

Coping Styles as Predictors of  
Maladjustment, Anxiety, and Alcohol use in College Students

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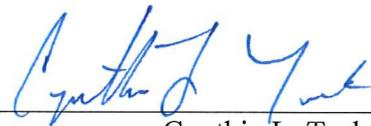
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## Abstract

The purpose of this study was to determine if unhealthy coping predict higher levels of maladjustment, anxiety and alcohol consumption in college students. The hypotheses posited there would be a significant positive relationship between maladjustment, anxiety and unhealthy coping styles, as well as a significant positive relationship between unhealthy coping styles and maladjustment, as well as between unhealthy coping styles maladjustment and alcohol consumption. Results suggest that emotion oriented coping (EOC) significantly predicts higher levels of anxiety and maladjustment, and task oriented coping (TOC) significantly predicts lower levels of maladjustment and anxiety. This study also found different coping styles did not significantly predict alcohol use or abuse in college students. The author suggests these results may be at least partially explained by the high baseline incidence of alcohol use found in the drinking culture on college campuses. Avoidance oriented coping (AOC) did not significantly predict any of the three criterion variables; perhaps be due to a strong overlap between AOC and EOC revealed by the regression equations conducted. It is hoped that findings such as these will lead to interest in how coping styles affect success in college and, in turn, enable the use of more adaptive task oriented coping strategies by young adults facing the stresses and pressures of the college environment, including learning to manage their level of alcohol use.

## **Coping Styles as Predictors of Maladjustment, Anxiety, and Alcohol use in College Students**

College can be a stressful time of adjustment for many students. They are away from family and home, often for the first time in their lives. They find themselves in a new environment, meeting new people and having to form new social bonds. With these new people and places comes a vulnerable autonomy and many distractions from the academic tasks at hand, academic tasks that are often more demanding than what they had previously experienced in high school. As adolescents tip-toe toward early adulthood they begin to experience the responsibilities of caring for themselves and having to face the consequences when they fail to do so. How well these students are able to adjust to these changes as a function of the coping strategies they employ to manage these new stressors will be very important in determining their success in college, and may lay the groundwork for how they choose to deal with issues of stress and change later in life.

Research has shown that students are most vulnerable to anxiety, maladjustment, and maladaptive use of alcohol during the first two years of their college experience (Fuentes & Hoffman, 2013; Merrill & Carey, 2016). The purpose of the current study is to examine a college-aged sample to determine how coping styles predict maladjustment, anxiety and levels of alcohol consumption, as well as the relationship between maladjustment, anxiety and alcohol use. This information may lead to interest in developing new interventions that would increase the use of more adaptive coping strategies by young adults facing the stresses and pressures of the college environment.

### **Coping Styles**

In order to investigate how coping styles predict maladjustment, anxiety, and alcohol consumption, one must first explore how coping has been described and measured in previous research. One approach popular in the literature is to determine the type of coping style a person uses, and then assess the individual's physical and mental health. This is done under the assumption that how, and how effectively, an individual copes with stress and anxiety is directly related to that individual's physical and psychological wellness (Mahmoud, Staten, Hall, & Lennie, 2012).

Coping can be separated into two basic categories: healthy or adaptive coping versus unhealthy or maladaptive coping. For the purposes of this study, the focus will be on investigating three coping strategies prevalent in the literature; Task-Oriented Coping (TOC), Avoidance-Oriented Coping (AOC) and Emotion-Oriented Coping (EOC). While different authors and researchers have used different terms to label these three approaches to coping, the basic definitions and premises underlying the different coping styles tend to reflect these three common approaches.

TOC is defined by an individual's ability to focus on the solution to a present stressor (Julal, 2013). Research has shown that TOC, sometimes referred to as the problem focused coping style, is the most adaptive of the three styles and in turn is strongly linked with higher level of functioning, positive thinking, and feelings of well-being (Wingo, Baldessarini & Windle, 2015). In turn, TOC is generally associated with lower levels of maladjustment, anxiety, and alcohol use (Mahmoud et al. 2012),

The AOC style is defined as an individual attempting to deal with a stressor through cognitive denial, and by distancing themselves in some way from the problem through behavioral and mental disengagement. Consistent with many prevailing theories of

psychopathology, research has shown that avoidance of the problem, as opposed to actively trying to improve the situation, makes AOC a less adaptive approach for coping with life situations (Wingo et al., 2015). Not surprisingly, AOC has been associated with higher levels of anxiety and maladjustment, as well as increased use of alcohol as a coping strategy (Mahmoud, Staten, Lennie & Hall, 2015).

Research has shown that when individuals implement AOC as the primary response to experiencing high levels of stress and anxiety, their situation does not improve, and maladaptive emotions become more prevalent. In fact, this combination often exacerbates the negative emotions they are trying to avoid, which then leads to subsequent and additional avoidance that eventually becomes a pattern or cycle that increases levels of maladjustment in those individuals over the long term (Simpson, Stappenbeck, Luterek & Lehavot, 2014).

The EOC style is defined as an individual altering their emotional response to stressors, as well as attempting to reframe the problem so as to reduce the stress it creates. EOC often entails adopting a negative perspective on both the situation and themselves, including self-blame and the implementation of emotional, as opposed to rational, responses to life situations. As with AOC, the EOC style does not promote any meaningful behavioral changes to improve the situation, and in fact often promotes increased negative emotions and maladjustment over the individual's lifetime (Mahmoud et al., 2015; Wingo et al., 2015).

Individuals often use alcohol in order to cope when they are unable to cope in healthier ways. Attempting to reduce mental and emotional symptoms of stress through substance use is often referred to as the "self-medication hypothesis" (Misch, 2007). Simply put, the individual drinks in an attempt to alleviate negative feelings and thoughts due to stressors because of a

misconception that use of the substance promotes more adaptive functioning in the face of perceived adversity (Simpson et al., 2014). To the contrary, research has shown that this unhealthy pattern of alcohol use intended to reduce psychological symptoms often merely promotes and sustains a frequent pattern of self-medication (Siodmok, Dermondy, Cheong & Manuck, 2013).

In efforts to disrupt the maladaptive coping patterns described above, research has demonstrated that university-sponsored counseling services, even simple online interaction and education, may help students recognize if and when they are exhibiting maladaptive coping styles. Through such efforts, students could learn that utilizing such maladaptive coping behaviors may contribute to their experience of psychological distress and personal difficulties and could encourage students to consider support-seeking as a viable option for problem resolution (Ruppel & McKinley, 2015). More specifically, Julal (2013) found that students whose natural tendency was to utilize the more effective and adaptive TOC style were also more likely to access and utilize one or more of the campus-based services available to them. In contrast, individuals in Julal's study who were more likely to adopt and exhibit AOC and EOC coping styles sought supportive services significantly less often than their TOC counterparts.

### **Maladjustment**

Because the college experience can be a trying time full of change, it is not surprising that individuals often suffer from various levels of maladjustment. In order to cope with these life modifications, many students discover unhealthy ways of adjusting to their new world. Characteristics of maladjustment include individual beliefs of ineffectiveness and worthlessness, feeling pessimistic about the future, a general lack of interest in life, and an inability to initiate "doing things" (Holt, 2014). The pattern of college maladjustment where individuals often

identify with feelings of worry and nervousness, as well as finding many “everyday” activities to be uncharacteristically strenuous much of the time has a long and often replicated history (Klienmuntz, 1960; Lowe, 2007).

Not surprisingly, the types of coping strategies young persons observe their parents employing, and the overall quality of the relationship a student has with their parents can significantly affect their adjustment to college. Holt (2014) found that college students who regarded those around them as caring and trustworthy were likely to have a healthy and secure attachment with one or more parent. Those with secure parental attachments were also more likely to ask for assistance from professors and other university employees, including health clinics. Based on these findings, Holt posited that growing up with a loving, secure caregiver, and continuing that relationship into adolescence and young adulthood, allows the college student to adopt a positive view of themselves and the world in general. This positive view of self and the world is also considered to be consistent, reliable, and enduring. Having a positive perspective on life and a positive opinion of themselves and others is likely to promote the development of close and genuine interpersonal relationships.

Persons with a history of supportive and satisfying relationships where they observe significant others utilizing adaptive and effective problem-solving strategies may be more likely to not only realize when they need help, but also more likely to trust other people enough to ask for help. These characteristics and patterns within interpersonal relationships are virtually the opposite of the features recognized as part of maladjustment. If outreach efforts were able to help students struggling to adjust become more informed and educated about more adaptive coping styles, and students were able to witness others modeling adaptive coping approaches, students routinely utilizing maladaptive coping styles might be more likely to recognize their

need for assistance, and be more likely to believe that they could learn to implement more adaptive coping strategies. If this increased self-awareness was followed by information indicating help is available, and that significant changes in the coping styles used can result from seeking assistance, the lives of many students could be improved.

In addition to the research demonstrating a link between maladjustment and the presence of anxiety and substance abuse, research has also identified a connection between maladjustment and poor interpersonal relationships, financial irresponsibility in the form of excessive credit card spending (Joireman, Kees, & Sprott, 2010), as well as lower academic achievement (Sadigh, Himmanen, & Scepanisky, 2012). Forms of maladjustment directly connected to academic success identified in previous research include poorly developed time management skills--which can lead to poor study habits and gradually develop into specific maladaptive coping strategies such as cramming for exams—a pattern shown to be inconsistent with long-term academic success (Lowe, 2007). Within the context of the college experience, low academic achievement can propel a negative feedback loop perpetuated by increased stress, social isolation, and increased levels of maladjustment (Brook & Willoughby, 2016).

While not the focus of the present study, biological research provides additional explanations for the tendency of college-aged students to employ less adaptive coping strategies. Research demonstrates the brain's frontal lobes, which are responsible for rational decision making, organization, foresight and planning, do not fully mature until around the age of 25 after many students have already graduated from college (Merrill & Carey, 2016). During later adolescence, the system that modulates immediate gratification and impulsive reactions to social or emotional factors is more fully developed with the capacity to overwhelm and dominate the less well-developed frontal lobe area that helps in the consideration of long-term consequences

of behaviors (Casey & Jones, 2010). This state of neurocognitive development in adolescents and emergent adults may help explain several aspects of college maladjustment in that typically-aged college students often choose short-term rewards over long-term goals (Merrill & Carey, 2016).

An interesting aspect of the adjusted versus maladjusted college student lies in a student's willingness to seek help. Research suggests that students who exhibit less maladaptive behaviors are more likely to seek help than their maladjusted fellows (Julal, 2013; Holt, 2014). In other words, the students who are in greater need of, and would likely receive the most benefit from, supportive and therapeutic services may also be the least likely to seek it. This is true for the services available through university health facilities and counseling centers, as well as various forms of academic assistance that could be obtained from professors, tutoring centers, or guided study groups.

While gender differences in help-seeking among college students have been identified, with female students reporting more self-awareness of mental health-related concerns and a greater proclivity toward seeking help compared to their male peers (Holt, 2014), the more overriding conclusion is that most students, regardless of gender, do not seek help at rates consistent with their need. As the information obtained via structured forms of assistance often includes the teaching of healthier coping behaviors, improvements in the student's adjustment during their college years could also translate into the use of more effective coping strategies throughout their later adult lives.

## **Anxiety**

Mahmoud et al. (2015) reported that anxiety disorders in the college population have

shown a steady increase in recent years. More specifically, anxiety disorders in college student rose from 6.7% in 2000 to 12.9% in 2013. The incidence of first onset of anxiety in the college-aged years is supported by findings that among the 40 million Americans who suffer from anxiety, 75% report having experiencing their first episode by the time they were 22 years of age (Mahmoud et al., 2012). These statistics indicate that out of the millions of Americans who experience anxiety, the vast majority did so for the first time while college-aged. When anxiety and mood disorders are combined, the prevalence reported on college campuses is between 11% and 12% among U.S. college students (Blanco, Okuda, & Wright, 2008).

Anxiety often results in people being more likely to suffer from symptoms of panic and depression. Some students deal with their anxiety by withdrawing from others, skipping classes, and reclusing themselves in their dorm rooms for days at a time (Julal, 2013). Brook and Willoughby (2016) discussed how social isolation is not only the result of anxiety; it may be the source of it as well. Once students become anxious, counseling can help them learn to reduce their anxiety. Although some benefits can occur from talking to a friend or a peer counselor, talking to a professional counselor is likely more helpful because trained counselors know when to give students the benefit of a broader perspective, and are more adept at helping students develop and implement explicit coping skills to improve their college adjustment. In a study by Nordstrom, Swenson, Goguen and Hiester (2014), almost a quarter of their sample entered college with significant levels of anxiety. This anxiety not only impairs social adjustment, the resultant social isolation can exacerbate the severity of the anxiety and eventually result in students dropping out of college (Armeli et al., 2014).

Given the prevalence of reported anxiety symptoms and the unhealthy ways in which many students cope with anxiety, whether or not this anxiety is professionally treated becomes a

significant factor. One study found a possible solution for reaching reluctant and anxious students. Ruppel and McKinley (2015) researched how college students suffering from social anxiety perceived and used online mental health services (OMHS). They theorized that students suffering from social anxiety would be more likely to seek help online than in person based on the social compensation theory. Social compensation theory states that people who lack adaptive social skills compensate for these deficits using online social interactions. The study found that OMHS were useful to students suffering from anxiety as long as they were aware these services were available. It appears the OMHS may be significantly beneficial, as long as the student realizes the need for help and is aware this type of help is available. This type of resource could easily be made available and advertised on college campuses, which could attract many people that are reluctant to seek services in person.

### **Alcohol Use**

Drinking is common place in America and is even more so on college campuses. One study reported that 65% of college students drink alcohol. Of those who drink, the majority drink to excess, with excess drinking being defined as consuming five or more drinks in a single setting (White & Hingson, 2014). The National Institute on Alcohol Abuse and Alcoholics (NIAAA, 2012) reported that 82% of college students drink, with 37% engaging in heavy episodic, or binge, drinking. Fuertos and Hoffman (2013) found that 68% of the college students surveyed reported patterns of alcohol use that met criteria for alcohol dependence, alcohol abuse, or problematic drinking. The difference between the three labels assigned to different levels of drinking behaviors is basically a matter of degree. Alcohol dependence is the inability to quit drinking even when faced with serious repercussions. Alcohol abuse is defined as consuming too much alcohol, too often, and includes negative consequences related to the use of

alcohol. Problematic drinking consists of drinking that result in some negative consequences. Alcohol abuse results in more severe consequences (Merrill & Carey, 2016).

A national survey found approximately 60 percent of college students recounted drinking in the last month, and more than a third admitted to drinking heavily in the past two weeks (Johnston, O'Malley, Bachman & Schulenberg 2012). Fuertos and Hoffman (2013) also found that alcohol dependence was more prevalent among freshman and sophomore students. The prevalence of maladaptive alcohol use reported here lends credibility to similar findings where students are most vulnerable to anxiety and maladjustment during the first two years of college. Heightened risks for alcohol dependence have been reported for student athletes, members of Greek-organizations, and students attending colleges located on a rural campus (Merrill & Carey, 2016). Young et al. (2016) reported that drinking motivated by an attempt to cope was common among college students. These researchers also discovered that using alcohol as a means to cope predicted an increased risk of excessive alcohol use, a higher tolerance for withdrawal symptoms, and also more frequent negative consequences related to excessive consumption. Other researchers have emphasized the importance of working to understand motives for drinking because various motivations can differentially affect the likelihood of developing patterns of heavy drinking (Digdon & Landry, 2013).

College students who suffer from anxiety disorders often report drinking excessive quantities of alcohol in an attempt to cope with the life stressors they experience (Villarosa, Madson, Zeigler-Hill, Noble & Mohn, 2014). In fact, Schry and White (2013) reported a correlation between social anxiety and alcohol related problems, where alcohol related problems were defined as a history of risky behavior, fights with friends and loved ones, and blackouts. Similarly, Terlecki, Eckerand and Buckner (2014) found that college students suffering from

social anxiety drank heavily and had more drinking related problems than those without anxiety issues.

Drinking to cope has been correlated with personality traits such as neuroticism (Merrill & Carey, 2016), anxiety sensitivity, maladaptive perfectionism (Rice & Van Arsdale, 2010) and heightened physiological responses to negative emotions (Digdon & Landry, 2013). When an individual drinks in order to enrich mood, adapt to their environment, and/or acclimate to the people in that environment, their drinking often leads to over-consumption and can eventually result in academic negligence (Digdon & Landry, 2013). When college students consume alcohol for these reasons, a propensity toward developing patterns that culminate in problematic drinking later in life have been identified (Digdon & Landry, 2013).

Although much of the previously cited research makes it appear that drinking in college inevitably leads to problem drinking later in life, research suggests that many individuals who drink heavily in college simply stop doing so after they exit the college environment. Socially motivated drinking in college, even when practiced at high levels of consumption, often occurs without negative or long-term consequences. The reduction in alcohol use and abuse may in part be due to what is called “natural recovery” (Boschloo et al., 2012; Misch, 2007). Natural recovery is a term used to describe the change an individual experiences in their relationship with alcohol as their lives and responsibilities change; in short, the heavy drinking really is “just a phase” that many students “grow out of”. In support of the natural recovery hypothesis, research has also shown that students consume alcohol for a variety of reasons and not just the relief of negative thoughts, emotions and situations. Typically, both personal and social motivations are identified as reasons why students drink, and these often include socializing with others and mood enhancement (Digdon & Landry, 2013).

These findings support the idea that using alcohol to cope can lead to negative consequences, and in turn an increase in alcohol consumption in order to cope with those consequences. In their research, Siodmok et al. (2013) concluded that although many individuals recognized that they had a problem with alcohol, they often waited one to two years between recognizing the problem and making a decision to seek help. Increasing self-awareness of the presence of problematic patterns of alcohol use among college students, and also increasing the availability and accessibility of services on college campuses could significantly alter the progression of “normal” college-aged drinking to persistent problematic levels later on. Exposure to alcohol abuse prevention programs, along with increased access to alcohol-related services, on college campuses could promote early intervention, and even decrease the initial incidence of problematic drinking. Both prevention and more targeted substance use counseling interventions could focus on educating college students about more adaptive coping strategies they could implement to manage the stressors inherent in the college experience. By enabling students to implement more adaptive ways to cope with issues such as anxiety and general maladjustment during their college years, the vicious cycle of maladaptive coping, including excessive use of alcohol, could be stopped before it starts.

### **Hypotheses**

The Hypotheses of the present study are as follows:

1. The Task-oriented coping style will be a significant negative predictor of risks for Alcohol abuse.
2. The Task-oriented style of coping will be a significant negative predictor of Maladjustment.
3. The Task-oriented style of coping will be a significant negative predictor of General Distress

and Anxious Arousal Anxiety.

4. The two coping styles of Emotion-oriented and Avoidance-oriented will be significant positive predictors of risks for Alcohol abuse.

5. The two coping styles of Emotion-oriented and Avoidance-oriented will be significant positive predictors of General Distress and Anxious Arousal Anxiety.

6. The two coping styles of Emotion-oriented and Avoidance-oriented will be significant positive predictors of Maladjustment.

## **Method**

### **Participants**

The participants were 90 undergraduate students enrolled in introductory psychology courses at a medium-sized university. The demographic characteristics of the obtained sample reflected the student population at the university where the study was conducted, with 51 female participants (56.7%) and 39 (43.3%) male participants. The female participant ages ranged from 18 to 46 with a mean age of 22.0 and a standard deviation of 5.79. The male participants ranged in age from 18 to 25 years with a mean age of 23.7 and a standard deviation of 7.71. In addition to age and gender the Demographic questionnaire asked Participants questions indicating ethnicity, whether they have had treatment for anxiety, whether they have had treatment for alcohol abuse/dependence, and if there was a family history of alcoholism. Participant demographics were distributed as follows. Ethnicity being predominately White with 66.7 % (n=60), Black 12.2% (n=11), Native American 2.2% (n=2), Hispanic/Latino 7.8 % (n=7), Asian Pacific Islander 8.9% (n=8), Bicultural/ Biracial 1.1% (n=1) and Other 1.1% (n=1). Only 18.9% (n=17) of participants reported having had treatment for anxiety. Interestingly, although 40% (n=36) of the participants reported a family history of alcoholism only 5.6% (n=5) reported

having had treatment for alcohol abuse/dependence. These variables were not specifically addressed in the hypotheses posed in the current study, but could be examined if additional analyses were to be pursued.

This study was conducted in compliance with ethical guidelines for human research, and was approved the university's IRB. Student participation in this research was voluntary, but their participation was used to fulfill a research participation requirement in the introductory psychology class they were enrolled in. All participants completed an informed consent document before participating in the experiment (see Appendix A).

### **Measures**

Participants completed a basic demographics questionnaire (see Appendix B) asking for information describing the participants' age, gender, ethnicity, relationship status, year in college, and whether or not they had ever received treatment for anxiety or alcohol dependence.

**The Coping Inventory for Stressful Situations-II (CISS- II).** The CISS-II was developed by Endler and Parker (1999), and has been used in a number of studies examining maladjustment, alcohol use and anxiety in college-aged populations (Endler & Parker, 1999). (See Appendix C). The CISS-II was initially created by using a list of 120 coping behaviors compiled by psychology professors and graduate students. The list was then narrowed to 70 preliminary items and administered to 559 college students (284 females, 274 males). From these initial screenings, 44 items describing coping behaviors with a factor loading of .40 or greater were analytically derived and the subscales were then identified. The final published form of the CISS-II assesses three types of coping: Task-Oriented (T-O), Emotion-Oriented (E-O), and Avoidance-Oriented (A-O). After adding four new items to balance the number of items on each subscale at 16 items each, and to bolster the internal consistency of the weaker

subscales, the final version of the CISS-II consists of 48 questions. All items employ a self-report 5-point Likert scale format where 1 = Not at All and 5 = Very Much.

The Task-Oriented (T-O) subscale includes items that describe coping through purposeful efforts aimed at solving the problem at hand. This includes thinking about the problem in different ways and attempting to change the problematic situation. The main emphasis of T-O is planning and taking action on that plan in an attempt to solve the problem. The T-O subscale includes 16 items, and some example items are: “Schedule my time better” and “Do what I think is best”. The T-O subscale total is computed by summing the Likert values across all items. This produces a T-O subscale score in the range of 16 to 80, with scores closer to 80 indicating higher frequency of utilizing T-O coping strategies.

The Emotion-Oriented (E-O) subscale describes emotional reactions that are self-oriented. This may include daydreaming about possible reactions to the problem situation, often becoming angry and tense, and resulting in self-blame for being too emotional. Although the aim is to reduce stress, a defining characteristic of the E-O coping strategy is that when employed, it often ends up increasing the stress experienced by the individual. The E-O subscale includes 16 items, and some example items include: “Blame myself for putting things off” and “Become very tense”. The E-O subscale total is computed by summing the Likert value responses across all items. This produces an E-O subscale score in the range of 16 to 80, with scores closer to 80 indicating higher frequency of utilizing E-O coping strategies.

The Avoidance-Oriented (A-O) subscale describes activities and cognitive changes aimed at avoiding the stressful situation through distraction with other situations and/or people as a means of alleviating stress. It includes 16 items, with example items such as: “Try to be with people” and “Window shop”. The A-O subscale total is computed by summing the Likert value

responses across all 16 items. This produces an A-O subscale score in the range of 16 to 80, with scores closer to 80 indicating high frequency of utilizing A-O coping strategies. While some research applications have separated the A-O subscale into the two subfactors of distraction and social diversion, the present study will utilize the full A-O subscale which combines items from these two subfactors.

The CISS-II has demonstrated acceptable psychometric properties. With values for males presented first and females second, the authors have reported six-week test-retest reliabilities of: T-O, .72 and .73; E-O, .68 and .71; and A-O, .55 and .60, respectively (Endler & Parker, 1999). Satisfactory levels of internal consistency were also demonstrated by the CISS-II. The coefficient alpha reliabilities for males and females (with male values again presented first) are reported as .90 and .87 for the T-O-coping subscale; .87 and .88 for the E-O coping subscale; and .85 and .83 for the A-O subscale, respectively (Endler & Parker, 1999). All three subscales from the CISS-II showed relatively strong convergent validity when compared to another commonly used coping scale, the WCQ (Ways of Coping Questionnaire), with correlations reported to range from .87 to .92 for Task, from .82 to .90 for Emotion, and from .76 to .85 for Avoidance (Endler & Parker, 1999).

**The College Maladjustment Scale (Mt scale).** The Mt scale consists of 41 items extracted from the MMPI-2 (See Appendix D). The Mt scale was first derived by Kleinmuntz (1960) in order to discriminate between emotionally adjusted and emotionally maladjusted college students. The Mt scale was formed by comparing the responses of 40 maladjusted college students, identified as having contacted their university counseling center for help with emotional problems and having remained in psychotherapy for at least three months, and 40 adjusted college students who were education students required to complete a diagnostic

screening procedure as part of the student-teacher certification process who did not meet criteria for any specific psychological disorder (Graham, 1990).

Kleinmuntz (1960) identified six clusters of items from the Mt scale that suggested maladjustment: 1) feelings of ineffectiveness, worthlessness and expressed feelings of pessimism about their future and a lack of self-confidence and doubts about their ability to make decisions; 2) experiencing a lack of interest in life and an inability to start doing things; 3) having an attitude that life is a strain most of the time; 4) feeling nervous, being easily upset, and prone to worry; 5) somatic symptoms especially gastrointestinal distress; and 6) lack of scholastic success, with consistent reports of an inability to concentrate. Specific items were identified from the original MMPI that differentiated maladjusted from more well-adjusted groups of students. Example items include: "I have a good appetite", "I work under a great deal of tension" and "I think most people would like to get ahead". The 41 Mt scale items are answered True or False. Scores are calculated by simply summing the number of items answered in the Maladjustment direction, producing scores that range from 0 to 41. There is no set cut-off score above which a student is found to be "maladjusted". Instead, higher scores are considered more suggestive of emotional turmoil and poor adjustment. High scores on this scale indicate that an individual may be pessimistic, procrastinate, often worries, and is anxious. Low scores on this scale indicate that an individual is optimistic, conscientious, and considers themselves relatively free of emotional discomfort (Graham, 2000).

Butcher et al. (1989) reported a one-week test-retest correlation of .90 for female students, and a .91 for male students on the Mt scale items. In another investigation into the test-retest reliability the Mt scale, a group of college students completed the full set of items two times in three days, which produced a correlation of .88 (Kleinmuntz, 1961). Internal consistency

coefficient alphas for the Mt scale in the MMPI-2 normative sample were .86 for females and .84 for males (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989). The Mt scale shows high convergent validity when compared with the subscales of the College Adjustment Scales (CAS). In fact, eight of the nine aspects measured by the CAS had strong positive correlations with the Mt, with coefficients ranging from .82 to .55 (Campbell, Palmieri, & Lasch, 2006). Having been normed on college-aged samples, and designed to identify maladjustment specifically in college-aged persons, the Mt scale of the MMPI-2 is well suited to the participants as well as the hypotheses posed in this study.

**The Mood and Anxiety Symptom Questionnaire (MASQ).** The MASQ was developed by Clark and Watson (1991), and is used to measure symptoms of depression and anxiety (See Appendix E). In the current study, only the questions relating to anxiety symptoms will be scored and utilized in statistical analyses.

The Anxiety portion of this questionnaire consists of two subscales, The Anxious Arousal Scale (AA) and the General Distress Scale (GDA) (Armey et al., 2009). These two subscales combined contain 28 questions, almost all of which target physiological symptoms of hyperarousal or emotional states that have been empirically linked to anxiety (Clark, 1994).

The General Distress Anxiety Symptoms (GDA) subscale contains 11 questions whose answers indicate anxious mood symptoms. An example of an emotion-based item is: “Felt uneasy” and “Was unable to relax”. The Anxious Arousal (AA) scale contains 17 Items which describe the symptoms of somatic tension and hyperarousal. An example of a physiological symptom-based item is: “Felt dizzy or lightheaded” and “Felt faint”.

All questions are answered on a 5-point Likert scale with 1 being “not at all” and 5 being “extremely”, with responses indicating how much the respondent has experienced each symptom

during the past week. All responses on both the GDA and AA subscales are positively keyed, and both subscales are scored by summing the participant response across all items contributing to that subscale. Therefore, the GDA subscale total scores can range from 11 to 55, and AA subscale total scores can range from 17 to 85. Higher scores on each subscale indicate a greater number of symptoms endorsed, and/or greater symptom severity.

While test-retest reliabilities are not available for the MASQ, both subscales show respectable internal consistency with Cronbach's alphas reported by Keogh and Reidy (2000) at  $\alpha = .88$  for the GDA subscale, and at  $\alpha = .91$  for the AA subscale. Buckby, Yung, Cosgrave and Killacky (2007) reported similar findings, with alphas of .82 and .85 for the GDA and AA subscales, respectively. Watson et al. (1995) reported comparable convergent validity between the subscales of the MASQ and two established measures of anxiety. The GDA correlated with the POMS anxiety scale at  $r = .84$ , and with the Beck Anxiety Inventory at  $r = .76$ . The AA subscales correlated with the POMS at  $r = .64$ , and with the Beck Anxiety Inventory  $r = .79$ . The MASQ has been used in a number of studies that sampled college-aged students, and is considered an appropriate measure of anxiety in young adults (Lin et al. 2014).

**The Alcohol Use Disorders Test (AUDIT).** The AUDIT was developed by the World Health Organization (WHO) (See appendix F), over a period of two decades beginning in 1982. The AUDIT was developed using over 2,000 participants in six countries (Saunders, Aasland, Babor, & De La Fente, 1993) to screen for individuals who drink alcohol to excess, and in particular to identify people who would benefit from reducing or ceasing their alcohol consumption (Graham, 1990). The items in this test were also selected to identify early indicators of individuals who are low-risk drinkers from those who engage in high-risk drinking behaviors (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The AUDIT has also shown utility in

detecting alcohol dependence in university students (Fleming, Barry, & MacDonald, 1991), lending credence to its use and relevance in this study. While the AUDIT was originally developed to be consistent with criteria used to establish and differentiate between diagnoses of Alcohol Abuse and Alcohol Dependence as defined in DSM-III, and despite changes made to the criteria used to establish Substance Use disorders in subsequent editions of the DSM, the AUDIT remains a frequently used measure to assess propensity toward problematic levels of alcohol use.

The AUDIT consists of 10 core questions which can be asked in interview or questionnaire form. To provide consistency across the format of administration of measures in this study, the self-report questionnaire format was used. The questions are answered on a 5-point Likert scale from ranging from 0 to 4, with the descriptions assigned to each value consistent with whether the item refers to a period of time, an event, or a frequency of behavior. An example of a time-based question is: "How often do you have a drink containing alcohol?" with corresponding ratings of 0 = Never and 4 = four or more times a week. An example of an event-based question is; "Have you or someone else been injured as a result of your drinking?" with corresponding ratings of 0 = No and 4 = Yes. An example of a behavioral frequency-based question is: "How often during the last year have you had a feeling of guilt or remorse after drinking?" with a rating scale of 0 = Never and 4 = Daily or Almost Daily. The AUDIT is scored by summing the ratings across the ten items, producing total scores that can range from 0 to 40, with higher scores indicating greater risk of alcohol dependency. According to the primary authors of the scale (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) total scores of 8 or more summed across the full set of ten item responses indicates hazardous or harmful levels of alcohol use, and is suggestive of alcohol dependence. To clarify, alcohol abuse is defined as the use of too much alcohol too often, while alcohol dependence is defined as the inability to quit

drinking alcohol as the result of having developed a physiological dependence on alcohol in the form of increased tolerance or the presence of withdrawal symptoms. However, other researchers have recommended that a more stringent cut-off score of 11 be used to identify persons at risk of maladaptive patterns of alcohol use (Fleming et al., 1991). The AUDIT's authors also state that closer examination of which questions produced what ratings can provide a more detailed interpretation of an individual's alcohol use patterns.

Using a sample of individuals with non-problematic alcohol use, as well as those with alcohol and drug dependency issues, a strong test-retest reliability has been reported for the AUDIT with correlations of  $r = .86$  over a period of two weeks (Sinclair, McRee & Barbor, 1992). According to these same authors, additional credence to the internal validity of the AUDIT was the consistency of scores even after the specific wording was altered and the question order was changed across different applications of the test. Cronbach's alpha for the AUDIT has been reported as  $\alpha = 0.89$  for university students (Fleming, Barry, and MacDonald, 1991), which suggests strong internal consistency.

When compared to other measures frequently used to identify substance use disorders, such as the CAGE (name is derived from words contained in the four questions asked--Cut, Annoyed, Guilty, Eye-opener), and the Michigan Alcoholism Screening Test (MAST), the AUDIT was found to be a more predictively accurate screening measure for a broad range of alcohol related issues. Strong convergent validity has been reported between the AUDIT and the MAST with  $r = .88$  (Bohn, Babor & Kranzler, 1995), and between the AUDIT and the CAGE at  $r = .78$  (Hays, Merz, & Nicholas 1995). The AUDIT has been frequently used in studies investigating alcohol use among college students (Fleming, Barry & MacDonald, 1991). Overall the AUDIT has been found to be a valid measure of alcohol dependency issues.

**Procedures**

Participants were required to fill out five separate questionnaires, including a demographics questionnaire and the four specific measures previously described. All five forms combined took approximately 30 minutes to complete. Participants were identified and recruited via announcements in the Introductory Psychology class in which they were enrolled. Sign-up sheets were posted on a bulletin board outside the university's Psychology Department office. Participants were instructed to arrive at a specified place, date, and time to participate in the study.

Participants were seated at individual desks in a classroom setting; the participants were seated approximately 38 inches apart depending on the room assigned for the session as some rooms had individual desks while others had tables with moveable chairs. Privacy of the participants was emphasized, and the chairs or desks were separated accordingly. The sample was collected in a series of small group administrations. Each session contained varying numbers of participants, the least number being one and the most twelve. Most sessions contained five to eight participants. After receiving a verbal preview on the procedures of the study from the researcher, participants were asked to read and review the consent form. After being given the chance to ask questions or clarify aspects of their participation and how their information would be used, those agreeing to participate were asked to sign and submit the Informed Consent Form. The completed consent forms were collected and immediately placed in an envelope to visually convey the guarantee that participant's signatures could not be matched to their responses to the questionnaire items. The participants were then asked to complete the questionnaires, which were distributed in stapled and numbered packets.

While all participants completed the Demographics Questionnaire first, the four other

measures were presented in randomized order across participants. To maintain confidentiality, particularly in light of the potentially sensitive information provided (e.g.: symptoms of anxiety, evidence of maladjustment, and drinking patterns), participants were required to not place their name anywhere on the packets. The only place their names appeared was their signature on the Informed Consent form, which were collected and stored separately from the questionnaire packets.

The participants were encouraged to stay in the room, or to return to their seat, after they had completed and returned the questionnaire packet to the researcher. After all participants in that data collection section were finished, a debriefing session was conducted during which the researcher briefly described the hypotheses being tested and the potential applications of the results. Participants were also encouraged to ask any questions they may have had. Participants were allowed to leave immediately after completing the packet if they chose not to stay for the debriefing. Again, due to the sensitive nature of some of the items on the questionnaires, participants were provided with a list of local mental health resources and encouraged to make contact if they believed they might benefit from services.

### **Results**

The regression equations were computed using the scores obtained from the participants on the three Coping Style variables of Task-Oriented (T-O), Avoidance-Oriented (A-O), and Emotion-Oriented (E-O) as predictors. This set of predictors was regressed, in turn, against each of the three criterion variables of Anxiety, Maladjustment, and Alcohol use.

The predictor variable of A-O failed to make a significant contribution to any of the regression equations. As will be elaborated on later, a strong correlation between the scores

representing A-O and E-O coping styles was identified, and the E-O predictor variable was found to make significant contributions to several regression equations.

The regression equation using Alcohol use as measured by the AUDIT as the criterion variable identified no significant contributions from any of the three coping style predictors.

In the equation using Maladjustment as the criterion variable, E-O coping made the strongest contribution ( $B = .605, p = .000$ ). T-O coping made a smaller, but also significant, negative contribution to Maladjustment ( $B = -.296, p = .000$ ).

In the equation using the Anxious Arousal-Anxiety subscale from the MASQ as the criterion variable, E-O coping was the only predictor variable that made a significant contribution ( $B = .531, p = .000$ ).

The regression equation using the General Distress-Anxiety subscale from the MASQ as the criterion variable also identified E-O as the only predictor variable which made a significant contribution ( $B = .531, p = .000$ ).

Correlation matrices were computed to illuminate the discriminant validity between the set of three predictor variables, and between the set of four criterion variables (see Table 2). A moderate but significant relationship was found between Maladjustment and the General Distress subscale of Anxiety ( $r = .601, p < .000$ ). The Anxious Arousal subscale of Anxiety produced a slightly weaker, but still significant, positive correlation with Maladjustment ( $r = .475, p = .000$ ).

The correlations between Alcohol use as measured by the AUDIT and the two MASQ subscales of Anxious Arousal and General Distress were not significant. The correlation between Maladjustment and Alcohol use was also not significant.

The correlation matrix comparing the three predictor variables revealed a significant relationship between A-O and E-O coping styles, which produced a positive moderate

correlation of  $r = .519$  with  $p = .000$ ). The two other correlations between predictor variables did not produce significance.

### Discussion

This study hypothesized that the four criterion variables of Anxious Arousal-Anxiety, General Distress-Anxiety, Alcohol use, and Maladjustment, would be predicted by the two less healthy coping styles of Emotion-Oriented and Avoidance-Oriented coping, and that the identified relationship would be positive in direction. In other words, that greater endorsement of the two less healthy forms of coping would predict higher levels of all four types of dysfunction measured. In direct contrast, it was also hypothesized that greater endorsement of the use of Task-Oriented coping would serve as a buffer against the four types of dysfunctions measured. These hypotheses were only partially supported in that statistically significant relationships were identified between Emotion-oriented coping and Maladjustment, Anxious Arousal-Anxiety and General Distress-Anxiety. Task-Oriented coping made a significant contribution to only one criterion variable, where it was secondary to Emotion-oriented coping in predicting Maladjustment. Avoidance-oriented coping failed to make significant contributions to any of the four criterion variables; and no forms of coping were identified as having made significant contributions to Alcohol use.

The first conclusion to be drawn from these results is that coping styles did not influence the presence of dysfunctional levels of Alcohol use. This result may be at least partially explained by the relative normalcy of frequent and high-level consumption of alcohol on college campuses. Explanations for this finding might include that the college-aged sample used in this study reported relatively high rates of alcohol use, even among participants who do not meet clinical definitions of substance abuse or dependence (the mean AUDIT score of participants in

this study was 5.26,  $SD = 5.96$ , where a score of 8 or more is considered “at risk” for developing problematic alcohol use patterns). Therefore, relatively high rates of alcohol use were reported by most participants, regardless of which coping style they tended to endorse. The sensitivity of the measure used to assess alcohol use may have also been insufficient to discriminate across participants.

The second broad finding of this study was that the A-O coping style failed to make significant contributions to any of the three criterion variables. This may be best explained by the strong correlation between the measures of A-O and E-O coping in this sample. With Emotion-focused coping being the first predictor variable to enter the stepwise regression equations on three of the four criterion variables, the influence of Avoidance-Oriented coping may have been masked or diluted. However, the findings from this study also clearly suggest that Avoidance-oriented coping as measured by the MASQ is the least predictive of the forms of dysfunction examined in this study.

The third finding from this study is that Emotion-oriented coping was found to be highly predictive of a range of dysfunction, as it was the first, and often the only, predictor variable that made a significant contribution to the criterion variables of Maladjustment, and both forms of Anxiety, General Distress and Anxious Arousal. This finding suggests that college-aged individuals who utilize emotion-centered coping experience greater levels of anxiety, and tend to have less adaptive levels of overall functioning. High endorsement of Emotional coping appears to indicate that the individual tends towards higher levels of physiological arousal indicative of the presence of anxiety, as well as more cognitive forms of distress such as excessive worry and fears. Persons utilizing Emotion-focused coping are more likely to experience poorer overall adjustment. Common elements of greater maladjustment include pessimism, unsatisfying social

relationships, and a tendency to procrastinate.

The fourth conclusion to be derived from the results of the present study is that while the contribution of task oriented coping to maladjustment was weaker than the contribution from emotion-focused coping, the negative relationship identified between Task-Oriented coping and Maladjustment suggests that individuals who take proactive, intentional and constructive action toward the resolution of stressful situations are more likely to adopt a more positive attitude toward life, with resultant higher levels of functioning. Their ability to manage stressful life situations in a more proactive and constructive manner produces more adaptive functioning in social, work and school settings.

The results from this study may find application in the work of university-based counselors who provide preventive psychoeducational and therapeutic services to college students. Efforts to decrease reliance upon Emotion-Oriented and Avoidance-Oriented coping styles by providing instruction and guidance in the implementation of more proactive Task-Oriented coping strategies may improve overall adjustment, and reduce the incidence of anxiety-related symptoms that can impair functioning. Unfortunately, results from the current study do not provide information that could inform interventions to reduce the level of alcohol use among college students. As the original authors of the AUDIT (Babor et al., 2001) recommend using a score of 8 or above to indicate risk of problematic or hazardous levels of alcohol use, with a mean score on the AUDIT of 5.93 in the current sample, these results do confirm a relatively high level of alcohol use that is pervasive, and that the form of coping used by college students is seemingly unrelated to their level of alcohol use.

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**Table 1**

*CISS II Total and Subscales in prediction of College Maladjustment (N=97), Anxious Arousal Anxiety (N = 97), General Distress Anxiety (N=97), and Alcohol Dependency (N=97)*

Variable	B	SE B	$\beta$	Sig.
Final model predicting College Maladjustment				
Constant	12.198	4.067		.003
CISS: Emotion Focused	.368	.047	.592	.000
CISS: Task-Oriented	-.235	.059	-.302	.000
CISS: Avoidance	-.095			.282
Final model predicting Anxious Arousal Anxiety				
Constant	6.101	3.835		.115
CISS: Emotion Focused	.466	.079	.531	.000
CISS: Task-Oriented	.024			.792
CISS: Avoidance	124			.241
Final model predicting General Distress Anxiety				
Constant	6.613	2.640		.014
CISS: Emotion Focused	.320	.054	.531	.000
CISS: Task-Oriented	-.023			.804
CISS: Avoidance	.026			.806

Note. CISS= Coping Inventory for Stressful Situations, Second edition

Note: Alcohol Dependency as the criterion variable identified no significant predictor variables.

**Table 2**

*Correlations, Means, and Standard Deviations for All Predictor and Criterion Variables*

	1	2	3	4	5	6	7
1. MASQ-GD	-	.814**	.008	.601**	.295**	-.052	.531**
2. MASQ-AA		-	.146	.475**	.367**	.006	.531**
3. AUDIT			-	-.020	.103	.071	.085
4. Mt Scale				-	.192	-.330**	.621**
5. CISS: Avoidant					-	.060	.519**
6. CISS: Task-oriented						-	-.056
7. CISS: Emotion-focused							-
Mean	21.67	27.99	5.93	16.63	49.74	58.94	47.00
SD	7.12	10.34	6.74	7.50	10.12	9.85	11.80

*Note.* \*\* $p < .01$ ; MASQ-GD = General Distress Anxiety; MASQ-AA = Anxious Arousal Anxiety AUDIT = Alcohol Use Disorders Test; Mt Scale = The College Maladjustment Scale; CISS = Coping Inventory for Stressful Situations.

**Appendix A**

CONSENT STATEMENT

The Department of Psychology supports the practice of protection for human subjects participating in research. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate you are free to withdraw at any time, without penalty.

This study is concerned with how individuals cope with stresses in their lives. You will be asked to anonymously answer questions regarding coping styles, anxiety and alcohol consumption. Your answers will be identified only by a code number.

Your participation is solicited, but strictly voluntary. Do not hesitate to ask any questions about the study. Be assured that your name will not be associated in any way with the research findings. We appreciate your cooperation very much.

Sincerely,

Jessica Wagner

Dave Provorse  
785-670-1565

---

Signature of individual agreeing to participate

---

Date

**Appendix B**

Demographics Questionnaire Demographic Questionnaire

Date of Birth

Age

Gender    Male        Female

Ethnicity (optional)

\_\_\_ White/Caucasian

\_\_\_ Black/ African America

\_\_\_ Native American

\_\_\_ Hispanic/Latino/a

\_\_\_ Asian/Pacific Islander

\_\_\_ Bicultural/Biracial

\_\_\_ Other: \_\_\_\_\_

Have you received treatment for anxiety?    Yes    No

Have you received treatment for alcohol abuse/ dependence?    Yes    No

Do you have a family history of alcoholism?    Yes    No

**Appendix C**

Coping Inventory for Stressful Situations

Copyrighted measure can be obtained through:

Multi-Health Systems, Inc., P. O. Box 950, N. Tonawanda, NY 14120-0950

**Appendix D**

College Maladjustment Scale (Mt) derived from the MMPI

**Please answer all of the following questions as TRUE or FALSE by circling your choice**

- |   |      |       |
|---|------|-------|
| 1. I have a good appetite.  | True | False |
| 2. I wake up fresh and rested most mornings.  | True | False |
| 3. My daily life is full of things that keep me interested.   | True | False |
| 4. I am about as able to work as I ever was.  | True | False |
| 5. I work under a great deal of tension.  | True | False |
| 6. Once in a while I think about things too bad to talk about   | True | False |
| 7. I am very seldom troubled by constipation.   | True | False |
| 8. I am bothered by an upset stomach several times a week.  | True | False |
| 9. I find it hard to keep my mind on a task or job.   | True | False |
| 10. I have had periods of days, weeks, or months when I couldn't take care<br>of things because I couldn't "get going". | True | False |
| 11. My judgment is better than it ever was  | True | False |
| 12. These days I find it hard not to give up hope of amounting to<br>something.   | True | False |
| 13. I am certainly lacking self-confidence.   | True | False |
| 14. I think most people would lie to get ahead  | True | False |
| 15. I do many things which I regret afterwards (I regret things more often<br>than others seem to).                     | True | False |
| 16. I am happy most of the time.  | True | False |

- |   |      |       |
|---|------|-------|
| 17. Most people will use somewhat unfair means to gain profit or an advantage rather than lose it.                      | True | False |
| 18. I certainly feel useless at times.  | True | False |
| 19. When I was a child, I belonged to a group of friends that tried to be loyal through all kinds of trouble.           | True | False |
| 20. Most nights I go to sleep without thoughts or ideas bothering me.   | True | False |
| 21. I have never felt better in my life than I do right now.  | True | False |
| 22. I do not tire quickly   | True | False |
| 23. I brood a great deal  | True | False |
| 24. I have periods of such great restlessness that I cannot sit long in a chair.  | True | False |
| 25. I believe I am no more nervous than others.   | True | False |
| 26. I have difficulty in starting to do things.   | True | False |
| 27. If several people find themselves in trouble, the best thing for them to do is to agree on a story and stick to it. | True | False |
| 28. Life is a strain for me much of the time.   | True | False |
| 29. I cannot keep my mind on one thing.   | True | False |
| 30. I easily become impatient with people.  | True | False |
| 31. I have more trouble concentrating than others seem to have.   | True | False |
| 32. I am inclined to take things hard.  | True | False |

I have sometimes felt that difficulties were piling up so high that I

- |  |      |       |
|--|------|-------|
| 33. could not overcome them.   | True | False |
| 34. I am quite often not in on the gossip and talk of the group I belong to.         | True | False |
| 35. I am usually calm and not easily upset.  | True | False |
| 36. I am apt to take disappointments so keenly that I can't put them out of my mind. | True | False |
| 37. At times I think I am no good at all.  | True | False |
| 38. Some of my family has quick tempers.   | True | False |
| 39. I feel tired a good deal of the time.  | True | False |
| 40. I sometimes feel that I am about to go to pieces.                                | True | False |
| 41. I am greatly bothered by forgetting where I put things.                          | True | False |

**Appendix E**

Mood and Anxiety Symptom Questionnaire (MASQ)

Below is a list of sensations problems and experiences that people sometimes have. Read each item and then mark the appropriate choice in the space next to each item. Use the choice that best describes how much you experienced these things this way during the past week including today. Use this scale answering: 1-----2-----  
-----3-----4-----5

	Not at all	A little bit	Moderately	Quite a bit	Extremel y
1. Felt afraid	1	2	3	4	5
2. Startled easily	1	2	3	4	5
3. Felt nauseous	1	2	3	4	5
4. Had diarrhea	1	2	3	4	5
5. Felt nervous	1	2	3	4	5
6. Felt Faint	1	2	3	4	5
7. Felt uneasy	1	2	3	4	5
8. Felt numbness or tingling in your body	1	2	3	4	5
9. Had pain in your chest	1	2	3	4	5
10. Had hot or cold spells	1	2	3	4	5

	Not at all	A little bit	Moderately	Quite a bit	Extremel y
11. Felt dizzy or lightheaded	1	2	3	4	5
12. Was short of breath	1	2	3	4	5
13. Hands were shaky	1	2	3	4	5
14. Was unable to relax	1	2	3	4	5
15. Felt like I am choking	1	2	3	4	5
16. Had an upset stomach	1	2	3	4	5
17. Had lump in my throat	1	2	3	4	5
18. Had a very dry mouth	1	2	3	4	5
19. Muscles were twitching or trembling	1	2	3	4	5
20. Was afraid I am going to die	1	2	3	4	5
21. Heart was racing or pounding	1	2	3	4	5
22. Was afraid I am going to die	1	2	3	4	5
23. Was trembling or shaking	1	2	3	4	5
24. Muscles were tense or sore	1	2	3	4	5

	Not at all	A little bit	Moderately	Quite a bit	Extremel y
25. Felt keyed up, “on edge”	1	2	3	4	5
26. Had to urinate frequently	1	2	3	4	5
27. Had trouble swallowing	1	2	3	4	5
28. Hands were cold or sweaty	1	2	3	4	5

## Appendix F

### Alcohol Use Disorders Test (AUDIT)

#### The Alcohol Use Disorders Identification Test: Self-Report Version

**PATIENT:** Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest. Place an X in one box that best describes your answer to each question

Questions	0	1	2	3	4
1. How often do you have containing alcohol?	Never	Monthly or Less	2-4 times a month	2-3 times a week	4 or more a week
2. How many drinks containing more alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Less than Monthly	Monthly	Weekly	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?	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected because of drinking?	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last have you been unable to remember what happened the night before because of your drinking?	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year
					Total