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The Relationship Between Loneliness, Stress, and Alcohol Consumption Among College Students

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ABSTRACT

As the misuse of alcohol among college students remains a public health concern in the United States, students are participating in problematic drinking for various reasons. Loneliness and stress have both been associated with the reasoning behind why some college students participate in heavy drinking. Studies show that students who perceive themselves as under a lot of stress tend to drink more and that students who feel they need to overcome structural and emotional barriers such as loneliness and shyness, use alcohol as a resource. This paper examines the relationship between alcohol consumption, loneliness, and stress. Sixteen students, who attended Abilene Christian University and participated in the Brief Alcohol Screening and Intervention for College Students (BASICS), completed three scales to assess their alcohol use, perceived loneliness, and perceived stress. Results indicated that loneliness was not significantly associated with binge drinking, that stress was not significantly associated with binge drinking, and that males did not consume more alcohol, experience more loneliness or more stress than females. Although statistical significance was not found, it was determined that clinical significance was present.

The Relationship Between Loneliness, Stress, and Alcohol Consumption
Among College Students

A Thesis

Presented to

The Faculty of the Graduate School

Abilene Christian University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science in Social Work

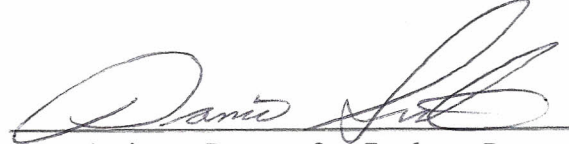
By

I'Esha Baber

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This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Council of Abilene Christian University in partial fulfillment of the requirements for the degree


Master of Science in Social Work



Assistant Provost for Graduate Programs

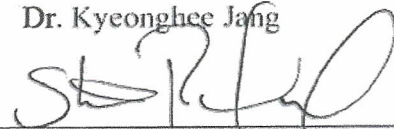
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To Karen Douglas, for walking alongside me throughout this process. For challenging me to do my best and encouraging me every step of the way. For being a strong example and leading with godly wisdom, I couldn't have done it without you.

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CHAPTER I

INTRODUCTION

Alcohol consumption has become a major problem among college students. Emerging adulthood (ages 18-25) is a period of time with high rates of heavy alcohol use, abuse, and dependence. American college students, who are emerging adults, are more likely to engage in heavy episodic drinking, also known as binge drinking (Gonzalez and Skewes, 2013). According to Thompson (2017), the misuse of alcohol among college students remains a public health concern in the United States. Students participate in binge drinking for various reasons, some of which include peer drinking and increased stress.

According to Gonzalez and Skewes (2013), college students typically drink in social contexts; however, a subgroup of students also engage in solitary drinking, drinking while alone. For many, going away to college is the first time they are living away from home and the familiarity of family and friends. College is a time where students become physically and emotionally independent from their parents while also preparing to enter adult society (Kim, Lee, Kim, Noh, & Lee, 2016). The transition into college is a time with significant stress and life adjustments. The loneliness accompanying the transition to college has been noted as a painful experience for college students. Studies have found that higher levels of loneliness are significantly related to higher frequency of alcohol consumption and problematic drinking behaviors (Korn & Maggs, 2004). According to Henninger, Eshbaugh, Osbeck, & Madigan (2016),

loneliness is experienced when a large difference exists between the personal relationships one wishes to have and the personal relationships that actually exist in one's social network.

A predictable outcome of this role change is the increased likelihood of stress among college students. According to Chen & Feeley (2015), alcohol use is a possible way to deal with stress, especially when individuals are trying to temporarily escape from a life problem. Studies show that many students participate in binge drinking in order to cope with emotional distress, which can include stress, loneliness, etc. (Chen & Feeley, 2015; Pedersen, 2017).

While there is a plethora of research on stress and alcohol consumption, and loneliness and alcohol consumption, this study focuses on addressing the following research question: Is there a relationship between loneliness and stress and the amount of alcohol consumed among college students? Although the experiences of loneliness and stress are different for each person, common elements can still be identified. This study measures loneliness using the University of California Los Angeles loneliness scale, it measures stress through the American Sociological Associations Perceived Stress Scale provided through Mind Garden, and it measures alcohol consumption and frequency through an Alcohol Use Disorders Identification Test (AUDIT). Terms frequently used in this paper will be defined below.

Binge Drinking/Heavy Drinking: Having five or more drinks in a row for men and four or more drinks in a row for women, within a two-hour time span (National institute of Alcohol Abuse and Alcoholism, 2002).

Loneliness: The subjective psychological discomfort people experience when their network of social relationships is significantly deficient in either quality or quantity (Perlman & Peplau, 1998).

Social Loneliness: The type of loneliness that occurs when a person lacks the sense of social integration or community involvement that might be provided by a network of friends, neighbors, or co-workers (Perlman & Peplau, 1998).

Emotional Loneliness: The type of loneliness that occurs when a person lacks an intimate attachment figure, such as might be provided for children by their parents or for adults by a spouse or intimate friend (Perlman & Peplau, 1998).

Social Isolation: The objective absence or near-absence of social relationships or connections (Ge, Yap, Ong, & Heng, 2017).

Stress: Any uncomfortable emotional experience accompanied by predictable biochemical, physiological and behavioral changes (American Psychological Association).

Perceived Stress: The feelings or thoughts that an individual has about how much stress he or she are under at any given point in time or over a given time period (Stoliker & Lafreniere, 2015).

Screening, Brief Intervention, and Referral to Treatment (SBIRT): An evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs (SAMHSA, 2008).

Motivational Interviewing: A clinical approach that helps people with mental health and substance use disorders and other chronic conditions such as diabetes, cardiovascular conditions, and asthma make positive behavioral changes to support better health

Brief Alcohol Screening and Intervention for College Students (BASICS): A prevention program for students who drink heavily and/or are at risk for alcohol-related problems (SAMHSA, 2008).

CHAPTER II

LITERATURE REVIEW

Search Strategy

EBSCOHost, an online database research search engine, was used to search for scholarly peer-reviewed articles relevant to the topic. Additionally, the Social Work Abstracts database, the EBSCO Social Work Reference Center database, and the SocIndex with full text database, were used to gather articles. The keywords used were binge drinking, loneliness, social isolation, stress, college students, and alcohol consumption. Key phrases for this search included: “loneliness and college students,” “stressors for college students,” “Binge drinking AND college students,” and “transitioning to college.”

Adolescents and College Attendance

Since the late twentieth century, both men and women have equally believed that they need to have some kind of college credentials to obtain, change, or advance careers (Smith & Niemi, 2017). The percentage of students in high school cohorts who attend two-year and four-year colleges within two years of leaving high school has increased significantly over the past half century (Archibald et al., 2015). “College attendance” can be defined in several ways. For some, college attendance is seen as enrollment for any length of time in a post-secondary institution, and for others, college attendance is seen as full-time enrollment at four-year colleges or universities (Smith & Niemi, 2017).

Currently, approximately 41% of 18 to 24 year olds are enrolled in a post-secondary degree granting institution (National Center for Education Statistics, 2013).

College and Transition to Adulthood

The transition from adolescence to adulthood is said to be a period of challenge for college students (Russell, Almeida, & Maggs, 2017; McEwan, 2017). College students are known to describe themselves as somewhere between adolescence and adulthood (Ravert et al., 2013). During this period, students are striving to establish independent identities, while also balancing academics, independent living, relationships, and family demands (Russell et al., 2017; Henninger IV et al., 2016). Physical separation from family and friends causes a transition or termination of close relationship, which can lead to increased loneliness among students (Lee & Goldstein, 2016). This transition also includes new approaches to learning and teaching, increased independence, self-regulations, and many assessments of learned course materials (McEwan, 2017).

College Stressors

The transition to college can be a stressful experience for many students. Eighty percent of college students report stress on a daily basis, and many report being stressed to the point of burnout (Pedersen, 2017). Students who are unable to handle stress during the transition from high school to college may be particularly vulnerable to adjustment issues. According to Riley (2016), college students experience higher levels of distress than adults or younger adolescents. For some students, going to college is the first time that they are living away from home and family. Moving away from home, combined with increased financial responsibility and academic demands, can be very stressful to a

first-time college student. These transitions can permanently change a person's individual trajectory of well-being (Schuleberg & Maggs, 2002).

A common stressor mentioned in literature is that of stress related to students and their families and friends (Hicks & Heastie, 2008; Hurst et al., 2012; Kim et al., 2016). Students feel stressed because they are leaving family behind to come to school, often experiencing academic pressure from parents, and also caring for families. Hurst et al. (2012) lists similar reasons for friendship-related stressors. Students are stressed about developing new friendships, leaving old friends behind, and being isolated from peers at college. Peer relationships are critical for support, confirmation of identity, socialization, and many other areas of college adjustment (Hicks & Heastie, 2008).

Entering college may be a source of acute stress and strain among students. Attending college gives students the opportunity for psychological development and new learning experiences (Karagiannopoulou & Kamtsios, 2016). However, academic stressors are among the main types of stressors that college students face (Pedersen, 2017). Academic stressors include things like academic concerns, unrealistic expectations, and concerns about grades. Research has found that the pressure of school work, studying for exams, and acquiring professional knowledge are the most stressful aspects for students (Karagiannopoulou & Kamtsios, 2016).

Beyond traditional stressors that students face, such as academic pressure, students face more financial stressors. According to Hurst et al. (2012), the cost of tuition and room and board at four-year institutions has increased 37% in the past decade. The financial pressures are also increased by students having to work additional jobs to supplement their incomes, and finding it hard to balance work and life issues (Hurst et al.,

2012). Studies show that 70-80% of students work while they are enrolled in college (Alfano & Eduljee, 2013).

Historical Perspectives of College Drinking

When examining a topic, it is important to look at the past to see the factors that have led to the current perspectives. This section examines trends on the perspective of college drinking, current patterns in college drinking, and what factors impact current perspectives of college drinking.

Trends

College drinking behavior is complex (Dowdall & Wechsler, 2002) and has gained national recognition as the number one public health concern affecting college students since the 1990s (Wechsler et al., 2002). In 1989 the U.S. Congress passed the Drug Free Schools and Communities Act Amendments of 1989, which called for colleges and universities to implement a program to prevent drug use and the abuse of alcohol by their students (Martin, 2014).

The Harvard School of Public Health College Alcohol Study surveyed American college students in 1993, 1997, 1999, and 2001. Over that period of time the researchers at Harvard noticed that the proportion of binge drinkers did not change and that the results of the 2001 survey were nearly identical to the previous three years studied (Wechsler et al., 2002). This shows that excessive drinking by college students is not a new phenomenon (Vicary & Karshin, 2002).

According to Wechsler et al. (2002), other studies that measure college student binge drinking has shown little to no change in student drinking patterns. As a result of this, many campus communities have noticed the need for a change in their campus

drinking culture over the past decade (Martin, 2014). A historical perspective is important in recognizing that alcohol excesses have long been, and continue to be, an ongoing problem for college students (Vicary & Karshin, 2002).

Current Patterns

Heavy drinking among college students is currently a major U.S. public health concern (Moser et al., 2014; Wechsler et al., 2002). Recent studies show that about 32% of students currently engage in heavy drinking (Russell et al., 2017). There are many factors contributing to patterns in college student drinking behaviors. According to Osberg et al. (2011), students enter their college years with varying beliefs about the role alcohol should play in their college experience; some see it as central to the experience, while others see it as not important. Students' beliefs about alcohol consumption influence the amount of alcohol they will drink. As students are transitioning from high school to college, many of them are escalating their drinking patterns at a faster rate than other emerging adults who are not transitioning to college (Moser et al., 2014).

Location is also important when considering student drinking patterns. According to Dowdall & Wechsler (2002), many colleges are surrounded by a ring of bars and other alcohol outlets with special promotions and low-price specials being advertised. A national study showed that colleges located more than one mile from the nearest alcohol store had lower rates of binge drinking than colleges with locations within a mile (Dowdall & Wechsler, 2002). The location of many colleges allows one to look into the availability and price of alcohol, as well as the local drinking traditions and the impact they have on college drinking patterns (Dowdall & Wechsler, 2002).

Factors Impacting Current Perspective

Excessive drinking among college students has become a serious public health problem because of its association with compromised health, safety, and academic success (National Institute on Alcohol Abuse and Alcoholism, 2002). Excessive drinking can lead to many risky behaviors and have major consequences, such as sexual assault, impaired academic performance, absenteeism from work and school, alcohol poisoning, blackouts, car accidents, unintentional injury, and damaged social relations (Thompson, 2017; Wrye & Pruitt, 2017). Studies estimate that 1,825 college students die from alcohol-related unintentional injuries yearly (DiFulvio, Linowski, Mazziotti, & Puleo, 2012).

In spite of these risks, alcohol consumption is still something that takes place on university campuses. Each year 696,000 college students are physically assaulted by someone who has been drinking and 97,000 experience sexual assault or date rape related to drinking incidents (Thompson, 2017). Studies show that risky behaviors are increased when binge drinking takes place (Vicary & Karshin, 2002; Leontini et al., 2015). According to Merrill & Carey (2016), because college students' expectations for a positive future are high, they may not acknowledge negative consequences related to drinking behavior. This proves to be a problem among university students because studies show that alcohol is one of the most widely used substances by young adults (Bridges & Sharma, 2015). After graduation, binge drinking tends to immediately decline, which is one indication that excessive drinking is a college phenomenon (Pedersen, 2017).

Patterns in College Drinking

Excessive drinking and behaviors related to excessive drinking by college students are a major national concern (Vicary & Karshin, 2002). There are various forms of alcohol abuse and patterns that take place on college campuses. As discussed above, although some patterns are not exactly a new problem they are having greater effects on the nation than ever before (Vicary & Karshin, 2002). This section examines binge drinking patterns and also peer associated drinking patterns.

Binge Drinking

College students drink heavier and consume more alcohol than their non-college peers (Merrill & Carey, 2016). In comparison to 51.9% of non-college students who drink, 60.3% of college students ages 18-22 drink, which is 8.4% more in a one-month time span (Bridges & Sharma, 2015). Also, studies show that 5% more college students (40%) engage in binge drinking than non-college students (35%) (Bridges & Sharma, 2015). Approximately 1 out of 5 males, and 1 out of 10 females, consume twice as much as the binge drinking threshold (Merrill & Carey, 2016).

It is important to note that availability and price are two of the strongest predictors of binge drinking among underage students (Dowdall & Wechsler, 2002). Most traditional college students are under the age of 21, so consuming alcohol involves the violation of state and local laws by students and providers (Dowdall & Wechsler, 2002). The 2011 National Survey on Drug Use and Health found that 25.1% of underage individuals consumed alcohol within the previous 30 days, and 15.8% were classified as binge drinkers (McBride, Barrett, Moore, & Schonfeld, 2014). The role of availability and context shapes drinking patterns of underage students. However, there is little known

about how underage students are accessing alcohol; supply factors in college drinking is one of the most understudied areas (Dowdall & Wechsler, 2002). Brown, Matousek, and Radue (2009) found that more than 60% of individuals aged 18-20 years old last obtained alcohol from individuals over the legal age.

Attitudes surrounding alcohol consumption are largely socially defined and enforced by student communities (Tan, 2012). According to Merrill & Carey (2016), emerging adults who are attending college are in a period where they are figuring out their identity. With the perception of binge drinking being considered as a rite of passage (Osberg et al., 2010), some may see alcohol use as part of exploring lifestyle options before adopting an identity or as a way to cope with identity confusion (Merrill & Carey, 2016). For example, some college students tend to drink more if they believe drinking will have positive effects and consequences and tend to drink less if they have negative expectations about drinking (Merrill & Carey, 2016).

Peer-Associated Drinking Patterns

Group belonging is an important factor to college students (Leontini et al., 2015). There are many factors that go into forming a group; however, informal drinking occasions can be central to establishing group belonging (Leontini et al., 2015). Drinking for college students can hold special functional and developmental meanings for students and form an important part of their individual and group identities in college (Tan, 2012). Researchers believe that subjective norm is significantly associated with binge-drinking intention (Chen & Feeley, 2015). Subjective norm refers to the extent to which individuals believe that other people think that they should or should not perform a particular behavior (Chen & Feeley, 2015). Due to some students feeling the need to

belong, their seeking of peer satisfaction seems to be stronger and can lead to increased drinking (Tan, 2012).

There are many motives behind why college students drink. According to Bandura (1991), many forms of behavior give personal advantages to some but are detrimental to others, which can be applied to peer pressure of binge drinking. Most students are aware that their peers are drinking and have the belief that their peers see non-drinkers as non-sociable (Wyre & Pruitt, 2017). Two sets of moral consequences are created by social influences: self-evaluative reactions and social effects (Bandura, 1991). Socially approvable acts, such as binge drinking, can be a source of self-pride, but socially punishable ones, not participating in drinking, are self-censured (Bandura, 1991).

College traditions tend to influence trends in student drinking. Binge drinking is learned through increased social interactions that involve drinking and becomes a patterned behavior through considerable continuity and increased use (Pedersen, 2017). However, peer drinking in groups is most common (Bridges & Sharma, 2015). College students who are members of or are affiliated with Greek organizations drink more heavily than individuals who are not affiliated with a Greek organization (Bridges & Sharma, 2015). For example, 80% of women in sorority houses and 86% of men in fraternity houses qualify as binge drinkers (Vicary & Karshin, 2002). Within the Greek system, binge drinking is often a learned behavior and is used as a coping mechanism to cope with stress, shyness, anxiety, and depression (Pedersen, 2017). Greek organizations hold many traditions and are an example of a social influence among some students.

Also, athletes tend to binge drink more often than non-athletes (Bridges & Sharma, 2015). Binge drinking also tends to take place by non-athletes prior to

activities involving sports. Drinking games, pregaming, and tailgating are three drinking practices that are associated with rapid alcohol consumption (Moser et al., 2014).

Pregaming includes drinking alcohol before attending any event and tailgating is drinking alcohol before attending an event that is usually associated with football games (Moser et al., 2014). These practices usually take place in groups.

Factors Associated with Problematic Drinking Behaviors

Although there are many factors associated with problematic drinking behaviors, this section of the literature review focuses on stress and loneliness. The reviewed literature focuses on stress and loneliness when applied specifically to college aged students and drinking behaviors.

Stress

Stress is much higher among college students than the general population (Pendersen, 2017). Between 75-80% of college students report being moderately stressed and between 10-12% report being severely stressed (Russell et al., 2017). Binge drinking has been woven into college culture as a recreational behavior; however, it has also been documented as a response to stress (Pendersen, 2017). Stress and alcohol consumption has been linked in many ways.

The burden of stress is related to heavy alcohol consumption (Pendersen, 2017). According to Russell et al. (2017), “Alcohol has been perceived as a stress reliever since antiquity” (p. 676). Drinking to cope has become a common behavioral response among college students, including drinking as a short-term reaction to situational stress and also as a long-term coping style to deal with stress (Pendersen, 2017). According to

Pendersen, “some strategies used to cope, including binge drinking, may actually increase the likelihood that individuals feel overwhelmed and stressed” (p. 131).

The impact that a stressful situation has on someone is partly determined by the perception of their stressfulness (Stoliker & Lafreniere, 2015). Perceived stress is important to examine when assessing the link between alcohol consumption and stress. Perceived stress is referred to as the degree to which individuals consider situations in their life to be stressful (Stoliker & Lafreniere, 2015). Perceived stress also refers to the way someone identifies with those stressful events (Stoliker & Lafreniere, 2015).

According to Russell et al. (2017), “Daily stress has been shown to predict next-day drinking, and drinking has been shown to predict next-day stress levels” (p.677). Some studies have found negative associations, where more stress is associated with less drinking, while others have found positive associations where more stress is associated with more drinking (Russell et al., 2017).

Loneliness

Loneliness is an issue that is prevalent across college and university campuses (Henninger IV, Eshbaugh, Osbeck, & Madigan, 2016) and one of the most prominent concerns by students who utilize campus counseling services (Henninger IV et al., 2016). According to Knox, Vail-Smith, and Zusman (2007), “loneliness is a complex and multidimensional concept, which includes loneliness connected to emotional isolation and loneliness connected to social isolation” (p.274). Loneliness occurs when there is a discrepancy between someone’s actual social relations and his or her needed or desired relationships (Perlman & Peplau, 1998). The emotional state of loneliness involves feeling void, secluded, and worthless (Stoliker & Lafreniere, 2015). Because students are

leaving behind social support and relationships when transitioning to college, loneliness typically accompanies the transition (Henninger IV et al., 2016). Individual differences in personality and behavior such as extreme shyness or the lack of social skills may interfere with satisfying social relationships and set the stage for loneliness (Perlman & Peplau, 1998).

According to Gonzales and Skewes (2013), social isolation is a potential cause or correlate of solitary heavy drinking. For some students, fewer social interactions eventuate in a greater sense of loneliness (Korn & Maggs, 2004). In some instances, alcohol is used as a resource for students to overcome structural and emotional barriers such as loneliness and shyness (Leontini et al., 2015). Binge drinking is associated with significantly greater alcohol-related problems among college students and other adults than heavy drinking in social contexts (Gonzales and Skewes, 2013). Students typically drink in social contexts; however, a sub group of students also engages in solitary drinking (Gonzalez & Skewes, 2013). According to Gonzales and Skewes, “solitary drinking is associated with drinking to cope, while social drinking is associated with efforts to increase positive emotions” (p.286). Higher levels of loneliness are significantly related to greater frequency of intoxication and binge drinking (Korn & Maggs, 2004).

According to Knox et al. (2007), college men report being lonelier than college women and are less likely than college women to seek, nurture, and maintain a network of relationships. When looking at types of loneliness, men are more likely to experience emotional loneliness because men are less likely to be involved in a romantic relationship than women (Knox et al., 2007). Although women also experience social loneliness,

males are likely to experience emotional and social loneliness because they tend to have poorer social skills (Cecen, 2008). Male gender tends to be correlated with high drinking risks (Carey & DeMartini, 2009).

Brief Interventions

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines brief interventions as “evidence-based practices designed to motivate individuals at risk of substance abuse and related health problem to change their behavior by helping them understand how their substance use puts them at risk and to reduce or give up their substance use” (2008, n.p.). Brief interventions consist of up to five sessions. They include feedback about personal risk, explicit advice to change, emphasis on patient’s responsibility to change, and provide a variety of ways to effect change.

Brief interventions for college students who drink heavily have shown promise in reducing drinking and alcohol-related negative consequences. However, methods and content of interventions vary across studies (Kulesza et al., 2013). Screening, brief intervention, and referral to treatment (SBIRT) is an evidence-based practice that has proven to reduce alcohol and drug use in healthcare, education, and other settings (Prendergast, McCollister, & Ward, 2017). SBIRT provides low-cost screening using brief, valid, and reliable screening instruments. Many brief interventions have been used in SBIRT and are aimed at having a positive impact on broad user populations (Prendergast et al., 2017).

Although methods are varied, brief interventions are needed to combat health concerns associated with college drinking. As a result of increased binge drinking, many colleges and universities have implemented intervention methods and/or programs on

campus that are specifically designed to help combat and address binge drinking on campus.

Motivational Interviewing

SAMHSA defines motivational interviewing as “a clinical approach that helps people with mental health and substance use disorders and other chronic conditions such as diabetes, cardiovascular conditions, and asthma make positive behavioral changes to support better health” (2008, n.p.). It is also seen as a way of being with clients and not as a set of techniques to use on clients (Tomlin et al., 2005).

Motivational interviewing has grown in popularity over the past two decades. According to Lewis et al. (2017), motivational interviewing has influenced many treatment programs, has been studied in over 200 clinical trials, and its effectiveness has been substantiated across various clinical problems.

Motivational interviewing is a brief intervention style that is rooted in supporting self-efficacy. Self-efficacy is the belief that changing oneself is possible (Tomlin et al., 2005). Tomlin and colleagues explain that supporting self-efficacy in a client will be fostering their belief in the possibility of change and also guiding clients to explore different approaches to change. Through motivational interviewing, practitioners can examine areas where clients feel low self-efficacy and areas where their self-efficacy is high.

It is important through motivational interviewing to build on what the clients see as their strengths. Research has demonstrated a positive correlation between change talk and behavior change (Tomlin et al., 2005). Through building on strength and talking

about change in weaker areas, there is a higher chance that motivational interviewing will be effective, depending on the client's own motive to change.

Motivational interviewing has four change processes: engaging, focusing, evoking, and planning. The engaging step involves engaging the client and understanding their needs. The focusing step includes focusing a client on their internal motivation for behavior change. The evoking process is the stage where clients are being prepared for behavior change. Lastly, planning is a discussion of how the change will take place and formulating an action plan (Lewis et al., 2017).

Social cognitive theory includes a concept referred to as the agentic perspective, which focuses on agents of change, which has also been applied in motivational interviewing (Bandura, 2001). In the agentic perspective, Bandura focuses on different agents and how they make change. He points out that agents are acts done intentionally and are influenced by endowments, belief systems, self-regulatory capabilities, and other things (Bandura, 2001). Agents are the acts that are done to motivate change; however, Bandura explains that people can function as active agents in their own motivation (Bandura, 2001).

It is important in motivational interviewing to find out what agents are important in the client's life. According to Bandura (2001), an agent has to not only be a plan but something that motivates and self-regulates someone. Through knowing this, practitioners can draw on those agents to motivate the clients to intentionally make things happen by their own actions.

BASICS

Brief Alcohol Screening and Intervention for College Students (BASICS) is a prevention program for students who drink heavily and/or are at risk for alcohol-related problems (SAMHSA, 2008). According to SAMHSA (2008), although BASICS was originally designed in 1992 to reduce drinking among college students, it has been adapted and used for other populations as well. Since the program was first implemented, it has been used at approximately 1,100 sites and has reached approximately 20,000 individuals.

The BASICS intervention, as implemented at colleges and universities, is delivered over the course of two one-hour interviews with students. The first interview is designed to build rapport, gather information about the student and their current or most recent drinking patterns, and provide alcohol education (DiFulvio et al., 2012). The first interview is also used to discover students' personal beliefs about alcohol, to discover students' drinking history, and to discover/set goals for students, while providing instructions for self-monitoring alcohol consumption between sessions. The second interview compares students' alcohol use with alcohol use norms, addresses individualized negative consequences and risk factors identified in first interview, clarifies perceived risk and benefits of drinking, and provides students with options to assist in decreasing or abstaining from alcohol use (SAMHSA, 2008).

BASICS follows a harm reduction approach and is based on principles of motivational interviewing (SAMHSA, 2008). The prevention program aims to motivate students to decrease alcohol use in order to avoid negative consequences of drinking.

BASICS also aims to reveal discrepancies between a student's drinking behavior and his or her goals and values (SAMHSA, 2008).

Conclusion

The most intensively studied and widely discussed topic in alcohol research over the past decade has been college student alcohol use and associated problems (Dowdall & Wechsler, 2002). Many factors, including loneliness and stress, have the potential to increase binge drinking among college students. This study will be examining relationships between factors associated with problematic drinking and the impact they have on the drinking patterns of students participating in the BASICS program by addressing the following research question: Is there a relationship between loneliness and stress and the amount of alcohol consumed among college students? Based on the review of literature the following hypotheses have been formed:

1. Higher scores on loneliness scale will be significantly associated with binge drinking.
2. Higher scores on perceived stress scales will be significantly associated with binge drinking.
3. Participants with low loneliness scores will be less likely to participate in binge drinking at a high frequency.
4. Male participants will be more likely to score higher on loneliness and stress assessments and report higher frequency of binge drinking.

CHAPTER III

METHODOLOGY

The purpose of this study is to explore relationships between loneliness, stress, and drinking behaviors among participants in the BASICS program at Abilene Christian University (ACU). This study is designed to examine whether students who experience loneliness and stress participated in consuming more alcohol than students who had not.

Design

The research design of this study is an explanatory and cross-sectional design as it looks to determine if there is evidence of a causal relationship between loneliness, stress, and alcohol consumption. The independent variables in this study are loneliness and stress, and the dependent variable is alcohol consumption, which includes frequency and amount. Intervening variables will include sex, age, academic status, relationship status, and race/ethnicity.

Population and sampling

The sample population in this study includes both male and female undergraduate students attending ACU during the 2017-2018 school year. The population includes only students referred to the BASICS program by the Office of Student Life or the ACU Athletic Department for failure to comply with ACU drinking policies. The referral process of BASICS is fairly narrow. Referrals only include students who are caught being in violation of ACU's alcohol and drug policy.

ACU has traditionally followed national patterns involving alcohol use; therefore, this study assumes that the population chosen are representative of most college students. Only students who complete both sessions in the BASICS program will be included in this study. Although there may be other students in violation of the policy, those who have not been caught and referred to BASICS are not included in this study.

Instrumentation

Three written instruments are used in order to gather data for this study. These instruments collected data on students' alcohol consumption patterns, perceived loneliness, and perceived stress. The UCLA loneliness scale was used to measure perceived loneliness among participants. In 1978, Daniel Russell published the University of California, Los Angeles (UCLA) Loneliness Scale (Perlman & Peplau, 1998). This assessment is a 20-item self-report scale, which aims to measure self-perception of loneliness and social isolation (see Appendix C). This measure has high internal consistency with a coefficient alpha range of .89 to .96 and a test-retest correlation over a one-year period of .73 (Russell, 1996; Russell, Peplau, & Ferguson, 1978).

The perceived stress scale (PSS), created in 1983 by Cohen, Kamarch, & Mermelstein, is used to measure individual stress levels of participants. The PSS is a 10-item self-report scale that is used to understand how different situations affect feelings and perceived stress (see Appendix D). Over twelve studies have been conducted to measure the internal consistency reliability of the PSS. Cronbach's alpha has consistently been evaluated at $>.70$ in all studies (Eun-Hyun Lee, 2012).

The instrument used to measure alcohol use for this study is the Alcohol Use Disorders Identification test (AUDIT). The AUDIT was developed by the World Health Organization in 1982 and is a 10-question assessment that aims to identify drinking patterns, such as frequency and amount of alcohol consumed (see Appendix B). The reliability of the AUDIT is high, with a Cronbach's alpha of 0.98 (Saunders et al., 1993).

Demographic data includes sex, age, academic status, relationship status, and race/ethnicity. This data will be collected from existing data within client files.

Procedures

Each participant in the BASICS program is required to attend two one-hour sessions. All students enrolled in BASICS are required to take the AUDIT in their initial intake. Each student signs a voluntary consent form and is informed that assessments given during BASICS may be used for research. The perceived stress scale and the UCLA loneliness scale are administered during the second session of the BASICS program.

Human Subjects Protection

This study uses a pre-existing database of students participating in the university's BASICS program in the 2017-18 academic year. As such it meets the standard of "exempt" research. To protect participants' identity and privacy, all data collected is de-identified and coded by the researcher. This study has minimal risks. Although students may have felt uncomfortable discussing alcohol consumption and other related activities, the researcher will not interact with students outside of routine intervention practice and procedures, or solely for the purpose of research. The ACU Institutional Review Board (IRB) has reviewed and approved the study as exempt (Appendix A).

Data Analysis

The quantitative data that were collected during this study were hand scored and entered into student records in the ACU Medical and Counseling Care Center (MACCC). The de-identified data were retrieved from that database in Microsoft excel format and then transferred into the Statistical Package for the Social Sciences (SPSS) for analysis. The data were analyzed and interpreted to inform results.

CHAPTER IV

FINDINGS

To examine the relationships between loneliness, stress, and alcohol consumption among college students, data were collected through three assessments. Assessment data were analyzed to examine relationships between student's alcohol consumption, perceived loneliness, and perceived stress based on hypotheses. Hypotheses were formed based on literature reviewed that is relevant to the topic.

Description of Sample

This study examined data from students participating in the BASICS program at ACU during the 2017-2018 school year. The total sample, seen in Table 1, contained 16 students. Of this sample, 68.8% ($n=11$) were female and 31.3% ($n=5$) were male. The academic status of participants ranged from freshmen to senior with the predominant status being freshman (37.5%). Relationship status and race/ethnicity were also examined for this study. Twelve (75%) of participants were single, while four (25%) were seriously dating. Only two races/ethnicities were present in this study; 18.8% ($n=3$) were Hispanic/Latino and 81.3% ($n=13$) were white.

Table 1

Demographics: Sex, Academic Status, Relationship Status, Race/Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Sex	Female	11	68.8	68.8	68.8
	Male	5	31.3	31.3	100.0
	Total	16	100.0	100.0	---
Academic Status	Freshman	6	37.5	37.5	37.5
	Junior	4	25.0	25.0	62.5
	Senior	2	12.5	12.5	75.0
	Sophomore	4	25.0	25.0	100.0
	Total	16	100.0	100.0	---
Relationship Status	Dating	4	25.0	25.0	25.0
	Single	12	75.0	75.0	100.0
	Total	16	100.0	100.0	---
Race/Ethnicity	Hispanic/Latino	3	18.8	18.8	18.8
	White	13	81.3	81.3	100.0
	Total	16	100.0	100.0	---

Each assessment was scored and then put into categories. Table 2 shows the range of scores for each assessment. For the AUDIT, each score is put into risk level zones based on drinking patterns and behaviors; each zone then has a recommendation for how to address alcohol use; scores range from 0-40. Zone One includes participants with a score of 0-7 and recommends alcohol education. Zone Two includes scores of 8-15 and recommends simple advice. Zone Three includes scores of 16-19 and recommends simple advice plus brief counseling and continued monitoring. The final zone, Zone Four includes scores of 20-40 and recommends referral to a specialist for diagnostic evaluation and treatment. This sample included AUDIT scores ranging from 0 to 29 with an average score of 5.13 (M=5.13, SD=7.089).

Table 2

Assessment Scores

	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
AUDIT Score	16	0	29	5.13	7.089
Loneliness Score	16	0	56	18.75	16.221
Perceived Stress Scale	16	7	31	18.19	7.985

For the UCLA loneliness assessment, the total scores were calculated by finding the sum of 20 items. The score range for this assessment is 0 to 60 with a higher score indicating more loneliness. This sample included scores ranging from 0 to 56 with an average score of 18.75 ($M=18.75$, $SD=16.221$; Table 2).

The perceived stress scale scores were calculated by reversing responses to the positively stated questions and then summing across all scale items. This sample included scores ranging from 7-31 with an average score of 18.19 ($M=18.19$, $SD=7.985$; Table 2).

Hypotheses/Research Question

Based on studied literature, four hypotheses were formed and tested through assessments. The analyzed data were used to determine if a relationship between loneliness, stress, and the amount of alcohol consumed among college students were present.

Hypothesis 1

The first hypothesis predicted that participants with higher scores on the loneliness scale will have a significant association with binge drinking. An analysis of

variance (ANOVA) was conducted to determine if higher loneliness was significantly associated with binge drinking. Table 3 and Table 4 show the associations between loneliness scores and binge drinking. As seen in Table 4, there was some relationship between loneliness and binge drinking; however, the associations were not statistically significant ($F=2.173$, $df=2,13$, $p=0.153$).

Table 3

Loneliness Score/Binge Drinking

Zones	N	Mean	Std. Deviation	Std. Error
1	13	18.85	15.668	4.345
2	2	5.50	3.536	2.500
4	1	44.00	.	.
Total	16	18.75	16.221	4.055

Table 4

Loneliness Score/Binge Drinking

	Sum of Squares	df	Mean Square	F	Sig
Between groups	988.808	2	494.404	2.173	.153
Within groups	2958.192	13	227.553	---	---
Total	3947.000	15	---	---	---

Hypothesis 2

The second hypothesis predicted that participants with higher scores on the perceived stress scales will have significant associations with binge drinking. An ANOVA test was conducted to determine if higher perceived stress was significantly associated with binge drinking. As seen in Tables 5 and 6, associations between stress

and binge drinking were not statistically significant, and the hypothesis was not supported, ($F=.324$, $df=2,13$, $p=0.729$).

Table 5

Perceived Stress/Binge Drinking

Zone	N	Mean	Std. Deviation	Std. Error
1	13	18.62	8.704	2.414
2	2	14.00	1.414	1.000
4	1	21.00	---	---
Total	16	18.19	7.985	1.996

Table 6

Perceived Stress/Binge Drinking

	Sum of Squares	df	Mean square	F	Sig.
Between groups	45.361	2	22.680	.324	.729
Within groups	911.077	13	70.083	---	---
Total	956.437	15	---	---	---

Hypothesis 3

The third hypothesis predicted that participants with low loneliness scores will be less likely to participate in binge drinking at a high frequency. This hypothesis was measured using three indicators of binge drinking frequency and the loneliness assessment scores. Each measure of binge drinking frequency was taken from the AUDIT. The first measure asked participants how many drinks containing alcohol they have on a typical day when they were drinking (Table 7). Using this definition of binge drinking, participants with low loneliness scores tended to have lower binge drinking

frequency; however, statistical significance was not found, ($F=1.278$, $df=3,12$, $p=.326$; Table 8).

Table 7

Loneliness Score/How Many Drinks

# of Drinks	<i>N</i>	Mean	Std. Deviation	Std. Error
0	10	15.40	12.483	3.947
1	4	23.50	23.014	11.507
2	1	8.00	---	---
4	1	44.00	---	---
Total	16	18.75	16.221	4.055

(0=1 or 2, 1= 3 or 4, 2= 5 or 6, 3= 7 to 9, 4= 10 or more)

Table 8

Loneliness Score/How Many Drinks

	Sum of Squares	df	Mean square	F	Sig.
Between groups	955.600	3	318.533	1.278	.326
Within groups	2991.400	12	249.283	---	---
Total	3947.000	15	---	---	---

The second measure of binge drinking frequency asked participants how often do they have six or more drinks on one occasion. Again, participants with lower loneliness scores tended to have lower binge drinking (Table 9), but the findings were not statistically significant, ($F=1.124$, $df=3,12$, $p=.378$; Table 10).

Table 9

Loneliness/How Often Binge Drinking

Frequency of 6 or more drinks	N	Mean	Std. Deviation	Std. Error
0	9	14.33	12.748	4.249
1	5	20.40	21.102	9.437
2	1	25.00	---	---
3	1	44.00	---	---
Total	16	18.75	16.221	4.055

(0= Never, 1= Less than monthly, 2= Monthly, 3= Weekly, 4= Daily or almost daily)

Table 10

Loneliness/How Often Binge Drinking

	Sum of Squares	df	Mean square	F	Sig.
Between groups	865.800	3	288.600	1.124	.378
Within groups	3081.200	12	256.767	---	---
Total	3947.000	15	---	---	---

The last measure of binge drinking asked participants how often over the past year had they found that they were not able to stop drinking once they had started. The trend in this measure showed that participants with lower loneliness scores were less likely to experience binge drinking (Table 11). Findings were not statistically significant, ($F=1.571$, $df=2,13$, $p=.245$; Table 12). The hypothesis was not supported by findings.

Table 11

Loneliness/Inability To Stop Drinking

Inability to stop	<i>N</i>	Mean	Std. Deviation	Std. Error
0	14	17.71	15.637	4.179
1	1	8.00	---	---
3	1	44.00	---	---
Total	16	18.75	16.221	4.055

(0= Never, 1= Less than monthly, 2= Monthly, 3= Weekly, 4= Daily or almost daily)

Table 12

Loneliness/Inability To Stop Drinking

	Sum of Squares	df	Mean square	F	Sig.
Between groups	768.143	2	384.071	1.571	.245
Within groups	3178.857	13	244.527	---	---
Total	3947.000	15	---	---	---

Hypothesis 4

The fourth hypothesis predicted that male participants will score higher on loneliness and stress assessments and report higher frequency of binge drinking than females. An independent sample *t*-test analysis was conducted to compare participants sex with loneliness scores, stress scores, and frequency of binge drinking. As seen in Table 13, the results showed that women reported higher binge drinking than men ($t=3.249$, $df=14$, $p=0.006$ – a finding that directly contradicted the hypothesis).

Table 13

Sex and AUDIT Score

		Mean	N	SD
AUDIT Score	male	11.80	5	10.035
	female	2.09	11	1.640

($t=3.249$, $df=14$, $p=0.006$)

With regard to loneliness, results showed that there was no difference between genders on the loneliness assessment (Table 14). This component of hypothesis 4 was not supported.

Table 14

Sex and Loneliness

		Mean	N	SD
Loneliness Score	male	18.00	5	16.140
	female	19.09	11	17.032

($t=-0.121$, $df=14$, $p=0.906$)

Lastly, results showed that women were actually more stressed than men based on the stress assessment (Table 15), but the difference was not statistically significant ($t=-0.523$, $df=14$, $p=0.609$). The analysis did not support the hypothesis.

Table 15

Sex and Perceived Stress

		Mean	N	SD
Perceived Stress Score	male	16.60	5	10.035
	female	18.91	11	1.640

CHAPTER V

DISCUSSION

As the misuse of alcohol among college students has grown to become a public health concern (Thompson, 2017), research surrounding alcohol use and college students has increased. However, there have been few studies that examine alcohol use and multiple possible triggers at the same time. This study evaluated alcohol consumption and its relationship to perceived loneliness and perceived stress. Four hypotheses were formed based on reviewed literature.

Hypothesis 1 predicted that participants with higher scores on the loneliness scale will have a significant association with binge drinking. However, the results showed that associations with binge drinking and loneliness were not significant among this population. Because there was a small number of participants and the selection was limited, the results may not be an accurate reflection of the entire population of students attending ACU. While higher levels of loneliness are typically associated with binge drinking, Korn & Maggs (2004), point out that students who report only experiencing a little loneliness also report binge drinking and greater frequency of alcohol consumption. Students reporting low alcohol consumption may also report higher loneliness.

Relationships between perceived stress and binge drinking were found not to be statistically significant as predicted in Hypothesis 2. According to Karagiannopoulou & Kamtsios (2016), stress is a common element in every individuals' life. Literature suggests that drinking to cope with stress is common among college students (Pendersen,

2017). Although the relationship between perceived stress and binge drinking was not significant, a pattern of association between these two conditions was present. Findings showed that participants with the highest mean ($m=21.00$) also fit into zone 4 based on a higher AUDIT score. The literature previously reviewed in this study is supported by assessment results of this study, even though the relationship was not found to be statistically significant.

Hypothesis 3 predicted that participants with low loneliness scores will be less likely to participate in binge drinking at a high frequency. Again, this hypothesis was not supported by the findings, but there was a tendency toward students who had low loneliness scores being less likely to participate in binge drinking at high frequency. This tendency is supported by the reviewed literature (Korn & Maggs, 2004; Gonzales and Skewes, 2013), although it was not found statistically significant.

Based on findings of the fourth hypothesis, female participants had significantly higher perceived stress than males; this was in direct opposition to the prediction drawn from the review of literature. According to Jones, Mendenhall, & Myers (2016), on average women report experiencing a greater number and severity of stressors compared to men. It must be noted that the over-representation of females in the study (68.8%) could have impacted the results.

Hypothesis 4 also found that females tended to binge drink more than males, contrary to expectations. Research shows that there are differences in the way that men and women cope with stress; females typically deal with stress through emotion focused coping such as expressing feeling, while males typically deal with stress through problem-focused coping strategies, such as consuming alcohol or other substances (Jones

et al., 2016). However, with the low participation of males for this study, generalizability of the findings should be avoided. Hypothesis 4 also showed that there was no difference between gender when looking at loneliness score. This is interesting since there were more female participants than males and since literature suggested that males tend to be lonelier than females (Knox et al., 2007; Cecen 2008).

CHAPTER VI

CONCLUSIONS

Results from this current study suggest that problematic drinking behaviors are present on ACU's campus, and while there is an association with stress and loneliness, the relationship was not found to be statistically significant. Because of the pattern of association found, this study can be said to have clinical significance. According to Ranganathan, Pramesh, & Buyse (2015), statistical significance indicates the reliability of a studies results while clinical significance reflects its impact on clinical practice. Clinical significance refers to the meaning of change and the changes being done in practice (Bothe & Richardson, 2011).

Limitations

There are several limitations of this study that must be considered when assessing the findings. First, the sampling method was not randomized. The assessments were only given to students referred to the BASICS program during the 2017-2018 academic year. Because the researcher had a limited sample pool, this may affect the validity of results when being applied to ACU's campus population.

Secondly, each participant was referred for being in violation of ACU's drug or alcohol policy. Also, the assessments were administered and answered in front of the researcher who is also the BASICS facilitator. This raises questions that the accuracy of the responses may not be valid. Although it was explained to subjects that responses were

confidential, clients may have answered assessments in ways to avoid further potential consequences.

A further limitation of this study is the lack of diversity of respondents. Only two races/ethnicities were present in this study; as noted earlier, 81.3% were white and 18.8% were Hispanic/Latino/a. The lack of diversity present does not accurately represent the campus population. Also, there was big gender gap present (68.8% were female and 31.3% were male), which could have skewed gender-specific hypothesis results.

Lastly, the sample size was a significant limitation of this study. Only 16 students were included overall. A small sample size potentially impacts the outcome of each test and may have affected the reliability of the results. Only students referred to the BASICS program because of violating ACU's drug and alcohol policy were included in this study. Also, because of the smaller sample size, it limits understanding of ACU's specific population and other universities that are similar to ACU in size.

Implications for Practice

As indicated in the literature review, drinking is a current health problem among college students. It is important for social workers who are working with college students to understand that alcohol consumption is taking place at a faster and heavier rate. It is also important to know that there are various outside factors that may contribute to why students are drinking. A client's level of stress or loneliness may affect the type of intervention given, seeing as alcohol consumption may not be the actual presenting problem. Clinicians should assess students for problems--that may be causing them to drink alcohol--specifically loneliness and stress as part of the clinical intervention.

Implications for Policy

One implication for policy at the local level would be to implement additional assessments of student behavior prior to recommending them to the BASICS program for alcohol-related offenses. Students are currently referred to the BASICS program only if they are found to be in violation of ACU's drug and alcohol policy. BASICS, however, can be used as an educational and assessment tool for potential alcohol or drug problems. By implementing assessments focusing on known contributions to alcohol misuse, students who are at risk can be identified. Further assessments would help BASICS facilitators and ACU's student life address potential issues that are present on campus and help students find appropriate resources before triggering disciplinary action.

Implications for Future Research

As mentioned in the limitations, the participants were limited based on referrals and are not an accurate representation of the entire ACU population. More accurate data on drinking patterns, stress, and loneliness could be collected in further research done on a campus-wide level. Also, conducting a longitudinal study compared to a cross-sectional study may show more accurate results and relationships between variables. Future studies should also utilize methods that insure representativeness, including gender and race/ethnicity.

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APPENDIX A

Institutional Review Board Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World
Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885



January 23, 2018

I'Esha Baber
Department of Social Work
2150 N Judge Ely, Apt 618
Abilene, TX 79601

Dear I'Esha

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled **The Relationship Between Loneliness, Stress, and Alcohol Consumption Among College Students** (IRB# 17-113) is exempt from review under Federal Policy for the Protection of Human Subjects (45 CFR 46.101(b)(4)).

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

APPENDIX B

AUDIT

The Alcohol Use Disorders Identification Test: Interview Version Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year." Explain what is meant by "alcoholic beverages" by using local examples of beer, wine, vodka, etc. Code answers in terms of "standard drinks". Place the correct answer number in the box at the right.	
1. How often do you have a drink containing alcohol? (0) Never [Skip to Qs 9-10] (1) Monthly or less (2) 2 to 4 times a month (3) 2 to 3 times a week (4) 4 or more times a week	6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
2. How many drinks containing alcohol do you have on a typical day when you are drinking? (0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8, or 9 (4) 10 or more	7. How often during the last year have you had a feeling of guilt or remorse after drinking? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
3. How often do you have six or more drinks on one occasion? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily <i>Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0</i>	8. How often during the last year have you been unable to remember what happened the night before because you had been drinking? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily	9. Have you or someone else been injured as a result of your drinking? (0) No (2) Yes, but not in the last year (4) Yes, during the last year
5. How often during the last year have you failed to do what was normally expected from you because of drinking? (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily	10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down? (0) No (2) Yes, but not in the last year (4) Yes, during the last year
Record total of specific items here <input type="text"/> If total is greater than recommended cut-off, consult User's Manual.	

APPENDIX C

UCLA Loneliness Scale

UCLA Loneliness Scale

INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

	I often feel this way	I sometimes feel this way	I rarely feel this way	I never feel this way
1. I am unhappy doing so many things alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have nobody to talk to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I cannot tolerate being so alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I lack companionship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel as if nobody really understands me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I find myself waiting for people to call or write	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. There is no one I can turn to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am no longer close to anyone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. My interests and ideas are not shared by those around me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I feel left out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I feel completely alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I am unable to reach out and communicate with those around me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. My social relationships are superficial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I feel starved for company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. No one really knows me well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I feel isolated from others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I am unhappy being so withdrawn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. It is difficult for me to make friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I feel shut out and excluded by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. People are around me but not with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D

Perceived Stress Scale

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

Name _____ Date _____

Age _____ Gender (Circle): **M** **F** Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

- | | | | | | |
|--|---|---|---|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly? | 0 | 1 | 2 | 3 | 4 |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life? | 0 | 1 | 2 | 3 | 4 |
| 3. In the last month, how often have you felt nervous and "stressed"? | 0 | 1 | 2 | 3 | 4 |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems? | 0 | 1 | 2 | 3 | 4 |
| 5. In the last month, how often have you felt that things were going your way? | 0 | 1 | 2 | 3 | 4 |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do? | 0 | 1 | 2 | 3 | 4 |
| 7. In the last month, how often have you been able to control irritations in your life? | 0 | 1 | 2 | 3 | 4 |
| 8. In the last month, how often have you felt that you were on top of things? | 0 | 1 | 2 | 3 | 4 |
| 9. In the last month, how often have you been angered because of things that were outside of your control? | 0 | 1 | 2 | 3 | 4 |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | 0 | 1 | 2 | 3 | 4 |

 **mind garden**
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The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.
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