations Scale (21 items) N=519 (cont.) Response Scale = (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always	M	SD	Item-Total r
When I drink responsibly, one of my motivations is...			
12. because of my work-related responsibilities	2.77	1.32	.46
13. because I am the designated driver	3.59	1.27	.34
14. because I do not want to get nauseous or vomit	3.54	1.29	.47
15. because I want to be aware of and understand what is going on around me	3.74	1.10	.63
16. because I have to get up early in the morning for class	3.20	1.21	.34
17. because a friend and/or family member has a drinking problem	2.06	1.33	.45
18. because I want to remember what happens	3.37	1.30	.62
19. because I need to study for a test or complete my school work	3.31	1.23	.29
20. because I want to keep my blood alcohol concentration (BAC) under 0.08%	2.36	1.35	.54
21. because I am with people I do not know very well or in a new environment	2.85	1.23	.49
Scale	66.00	14.10	
Internal Consistency (Cronbach alpha)		α = .87	
Self-Efficacy Scale (8 items) N = 554 Response scale ranges from 0% (having no confidence) to 100% (extremely confident)			
The next time I drink alcohol, I feel confident in my ability to…			
1. plan ahead and think about my drinking behaviors before I consume alcohol	9.20	2.23	.65
2. recognize my personal alcohol-related limits and stop drinking before becoming ill or incoherent	9.55	1.98	.60
3. pace the speed at which I drink…	8.64	2.64	.70
4. ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%	6.15	3.43	.73
5. monitor the amount of alcohol I consume…	8.13	2.82	.76
6. take precautions to avoid intoxication and slow the absorption of alcohol…	8.01	3.00	.74
7. consume no more than one drink a day if female or no more than two drinks a day if male	5.48	3.38	.60
8. not drink and drive	9.94	2.08	.38
Scale	65.10	16.44	
Internal Consistency (Cronbach alpha)		α = .87	

Table 4.1. Continued

Barriers Scale (16 items) N = 469 (cont.) Response Scale = (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always	M	SD	Item-Total r
The next time I drink alcohol, I would not be able to drink responsibly if...			
1. I felt depressed or stressed out	2.25	1.13	.62
2. I had recently failed an important test in one of my classes	2.08	1.13	.65
3. I had recently broken-up with my significant other	2.42	1.35	.61
4. everyone else was getting drunk	2.36	1.18	.65
5. I had a designated driver	2.40	1.29	.64
6. an attractive person wanted to buy me a drink(s)	2.25	1.26	.62
7. I was having a bad day	2.25	1.08	.70
8. I was playing a drinking game	2.81	1.38	.66
9. I felt like I would be missing out on a good time with my friends	2.45	1.17	.67
10. I was an alcoholic	2.05	1.58	.31
11. I was celebrating my 21st birthday	3.10	1.58	.64
12. I had someone challenge me to a drinking contest	2.00	1.16	.63
13. I felt pressured by friends to drink	1.97	1.03	.60
14. I was at a party and/or friends house and planned on staying there that night	2.83	1.25	.70
15. someone I trust agreed to stay sober to look after me and make sure I was safe	2.48	1.24	.65
16. I had a family member that has a drinking problem	1.58	.99	.42
Scale	37.26	13.17	
Internal Consistency (Cronbach alpha)		$\alpha = .91$	
Behavioral Intention Scale (8 items) N = 520 Response Scale = (1) not likely at all, (2) seldom likely, (3) somewhat likely, (4) likely, or (5) extremely likely			
The next time I drink alcohol, how likely or probable is it that I will…			
1. ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%	2.84	1.43	.69
2. monitor and limit my alcohol consumption…	3.44	1.27	.74
3. take precautions to avoid intoxication and slow the absorption of alcohol…	3.50	1.21	.68

Table 4.1. Continued

Behavioral Intention Scale (8 items) N = 520 (cont.) Response Scale = (1) not likely at all, (2) seldom likely, (3) somewhat likely, (4) likely, or (5) extremely likely	M	SD	Item-Total r
The next time I drink alcohol, how likely or probable is it that I will…			
4. pace the speed at which I drink…	3.66	1.20	.72
5. consume no more than one drink a day if I am a female or no more than two drinks a day if I am male	2.53	1.41	.58
6. designate a driver, take a taxi, or use a safe-ride program	4.36	.96	.18
7. think about my drinking behaviors before they occur…	3.84	1.08	.58
8. refrain from getting ill or incoherent due to my drinking…	4.25	.95	.54
Scale	28.41	6.69	
Internal Consistency (Cronbach alpha)		α = .85	

Table 4.2. Scale Split-half Reliability - Alpha and Spearman-Brown Coefficient

Scale	Total Items	Alpha	Spearman-Brown Coefficient
Behavioral Beliefs			.82
	Part 1 N = 4	Part 1 α = .63	
	Part 2 N = 4	Part 2 α = .83	
Motivation			.84
	Part 1 N = 11	Part 1 α = .79	
	Part 2 N = 10	Part 2 α = .78	
Self-Efficacy			.88
	Part 1 N = 4	Part 1 α = .80	
	Part 2 N = 4	Part 2 α = .75	
Barriers			.89
	Part 1 N = 8	Part 1 α = .87	
	Part 2 N = 8	Part 2 α = .82	
Behavioral Intention			
	Part 1 N = 4	Part 1 α = .85	.83
	Part 2 N = 4	Part 2 α = .57	

Score Validity

Researchers assert "score reliability clearly is a *necessary but not sufficient* condition for score validity" (Thompson, 2003, p6). Whereas, score reliability is synonymous with consistency, score validity is analogous to accuracy (Huck, 2004). More specifically, construct validity is "the degree to which the measured variables used in the study represent the hypothesized constructs" (Heppner, Kivlighan & Wampold, 1992p 47).

Therefore, a varimax rotated principal components analysis (PCA) [3] was conducted as a means of "boiling down" the sources of variation present in the complex correlations and determining the number components underlying the instrument (Stevens, 1986, p365). PCA - the most widely used extraction method for exploratory factor analysis (EFA) - was conducted to assess construct validity, identify how many latent variables were underlying each scale, and determine the "substantive content or meaning of the factors" (DeVellis, 2003, p103; Thompson, 2004). EFA was chosen over confirmatory factor analysis because the author did not have "specific expectations regarding the number or the nature of underlying constructs or factors" (Thompson, 2004, p5). In other words, exploratory, rather than confirmatory, factor analysis was conducted because this instrument represents the first attempt to systematically address responsible drinking and expectations regarding the number of factors, or if the factors were correlated, could not be specified a priori.

[3] PCA was chosen over factor analysis due to PCA's goal of "extracting maximum variance from a data set with a few orthogonal components" (Tabachnick & Fidell, 2007, p635). In addition, PCA represents a unique mathematical solution in that it attempts to "reproduce the variance or information in the sample data, rather than the population" (Thompson, 2004, p37).

Before PCA was conducted however, Bartlett's test of sphericity was conducted to determine if there was an existing correlation among the items (Tabachnick & Fidell, 2007). More specifically, Bartlett's is performed because "if one fails to reject with this test [i.e. not statistically significant], then there is no reason to do the components analysis since the variables are already uncorrelated" (Stevens, 1986, p339-40). All scales were found to be statistically significant ($p < .001$) – i.e. correlated.

In order to identify components to be retained, the author examined the respective eigenvalues for each factor. "Eigenvalues characterize the amount of information represented within a given factor" (Thompson, 2004, p32). More specifically, "eigenvalues represent variance" (Tabachnick & Fidell, 2007, p644). In order to be retained, components' respective eigenvalue needed to be greater than 1.0 (Tabachnick & Fidell, 2007; Thompson, 2004). Besides being the default criterion utilized in SPSS to determine which component to be retained, "using this rule [eigenvalues greater than one] will result in retention of only the most important factors" (Stevens, 1986, p341).

Subsequent varimax rotation was utilized to make the nature of underlying constructs "more obvious." When two or more factors emerge from a scale, factor rotation forces the factors to become orthogonal (or to have as little shared variance as possible), and has been described as "essential to interpretation" (Thompson, 2004, p39). It is important to note however, varimax rotation (or any other method, in fact) does *not* improve the degree to which scores "fit" the component structure (Kim & Mueller, 1978). Instead, the underlying goal of rotation is to ease and aid interpretation (Stevens,

1986). Thus, "any rotated factor solution explains as much covariation in the data as the initial solution" (Kim & Mueller, 1978, p50).

Once components were extracted and rotated, their pattern/structure coefficients[4] (i.e. factor loadings) were examined. The pattern/structure coefficients for each scale and its respective items are presented in Table 4.3. For purposes of interpreting coefficients across multiple factors, items with a factor loading of 0.40 or greater were considered to load on that factor (Stevens, 1986). Researchers describe loadings in excess of .45 as "fair" (Comrey & Lee, 1992).

Overall, the emerging factors corresponded conceptually to the theoretical framework underlying the CHORDS. All eight items forming the behavioral beliefs scale, for instance, loaded positively onto a single component, as hypothesized. Two items: "Ensure his/her blood alcohol concentration stays below 0.08% (.806) and "Take actions to avoid intoxication and slow the absorption of alcohol…" (.819) were found to be "marker variables" (i.e. pure measures of the factor with loadings greater than .80 – Tabachnick & Fidell, 2007). Three items: "Consume no more than one drink a day if female, no more than two drinks if male" (.724), "Pace the speed at which he/she drinks…" (.780), and "Monitor the amount of alcohol he/she consumes…" (.782) were found to be "excellent" measures of the factor (i.e. pattern/structure coefficients of .71 or higher – Comrey and Lee, 1992). All items loaded with a coefficient of .623 or higher, with the exception of "In order to drink responsibly, a person must not drink and drive.."

[4] Pattern/structure coefficients will be used throughout this text in place of the more commonly referred 'factor loadings.' As Thompson (2004) states, "The problem is that this term ['loadings'] is inherently ambiguous" (p19). Therefore, so as not to mistakenly confuse readers, pattern/structure coefficients will be used instead of factor loadings to refer correlations between measured variables and composite variables.

Table 4.3. Pattern/Structure Coefficients for CHORDS Scale Components after Varimax Rotation

	Number of Components Emerging for Each Scale				
Behavioral Belief Scale	1				
In order to drink responsibly, a person must …					
1. not drink and drive…	.261				
2. know his/her personal limits (how much alcohol he/she can handle) and when to stop drinking…	.623				
3. ensure that his/her Blood Alcohol Concentration (BAC) stays below 0.08%.	.806				
4. consider when, how much, and where he/she is going to drink, before he/she actually starts to consume alcohol…	.698				
5. consume no more than one drink a day if female, and no more than two drinks a day if male	.724				
6. monitor the amount of alcohol he/she consumes and stop drinking once he/she has reached a specific number of drinks	.782				
7. pace the speed at which he/she drinks…	.780				
8. take action(s) to avoid intoxication and slow the absorption of alcohol…	.819				
Total variance explained = 50.1%	50.1%				
Motivation Scale	1	2	3	4	5
When I drink responsibly, one of my motivations is...					
1. because I do not want to get drunk	.515	-	-	-	-
2. because I have to look out for one of my friends	-	-	-	.592	-
3. because of my religious convictions	-	-	-	-	.738
4. because I do not want to do anything out of my character that I may later regret	.700	-	-	-	-
5. because I do not want to spend a lot of money on alcohol	-	-	-	-	.474
6. because my significant other or parent(s) will be upset with me if I drink too much	-	-	-	-	.650
7. because I have to drive myself home	-	-	-	.732	
8. because I do not want someone to take advantage of me	.512	-	-	-	-
9. because I am afraid of getting in trouble with law enforcement	-	.486	-	-	-
10. because I do not want to develop a drinking problem	-	.738	-	-	-
11. because I want to have control over my actions	.794	-	-	-	-
12. because of my work-related responsibilities	-	-	.587	-	-
13. because I am the designated driver	-	-	-	.798	-
14. because I do not want to get nauseous or vomit	.634	-	-	-	-
15. because I want to be aware of and understand what is going on around me	.848	-	-	-	-

Table 4.3. Continued

	Number of Components Emerging for Each Scale				
Motivations Scale (cont.)	1	2	3	4	5
When I drink responsibly, one of my motivations is...					
16. because I have to get up early in the morning for class	-	-	.801	-	-
17. because a friend and/or family member has a drinking problem	-	.781	-	-	-
18. because I want to remember what happens	.773	-	-	-	-
19. because I need to study for a test or complete my school work	-	-	.777	-	-
20. because I want to keep my blood alcohol concentration (BAC) under 0.08%	-	-	-	-	.424
21. because I am with people I do not know very well or in a new environment	-	.442	-	-	-
Total variance explained = 57.7%	18.4%	11.1%	9.9%	9.2%	9.1%
Self-Efficacy Scale	1				
The next time I drink alcohol, I feel confident in my ability to…					
1. plan ahead and think about my drinking behaviors before I consume alcohol	.758				
2. recognize my personal alcohol-related limits and stop drinking before becoming ill or incoherent	.723				
3. pace the speed at which I drink…	.801				
4. ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%	.793				
5. monitor the amount of alcohol I consume…	.837				
6. take precautions to avoid intoxication and slow the absorption of alcohol…	.818				
7. consume no more than one drink a day if female or no more than two drinks a day if male	.681				
8. not drink and drive	.470				
Total variance explained = 55.3%	55.3%				
Barriers Scale	1	2	3		
The next time I drink alcohol, I would not be able to drink responsibly if...					
1. I felt depressed or stressed out	-	.833	-		
2. I had recently failed an important test in one of my classes	-	.808	-		
3. I had recently broken-up with my significant other	-	.730	-		
4. everyone else was getting drunk	.727	-	-		
5. I had a designated driver	.639	-	-		
6. an attractive person wanted to buy me a drink(s)	.553	-	-		

Table 4.3. Continued

	Number of Components Emerging for Each Scale		
Barriers Scale (cont.)	1	2	3
The next time I drink alcohol, I would not be able to drink responsibly if...			
7. I was having a bad day	-	.749	-
8. I was playing a drinking game	.784	-	-
9. I felt like I would be missing out on a good time with my friends	.767	-	-
10. I was an alcoholic	-	-	.825
11. I was celebrating my 21st birthday	.701	-	-
12. I had someone challenge me to a drinking contest	.639	-	-
13. I felt pressured by friends to drink	.604	-	-
14. I was at a party and/or friends house and planned on staying there that night	.756	-	-
15. someone I trust agreed to stay sober to look after me and make sure I was safe	.692	-	-
16. I had a family member that has a drinking problem	-	-	.747
Total variance explained = 62.2%	32.0%	20.0%	10.3%
Behavioral Intention Scale	1		
The next time I drink alcohol, how likely or probable is it that I will…			
1. ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%	.783		
2. monitor and limit my alcohol consumption…	.828		
3. take precautions to avoid intoxication and slow the absorption of alcohol…	.790		
4. pace the speed at which I drink…	.819		
5. consume no more than one drink a day if I am a female or no more than two drinks a day if I am male	.685		
6. designate a driver, take a taxi, or use a safe-ride program	.235		
7. think about my drinking behaviors before they occur…	.689		
8. refrain from getting ill or incoherent due to my drinking…	.665		
Total variance explained = 50.4%	50.4%		

This item loaded with a coefficient of .261. Researchers describe a loading of .32 or less as "poor" (Comrey and less, 1992). The eight behavioral belief items accounted for 50.1% of the variance. Since only one component emerged, rotation was not necessary.

The twenty-one items present in the motivations to drink responsibly scale loaded onto five components (i.e. sub-scales), accounting for 57.7% of the total variance. No questions exhibited loadings of more than .441 on more than one factor. The first motivations sub-scale accounted for 18.4% of the total variance. In all, seven items constituted this first component. Items exhibited coefficients of .515 or higher. One item "…I want to be aware of and understand what is going on around me" (.848) was found to be a "pure" measure while two other items "…because I want to remember what happens" (.773) and "…because I want to have control over my actions" (.794) were found to be "excellent" (Comrey & Lee, 1992). All items constituting this sub-scale were associated with "Knowing One's Personal Limits" (not getting drunk and/or sick due to consumption, ensuring one is not taken advantage of, having control over actions, not doing anything out of character that may be regretted later – see Chapter III). However, two questions, "…because I do not want to get drunk" (.515 / .461) and "…because I do not want someone to take advantage of me" (.512 / .441) loaded successfully on two components. Yet, the author chose to keep these items within the "Knowing One's Personal Limits" component for two reasons: (1) conceptually, the questions 'matched' the other items present in the component as well as the overarching qualitative theme, and (2) this component accounted for a greater amount of variance than the other components the item successfully loaded on. Overall, this component

behaved as proposed in the theoretical model in that intrinsic motivations were accounted for in the construct.

The second motivations sub-scale addressed *both* intrinsic and extrinsic influences. Thus, contrary to expectations, this sub-scale did not comprise only extrinsic motivators, but instead focused upon alcohol dependence and environmental factors relating to other individuals (i.e. peers or law enforcement). All four items of this sub-scale loaded at .442 or higher. The two items "…because I do not want to develop a drinking problem" (.738) and "…because a friend and/or family member has a drinking problem" (.781) assessing internal motivations were found to be "excellent" (Comrey & Lee, 1992), loading substantially higher than the other questions. Items assessing extrinsic motivations "…because I am with people I do not know very well or in a new environment" (.442) and "…because I am afraid of getting in trouble with law enforcement" (.486) had substantially lower coefficients. These four items accounted for 11.1% of the total variance.

The third motivation factor accounted for approximately 9.9% of the total variance and consisted of three items directly related to school- and work-related responsibilities. All items loaded at .587 or higher. "…because I have to get up early in the morning for class" (.801) was found to be a marker variable for responsible drinking motivations and "…because I need to study for a test or complete my school work" was considered "excellent" (.777 – Comrey and Lee, 1992).

The fourth motivation factor accounted for 9.2% of the total variance. This sub-scale consisted of three items as well, all loading with coefficients of .592 or higher.

Two of the three items "…because I have to drive myself home" (.732) and "because I am the designated driver" (.798) were found to be "excellent" measures (Comrey & Lee, 1992). Both of these assessed driving-related motivations.

The fifth and final component comprised four items. Each item loaded with coefficients of .424 or higher. However, two items loaded substantially higher than the others: "…because of my religious convictions" (.738) was found to be an excellent measure and "…because my significant other or parent(s) will be upset with me if I drink too much" (.650) was considered to be a "very good" measure (Comrey and lee, 1992; Tabachnick & Fidell, 207). These two items encompass an intrinsic sense of accountability. The two items loading with considerably lower coefficients were: "…because I do not want to spend a lot of money on alcohol" (.474) and "…because I want to keep my blood alcohol concentration under 0.08%" (.424). In all, these four items accounted for 9.1% of the total variance.

All eight items loaded with coefficients equal to or larger than .681 for the scale measuring self-efficacy with the exception of "…I feel confident in my ability to not drink and drive." The pattern/structure coefficient for this item was .470. Three of the eight items were found to be "marker variables:" "…I feel confident in my ability to pace the speed at which I drink…"(.801) "…I feel confident in my ability to take precautions to avoid intoxication and slow the absorption of alcohol…"(.818) and "…I feel confident in my ability to monitor the amount I consume and stop drinking…(.837). Additionally, three other items – "…I feel confident in my ability to recognize my personal alcohol-related limits…(.723), "…I fell confident in my ability to plan ahead

and think about my behavior before I consume alcohol"(.758), and "…I feel confident in my ability to ensure my blood alcohol concentration stays below 0.08%"(.793) were considered "excellent" measures (Comrey and lee, 1992). Only one component was extracted, accounting for 55.3% of the total variance, and rotation was not necessary.

The sixteen items present in the barriers to responsible drinking scale loaded onto three separate components, accounting for 62.2% of the total variance. No items exhibited coefficients larger than .410 in more than one component. The first barriers sub-scale accounted for 32% of the total variance. In all, ten of the sixteen items loaded positively onto this component. All items exhibited coefficients of .553 or higher. Four of the items were "excellent" measures of the component (Comrey and Lee, 1992). All items in this sub-scale measured extrinsic barriers to responsible drinking. More specifically, items addressed the actions of others (i.e. peer drinking, peer pressure, having a designated care taker or driver, being offered a drink) and environmental concerns (i.e. physical environment and drinking in the environment). Four of the ten items were found to be "excellent:" "…I would not be able to drink responsibly if everyone else was getting drunk" (.727), "…if I was playing a drinking game" (.784), "…if I felt I would be missing out on a good time with my friends" (.767), and "…if I was at a party and/or friends house and planned on staying the night" (.756). This factor behaved as proposed in the theoretical model in that extrinsic influences were accounted for by the construct.

In addition to external influences serving as barriers to responsible drinking, intrinsic influences were also evident in the second and third factors. Four of the sixteen

items were found to load on the second component. In all, these items accounted for approximately 20% of the total variance. Two items, "…I would not be able to drink responsibly if I felt depressed or stressed out" (.833) and "…if I had recently failed an important test in one of my classes" (.808) were found to be "pure" measures. The other two items, "…I would not be able to drink responsibly if I had broken-up with my significant other" (.730) and "…if I was having a bad day" (.749) were found to be "excellent" measures (Comrey and Lee, 1992). These four items addressed personal hardships that would inhibit one from drinking responsibly.

The third sub-scale, accounting for 10.3% of the total variance, specifically addressed alcohol dependence (i.e. alcoholism). One item, "…I would not be able to drink responsibly if I was an alcoholic" (.825) was a pure measure and the other item "…if I had a family member that had a drinking problem (.747) was an "excellent" measure (Comrey and Lee, 1992; Tabachnick & Fidell, 2007).

All eight items measuring one's intention to drink responsibly the next time he/she consumes alcohol loaded positively on a single component. All items displayed pattern/structure coefficients of .665 or higher with the exception of "…how likely or probable is it that I will designate a driver …" This item was a "poor" measure, with a coefficient of .235 (Comrey and Lee, 1992). Two items, "…how likely or probable is it that I will pace the speed at which I drink…" (.819) and "…that I will monitor and limit my alcohol consumption…" (.828) were found to be pure measures. Two additional items, "…how likely or probable is it that I will ensure my blood alcohol concentration stays below 0.08%" (.783) and "…that I will take precautions to avoid intoxication…"

(.790) were found to be "excellent" measures (Comrey and Lee, 1982). The eight items in the behavioral intention scale accounted for 50.4% of the total variance. Rotation was not necessary.

DISCUSSION & IMPLICATIONS

The purpose of the present study was to report the development and psychometric testing of measures designed to assess various factors associated with behavioral intentions to drink responsibly. Survey design and scale development theories guided the construction of the measures to ensure valid and reliable scores would be generated with their use (DeVellis, 2003; Dillman, 2007). Psychometric methods were followed throughout the development, pretesting, and evaluation of the instrument.

All tests of reliability of each scale in the CHORDS indicated the data generated by these measures were consistent scores across respondents, and appeared to measure a common, underlying construct (Huck, 2004; Stevens, 1986; Thompson, 2003). Furthermore, results from the principal components exploratory factor analyses indicated the CHORDS contains five distinct scales (61 total items)[5]. Each item specifically developed for this instrument (with the exception of three skip questions) was tested and found to measure some aspect of the variable it was designed to measure. Subsequent to testing, none of the items were candidates for deletion; however, certain items were found to perform poorly. Most notably, "In order to drink responsibly, a person must not drink and drive.." (.261) and "The next time I drink alcohol, how likely is I that I

[5] The three skip items developed for this instrument's administration were not examined.

will designate a driver…" (.235). Furthermore, when considering the theoretical model driving this research, the sub-scales emerging from the motivations and barriers construct, were in fact still part of an overarching scale, as proposed in the model. For instance, even though the motivation scale was separated into five sub-scales, all items were found to successfully load and measure either intrinsic or extrinsic components outlined in Chapter III. Despite the 5-factor structure for this variable, Cronbach alpha levels indicated these items can perform, successfully as a single factor. Nevertheless, the multi-dimensional aspects of the motivations and barriers constructs must be taken into account in statistical analyses performed with these data.

It is worth discussing the performance of the 'barriers' scale, in particular. Albeit at this point it is unclear why, this scale outshone all other scales in terms of its psychometric performance: Cronbach's alpha, split-half reliability, and observed component pattern coefficients all exhibited larger coefficients and stronger relationships, than did other variables. Further, this scale was able to account for approximately 62% of the total variance, substantially more than the next highest scale (motivations – 57.7%).

In regards to the sample size necessary to produce reliable components, Gorsuch (1983) asserts, the "absolute minimum ratio is five individuals per variable, but not less than 100 individuals for any analysis…" (p332). Comrey and Lee (1992) rate the following sample sizes in regards to their adequacy in reliably estimating correlations: 50 as very poor; 100 as poor; 200 as fair; 300 as good; 500 as very good; and 1,000 as excellent. However, Thompson (2004) contends, "when it comes to mathematically

complex analyses such as EFA (Exploratory Factor Analysis), more is always better" (p24). Thus, due to the overall number of usable surveys constituting the final sample size (n= 729), the sample size assumptions underlying the analytic techniques employed were met and researchers who, in the future, may desire to utilize these measures, can have confidence in our findings.

Being that the CHORDS is the *first* of its kind - specifically designed to assess dimensions of responsible drinking - further psychometric and model testing is required. However, the current analysis of the psychometric properties of the CHORDS corroborates the reliability and validity of the scores produced More specifically, future research directions include utilizing Structural Equation Modeling (SEM) to confirm the factorial structure of the variables and to and assess their interactions and directional effects. Further development and validation processes would also include applying the instrument to different samples (i.e. adolescents and adults) as well as college students across different geographical locations or contexts.

LIMITATIONS

Even though the current report addresses evident gaps (i.e. needs) in the scientific literature, this study is not without limitations. Most notable among these limitations are sample design and response rate. The low response rates achieved in this study were consistent with other web-based surveys utilizing similar sampling frames and procedures (Rasberry, 2006; Dunsmore, 2005); however, these low response rates do bring into question sample representation. In other words, the current sample's

ability to accurately portray the entire university population is questionable due to the low response rates documented (9.7% - pilot; 19.5% - final; and 14.6% - aggregate). The author attributes the enhanced response percentages from pilot to final test to the increase in survey reminder e-mails. However, even employing recommended tactics (i.e. offering token incentives and sending numerous reminders) designed to improve response rate, the percentage remained low (Dillman, 2007). Overall, similar research needs to be conducted before these findings can be generalized to other college populations.

Additionally, other limitations stemmed from the uniqueness of this study. More specifically, previous research could not be utilized to inform the instrument development process. For instance, CHORDS' development was deeply grounded in qualitative data which, in their turn, represent an *initial* attempt to use research methods for documenting characteristics individuals associate with responsible drinking. Consequently, even though items present in the CHORDS were deeply rooted in qualitative research, those research findings have not been corroborated by other studies. Further, since there are no other previously established instruments and/or items measuring components of responsible drinking, (with corresponding tests of reliability and/or validity) neither criterion-related validity nor discriminant validity could be measured. Criterion-related validity assesses the empirical association between items in the CHORDS and other "gold standard" criterions from the literature (DeVellis, 2003, p50). Thus, the researcher could not use existing items from research to hypothesize how specific CHORDS items should behave. Dsicriminant analysis involves predicting

group membership from a set of predicators (Tabachnick & Fidell, 2007). In addition to not having other instruments to compare these items to and because extant research on this topic has relied on researchers' subjective notions of responsible drinking, accurate sub-group hypothesis (i.e. group classification based upon response scores), are unreliable, and would not provide valid hypotheses for testing.

Nevertheless, CHORDS represents an important contribution to the fields of health education/promotion as well as alcohol research. This survey demonstrates that reliable and valid scores addressing dimensions of responsible drinking can be generated. Moreover, results emphasize the need for more research to continue the testing, calibration and adaptation (when appropriate) of these measures. Finally, this instrument provides increased understanding of the underlying characteristics individuals – especially college students – associate with responsible drinking.

CHAPTER V

CONCLUSION

The overall purpose of this research report was to provide evidence-based insight into the methodological and conceptual limitations associated with the construct "responsible drinking." More specifically, this report sought to address the following gaps present in the current usage of the responsible drinking concept both by public health officials or researchers, and by the alcohol advertising industry: How do individuals personally define responsible drinking? How do individuals practice drinking responsibly? What beliefs and behaviors are commonly associated with responsible drinking? What motivates and/or inhibits an individual from drinking in a responsible manner?

In order to examine these gaps in the scientific literature, the author first employed a 'naturalistic inquiry' approach to qualitatively examine a sample of college students' beliefs, motivations, intentions, and behaviors regarding responsible drinking. Despite (1) the narrow concepts that the alcohol industry affixes to the responsible drinking message, and (2) failure of researchers to propose a systematic or theoretically-based definition of drinking responsibly in their scholarly endeavors (see Chapter II), the sample of college students examined for this project exhibited well-defined behavioral beliefs forming their interpretation of this message. Additionally, the sample also articulated various intrinsic and extrinsic factors influencing one's ability to drink in a responsible manner. Noteworthy however, is that multiple characteristics, which

participating college students identified as exemplifying responsible drinking, comprised potentially harmful elements.

Theory was subsequently applied to the qualitative findings, to help interpret the data and to develop a conceptual model grounded both in theory and in the findings. The Theory of Reasoned Action (TRA) (Fishbein, 1967), Theory of Planned Behavior (TPB) (Ajzen, 1991), and Social Cognitive Theory (SCT) (Bandura, 1986) were chosen to contribute to the interpretation of the identified themes. The model - proposed to specify relationships among the themes identified in the qualitative data (with the assistance of the theories mentioned above) - establishes that an individual's intention to drink responsibly is directly impacted by his/her (1) responsible drinking behavioral beliefs, (2) personal motivations applicable to responsible drinking, and (3) perceived behavioral control (i.e. responsible drinking barriers and confidence in performing behavioral beliefs regarding responsible drinking).

The qualitative data and theoretical model also directed the development and psychometric testing of the web-based, *Characteristics of Responsible Drinking Survey* (CHORDS). During its development, this instrument was subjected to multiple pretesting phases, as outlined in scale development theory and methods (DeVellis, 2003; Dillman, 2007). Utilizing a randomly selected sample of 729 college students responding to the CHORDS on-line, a series of psychometric statistical analyses were employed to assess the validity and reliability of the scores generated by the survey items. A principal components exploratory factor analysis with varimax rotation verified the CHORDS consists of five distinct scales, as outlined in the theoretical

model. Moreover, each of the 61 items uniquely developed for this instrument successfully loaded onto their intended factor(s), and many items represented 'pure' or 'excellent' measures, as specified by item-response theorists (Comrey & Lee, 1992; Tabachnick & Fidell, 2007). The reliability of each scale was assessed utilizing Cronbach's alpha and split-half reliability (DeVellis, 2003; Thompson, 2003). Results indicated measures were "very good" (DeVellis, 2003, p96), tending to "hang together" and exhibit high internal consistency reliability (Huck, 2004, p78; Stevens, 1986). In other words, items were found to measure the same underlying construct.

Lastly, this report is a valuable asset to the literature because it represents the *first* scholarly attempt to distinguish what characteristics college students associate with responsible drinking. This report is, also, the *first* to offer a theoretically-based explanation of the interactions among the assorted variables known to influence ones' intention to drink responsibly. Similarly, the report introduces the *first* instrument designed and submitted to psychometric testing, specifically meant for examining the construct of responsible drinking.

Future research should focus on further systematic testing of the scales and characteristics emerging from this report in order to establish not only the generalizability of these findings, but also the prevalence of the behavioral beliefs among samples of college students at different institutions and geographic regions. Finally, further psychometric and model testing (i.e. confirmatory factor analysis and structural equation modeling) are required to confirm the structure of the factors/variables and assess their interactions and directional effects.

Lastly, it should be noted that the current study was limited in many aspects, mostly due to its uniqueness. Additionally, the samples' ability to represent the population from which they were drawn was inhibited during both the qualitative[6] and psychometric phases of this study. Moreover, due to the homogeneous characteristics of participants (qualitative) and low response rates (psychometric), this study's ability to generalize its findings was impaired (see Chapters III and IV for detailed description of limitations).

[6] Even though, it should be noted, qualitative inquiry is not concerned with representation in the statistical sense. Rather, its goal is to ensure broad representation of the phenomenon being studied (Lincoln & Guba, 1985).

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APPENDIX A

Characteristics of Responsible Drinking Survey (CHORDS)

If you would like some background information regarding “responsible drinking” and the purpose of this survey, please read the following highlights:

• Originally, the concept of “responsible drinking” was developed in the 1970s as a prevention message to address alcohol abuse.
• In the early 1980s, the alcohol industry began to run advertisements promoting the message of “responsible drinking” in campaigns for their product(s).
• However, currently there is no consensus of what it means to drink responsibly in either brewer-sponsored campaigns or scholarly reports discussing “responsible drinking.”
• In other words, the concept of “responsible drinking” has been shaped by subjective notions and personal ideas.

Therefore, this study is designed to uncover personal beliefs, motivations, intentions and behaviors relating to responsible drinking, in an attempt to better understand this concept.

Characteristics of Responsible Drinking Survey (CHORDS)

For each of the statements listed below, please indicate whether you believe a person must perform the behavior(s) described in order to drink responsibly. Identify if you feel it is important that these behaviors occur (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always, when drinking any alcohol.

1

In order to drink responsibly, a person must … not drink and drive. In other words, designate a driver, take a taxi/cab, or use a free safe-ride program.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

2

In order to drink responsibly, a person must … know his/her personal limits (how much alcohol he/she can handle) and when to stop drinking. In other words, stop drinking before becoming ill or incoherent.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible

- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

3

In order to drink responsibly, a person must … ensure that his/her Blood Alcohol Concentration (BAC) stays below 0.08%.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

4

In order to drink responsibly, a person must … consider when, how much, and where he/she is going to drink, before he/she actually starts to consume alcohol. In other words, plan ahead and think about one's drinking behaviors before they occur.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

5

In order to drink responsibly, a person must … consume no more than one drink a day if female, and no more than two drinks a day if male.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

6

In order to drink responsibly, a person must … monitor the amount of alcohol he/she consumes and stop drinking once he/she has reached a specific number of drinks.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

7

In order to drink responsibly, a person must … pace the speed at which he/she drinks. In other words, not ‘chugging’ or drinking quickly. Allow time to pass while drinking.

- 1. Never – Not important to do when drinking any alcohol

- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

8

In order to drink responsibly, a person must … take action(s) to avoid intoxication and slow the absorption of alcohol. In other words, have a glass of water after every alcoholic beverage and/or not drink on an empty stomach.

- 1. Never – Not important to do when drinking any alcohol
- 2. Seldom – Would be nice to do but not necessary
- 3. Some of the Time – Only when it is possible
- 4. Most of the Time – Should try to do this
- 5. Always – Must do this every time he/she drinks any alcohol no matter what

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

9

Do you believe that you have ever consumed alcohol responsibly?

- Yes - I drink responsibly or have done so in the past
- No - I never drink responsibly when consuming any amount of alcohol
- Not Applicable - I completely abstain from consuming any alcohol

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

There are many factors in our lives that can motivate how we behave. In the list below we've identified potential motivators for drinking responsibly. If you believe that you do drink responsibly – no matter how often - please indicate whether each of reasons listed is (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always, a motivator for responsible drinking.

10

When I drink responsibly, one of my motivations is... because I do not want to get drunk.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

11

When I drink responsibly, one of my motivations is... because I have to look out for one of my friends.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

12

When I drink responsibly, one of my motivations is... because of my religious convictions.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

13

When I drink responsibly, one of my motivations is... because I do not want to do anything out of my character that I may later regret.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time

- 5. Always a motivator for responsible drinking

14

When I drink responsibly, one of my motivations is... because I do not want to spend a lot of money on alcohol.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

15

When I drink responsibly, one of my motivations is... because my significant other or parent(s) will be upset with me if I drink too much.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

16

When I drink responsibly, one of my motivations is... because I have to drive myself home.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

17

When I drink responsibly, one of my motivations is... because I do not want someone to take advantage of me.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

18

When I drink responsibly, one of my motivations is... because I am afraid of getting in trouble with law enforcement.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

19

When I drink responsibly, one of my motivations is... because I do not want to develop a drinking problem.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

20

When I drink responsibly, one of my motivations is... because I want to have control over my actions.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

21

When I drink responsibly, one of my motivations is... because of my work-related responsibilities.

- 1. Never a motivator for responsible drinking

- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

22

When I drink responsibly, one of my motivations is... because I am the designated driver.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

23

When I drink responsibly, one of my motivations is... because I do not want to get nauseous or vomit.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

24

When I drink responsibly, one of my motivations is... because I want to be aware of and understand what is going on around me.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

25

When I drink responsibly, one of my motivations is... because I have to get up early in the morning for class.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

26

When I drink responsibly, one of my motivations is... because a

friend and/or family member has a drinking problem.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

27

When I drink responsibly, one of my motivations is... because I want to remember what happens.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

28

When I drink responsibly, one of my motivations is... because I need to study for a test or complete my school work.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time

- 5. Always a motivator for responsible drinking

29

When I drink responsibly, one of my motivations is... because I want to keep my blood alcohol concentration (BAC) under 0.08%.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

30

When I drink responsibly, one of my motivations is... because I am with people I do not know very well or in a new environment.

- 1. Never a motivator for responsible drinking
- 2. Seldom a motivator for responsible drinking
- 3. A motivator for responsible drinking some of the time
- 4. A motivator for responsible drinking most of the time
- 5. Always a motivator for responsible drinking

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

31

Do you ever consume alcohol (in any amount)?

- Yes - I consume alcohol or have done so in the past
- No - I completely abstain from consuming ANY amount of alcohol

Characteristics of Responsible Drinking Survey (CHORDS)

In this section, your confidence in performing specific actions / behaviors when consuming alcohol will be examined. On a scale of 0% (having no confidence) to 100% (extremely confident), indicate how confident you are in personally performing the following actions the next time you drink.

32

The next time I drink alcohol, I feel confident in my ability to… plan

ahead and think about my drinking behaviors (i.e. when, where, and how much I am going to drink) before I consume alcohol.

33

The next time I drink alcohol, I feel confident in my ability to… recognize my personal alcohol-related limits and stop drinking before becoming ill or incoherent.

34

The next time I drink alcohol, I feel confident in my ability to… pace the speed at which I drink. Not ‘chug’ or gulp drinks. Allow time to pass while drinking.

35

The next time I drink alcohol, I feel confident in my ability to… ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%.

36

The next time I drink alcohol, I feel confident in my ability to… monitor the amount of alcohol I consume and stop drinking once I have had a specific number of drinks.

37

The next time I drink alcohol, I feel confident in my ability to… take precautions to avoid intoxication and slow the absorption of alcohol, such as eating before I drink and having a glass of water after every alcoholic beverage I consume.

38

The next time I drink alcohol, I feel confident in my ability to… consume no more than one drink a day if female or no more than two drinks a day if male.

39

The next time I drink alcohol, I feel confident in my ability to… not drink and drive.

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

40

Do you believe that you will be able to drink responsibly the next time you consume alcohol?

- Yes - I believe I will be able to drink responsibly the next time I consume alcohol
- No - I believe I will NOT be able to drink responsibly the next time I consume alcohol
- Not Applicable - I do not drink alcohol

SUBMIT

Survey Page 7

Characteristics of Responsible Drinking Survey (CHORDS)

We all know that sometimes we intend to do something a certain way, but circumstances often interfere with our plans. In the list below we've identified potential obstacles to drinking responsibly. Assuming the next time you consume alcohol, you intend to drink responsibly, how much of an obstacle/problem would each of these items be, for you? Please indicate whether each item would (1) never, (2) seldom, (3) some of the time, (4) most of the time, or (5) always, be an obstacle to drinking responsibly.

41

The next time I drink alcohol, I would not be able to drink responsibly if... I felt depressed or stressed out.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

42

The next time I drink alcohol, I would not be able to drink responsibly if... I had recently failed an important test in one of my classes.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

43

The next time I drink alcohol, I would not be able to drink responsibly if... I had recently broken-up with my significant other.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

44

The next time I drink alcohol, I would not be able to drink responsibly if... everyone else was getting drunk.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

45

The next time I drink alcohol, I would not be able to drink responsibly if... I had a designated driver.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly

- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

46

The next time I drink alcohol, I would not be able to drink responsibly if... an attractive person wanted to buy me a drink(s).

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

47

The next time I drink alcohol, I would not be able to drink responsibly if... I was having a bad day.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

48

The next time I drink alcohol, I would not be able to drink responsibly if... I was playing a drinking game.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

49

The next time I drink alcohol, I would not be able to drink responsibly if... I felt like I would be missing out on a good time with my friends.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

50

The next time I drink alcohol, I would not be able to drink responsibly if... I was an alcoholic.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly

- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

51

The next time I drink alcohol, I would not be able to drink responsibly if... I was celebrating my 21st birthday.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

52

The next time I drink alcohol, I would not be able to drink responsibly if... I had someone challenge me to a drinking contest.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

53

The next time I drink alcohol, I would not be able to drink responsibly if... I felt pressured by friends to drink.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

54

The next time I drink alcohol, I would not be able to drink responsibly if... I was at a party and/or friends house and planned on staying there that night.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

55

The next time I drink alcohol, I would not be able to drink responsibly if... someone I trust agreed to stay sober to look after me and make sure I was safe.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time

- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

56

The next time I drink alcohol, I would not be able to drink responsibly if... I had a family member that has a drinking problem.

- 1. Never an obstacle to drinking responsibly
- 2. Seldom an obstacle to drinking responsibly
- 3. An obstacle to drinking responsibly some of the time
- 4. An obstacle to drinking responsibly most of the time
- 5. Always an obstacle to drinking responsibly

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

While reading the following statements, consider the next time you will drink alcohol. Please indicate the likelihood of personally performing the specific action(s) described. Identify whether you are (1) not likely at all, (2) seldom likely, (3) somewhat likely, (4) likely, or (5) extremely likely, to perform these behaviors, the next time you drink.

57

The next time I drink alcohol, how likely or probable is it that I will… ensure that my Blood Alcohol Concentration (BAC) stays below 0.08%.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

58

The next time I drink alcohol, how likely or probable is it that I will… monitor and limit my alcohol consumption by stopping my drinking after consuming a specific number of drinks.

- 1. Not Likely at All
- 2. Seldom Likely

- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

59

The next time I drink alcohol, how likely or probable is it that I will… take precautions to avoid intoxication and slow the absorption of alcohol, such as eating before I drink and having a glass of water after each alcoholic beverage.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

60

The next time I drink alcohol, how likely or probable is it that I will… pace the speed at which I drink. Allow time to pass while drinking. Not ‘chug’ or gulp my drinks.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

61

The next time I drink alcohol, how likely or probable is it that I will… consume no more than one drink a day if I am a female or no more than two drinks a day if I am male.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

62

The next time I drink alcohol, how likely or probable is it that I will… designate a driver, take a taxi, or use a safe-ride program.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

63

The next time I drink alcohol, how likely or probable is it that I will… think about my drinking behaviors before they occur. Plan ahead and consider when, where, and how much I am going to drink, before I actually start to consume alcohol.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

64

The next time I drink alcohol, how likely or probable is it that I will… refrain from getting ill or incoherent due to my drinking. Know when I have reached my personal alcohol-related limits and stop drinking.

- 1. Not Likely at All
- 2. Seldom Likely
- 3. Somewhat Likely
- 4. Likely
- 5. Extremely Likely

SUBMIT

Characteristics of Responsible Drinking Survey (CHORDS)

The final section of this survey addresses your demographic information. These questions relate only to you as a person and some of your personal alcohol-related behaviors.

65

How old are you? (Please input your answer in numerical form. For example, 21).

66

What is your sex?

67

What year in school are you?

68

Are you a full-time student?

69

How do you usually describe yourself?

70

Are you an international student?

71

What is your current relationship status?

72

Where do you currently live?

73

Are you a member of a social fraternity or sorority? (National Interfraternity Conference, National Panhellenic Conference, or National Pan-Hellenic Council)

74

Within the last 30 days, on how many days did you consume alcohol (beer, wine, liquor) in any amount?

- Never consumed
- Have consumed, but not in the last thirty days
- 1-2 days
- 3-5 days
- 6-9 days
- 10-19 days
- 20-29 days
- All 30 days

75

Within the last 30 days did you drive after drinking any alcohol at all?

- Not applicable - Don't drive
- Not applicable - Don't drink
- Yes
- No

76

Within the last 30 days did you drive after having 5 or more drinks?

- Not applicable - Don't drive

- Not applicable - Don't drink
- Yes
- No

77

The last time you were in a social setting with alcohol - party, dinner, etc. - how many alcoholic drinks did you have? State your best estimate. (Please input your answer in numerical form. For example, 2).

78

Think back over the last two weeks. How many times, if any, have you had five or more alcohol drinks at a sitting?

- None
- 1 time
- 2 times
- 3 times
- 4 times
- 5 times
- 6 times
- 7 times
- 8 times
- 9 or more times


SUBMIT

APPENDIX B

You have been randomly selected from all currently enrolled students at Texas A&M University to take part in the confidential, on-line research study entitled: **"Characteristics of Responsible Drinking Survey (CHORDS)."** In all, the survey should take no longer than 20 minutes to complete.

Should you agree to participate in this survey you will be required to rate statements concerning your personal beliefs, motivations, intentions, and behaviors associated with "responsible drinking."

This research study is being conducted as part of a doctoral dissertation project. Your participation is completely voluntary. The confidentiality of your responses will be ensured. Records will be kept private and any information you provide on the survey will not be associated with your identity. When reporting, the data will be presented in aggregate form.

By choosing to complete the **CHORDS**, you will have the opportunity to enter a drawing for one of three, brand-new, FREE Apple iPod 'Nanos!' The selection of winners is completely random. To enter the drawing, simply on click on link provided at the surveys conclusion.

Please note, you only have one week to complete the survey before the link becomes invalid. In other words, the survey link will expire on DD/MM/YY. Only those completing the survey during the allotted time will be eligible for the drawing.

Your feedback is greatly appreciated and extremely important to this study! Thank you for your time and consideration in this matter.

Adam Barry
Doctoral Candidate
Department of Health & Kinesiology
Texas A&M University

APPENDIX C

This is just a friendly reminder that time is running out on your chance to complete the **Characteristics of Responsible Drinking Survey (CHORDS).**

The link to the survey below is only valid for one week (seven days) after the date in which you received the initial invitation email (MM/DD/YY). Thus, the last day to complete the survey and be eligible for the drawing is MM/DD/YY.

Please note your participation is completely voluntary. Should you agree to participate in this survey, the confidentiality of your responses will be ensured. Records will be kept private and any information you provide on the survey will not be associated with your identity. When reporting, the data will be presented in aggregate form.

Remember, by taking no more than 20 minutes of your time to complete the CHORDS, you will have the opportunity to enter a drawing for one of three Apple iPod 'Nanos!' The selection of winners is completely random. To enter the drawing, simply follow the link provided at the surveys conclusion.

Your feedback is greatly appreciated and extremely important to this study! Thank you for your time and consideration in this matter.

Adam Barry
Doctoral Candidate
Department of Health & Kinesiology
Texas A&M University

APPENDIX D

You have been asked to participate in the research study entitled: **"Characteristics of Responsible Drinking Survey (CHORDS)."** The purpose of this study is to construct an instrument measuring the beliefs, motivations, intentions, and behaviors regarding "responsible drinking" among a sample of college students. This study is being conducted as part of a doctoral dissertation project.

How Was I Selected?
You were selected for this study because you are a college student, currently enrolled in courses offered through Texas A&M University. A total of 2500 people have been contacted to participate in this study.

What is Expected of Me If I Participate?
Should you agree to participate in this survey you will be required to rate statements concerning your personal beliefs, motivations, intentions, and behaviors associated with "responsible drinking." In addition, you will be asked to provide some personal descriptors and information regarding your alcohol consumption behavior. This survey will be conducted online, accessible through the link provided. In all, the survey should take no longer than 20 minutes to complete. Please note that there are *no* 'right' or 'wrong' answers. Your candid, honest response is all that is required. You may refuse to answer any question(s) that make you uncomfortable. Your participation is completely voluntary.

Are There Any Risks Associated with My Participation?
There are no known risks associated with participation in this study. Your decision to participate or not to participate will in no way affect your current standing in your enrolled course(s), or your relations with Texas A&M University.

Is There Anything Else I Should Know**?**
*Compensation***:** By choosing to complete this survey, you will have the opportunity to enter a drawing for one of three Apple iPod 'Nano.' The selection of winners is completely random. To enter the drawing you must complete the survey and follow the link provided at its conclusion. You will be asked to provide some demographic information so that you may be contacted should you be the winner. This information will be kept completely separate from your survey responses, so there is no way to identify who answered which questions.

*Confidentiality***:** The confidentiality of your responses will be ensured. Records will be kept private and any information you provide on the survey will not be associated with your identity. Should you choose to enter the drawing at the end of this survey, the identifying characteristics or personal descriptions (i.e. name, e-mail address, etc.) you enter are strictly for purposes of the drawing and is in no way associated with your survey responses. The principal investigator has been trained to maintain confidentiality of research information.

This research study has been reviewed and approved by the Institutional Review Board of Texas A&M University. For questions concerning the survey, you may contact Adam Barry at 979-862-4687 or via e-mail at aebucs@hlkn.tamu.edu. You may also contact the faculty supervisor of this research project, Dr. Patricia Goodson at 979-8451756, or via e-mail at pgoodson@hlkn.tamu.edu. For research-related problems or questions regarding subjects' rights, you may contact the Institutional Review Boards through Ms. Melissa McIhaney, IRB Program Coordinator, Office of Research Compliance, at 979-458-4067, or via e-mail at mcilhaney@tamu.edu.

Please make sure you have thoroughly read and understood all the information provided to you. By clicking the "Go to Survey" link, you are confirming your voluntary compliance with the details of this study outlined above. After clicking the link below you will automatically be taken to the **CHORDS**. You may print this page for your personal records.

VITA

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