



January 2020

Examining College Students' Emotions And Alcohol Usage On A College Campus: Student Chemical Assessment And Review Program (SCARP)

Thomas William Solem

Follow this and additional works at: <https://commons.und.edu/theses>

Recommended Citation

Solem, Thomas William, "Examining College Students' Emotions And Alcohol Usage On A College Campus: Student Chemical Assessment And Review Program (SCARP)" (2020). *Theses and Dissertations*. 3300.

<https://commons.und.edu/theses/3300>

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

EXAMINING COLLEGE STUDENTS' EMOTIONS AND ALCOHOL USAGE ON A
COLLEGE CAMPUS:

STUDENT CHEMICAL ASSESSMENT AND REVIEW PROGRAM (SCARP)

by

Thomas William Solem
Bachelor of Education, University of North Dakota, 2006
Master of Education, North Dakota State University, 2011

A Dissertation

Submitted to the Graduate Faculty

Of the

University of North Dakota

In partial fulfillment of the requirements

for the Degree of

Doctor of Philosophy

Grand Forks, North Dakota

August 2020

Copyright 2020 Thomas William Solem

This dissertation, submitted by Thomas William Solem in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Educational Foundations and Research from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Dr. Robert Stupnisky

Dr. Steven LeMire

Dr. Joshua Hunter

Dr. Kara Wettersten

This dissertation is being submitted by the appointed advisory committee as having met all the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

Chris Nelson
Dean of the School of Graduate Studies

Date-05-21-2020

PERMISSION

Title Examining College Students' Emotions and Alcohol Usage On A College
Campus: Student Chemical Assessment and Review Program (SCARP)

Department Educational Foundation and Research

Degree Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work, or, in his absence, by the Chairperson of the department or dean of the School of Graduate Studies. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation

Thomas William Solem

Spring 2020

TABLE OF CONTENTS

LIST OF FIGURES	VI
LIST OF TABLES	VII
ACKNOWLEDGEMENTS	VIII
ABSTRACT	IX
CHAPTER	
I. INTRODUCTION	1
II. LITERATURE REVIEW	13
III. METHODS	37
IV. RESULTS	52
V. DISCUSSION	72
APPENDICES	86
REFERENCES	101

LIST OF FIGURES

Figures	Page
1. Student Chemical Assessment and Review Constructs	7

LIST OF TABLES

Tables	Page
1. Demographics	41
2. Reliabilities	45-46
3. Average of all Scales	54
4. Correlation-Pre-Intervention.....	56
5. Correlation-Post-Intervention	57
6. Paired Sample <i>t</i> -test	59-60
7. Change Correlation	60-61
8. Audit 1 by Gender	63
9. Audit 2 by Gender	63
10. Audit 3 by Gender	64
11. Hazardous Alcohol by Gender.....	64
12. GASP-GREP by Gender	65
13. GASP-SNSE by Gender	65
14. Self-Esteem by Gender	66
15. Alcohol, Resiliency, Readiness and Confidence to Change for Self-Esteem, Guilt, shame, depression and anxiety	68
16. Alcohol, Resiliency, Readiness to Change and Confidence to Change for University Motivation.....	70

ACKNOWLEDGMENTS

Tera, thank you for your patience, understanding, and unconditional loving heart to see me through this journey. I could not have done it without you.

Avary, Addison, Aubrey, and Hudson, never let the doubts of life allow you to settle for less.

Jim Murphy, I would not be where I am today without your influence and guidance in life. You are missed and I am forever grateful for you.

Dr. Rob Stupnisky, thank you for not giving up on me and always coaching me through the good and tough times I encountered through this journey. I am grateful to have learned from you and your expertise.

Abstract

Alcohol use and abuse is an important issue amongst college students, and the totality of impacts are still misunderstood. Identification of high-risk alcohol abuse problems leads universities to intervene; however, the emotional, personal, and academic impacts of such mandated intervention programs is unclear. Helping universities understand students' alcohol abuse challenges can aid appropriate interventions, as well as improve student well-being and academic success.

The purpose of this study is to examine the Student Chemical Assessment Review Program (SCARP), specifically to explore its impacts on student variables (university motivation, readiness/importance of confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) hypothesized to decrease alcohol use. SCARP focuses on university students who have already completed a preliminary intervention program or were deemed high-risk by a campus entity (e.g., hospitalization due to overdose or twice the legal limit BAC infraction).

Participants post-SCARP who had less alcohol dependent use scores also reported decreased depression, decreased shameful feelings towards self, decreased anxiety, and increased resiliency. Females tended to score lower on the Alcohol use questionnaire, higher on emotion scales of guilt and shame and lower on self-esteem. Existing differences and significant correlations suggest a need to continue research for alcohol use interventions on college campuses that focuses on gender differences, resiliency, university motivation, self-esteem, and emotions that are impacted by alcohol use.

CHAPTER I

Introduction

The purpose of this study was to examine the Student Chemical Assessment Review Program (SCARP), specifically to explore its impacts on key student variables (university motivation, readiness/importance of confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) hypothesized to affect alcohol use. SCARP focuses on university students who have already completed a preliminary intervention program or were deemed high-risk by a campus entity (e.g., hospitalization due to overdose or twice the legal limit BAC infraction). SCARP is not a national program, but a specific tailored program for a Midwestern research university.

This introductory chapter contains the following sections: Statement of Problem, Research Purpose, Conceptual Framework, Research Questions, Research Methods, Limitations, Delimitations, Definitions, and Summary.

Statement of Problem

The United States has an economic and moral crisis when it comes to substance use, abuse, and misuse. In the (2016) Surgeon General's report on Alcohol, Drugs and Health, Vivek Murphy, Vice Admiral, U.S. Public Health Service Surgeon General stated that, "substance use disorders represent one of the most pressing public health crisis of our time" (p. v). Dr. Murphy further stated that, "we must invest in the scientific evidence for prevention, treatment and recovery and we must see that addiction is not a character flaw as it is a chronic illness that we

must approach with the same skill and compassion with which we treat heart disease, diabetes and cancer” (p. v). There is not one person, one prevention strategy, nor one intervention program that has uncovered all of the answers to this public health issue. America cannot just simply educate its way out of this public health issue but rather looking deeper into human emotions may uncover healing pathways for those struggling with substance abuse and change America’s view on substance use disorders.

Sacks, Gonzales, Bouchery, Tomedi, and Brewer (2010) and The National Drug Intelligence Center (2011) examined the cost of substance abuse on lost workplace productivity, health care expenses, law enforcement, other criminal justice costs, and losses from motor vehicle crashes. When combined, all numbers they found a staggering number of 400 billion dollars lost in these areas, because of alcohol misuse, illicit drug use, misuse of medications, and substance use disorders.

Outside of economics is a moral issue; families are losing loved ones. Stahre, Roeber, Kanny, Brewer and Zhang (2014) found that excessive alcohol use contributed to approximately 88,000 deaths and 2.5 million years of potential life lost annually from 2006 to 2010. Furthermore, excessive alcohol consumption accounted for nearly 1 in 10 deaths among working aged adults in the United States. These numbers, along with the Surgeon General’s report, have pushed the conversation beyond a moral failing by society and into a public health issue.

With substance use and abuse framed as a public health crisis, the language that society uses is important to the general public. The Surgeon General’s report on Alcohol, Drugs and Health (2016) highlights the “common features” (p. 2-1) with substance use disorders that other known health issues, such as “diabetes, asthma, and hypertension as they are all chronic, subject to relapse, influenced by genetics, developmental, behavioral, social and environmental factors”

(p. 2-1). This information has all helped move the conversation into a deeper understanding of why this issue is so important. Despite the deaths, lost productivity, and changing language, there are many individuals still not receiving necessary help early in life or fully understanding substance use problems.

Considering all of this information, college campuses provide a rich opportunity to intervene at a critical development time with those who may be struggling with substance use and abuse. Intervention efforts have been around for decades, facing substance use and abuse on college campuses, and results are mixed. Carey, Carey, Henson, Maisto and DeMartini (2010) concluded “mandated interventions provide the greatest benefit for male students who are unlikely to change in the absence of an intervention” (p. 537) and “future research needs to focus upon ways to maintain short-term gains and understanding gender-specific responses to alcohol prevention interventions” (p. 537). In a meta-analysis of articles on substance abuse interventions, Carey, Scott-Sheldon, Carey, and DeMartini (2007) found that universities providing intervention programs is certainly worth the time. Cary et al. (2007) found “moderator analyses suggest that individually-administered interventions, providing feedback and normative comparisons are most likely to reduce alcohol-related problems over time” and what is needed is “more efficacious interventions for at-risk students, and interventions that promote maintenance of risk reduction” (p. 2489) to further understand the issues college students are facing. The argument is not that these interventions are unhelpful, but rather that universities need to assure they understand that this problem is more complex and multi-faceted than just a reduction of substances.

An argument can be made that universities have more resources and opportunities to aid students with substance abuse problems, when compared to other general population and private

sector entities. College campuses have counseling centers, student health services with medical staff, psychiatric services, career services, financial services, disability services, health and wellness units, academic advisors, among other support units. A student can access one or more of the mentioned services repeatedly for a relatively small fee, compared to the private sector or community agencies. Therefore, universities need to be more effective in the messaging on how they are approaching interventions for substance use concerns for college students.

Dejong (2016) offered a stern warning to universities by saying “campus officials need to take protective measures to guard against foreseeable hazards and risks in the campus environment” (p. 82) to avoid litigation, by providing “reasonable care” (p.83) to students who struggle with substance use. This concern suggests universities need to go beyond a one-size-fit all Power Point presentation as a quick fix of surface-level issues, and seek a deeper cultural understanding of what a substance use issue can fully entail.

Interventions for substance use related incidents on universities needs to be examined with critical care. The National Institute on Alcohol Abuse and Alcoholism (2017) indicated that 696,000 college students between the ages 18-24 report being assaulted, 97,000 report alcohol-related sexual assault or date rape, and 1,825 students die from alcohol related incidents each year in the U.S (p. 8). These numbers represent reported incidents of alcohol abuse, missing the non-reported incidents and the impact of other drugs that go underreported due to stigma and shame associated with such incidents. Substance use and abuse interventions on college campuses are opportunities to holistically help individuals who may be struggling personally with any of the above mentioned areas. The NIAAA College Drinking (2017) fact sheet echo’s the Surgeon Generals reports alarming numbers for young adults:

Harmful and underage college drinking are significant public health problems, and they exact an enormous toll on the intellectual and social lives of students on campuses across the United States. Drinking at college has become a ritual that students often see as an integral part of their higher education experience. Many students come to college with established drinking habits, and the college environment can exacerbate the problem. According to a national survey, almost 60 percent of college students ages 18–22 drank alcohol in the past month, almost 2 out of 3 of them engaged in binge drinking during that same time frame (pp. 1-2).

Early interventions after a substance use incident has the opportunity to change the direction of someone’s life if approached correctly. The Surgeon General’s report (2016) stated that binge drinkers and substance abusers in the U.S are individuals who “typically need early intervention” (pp. 4-5), given the large amount of alcohol or other substances being put into the young body. Scientific evidence in interventions can help further help explain the complexity of substance use, abuse and misuse for these individuals. Students at such a critical developmental time in their life must not be ignored; when they go unnoticed, these substance abuse issue can have lasting impacts for years to come.

Overall, universities can assist their students by giving them clarity when speaking about interventions for alcohol use concerns for mandated interventions as this group is represented as an important target group for high risk intervention for alcohol use concerns (White, Mun, Pigh & Morgan, 2007). Universities need to work to incorporate comprehensive pathways that gives the high-risk substance user an opportunity to deeply understand the complexities of substance use concerns. Mun, White, and Morgan (2009) found that when substance use interventions are approached in an empathic, nonthreatening, and non-judgmental way, student’s readiness to

change increases. If universities are able to accomplish these interventions, they will be able to adapt, stay consistent, and offer pathways to healing for the growing and changing student needs for substance use and abuse.

Research Purpose

The topic studied was alcohol use and abuse on college campuses. The research problem is that college students who incur multiple violations for substance use or that are deemed high-risk alcohol users on college campuses face complex issues, such as mental health, motivation, confidence, and self-worth. The study purpose is to examine a college-based intervention program and explore its impacts on student variables (university motivation, readiness to change, importance and confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) that are hypothesized to be impacted by substance use.

Conceptual Framework

Emotions and Alcohol Use

Fachini, Aliane, Martinez, and Furtado (2012) have researched the efficacy of short-term reductions in alcohol use following an intervention for students and found evidenced based programing for substance use interventions on college campuses have yielded positive results for students who violate alcohol policy. In contrasts, Schuckit, Kalmijn, Smith, Saunders and Fromme (2012) highlight “even the most effective college campus alcohol prevention programs are associated with modest decreases in alcohol intake and associated problems” (p. 1244). Jakubczyk et al (2018) found that there is a current knowledge gap with associations of alcohol use disorder, impulsivity and regulating emotions.

Nevertheless, there still is room for improvement in alcohol interventions on college campuses, which may be attained through better understanding emotional patterns and behaviors

for alcohol use and abuse after an incident occurs. In order to better understand substance use and abuse, professionals must understand how specific emotions impact high risk substance users or repeat substance users on college campuses.

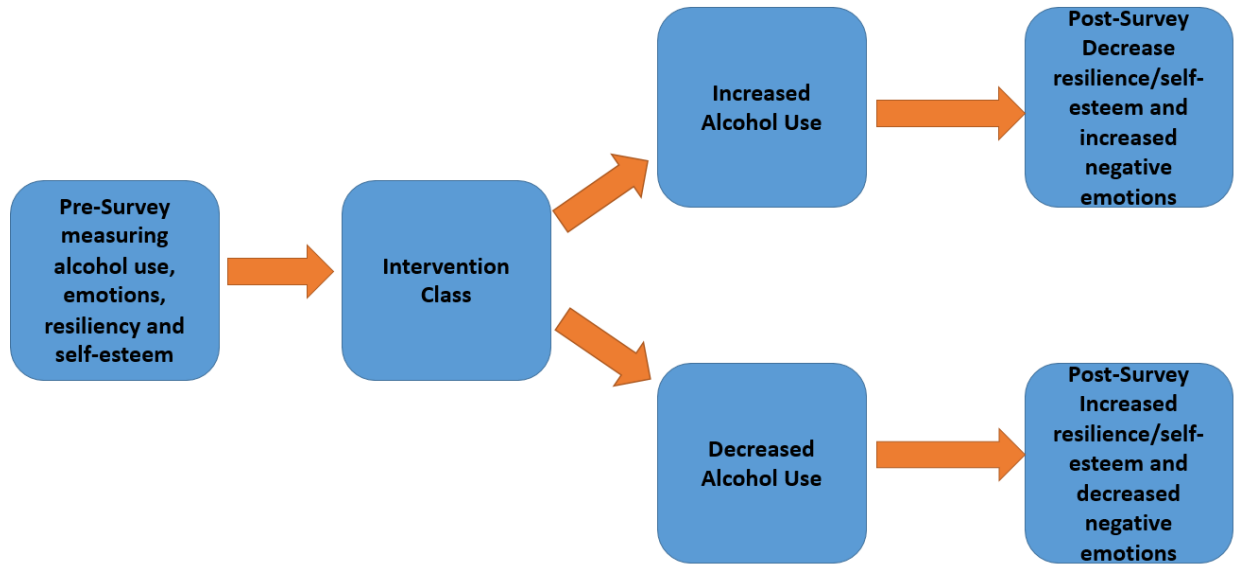


Figure 1. Student Chemical Assessment and Review Constructs

Gender and mandated alcohol interventions on college campuses continues to be looked at as an important variable. Carey and DeMartini (2010) found that female students reported higher than males that it was important to avoid further sanctions, and female students are more receptive to messages for prevention. Carey et al. (2010) concluded that females do indeed respond differently to mandated alcohol sanctions than males and SCARP intervention took a closer look at alcohol consumption differences, and emotion differences between male and females.

Currently, few studies have focused on emotions with alcohol use interventions on college campuses and impacts of emotional issues. Student Chemical Assessment and Review Program works to build an understanding and awareness that this multifaceted, complex issue of alcohol use on college campuses and needs more attention to the emotions of individuals.

Nourse, Adamshick, and Stoltzfus (2017) found that students may drink to “cope with emotional issues such as depression, bullying, stress, worry, social anxiety disorder, general anxiety, or suicidal ideation” (p. 19) and the emotional issues listed are not solely addressed by a reduction of alcohol use. Merianos, Nabors, Vidourek, and King (2013) found that by the age of 24, roughly three-fourths of mental disorders have had their first onset. This makes a post incident interventions on college campuses a critical time to explore emotional variables and impacts and how alcohol is contributing.

It is very difficult to quantify and explain individual emotions; perhaps as a result, emotions are rarely explored or explained in journal articles for college interventions when alcohol use violations occur. Pekrun, Vogl, Muis, and Sinatra (2017) shared that researchers have examined achievement emotions such as “hope, pride, anxiety, and shame” (p. 1268) and how they may relate to someone having success or having failure. They further explored epistemic emotions that uncover an understanding of knowledge of the world and self. Epistemic emotions such as “surprise, enjoyment, anxiety, frustration, boredom” (p. 1269) were found to be essential to tasks such as learning, solving problems, and ability to get knowledge. They concluded that researchers should attend to these emotions regardless of what discipline they are in. Taking into consideration that Barnett and Read (2005) found many heavy drinkers do not identify as having a problem, SCARP gave space to explore individual responses of emotions after a high-risk alcohol violation occurred with variables such as self-esteem, guilt, resiliency, academic motivation, shame, anxiety and depression to better understand the problem.

To further help understand alcohol use and abuse, the following from the Surgeon General’s report on Alcohol, Drugs and Health (2016) states four core factors. *Impulsivity* is an action without foresight or consequence, which Shin, Chung and Jeaon (2013) found is

associated with risky health behaviors such as hazardous drinking and contributes to young adults for hazardous drinking. *Positive reinforcement* is liking the pleasurable experience thus increasing the likelihood a person will use again. Cho et al. (2019) associated positive reinforcement with more frequency and larger amount of alcohol when used. *Negative reinforcement* is looking for temporary relief from stress, anxiety or depression, and Cho et al. (2019) found these factors as more predictive of drinking problems and substance use disorders. *Compulsivity* is the reoccurring behavior from the above reinforcements all while the person knows these don't fit long term solutions (pp. 2-7, 2-8); repeat consequences despite knowing change could better self. SCARP is aimed at incorporating the basic tenants of alcohol use factors noted in the Surgeon General's report along with individual's barriers for change.

Seeking help is never easy, especially when someone is told they have to complete a task when they do not believe they have a problem. Buscemi et al. (2010) found that students preferred "informal resources such as talking to a friend or family member over formal resources such as talking to a doctor or attending alcoholics anonymous" (p. 576) but shared minimal knowledge existed for such interventions as well as stigma concerns. If students do not see helping professionals as a resource for alcohol use and abuse, the problem can continue to be hidden or undetected for years when early interventions could have been applied to reduce symptoms or recurrent issues for the individual. Change may not occur immediately post intervention, but if a deeper ability exists to understand emotions then further work can be explored.

College campuses and therapists need to make a more convincing case as to how alcohol use and abuse interventions will help specific individual's long term and holistically approach each individual when they are mandated to an intervention program. To further this conversation

and help student's for the long term understanding on how to cope with substance use issues, the following research questions were posited.

Research Questions

This quantitative study utilized single-group, pre-post intervention design to address the following research questions.

1. Does SCARP (pre-post) assist students after a substance abuse violation to decrease substance use and to increase resiliency, readiness to change, and confidence/importance?
2. Does gender moderate the efficacy of SCARP (pre-post) for students after a substance abuse violation to decrease substance use and to increase resiliency, readiness to change, and confidence/importance?
3. What variables (self-esteem, guilt, shame, depression, anxiety) predict the impact of SCARP (post) to assist students after a substance abuse violation (decrease) substance use; (increase) resiliency, readiness to change and confidence)?
4. Does a lack of academic motivation (post) predict a student's alcohol use, decrease resiliency, readiness to change and confidence?

Delimitations

First, this study worked to describe if emotion constructs changed pre-post after a substance use intervention. The study was conducted in a short time-frame for pre-post survey and could not explain long term impacts of emotions for participants. Second, this study was limited to participants who were referred to the SCARP program due to an alcohol violation. This was decided due to a limited number of participants referred for other substances (e.g., drugs) and to keep data results consistent in reporting. Third, this study could only be limited to its sample size for reporting. It could not be generalized to explaining emotional impacts long

term or to other interventions which would require a more robust analysis, such as mixed-study of quantitative and qualitative analysis.

Definitions

Intervention: This study uses the term intervention specifically for the purpose of assessing after a violation has occurred. Intervention is determined to be different than prevention in that something has happened and needs to be intervened to assess and help an individual to understand what has individually happened for them.

Substance: Surgeon General's report on Alcohol, Drugs and Health (2016) defines as a "psychoactive compound with the potential to cause health and social problems" (p. 1-4).

Depression: Characteristics such as loss of interest, significant weight loss, fatigue, diminished concentration, recurrent thoughts of death or feelings of worthlessness are defined for depression (American Psychiatric Association, 2013).

Anxiety: Characteristics such as restlessness, easily fatigued, mind going blank, irritability, and sleep disturbance are defined for depression (American Psychiatric Association, 2013).

Guilt: As defined as the focus on someone's behavior such as doing a bad thing (Cohen, Wolf, Panter, & Insko, 2011).

Shame: As defined as the focus on someone's self-such as believing they are a bad person (Cohen, Wolf, Panter, & Insko, 2011).

Resiliency: Connor and Davidson (2003) share that resilience may be viewed "as a measure of successful stress-coping ability" (p.77) thus having characteristics to work through life changing circumstances in a healthy manor.

Motivation: Tremblay, Blanchard, Taylor, Pelletier & Villeneuve (2009) found that motivation is “manifested by attention, effort, and persistence” (p. 219) and categories based out of self-determination theory of intrinsic motivation (i.e. activity for its own sake) and extrinsic motivation (i.e. activity for an instrumental reason) (p. 214).

Summary

Chapter I contained the statement of the problem with alcohol use in America, along with the public health issue that alcohol abuse poses. College campuses are identified as prime opportunities to intervene and assist students mandated for alcohol interventions. Emotions were identified as variables missing in alcohol intervention studies and SCARP was identified to explore such variables. Definitions described key terms utilized throughout the study process. A deeper set of alcohol use understanding for college interventions and explanations of emotions will be explained in the next chapter.

CHAPTER II

Literature Review

The purpose of this study is to examine the Student Chemical Assessment Review Program (SCARP), specifically to explore its impacts on key student variables (university motivation, readiness to change, importance and confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) hypothesized to affect alcohol use. The focus of SCARP is on university students who have already completed a preliminary intervention program or were deemed high-risk by a campus entity (e.g., hospitalization due to overdose or twice the legal limit BAC infraction).

The following literature review chapter will present: (1) Need for change, (2) Review of the empirical literature on substance use interventions, (3) Theories and empirical studies of emotions, and (4) Summary.

Introduction

There are many substance use intervention programs being implemented around the nation at universities in the United States. Difulvio, Gloria, Linowski, Mazziotti, and Puleo (2012) examined a top evidence based intervention program called Brief Alcohol and Screening Intervention for College Students (BASICS), and they found that men were high-risk drinkers in the study and post-intervention were still drinking in dangerous ways. Kazemi, Sunn, Dmochowski, and Walford (2011) found that BASICS was “considered one of the most effective intervention strategies” (p.41) and even though BASICS has not been successful at showing that college students are able to maintain their reduction of alcohol after the alcohol intervention it is

still often used. Given that BASICS is a gold standard for interventions and has mixed results, substance use interventions on college campuses need to be explored more deeply. Alcohol rates and consequences are not decreasing, as noted by Mallett et al. (2013). In their study, Mallett et al. (2013) conducted an overview of the literature examining interventions for alcohol-related consequences for college students and found that “despite substantial efforts aimed at reducing problematic college student drinking and related harms, rates of consequences have not declined, and serious consequences among older college students (ages 21 to 24) have increased” (p. 709). Mallett et al. (2013) further shared that, “some individuals exhibit a chronic and possibly circular pattern of negative affect, drinking, and consequences, making it difficult to parse out the degree to which depression and alcohol consumption contribute to experiencing consequences” (p. 710, 711). Difulvo et al. (2012) indicated that additional ways to assess interventions for reducing alcohol drinking rates are needed. If universities are going to understand substance use and abuse, it is becoming increasingly necessary to address the emotional factors students experience after a high risk incident to offer appropriate interventions and support.

There are many consequences with high-risk substance use that Mallett et al. (2013) literature review shared such as “driving under the influence arrests, risky sexual behavior, and sexual victimization which all have highly toxic effects that can last a lifetime,” (p. 713) and yet the emotional toll individuals experience are rarely understood. How do universities best help the high risk substance user on college campuses once a high risk incident occurs? To further understand this issue, there needs to be a more holistic approach when discussing this multi-faceted issue. The better equipped universities can offer “reasonable care” (Dejong, 2016) for those with substance use concerns, the more individuals will have a deeper level of understanding on how to get well and where to turn for help throughout their life. Mallett et al.

(2013) highlighted that being able to identify individual's types of issues such as blackouts were linked with higher alcohol use as the year went on and a decrease in academics, which illustrates that the more links in the interventions one can make for individuals, the better equipped students will be and know what to look out for. The following will be a thorough examination of top evidence-based interventions on college campuses in the United States to further highlighting the gap in literature and need to be exploring emotions.

Alcohol Use Interventions on College Campuses

Substance use and abuse on college campuses continues to present challenges for young adults. The Surgeon General's report on Alcohol, Drugs and Health (2016) says college drinking is a significant health problem that cannot be ignored (The surgeon general's report on alcohol, drugs, and health, pp.1,2). Schuckit et al. (2012) found that most college intervention efforts have core elements of motivational interviewing, cognitive-behavioral therapy techniques, teaching skills to drink smarter, and personalized feedback to people that need it.

Three main college alcohol intervention approaches that are utilized for student drinkers on college campuses will be analyzed and explored: 1) Brief Alcohol Screening Intervention for College Students; 2) Alcohol Skills Training Programs; and 3) Personalized Feedback Intervention.

Brief Alcohol and Screening Intervention for College Students

Difulvio et al. (2012) conducted a study to evaluate the effectiveness of a brief intervention to reduce alcohol amongst mandated college students. The study used a baseline and 6 month post survey follow-up, and conducted research for over two and a half years. They took a two session approach, involving two 1-hour face-to-face sessions with a master's level prevention professional trained to offer motivational interviewing. The first session was used to

“build rapport, provide alcohol education, and identify patterns of alcohol use, associated consequences and other behaviors that could impact the students’ health risk” (p. 270). The participants also took an online assessment that gave them information and tools to use before their second session. The second session took place about two weeks after the first session. The trained specialist then evaluated the participants reported alcohol use and behaviors associated with alcohol, including any consequences and if they used any protective strategies. During this session, the participants also received an 8-page personalized feedback form to review all the mentioned above.

They began the analysis tests at baseline with an intervention and comparison group looking at demographics and outcome variables and did not find any statistical significance between groups at baseline on gender, class year or residential status measuring α at .05. A subgroup analysis completed found BASICS “males tended to have higher rates of drinking as measured at each outcome variables at baseline than the comparison group” (p.272). To measure the effectiveness they studied “changes in: single-episode drinking, weekly cumulative alcohol consumption, high risk drinking behaviors and negative consequences associated with alcohol use,” (pp. 273-274) as all the measures focused specifically on alcohol use within a given time frame for the individual participant.

Differences between the intervention group and comparison group were reviewed and what they found was “the intervention group showed a decrease in a typical number of drinks per occasion, typical and peak BACs, number of drinks in a typical week, and a frequent binge” (p. 274). A regression analysis was performed and appeared to find for males that participants in the BASICS program “resulted in decreases in typical and peak eBACs (.109 to .092; .15 to .135), typical number of drinks in a week (19.2 to 17.3; 28.2 to 26.2) when compared to the

assessment-only comparison group” (p. 274). These numbers show slight decreases in overall results, which make it hard to distinguish the effectiveness. They also found males in the comparison group “increased or stayed constant in all the outcome variables with the exception of reporting significantly fewer drinks on peak-drinking occasions” (p. 274). At baseline, males in the intervention group did report higher drinking percentages than those in the comparison group. After six months the results showed “significantly fewer males in the intervention group reported frequent binge drinking at the follow-up than the comparison group (44.3 vs 50.4; $p < .014$)” (p.274). These results does not highlight the other possible consequences of high risk drinking amounts or social consequences when participants did partake in binge drinking.

The summarized results found that the most effective results of BASICS for reducing drinking behavior was for both male and female moderate drinkers. The heaviest drinking or high risk categories had mixed results as for “heavy-drinking men there was no changes in the percentage of binge drinkers, number of drinks on a peak occasion, and number of drinks in a peak week” and for women who were drinking heavily, “there were no changes at 6 months in the total number of drinks in a typical or peak week” (p. 275). Therefore, alcohol could be but one part of the equation as to what these participants could benefit from or the process of intervention can be looked at as short term gains.

The results indicate that, “the use of BASICS for adjudicated students is effective in reducing high-risk drinking measures for both males and females” (p. 275) but the results showed they may be more effective for males. The drinking behavior for men did decrease six months after the intervention; but men’s “drinking still was equal to or slightly higher than their peers suggested that the men referred to the intervention were indeed high-risk drinkers” (p. 278). There was a decrease in alcohol use, yet given the amount of alcohol the males were still

using, one could argue that the social consequences or effects of high risk drinking were still present months later for this group. They concluded, “BASICS is generally an effective intervention for reducing drinking among college students” (p. 279) and BASICS “did reduce drinking rates,” (p. 279) although it should be noted that students were still drinking in consequential and high-risk patterns. The suggestions they gave for future research was to look at additional ways to intervene and what else could be useful in trying to reduce drinking patterns.

Fachini, Aliane, Martinez, and Furtado (2012) conducted a meta-analysis of randomized control trials to assess the efficacy of (BASICS). The conclusion of the eighteen studies reviewed in the meta-analysis stated, “BASICS can help heavy drinkers to reduce or stop drinking and screen alcohol-dependent students by motivating them to enter treatment” (p. 9). Fachini et al. (2012) say further research at “identifying potential early predictors of change for drinking behaviors” (p. 9) could assist and improve BASICS interventions and open up doors of creating new and impactful variables for those needed to enter treatment. The BASICS program aims to reducing drinking rates but the other consequential impacts that individuals were experiencing were not clearly understood or explained. The BASICS research highlights that variables are missing in the BASICS approach or adding a valuable variables of understanding could deepen the breadth of understanding high risk drinkers need.

Alcohol Skills Training Programs

Kivlahan, Marlatt, Fromme, Coppel, and William (1990) highlighted they built a high-risk drinking project at the University of Washington and was based on social learning theory and cognitive-behavioral principles developed an Alcohol Skills Training Program (ASTP) “aimed to reduce the amount and moderate the pattern of alcohol consumption amongst college

drinkers” (p. 805). This almost three-decade old study is worth noting their procedures, conclusion, and limitations leading into a more current empirical review. Kivlahan et al. evaluated an experimental design with 43 participants, and they were randomly assigned to a Skills Training (ST) group or one of two control groups. The two groups were either classified as an assessment only (AO) group that included daily self-monitoring of alcohol consumption or an alcohol information (AI) class group. The two classroom conditions (ST) and (AI) had eight 90-minute weekly sessions that were conducted with the mandated participants. Kivlahan et al. (1990) found the following “the controlled evolution of an ASTP for college students found a significant reduction over time in several measures of self-reported alcohol consumption for the total sample” (p. 809) but drinking heavily did stay as a pattern for many. They found that “given the widespread admission of excessive drinking, it appeared less likely that the overall reduction in reported drinking were due to the experimental demand characteristics” (p. 809) meaning that there is room for other factors to be explored. Kivlahan et al. (1990) concluded research studies have suggested that many college students who assume family and job responsibilities effectively phase out of high-risk drinking episodes. Study limitations found were small sample size, self-report only and not having more information on the adverse effects of the participants. Kivlahan et al. (1990) suggested furthering research to examine skills training to measure or try assist individuals to mature faster. This further sets a foundation for research to explore what other variables might be useful to learn about college student drinkers.

Palmer, Kilmer, Ball, and Larimer (2010) used the ASTP approach and predicted that the students who were not mandated and assigned randomly to the whole ASTP program would see better changes in alcohol consumption for peak occasions, as well as have less negative consequences because of alcohol than those students who just completed an assessment. They

also predicted that students who signed up for the program voluntarily, opposed to being mandated, would have better outcomes, could be more ready to change, and be less defensive. The inclusion criteria consisted of both mandated and volunteer participants having the following: 1.) Average of three or four drinks per occasion, 2.) At least five drinks for their peak occasion in the past month, and 3.) Three or more negative consequences from drinking in the past month was measured by the Rutgers Alcohol Problem Index (p. 1157).

Palmer et al. (2010) evaluated the following “an experimental and quasi-experimental design intended to test two aspects of ASTP’s efficacy and moderators of outcome. The reported efficacy of ASTP for voluntary students was evaluated through random assignment to ASTP or assessment-only control group condition” (p. 1158). The efficacy of ASTP for voluntary versus mandated students was compared but certain campus regulations did not allow a randomization. The manualized ASTP group intervention was utilized and this study consisted of two 90-minute sessions and their interventions utilized peer educators trained in motivational interviewing, trained in ASTP content and were supervised by a trained graduate student and a licensed clinical psychologist and all three groups were consistently delivered. Data was collected at 1 week and 3 months post intervention (Palmer et al., 2010).

Results reported were that the mandated ASTP participants scored higher than the voluntary ASTP participants on intervention defensiveness, and there was no difference of the two voluntary groups. The mandated ASTP participants had lower readiness to change scores than the voluntary ASTP participants, and there was no difference of the two voluntary groups. Higher defensiveness was related to lower readiness to change and interestingly the mandated ASTP participants had lower peak drinking and negative consequences than the voluntary ASTP at baseline (Palmer et al., 2010).

Palmer et al. (2010) found that there was no difference in alcohol use or negative consequences from the ASTP group or assessment only group for voluntary students or any differences for mandated students versus those who were voluntary. They did suggest that mandated students who had more defensiveness were drinking larger amounts of alcohol after the study when compared to the students who volunteered even though prior to the study these differences among the two groups were opposite. They shared that those conducting mandated interventions could work to screen out the students who presented with high defensiveness or even use different motivational interventions to reduce the levels of defensiveness.

Palmer et al. (2010) shared that a limitation of the randomized comparison of voluntary students highlighted that two sessions for ASTP may not produce the same results as the 6-8 sessions that was used in previous research. Peer educators were also used in this study versus trained professionals which they say could have had an impact on the effectiveness. A very fascinating finding was “drinking and negative consequences were significantly higher among voluntary than mandated students” (p. 1159) despite efforts to ensure confidence in confidentiality and avoid coercion. Palmer et al. (2010) shared the possibility of coercion may have resulted in under reporting on drinking which could have influenced outcomes. Another possibility was the mandated participants may have already chosen to make changes in drinking due to having gone through an experience of a violation (p. 1159). In contrast, Hustad et al. (2013) would support that students do indicate a “decrease in peak drinking following the citation event,” (p. 284) yet would argue that the reduction in alcohol is still at high levels of alcohol use suggesting there is not a “citation effect” (p. 285). Palmer et al. (2010) concluded that when students are mandated they are defensive; therefore, future research should be around

defensiveness and this suggests further reason to explore other variables not accounted for with drinking patterns in the above interventions.

Personalized Feedback Intervention

Personalized feedback interventions with the absence of a trained specialist will be explored next. The following study will explore the differences of face-to-face interventions and computer delivered interventions.

Butler and Correia (2009) researched computerized feedback for college alcohol interventions versus face-to-face interventions with a trained clinician in terms of their efficacy and efficiency. They found several possible advantages for computerized interventions which were anonymity, students completing on their own time, and developed to be personalized for each individual. They compared three feedback conditions: 1) Computerized personal feedback, 2) Personalized feedback completed face-to-face with a trained clinician, and 3) No-feedback control. All content of the personalized feedback was exactly the same across the groups, and researchers assessed all three groups before and four weeks after all the feedback (p. 164).

Butler and Correia (2009) recruited participants via a self-administered pre-intervention assessment and included those who met inclusion criteria which was: 1) Endorsing two binge drinking episodes, and 2) Two alcohol related problems in last twenty eight days. They had participants in the face-to-face group sit with a clinician trained in motivational interviewing and the face-to-face sessions lasted forty-one minutes on average. Participants in the computerized condition had zero contact with a clinician. A research assistant set them up in a private room on a computer and sessions lasted on average of 11 minutes and 11 seconds. Participants in the control group did not receive any personalized feedback form before completing the follow-up measures, yet after the study they were given an option to receive a follow-up form if they

desired. Each participant then completed a follow-up assessment four weeks after the initial assessment.

Butler and Correia (2009) found that the initial assessments of the three groups did not differ on any outcome measures. Post intervention, participants were assessed on alcohol use days, binge drinking days, standard drinks, and alcohol-related problems. The study results revealed that both face-to-face and computerized interventions were significantly different from the control group, yet face-to-face and computerized interventions were not significantly different from each other. Further, participants in the face-to-face condition showed significant decreases in alcohol use days, binge drinking days, and alcohol related problems; however, did not report significant change in the number of standard drinks. Participants in the computerized condition showed significant decreases in alcohol use days, binge drinking days, standard drinks, and alcohol-related problem. Participants in the control group showed a significant increase in standard drinks consumed and significant decrease in alcohol-related problems. They did hypothesize that participants would rate the two interventions as highly acceptable, and the acceptability of face-to-face was significantly higher, although, both conditions were rated high by the participants, suggesting either form of deliver was acceptable to the participants.

Butler and Correia concluded that their study supported previous literature suggesting that personalized feedback given with the same content with or without a therapist can have the same effects to reduce alcohol use; however, participants still preferred a face-to-face intervention. Limitations in their study included, first, a brief four week timeframe. Further research is needed to determine long-term impacts of computerized interventions. Second, the sample was largely female and they shared that previous research has suggested brief alcohol interventions positively impacting females more than males. Carey et al. (2010) also suggested

females experiencing an alcohol consequence may make changes with very little need of intervention due to perception, suggesting gender may have influenced their analysis. Butler and Correia concluded by saying what remains to be understood is when is a face-to-face intervention is needed, and that future researchers should focus on the ethical issues involved in computerized interventions with clinical decision rubrics to determine if a computer or face to face is intervention is needed (p. 166).

Studies on the Brief Alcohol and Screening Intervention for College Students (BASICS), Alcohol Skills Training Program (ASTP), and Personalized Feedback Interventions (PFI) were reviewed. An analysis of the intervention studies reveals what missing impacts emotions have on the participants. Mallett et al. (2013) noted “the casual relationship among psychological distress, drinking, and consequences have been challenging to decipher” (p. 710), which further builds the rationale to examine emotions and the emotional impact with mandated college students in an alcohol intervention program.

Emotions

The true, fundamental understanding of emotions and what causes emotions can be traced back centuries upon centuries. A review of theories will focus on the father of psychology, William James, American physiologist Walter B. Cannon, and move into more recent work on emotions. In addition, two broad classes of emotions, biologically based and socially derived will be discussed.

Foundational literature in understanding emotions (James, 1884; Cannon, 1927; Schachter & Singer, 1962) take a stance that humans respond to: 1) Physiological body reactions first then cognitive mental formulations, 2) Physiological body reactions and cognitive mental formulations happen simultaneously with each other, and 3) Cognitive mental formulations and

physiological body reactions simultaneously with a physical arousal. All three elements have deep roots in understanding and explaining truly the complexity of emotions.

In 1884, Professor William James wrote asking this very question “What is an emotion?” (James, 1884). He suggested “body changes follow directly the perception of an exciting fact, and that our feeling of the same changes as they occur is the emotion” (pp. 189-190), meaning we see a bear, run and then experience the emotion fear. James further said that if the body did not react when faced with a perception, then events would be nothing but a thought and the body would be deprived. Walter B. Cannon (1927), decades later disagreed with William James, suggesting “when the thalamic discharge occurs, bodily changes occur almost simultaneously with the emotional experience,” (p. 582) meaning our thoughts do have an impact on our overall mood to situations. This finding went against William James findings and further highlighted how thoughts contribute to life. William B. Cannon reported that William James did not have evidence at his time for this information to be explained and accounted for understanding. Later, Schachter and Singer, (1962) agreed to an extent with both James (1884) and Cannon (1927), yet suggested that, “given constant cognitive circumstances, an individual will react emotionally only if he experiences a state of physical arousal,” (p. 396) meaning that if this arousal happens, humans label the emotion based on cognitive thoughts of the situation which could be sadness, happiness, or anger. Example, people can have their heart race for different emotional reasons and this variance allows for a more experiential, yet biological explanation to emotions. Richard S. Lazarus (1991) took an opposite stance claiming that an appraisal must occur to evaluate significance of experience, cognition follows into a response, and emotion is then a combination of action, physiological change, and subjective affect (Lazarus, 1991). Thus, we are provoked, have thoughts, body reacts, and emotion occurs, yet always with an appraisal left for later

retrieval if needed. Emotions are deeply embedded into the fabric of individuals and from James (1884), Cannon (1927), Schachter and Singer, (1962) to Lazarus (1991) emotions appears to be more complex than first thought. Lazarus (1991) shared there has never been a time where agreement has been made about emotions and this highlights the history and understanding of both biological and social experiences with emotions.

More recent literature by Barrett, Mesquita, Ochsner and Gross (2007) and Izard (2009) attempt to look and explain more of what are emotions and what causes them. Izard very fittingly years later that was asked by James (1884) “what is an emotion?” (p. 4). He breaks from James in saying the following “emotional feelings are a phase (not a consequence) of neurobiological activity or body expression of emotion” (p. 4).

Izard (2009) shared that emotion and cognitive formulation do have separate operations and influences, yet are inter-connected in the brain; thus, he hypothesized that when a situation is personally important to someone, the emotional impact will be much more significant than if the situation had no meaning. Izard (2009) further stated that motions are always present although humans may not always have them consciously understood and feelings help link future reactions to environmental events. He noted that neurological activity and emotional feeling can change from low to high and involve many areas of the brain. This change allows insight into the complex brain system and structure from which emotions are derived to further explain why not all individuals respond the same situation with the same emotion.

Barrett et al. (2007) share a similar insight into the personal view of the subjectivity one feels when an emotion becomes present, yet highlight subjectivity view of emotions has kept researchers from growing their understanding. They say that science has ignored a reality when describing emotions, which is that the description of what someone felt is different than the

description of how emotions are caused. Therefore, by just focusing on the cause of emotion is not enough to describe what is felt. Barrett et al. (2007) moves from roots of traditional theories of emotions and add a biological naturalism framework to describe emotions. The cause of emotions and identification of what emotions are does not appear to be answered separately, but rather closely tied together to biological responses and social experiences.

If the stance of the framework broadly highlights the importance of human's physiological brain complexities with emotions, then the following three core findings that can guide the biological naturalism framework. Barrett et al. (2007) states: 1) An account of an emotion requires more than identifying a cause but also a description of what is felt so someone can separate experiences, 2) The experience of emotion is a system-level property of the brain just like digestion is a system-level property of the gastrointestinal system, 3) Conscious states exist only from a subjective point of view concluding that if one wants to know what emotion feels like, they best inquire to that individual what the experience was like (p. 376). These findings highlight that physiology is also tied to previous experience. They share when emotions are intertwined with the cognitive or a mental representation (past feelings, hypothetical feelings or in the moment feelings) can only be understood through communicative acts like talking or sharing to get to the core of either pleasure or displeasure. They further highlight that pleasure and displeasure shared as "core," (p.377) because they are universal to all humans and these help humans navigate whether objects are deemed a threat or a help. Individuals are constantly organizing their cognitive representations to make them fit somewhere. This information aligns with all three past researchers of James (1884), Cannon (1927), Schachter and Singer, (1962) combined in the discussion and workings to understand emotions.

The consequences of understanding emotions or not understanding emotions, as a result, has been in the recent work of human memories. Greenberg (2012) took an emotion focused therapy theory sharing emotions have combination of “epistemological and hedonic functions,” (p. 701) allowing for humans to be activated but also protected. Greenberg (2012) indicated that emotions are carriers of information and supply humans with both pleasure and pain. This finding supports Izard (2009) understanding of cognitive and physiological functions of emotions as individuals are constantly working to organize reality, analyze many types of information, in order to create their own life experiences. Greenberg noted that the organization and description of experience is processed by the brain. After evaluating and interpreting if an event occurs, the event is then stored as a memory only after a lived event or experience. These memories are stored and marked for later retrieval, along with the emotional response. If not altered therapeutically, the next time the memory or memories are recalled, individuals will have the same emotional response. He suggested that there can be a time when feelings change function and are then experienced as negative feelings; thus, the body cannot tolerate the distress and the emotions can become detrimental to the mind and body. For example, if someone gets into a car accident in a particular location, when approaching that location again, it will trigger emotions/memory of that event as though it were happening all over. Someone’s boss or co-worker might say something hurtful, resulting in their everyday presence as detrimental to overall well-being. Both situations can be impactful for individuals, and emotions give people necessary awareness to avoid consequences being repeated; however, if not addressed, emotions can manifest in negative ways. In contrast, emotions can be positive as well and produce positive results if understood. Greenberg (2012) stated that the experience and memory perhaps are “guide appraisals, bias, decisions, and serve as a blueprint for physiological arousal and

action and these affective/cognitive/motivational/behavioral emotional schemes” (p. 699) are thus able to be changed and maladapted.

Then, the question becomes, how does someone not let emotions run their life, but rather learn from emotions? Empirical based research principles for emotional change are if emotion requires transformation because of a negative consequence, a corrective emotional experience may be necessary. Greenberg (2012) shared how this transformation takes place in the follow steps:

- 1) Awareness, meaning that people understand and know what they are feeling
- 2) Expression, going further than awareness and is not venting but engaging your body and words to better understand self
- 3) Regulation, learning self-compassion and ability to regulate emotions as they are generated
- 4) Reflection, helping create new narratives and better understand experience
- 5) Transformation, moving anger to assertive anger or grief to the sadness of grief and in time move helplessness to empowerment or supportive responses
- 6) Corrective emotional experience, putting yourself in situations where you create new experiences that change the old feeling

The consequences of not moving through or finding a pathway to understand negative emotions can lead to disruption and lack of clarity for why one feels and acts the way they do, leading to unresolved long term issues that can disrupt life. Positive emotions manifest and live the same way and the above steps guide to how individuals can heal and grow from the consequences of emotions.

The complexity of emotions have been studied for centuries, yet the current understanding of biologically, socially, and subjectively derived explanations of emotions can be a guide to understanding. Two people at the same event can both be triggered positively or negatively, depending on memory retrieval, body physiology, and past experiences. This phenomenon is fundamental, in that it can both enrich people's lives and simultaneously destroy people's lives. Understanding emotion can be viewed as a necessary and critical element to human existence.

People make mistakes in life, yet in developmental years, it becomes critically important to understand what patterns of emotions are occurring. Shame, guilt, depression, and anxiety are potentially manifesting and possibly being exacerbated, because of substance abuse and other factors. Identifying what resiliency and motivation can offer as a counter to negative emotions can be helpful.

Greenberg (2012) highlighted that the first two empirically based principles for emotional change are awareness and expression. A lack of awareness and expression has the potential to become a pattern of ongoing destruction and possible chaos in one's life. Merrill, Read and Barnett (2012) found there are individual discrepancies for those who experience the same alcohol-related event, and that consequences are not the sole reason for change, but rather the individual evaluation of consequences. Specific emotions can become impacted negatively if left unaddressed, without one realizing it. Computer-based interventions or short-term alcohol reduction interventions will not help unpack the explanation of awareness and expression of emotions. Milosevic, Chudzik, Boyd and McCabe (2017) shared data from the National Epidemiological Survey about individuals who sought treatment for substances in the past year; approximately 40% had a mood disorder and 33% had an anxiety disorder. This finding

supported results from Mallett et al. (2013) that showed that separating emotions from drinking is very hard for individuals with alcohol issues. If someone desires to break the pattern of unhealthy emotions and behaviors, early interventions are extremely important to assist this individual. Raising awareness for students about potential long-term impacts of unaddressed emotions has become a critical gap in the literature. Goodman, Henderson, Peterson-Badali and Goldstein (2015) shared that there are critical developmental markers and processes that differ from adolescent years and adult years. They noted that there are independent, transitional decisions, such as school, jobs, who to live with, searching of values and beliefs, romantic partners, and peer groups decisions, that can lead to additional stress and unpredictability in individuals' lives. It is worth attempting to understand individual's emotions after a high-risk incident and their emotional state, as well as critically important to properly intervene. A deeper understanding will now be explored.

Emotional Understanding and Motivation Factors

Depression

Alcohol provides students with short-term effects of gratification, yet college students also often experience negative consequences because of alcohol use, including depression. Rosenthal et al. (2018) shared that linking depression and alcohol is very tough to accomplish, because of questionable research designs. They found two studies linking heavy alcohol use and not the averaged intake to be associated with depression (p.71). Their research focused solely on first year, female college students, and highlighted that alcohol consequences increased the possibility for major depressive disorder during their study rather than the rate of alcohol consumption. Thus, consequences are impactful, and Beblo et al. (2012) highlighted that people with major depression disorder often have "emotion suppression" rather than "emotion

acceptance” (p. 475). This finding supported Merrill et al. (2012), who revealed that an event, such as a hangover, was viewed as indifferent or even positive by college students. If such events are not perceived as negative, then change is difficult to enact. Beblo et al. (2012) also found studies that showed people will have negative effects overall when emotions are not accepted; thus, they needed to work on allowing enjoyable emotions to exist, so that they would counter any unhealthy patterns. College students experiencing negative consequences from alcohol use, along with hiding their emotions, can lead to further issues later in their lives, if not addressed appropriately.

Anxiety

Anxiety is described in the APA Diagnostic and Statistical Manual (5th ed), which is used as a guide by clinicians to treat individuals who struggle with anxiety. According to DSM-V, the symptoms of anxiety include:

- 1) Excessive worry
- 2) Restlessness or on edge
- 3) Difficulty concentrating
- 4) Irritability
- 5) Muscle tension
- 6) Sleep disturbance

Milosevic et al. (2017) found that individuals with “a mood and or/anxiety disorder, who have a substance use disorder, experience greater severity and persistence of symptoms” (p. 85). Brook & Willoughby (2016) shared that research with alcohol and anxiety amongst university students are mixed, as studies have found both positive links between anxiety and alcohol use, as well as no association for significance to be found between anxiety and alcohol use. Their study

found results for alcohol use and anxiety had more complexities to account for individuals than they first anticipated, and they stated that mental health services should consider a more individualized approach for those more prone to being socially anxious. This idea makes it critical to be attentive to these anxiety symptoms for college students early in life, especially if an alcohol incident has occurred.

Guilt and Shame

Guilt and shame are two words that often go left unaddressed for substance users. Dearing, Stuewig, and Tagney, (2005) defined shame as a “global negative feeling of self” and guilt as a “negative feeling about the event” (p. 1393), meaning that guilt is someone did something wrong and shame is someone believes something is wrong with them. Luoma, Kohlenberg, Hayes, and Fletcher (2012) found research suggesting shame is more present for individuals who are struggling with substances than those who are not. Treeby and Bruno (2012) highlighted shame and guilt as related emotions, yet completely opposite “motivational and self-regulatory behaviors” (p. 613). They found that shame-proneness was positively connected to using alcohol, as a way to reduce and regulate negative emotions. A convincing argument could be made that if a student has a one-time hangover, then guilt may be present. On the other hand, if hangovers are a continued occurrence, then it can be suggested that shame could be present and a negative view of self becomes hard to understand and deeply painful. Thus, continuing to monitor all symptoms and emotional variables becomes even more critical, in order to have effective ways to assess and monitor past alcohol incidents.

Resilience

Resilience becomes an important trait for helping people who may be struggling with substance use. Fabio and Saklofske (2018) found resiliency to be “a person’s capacity to manage

challenges and difficulties in all stages and areas of life and to ‘bounce back’ following adversity” (p. 140), which can be beneficial for students. Resilience helps individuals navigate when life presents unexpected or even expected challenges that people face as human beings.

Kashdan, Ferrisizidis, Collins, and Muraven (2010) studied resilience in relation to alcohol use, and they found that their participants were less likely to drink in a high-risk way when responding to negative emotions if they were able to differentiate their emotions. They shared that the ability to differentiate emotion is useful to resiliency and alcohol use understanding. Thus, as college students are moving into adulthood and facing more individual pressures, Kashdan et al. (2010) highlighted the importance of emotions and understanding unique coping skills to work through pressures, without turning to substances for temporary relief.

Motivation

Goodman et al. (2015) emphasized the importance of motivation, defining that “motivation to change refers to one’s personal intentions related to identifying substance use as problematic and taking steps toward change” (p. 59); therefore, it is important to navigate the subjective negative consequences early to impact change. Goodman et al. (2015) found in previous research the several factors that impact change are “age, substance use severity and history, perceived substance use consequences and benefits, mental health functioning, social networks, and environmental context” (p. 59). Duilio, Cero, Witte, and Correia (2014) found that feedback to students on alcohol symptoms and feedback on their dissatisfaction with life may increase motivation to change; however, the levels of severity for alcohol use need to be taken into account for each individual.

Self-Esteem

Corbin, Mcnair, and Carter (1996) share that self-esteem has been an important area to be assessed when looking at peoples drinking behaviors and that studies have shown that in the college population, heavy alcohol consumers have a lower self than when compared to light drinkers. Their study indicated that women who drank more heavily were at greater risk to have lower self-esteem. Blank, Connor, Grey, and Tustin (2016) found that there was a gender difference when looking at self-esteem and alcohol use. They found that the men that drank more heavily had a higher sense of self-esteem, and women had lower self-esteem with all drinking patterns. This gender difference further makes the case to approach each incident and individual with an understanding that many variables need to be accounted in approaching interventions on college campuses.

Summary

Mental health functioning and alcohol use on college campuses is clearly a gap in the literature for trying to assist substance use interventions on college campuses. Martens et al. (2008) suggested that clinicians should understand how to assess negative affect, coping drinking motives, and overall coping skills for college students who present problematic drinking issues. They further shared that an emphasis on emotion regulation in future interventions is important, as well as ensuring college students high in “negative affect” (p.418) be offered opportunities for further counseling to address such issues.

The understanding of alcohol use on college campuses is a historical and present concern amongst universities. In the last 30 days, 70% of college students consumed alcohol, drinking on campus is a decades long issue, heavy alcohol use is an issue in college, and emerging adults are at high-risk for heavy alcohol use (Carey and Demartini, 2010, Mallett et al. 2011, Merrill et al. 2013, Gonzalez and Skews, 2013). Being able to identify other predictors of consequences such

as negative emotions, in addition to drinking, may help further research, as alcohol has been shown to account for about 30% of the variance for consequences (Mallet et al. 2011). In 2020, it can be argued that alcohol use and abuse on college campuses is a critical area of attention to study, yet it must be emphasized that individuals are complex, and emotions are not always easily understood.

There is no quick fix or simple intervention that can truly understand all factors in understanding contributing factors and decreasing alcohol use; however, taking a holistic and individual approach allows for examining emotional distress and impacts. The effort to learn, assist, and help people emotionally as best as possible after an alcohol incident is the focus of my study. Trained clinicians and/or specialists need to be attentive and able to navigate for students entering into such interventions.

The next chapter will describe my study that included an intervention program designed to study both alcohol constructs, emotion constructs, resiliency constructs, self-esteem constructs and motivation to change. Alcohol concerns at universities are clearly known and well-studied, yet the absence of emotional descriptors in the empirical alcohol intervention research, especially in college interventions is the focus of the present research. This research study represents an attempt to understand the emotions of participants in a college alcohol intervention program, which will add valuable findings to the growing body of literature on this topic.

CHAPTER III

Methods

The purpose of this study is to examine the Student Chemical Assessment Review Program (SCARP), specifically to explore its impacts on key student variables (university motivation, readiness to change, importance and confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) hypothesized to affect alcohol use. The focus of SCARP is on university students who have already completed a preliminary intervention program or were deemed high-risk by a campus entity (e.g., hospitalization due to overdose or twice the legal limit BAC infraction).

The following methods chapter contains a summary of the pilot study, participants, procedures, measures, as well as rationale for analysis of the current study.

Pilot Study

A pilot study was conducted during the academic year of Fall 2016 to Spring 2017.

Participants were recruited from a Midwestern university with the following criteria:

- 1) Cited for a violation of the campus substance abuse student code of conduct
- 2) Had completed a previous intervention program or were deemed high risk (e.g., hospitalization due to overdose)
- 3) Were asked to enroll in a substance use intervention program

There were 46 participants who participated in the Student Chemical Assessment and Review Program (SCARP), of whom there were 27 freshman, 10 sophomores, 6 juniors, and 3 seniors.

Ethnicity of the sample consisted of 87% White, 8% Hispanic/Latino, 2% percent as Native Hawaiian or Pacific Islander, and 2% as Multi-racial. This study involved participants completing confidential online surveys (Qualtrics survey software) while in a private office.

Students completed the SCARP intervention over three sessions. In Session I, individual participants completed the pre-SCARP Qualtrics survey, followed by a brief interview with a counselor that included review of the initial incident, discussion of issues related to individual care, personal substance use history, family substance-usage history, and the participant's desire for change. Session II was in a small group format and involved a presentation specific to substance use and abuse. Content in Session II focused on the development of substance use and abuse amongst college students, national epidemic concerns and how substance use disorders develop. Session III allowed participants to individually debrief with a counselor, engage interpersonally about their experience, process any desire to make change, review their plan to reduce drinking/using behaviors, and complete the post-SCARP Qualtrics survey.

The following scales were used for the pilot study, and were assessed for reliability using Cronbach's alpha with measuring sufficient reliability $\alpha > .70$ (Warner, 2013). The Young Adult Alcohol Problem Screening Test (Hurlbult & Sher, 1992) is used to measure alcohol problems for college students, such as blackouts or hangovers and produced a Cronbach's alpha of .63. The Alcohol Use Disorder Identification Test (Babor, Higgins-Biddle, Saunders, Monteiro, and World Health Organization, 2001) is used to measure alcohol problems such as hazardous, dependence and harmful usage patterns. The Alcohol Use Disorder Identification Test produced an overall Cronbach's alpha of .70 while sub-scale reliabilities were Hazardous ($\alpha = .78$), Dependence ($\alpha = .11$), and Harmful ($\alpha = .64$). The Readiness to Change (Rollnick, Heather, Gold & Hall, 1992) scale had twelve items that produced a ($\alpha = .40$) and this scale

measures readiness to change for alcohol drinking behaviors. Pre-contemplation was ($\alpha = .63$), Contemplation was ($\alpha = .50$) and Action Stage of Change was ($\alpha = .80$). The Action subscale was the most reliable and reflected the participants in this study who expressed a desire to make changes. Importance to Change and confidence to change (Miller & Rollnick, 2002) measures the importance and confidence a participant has in changing their alcohol usage. These scales are assessed on Likert-type scale (1-10) and each had a single item question to assess importance and confidence. Relatedness scale (Ilardi, Leone, Kasser and Ryan (1993) which was an adapted scale for this pilot study and it was used to measure how one sees themselves getting along or connecting with others and this scale produced a ($\alpha = .68$).

In looking at pre-post results for this pilot study, the Alcohol Use Disorder Identifications Test and The Young Adult Alcohol Problem Screening Test were positively correlated at ($r = 0.72, p < .01$). Only one scale was needed to measure alcohol problems in the final study and since the Alcohol Use Disorder Identifications Test measures hazardous, dependence, and harmful alcohol problems, this scale will be used in the final dissertations study when looking at decreased alcohol usage and alcohol problems. Readiness to Change is a critical factor when looking at motivation for alcohol users and this scale did show a change pre ($M=3.02, SD=.330$) to post ($M=3.11, SD=.32; t(40)=-2.47, p=.018$), which was critical when looking at participants alcohol use changes and motivation in the final study. Importance to change was negatively correlated with Hazardous Alcohol Use ($r = -0.30, p < .01$) and Confidence to Change was negatively correlated with the Alcohol Use Disorder Identification Test ($r = -0.31, p < .05$) suggesting that importance to change and confidence to change play a factor for alcohol usage.

In summary, the pilot study was useful to assist me with identifying established scales that measure alcohol use problems, factors such as importance to change alcohol use or

confidence to change alcohol use. Readiness to Change for alcohol user is also another important area to look at, because if an alcohol user has no desire to change, it becomes much harder to help them identify a problem with alcohol use.

In the Pilot Study, I was able to identify what specific variables students struggled with when faced with multiple violations and if the intervention decreased alcohol use. I was able to find more reliable scales after the pilot study and also more defined research questions. The other factors added to the main study were self-esteem, guilt, shame, depression, anxiety, and resiliency, to examine how they influenced or predicted future alcohol use issues.

The Current Study

Participants

Participants included 86 college age students ranging from ages 18 to 23. All participants identified as freshman (59.3%), sophomores (20.9%), juniors (16.3%) and senior (3.5%) school classifications. This sample was collected from a midsized University in the Midwest. Fifty-five participants identified as male, thirty participants identified as female, and one participant chose not to answer. Only three participants chose to participate in this study when referred for marijuana violations; thus, I made the decision to use all alcohol referrals and extended data collection over the course of three semesters. This study and all procedures were approved by the Institutional Review Board and the approval number was IRB-201408-045.

Demographics

Seventy-seven participants identified as White, four as multi-racial, two as Hispanic/Latino, two as Asian American/Asian and one as African American/Black. Five participants identified as Hispanic or Latino or Spanish Origin and seventy-nine as None Hispanic or Latino or Spanish Origin. The Office of Student Rights and Responsibilities made

sixty-five referrals, the Housing Office made seventeen, and three other referrals where from outside offices of the University.

Table 1: *Demographics*

	N=86	%
<i>Gender</i>		
Female	30	34.9
Male	55	64.0
<i>School Year</i>		
Freshman	51	59.3
Sophomore	18	20.9
Junior	14	16.3
Senior	3	3.5
<i>Age</i>		
18	27	31.4
19	35	40.7
20	17	19.8
21	4	4.7
22	1	1.2
23	2	2.3
<i>Race</i>		
African American/Black	1	1.2
Asian American/Asian	2	2.3
White	77	89.5
Hispanic/Latino	2	2.3
Multi-racial	4	4.7
<i>Ethnicity</i>		
Hispanic or Latino or Spanish Origin	5	5.8
None Hispanic or Latino or Spanish Origin	79	91.9
<i>Referral</i>		
Office of Student Rights and Responsibilities	65	75.6
Housing	17	19.8
Other	3	3.5

Measures

Alcohol Use Disorder Identification Test. Students' harmful and hazardous alcohol use was assessed with the Alcohol Use Disorder Identification Test (Babor, Higgins-Biddle,

Saunders, Monteiro & World Health Organization, 2001). They found that higher scores on the AUDIT will indicate a greater likelihood of hazardous and harmful drinking. Each of the 10 items was measured on a 5-point Likert style scale of 0-4 with a max score of 40. Item 1-3 focus on alcohol consumption, item 4-6 focus on behavior/dependence, item 7-10 focus on alcohol problems questions. Example questions included, “How often do you have a drink containing alcohol” and “How often during the last year have you had a feeling of guilt or remorse after drinking?” Kokotailo et al. (2004) found supportive evidence that the AUDIT is better at identifying high-risk drinkers than persons who are alcohol dependent which fits the original intent of the AUDIT for this study.

Guilt and Shame Proneness Scale. Students’ guilt proneness and shame proneness was assessed using the Guilt and Shame Proneness Scale (Cohen, Wolf, Panter, and Insko, 2011). The scale is a scenario-based measure with four items in each scale designed to assess those that may be more susceptible to the unethical ability to make good decisions or delinquent behavior. Each item is measured on a 7-point Likert style scale (1=*Very unlikely*; 7=*Very likely*). Example questions include, “You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law or a friend tells you that you boast a great deal and what is the likelihood that you would stop spending time with that friend?”

Readiness to Change Questionnaire. Students’ motivation to change was assessed using the Readiness to Change Questionnaire which (Rollnick, Heather, Gold, and Hall, 1992). The scale used to determine if a student is in a pre-contemplation, contemplation and action stage of change for alcohol users. Each item is measured on a 5-point Likert style scale (1=*Strongly disagree*; 5=*Strongly agree*). Example questions include, “My drinking is ok the way it is” and “I should cut down on my drinking”.

Importance and Confidence Rulers. Students' importance and confidence to change was assessed using the importance and confidence rulers which was adapted from (Miller and Rollnick, 2002). The scale is used to measure perceived importance to change or confidence to change of students alcohol use (Miller and Rollnick, 2013). Each item is measured on a 10-point Likert style scale (1=*Not at all important*; 10=*Extremely important* and 1=*Not at all confident*; 10=*Extremely confident*). Example questions include, "How important is it for you to change your drinking" and how confident are you that you could make a change if you wanted to?"

University Motivation. Students' motivation to attend University was assessed using the Why Do You Do Your Work scale from (Tremblay, Blanchard, Taylor, Pelletier & Villeneuve, 2009) which was adapted to University Motivation. The scale is used to measure intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation and amotivation. Each item is measured on a 5-point Likert style scale (1=*Strongly disagree*; 5=*Strongly agree*). Example questions include, "Because I want to be very good as a University student, otherwise I would be very disappointed" and "Because this is the type of degree will allow me to attain a certain lifestyle".

Rosenberg Self-Esteem Scale. Students' self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale is used to measure self-esteem. Each item is measured on a 5-point Likert style scale (1=*Strongly disagree*; 5=*Strongly agree*). Example question, "At times I think I am no good or I feel that I'm a person of worth." The RSE demonstrates a Guttman scale coefficient of reproducibility of .92, indicating excellent internal consistency. Test-retest reliability over a period of 2 weeks reveals correlations of .85 and .88, indicating excellent stability (Rosenberg, 1979).

Patient Health Questionnaire (PHQ-4). Students' depression and anxiety was assessed using the Psychometric Properties of PHQ-4 Depression and Anxiety Screening Scale (Khubchandani, Brey, Kptecki, Kleinfelder & Anderson, 2016). The scale is used to measure depression and anxiety. Each item is measured on a on a 4-point Likert type scale; (0=*not at all*; 1=*several days*; 2=*half the days*; 3=*nearly every day*). Example question includes, "How often have you felt down, depressed or hopeless" and "How often have you been bothered by feelings of little pleasure in doing things". ($\alpha = .81$)

Connor-Davidson Resilience SCALE (CD-RISC). Students' Resilience was assessed using the Connor-Davidson Resilience SCALE (CD-RISC) (Connor & Davidson, 2003). The scale used to measure resilience. Each item is measured on a 5-point Likert type scale; (0= *not true at all*; 4= *True nearly all the time*), for example "Coping with stress strengthens or you can achieve your goals". ($\alpha = .89$)

Rationale for Data Analysis

Preliminary analyses included descriptive statistics, specifically item and scale means, standard deviation, minimum, maximum, skewness, kurtosis and Cronbach's alpha. Cronbach's alpha of .70 or greater was the minimum criteria to assess reliability and assure that instruments were measuring what they intended to measure (Warner, 2012). Also, bivariate correlations were used to examine relationships among study variables. Since it was not a longitudinal study to follow alcohol use, the alcohol survey was adapted to measure anticipation of future alcohol use for participants in this study.

Reliability

All scales were reviewed for reliability in Table 2. All scales except for the Alcohol Use Disorder Identification Test subscale dependence and Confidence to Change were at least ($r = .50$)

above on test-retest reliability. When dropping item 6 for pre-AUDIT dependence and item 103 for post-AUDIT dependence which measured how often a participant needed a drink in the morning to get going after a heavy drinking night the Cronbach α improved to .41 and .75. AUDIT Harmful 2, which measured alcohol related injury to self or others as well as if someone suggested the participant to cut down their alcohol use was dropped due to reliability scores. The AUDIT scale was broken into single item scores as well as grouped into sub categories to measure participant's individual alcohol use. A lot of the scales were not as consistent as expected as many scales fell below the accepted level of Cronbach's alpha of $<.70$. Intrinsic motivation, integrated motivation and identified motivation were combined to make autonomous motivation sub-scale. External regulation and introjected regulation were combined to make controlled motivation sub-scale. All other scales were used without removing any items.

Table 2: *Reliabilities in Main Study*

Measure	Pretest Cronbach α	Posttest Cronbach α	Test-Retest
<i>Alcohol Use Disorder Identification Test</i>			
Hazardous (3 item scale)	.64	.62	.70
- Audit1, 98 (how often someone drinks)	-	-	.50
- Audit2,99 (number of drinks consumed)	-	-	.69
- Audit3,100(drinking six or more at a time)	-	-	.77
Dependence (4,5,101,102,drop 6/103)	.41	.75	-.04
Harmful1 (7,8,104,105)	.69	.58	.51
Harmful2 Drop(9,10,106,107)	.73	-	.05
<i>Guilt and Shame Proneness Scale</i>			
- Guilt-Negative Behavior Evaluation	.69	.76	.76
- Guilt-Repair	.54	.61	.71
- Shame-Negative-Self Evaluation	.63	.73	.76
- Shame-withdraw	.48	.65	.53
<i>Readiness to change questionnaire</i>			
- Pre-Contemplation	.67	.68	.66
- Contemplation	.68	.76	.75
- Action	.86	.87	.76
<i>Importance to Change-Single items</i>	-	-	.75
<i>Confidence to Change-Single-items</i>	-	-	.46
<i>University Motivation</i>			
- Intrinsic Motivation	.79	.86	.78

- Integrated regulation	.67	.79	.77
- Identified regulation	.60	.58	.71
- Introjected regulation	.66	.67	.78
- External regulation	.40	.33	.65
- Amotivation	.71	.68	.63
- Autonomous Motivation (9 ITEMS)	.84	.85	.82
- Controlled Motivation (6 Items)	.38	.68	.78
<i>Esteem</i>	.88	.89	.87
<i>Depression</i>	.84	.92	.80
<i>Anxiety</i>	.85	.88	.80
<i>Resiliency</i>	.92	.93	.85

Note. Test-retest correlations are expected to be medium in size (+.50) to indicate consistency of responses (Warner, 2013).

SCARP Procedure

SCARP is an intervention-based program conducted over the course of three sessions (one prescreen individual session, one intervention/experiential class and one follow-up individual session). Prior to the first session, the participants were referred by the Office of Student Rights and Responsibilities/Housing departments, similar campus entities or other addiction professionals to enroll in a 4-8 hour substance use and abuse intervention program. At that time, each individual potential participant was given options (counseling center, local treatment providers, etc.) to complete their 4-8 hour intervention program. No one that presented for the SCARP intervention course elected to go elsewhere. Individuals with a higher socioeconomic status or transportation were thought to be a population that may choose to go off campus, yet this was not the case. If the participant elected to complete with the University Counseling Center, they were set up for a first initial screen session in SCARP. To ensure participants were not coerced into participation (given the nature of the referral to SCARP is generally required or recommended), it was made clear verbally and in a written form during the initial paperwork that their participation in the study did not help or hinder their completion of the requirements or their access to other services within the counseling center. If any

participants declined to participate in the research study, they still went through the intervention program, yet no survey data was collected from that individual.

Prior to sitting down with the SCARP counselor, participants' filled out their name, phone number, date of birth, and student ID. The participant was invited into a confidential office to fill out any necessary releases of information to best assist them. In the first session, confidentiality was fully explained for the program, as well as consent to participate in the research study. Participant either accepted or declined to participate in research at this time. Again, this did not affect their ability to complete a SCARP program. Next, they completed any necessary releases of information to best assist or advocate for them. The SCARP assessor then administered the link to an online survey of quantitative measures. The participants who consented to participate in the research study were given a de-identified number (e.g., 1,2,3), and those who elect to not participate were given de-identified number, but it appeared as (555) to screen out anyone who choose to not participate.

The Qualtrics survey included the Introduction, Demographics, De-identified ID (1,2,3) and Likert-type measured scales for alcohol use, readiness to change, guilt, shame, importance/confidence to change, university motivation, self-esteem, depression, anxiety, and resiliency. If it was marijuana that brought a participant into the program, that participant filled out a separate survey, yet no data was used because of limited referrals for marijuana. Once all data was completed, the researcher aligned each de-identifying number pre-post in SPSS.

After completing the online Qualtrics survey, the SCARP assessor conducted a brief assessment that included information about: prior substance use and abuse education, past alcohol or drug treatment, referral agency, description of incident that led to the referral, enjoyment of drinking or using, displeasure of drinking or using, brief substance usage history

(all chemicals) and any consequences, family history, and or family concern, description of what would have to happen to change usage, and if they have or have ever experienced suicidal or homicidal ideations. This data was not used for this dissertation study, yet it assisted the counselor in assuring that the participant met inclusion criteria for the intervention and this concluded session one. If the participant was deemed appropriate and met inclusion criteria, and did not meet any exclusion criteria, they were signed up for the intervention class and follow-up session. The follow-up session was completed by the assessor who completed the initial session to ensure consistent care for the participant.

Session II consisted of a ninety minute class presentation that was specific to substance use and abuse (development and factors) specifically amongst 18-24 year olds. This class was set up as experiential and open for feedback discussion during the ninety minutes. Based on feedback from students in previous year classes, the classes were offered more often, with an average of 3-5 participants in attendance.

Session III allowed individual participants to debrief, engage interpersonally about their experience, process content and review their plan to reduce risky drinking/using behaviors moving forward. The participants ended SCARP by taking the post Qualtrics survey, which consisted of identical questions from the pre Qualtrics survey with the exception of one scale. The post AUDIT scale was adapted to measure “anticipation” of future alcohol use and the reason for adapting this scale, as the scale does not measure long-term alcohol use.

Following the completion of SCARP requirements, the SCARP assessor notified the referring agency of completion of program and all other information is held in a confidential secure system. The participant was able to set up more time after the completion of the program to discuss, in more detail, the issues related to their using or other personal struggles

if they chose. Time limits included one hour for the first session, ninety minutes for the class intervention, and one hour for the follow-up session. Regardless if they chose to participate in this study, the confidential records and files/records are stored for seven years, per the North Dakota mental health/alcohol and drug licensing requirements. Following seven years, all records are destroyed to be in compliance with retention policy and requirements.

The inclusion criteria were that participants needed to meet at least one of the following criteria:

- 1) Participant had already completed a substance prevention education program.
- 2) Participant had been deemed to have gone through a high-risk situation (e.g. alcohol overdose or hospitalization due to substances).
- 3) Participant was involved in drug related consequences (e.g. marijuana charges).
- 4) Participant had completed an alcohol and drug assessment and were recommended to complete an intervention program.

The exclusion criteria were as follows:

- 1) If participant at any time appeared intoxicated.
- 2) If participant appeared under the influence of any substances.
- 3) If participant appeared aggressive or hostile.

If any of the three above criteria come to the SCARP assessor's attention, the participant was not to be invited to participate in the SCARP intervention program, and that participant was to be offered an opportunity to meet with a trained clinician for an individual session or be provided a list of referrals of local community agencies. No participants were excluded in this study because none of them exhibited any exclusion criteria.

Research Questions

1. Does SCARP (pre-post) assist students after a substance abuse violation to decrease substance use and to increase resiliency, readiness to change and confidence/importance?

Analysis: Paired-samples t-test

2. Does gender moderate the efficacy of SCARP (pre-post) for students after a substance abuse violation to decrease substance use and to increase resiliency, readiness to change and confidence/importance?

Analysis: Paired-samples t-test- Mixed 2 (between groups: gender male female X 2 (within groups: pre/post SCARP) ANOVA

Paired sample *t*-tests will be used to analyze if the SCARP program showed that from pre to post-test, students decrease substance use and increase resiliency, readiness to change and importance to change and confidence to change? Further analysis will test if gender differences relate to decrease substance use and if gender differences predict increased resiliency, readiness to change and importance to change and confidence to change?

3. What variables (self-esteem, guilt, shame, depression, anxiety) predict the impact of SCARP (post) to assist students after a substance abuse violation (decrease) substance use; (increase) resiliency, readiness to change and confidence)?

Analysis: Regression

4. If a lack of academic motivation (post) predicts a student's alcohol use, decrease resiliency, readiness to change and confidence?

Analysis: Regression

A regression model was analyzed to see what variables (alcohol use, resiliency, readiness to change and confidence to change) predict the impact of university motivation. This analysis was critical for practical implications, as it highlighted the complexity of treating a college-aged sample after an alcohol use violation or incident has occurred.

In summary, the SCARP intervention participant total reached an adequate level of participants for quantitative data analysis, male participants outnumbered female participants, yet the ration was still in adequate range to be studied for gender difference (Keselman et al., 1998). Established scales were used to conduct the research and their reliability was suitable. The next chapter will review the results of the SCARP interventions program, along with tables describing significance found for the research questions and hypothesis.

CHAPTER IV

Results

The topic studied was alcohol use and abuse on college campuses. The research problem is that college students who incur multiple violations for substance use or that are deemed high-risk alcohol users on college campuses face complex issues, such as mental health, motivation, confidence, and self-worth. The study purpose is to examine a college-based intervention program and explore its impacts on student variables (university motivation, readiness to change, importance and confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) that are hypothesized to decrease substance use.

The following results chapter contains the research analysis, descriptive statistics, correlations, research questions, and summary of results.

Research Analysis

I started with paired sample *t*-tests, and this analysis was used to examine if a difference had existed from a score at time two, compared to time one (Warner, p. 966). The first question was to align with other interventions to explain if the paired sample *t*-test showed significance across treatment participants. This *t*-test was useful in carrying out further analysis and answering deeper questions about participant emotions and substance use.

A paired sample *t*-test-mixed ANOVA (2x2) was used to review the gender difference pre-post for substance use and emotion scales. This particular analysis aimed to further the research on whether gender differences are significant when delivering alcohol use interventions on college campuses.

Regression analysis was used to understand how to mediate the impact of decreased substance use and increased readiness to change, importance/confidence to change and resiliency. This analysis was completed because it measured a determined gap in literature for substance use interventions and emotions.

Preliminary Analyses

Descriptive Statistics

In review of the data in Table 3, descriptive statistics on each item was reviewed, specifically, the mean, standard deviation, skewness, and kurtosis. The researcher used criteria for skewness and kurtosis to be of -1 and +1 (Byrne, 2016) and when skewness went beyond 2.3 and kurtosis 7 (Byrne, 2016) it raised concern. Several problematic items were identified, such as the Alcohol Use Disorder Identification Test scale, thus was able to drop items pre-Audit 6 which measured if the participant needed to drink in the morning and post-Audit 103 which measured anticipating needing a drink in the morning. The decision was made to drop off items with little to no variance and those items were pre-Audit 9 which measured if someone had been injured due to the participants drinking and pre-AUDIT 10 which measured if someone else has suggested the participant cut down on drinking. Also dropped was post-AUDIT 106 which measured the anticipation of someone else being injured to the participants drinking and post-AUDIT 107 which measured the anticipation of someone suggesting the participant cut down drinking. It made sense that this scale had little variance as individuals in this age range typically would not think in anticipating that someone would be injured due to their drinking or someone advising them to cut down on their drinking. Test-retest indicated there were certainly several scales with acceptable reliabilities as well as several scales that were problematic.

Table 3. Average of Scales

Measures	N	# Items	Mean	SD	Min	Max	Skewness	Kurtosis	Pre α	Post α	Test-retest
Pre-Haz	86	3	2.63	1.15	1	6	1.41	1.27	.64	-	.70
Pre-Haz1	86	1	3.41	2.31	1	9(er)	1.92	2.10	-	-	.50
Pre-Haz-2	86	1	2.30	.869	1	5	.58	.30	-	-	.69
Pre-Haz-3	86	1	2.17	.857	1	4	.45	-.27	-	-	.77
Pre-Dep(drop)6	84	2	1.96	1.05	1	5	.82	-.52	.41	-	-.04
Pre-Har-1	86	2	1.63	.543	1	3	.59	-.05	.69	-	.51
Pre-Har-2(Drop-all)	-	-	-	-	-	-	-	-	-	-	-
Pre-GASP-NBE	86	4	5.47	1.09	2	7	-.90	.92	.69	-	.76
Pre-GASP-GREP	85	4	5.69	.811	3	7	-1.11	1.63	.54	-	.71
Pre-GASP-SNSE	86	4	5.37	.982	2	7	-.75	.68	.63	-	.76
Pre-GASP-SW	86	4	2.56	.795	1	6	.63	1.12	.48	-	.53
Pre-RTCQ-PC	85	4	3.16	.730	1	5	-.22	.04	.67	-	.66
Pre-RTCQ-CO	84	4	2.72	.722	1	4	-.19	-.76	.68	-	.75
Pre-RTCQ-ACT	85	4	3.52	.949	1	5	-.36	-.64	.86	-	.76
Pre-IMPORT	86	1	5.23	2.63	1	10	.05	-1.03	-	-	.75
Pre-CONFID	86	1	8.97	1.52	1	10	-2.37	8.27	-	-	.46
Pre-UMOT-INTRI	86	3	3.97	.611	2	5	-.46	.41	.79	-	.78
Pre-UMOT-INTE	85	3	3.98	.597	2	5	-.31	.30	.67	-	.77
Pre-UMOT-INDEN	85	3	4.22	.529	3	5	-.36	-.05	.60	-	.71
Pre-UMOT-INTRO	85	3	3.88	.740	2	5	-.75	.80	.66	-	.78
Pre-UMOT-EXTER	86	3	4.00	.549	3	5	-.11	-.09	.40	-	.65
Pre-UMOT-AMOT	86	3	2.09	.677	1	4	-.28	-.22	.71	-	.63
Pre-AUTONAMOUS	84	9	4.05	.506	3	5	-.23	.40	.84	-	.82
Pre-CONTROLLED	85	6	3.94	.533	3	5	-.24	.21	.38	-	.78
Pre-Esteem	83	10	3.73	.466	3	5	-.11	-.23	.88	-	.87
Pre-Depression	84	2	1.96	1.05	1	5	.82	-.52	.84	-	.80
Pre-Anxiety	85	2	2.40	1.15	1	5	.44	-.89	.85	-	.80
Pre-Resiliency	83	25	3.98	.465	3	5	-.11	.99	.92	-	.85
Post-Haz	85	3	2.35	1.04	1	6	1.49	2.47	-	.62	.70
Post-Haz-1	85	1	3.06	2.06	1	10	2.38	4.82	-	-	.50
Post-Haz-2	85	1	2.04	.892	1	5	.85	1.23	-	-	.69
Post-Haz-3	85	1	1.95	.830	1	4	.47	-.48	-	-	.77
Post-Dep(Drop)103	85	2	1.19	.436	1	4	3.80	20.09	-	.75	-.04
Post-Har-1	85	2	1.44	.522	1	3	.97	.23	-	.58	.51
Post-Har-2(Drop-all)	-	-	-	-	-	-	-	-	-	-	-
Post-GASP-NBE	85	4	5.46	1.06	3	7	-.62	-.22	-	.76	.76
Post-GASP-GREP	84	4	5.51	.878	3	7	-.62	-.02	-	.61	.71
Post-GASP-SNSE	83	4	5.12	1.12	3	7	-.47	-.51	-	.73	.76
Post-GASP-SW	85	4	2.67	.863	1	6	.55	.35	-	.65	.53
Post-RTCQ-PC	84	4	3.35	.714	2	5	-.09	-.26	-	.68	.66
Post-RTCQ-CO	85	4	2.63	.783	1	5	-.00	-.36	-	.76	.75
Post-RTCQ-ACT	85	4	3.58	.898	1	5	-.57	-.45	-	.87	.76
Post-IMPORT	85	1	5.42	2.67	1	10	-.04	-1.35	-	-	.75
Post--CONFID	85	1	9.14	1.17	5	10	-1.01	1.30	-	-	.46
Post-UMOT-INTRI	85	3	3.99	.615	2	5	-.97	2.17	-	.86	.78
Post-UMOT-INTE	84	3	3.97	.632	2	5	-.71	1.62	-	.79	.77
Post-UMOT-INDEN	85	3	4.24	.467	3	5	-.14	.37	-	.58	.71
Post-UMOT-INTRO	85	3	3.85	.760	1	5	-.85	1.40	-	.67	.78
Post-UMOT-EXTER	85	3	4.02	.490	2	5	-.47	1.04	-	.33	.65
Post-UMOT-AMOT	85	3	2.18	.693	1	4	.25	.48	-	.68	.63
Post-AUTONAMOUS	84	9	4.07	.473	3	5	-.12	.76	-	.85	.82
Post-CONTROLLED	85	6	3.94	.543	2	5	-.56	.71	-	.68	.78
Post-Esteem	81	10	3.67	.478	3	5	.23	-.75	-	.89	.87
Post-Depression	84	2	2.11	1.03	1	5	.59	-.75	-	.92	.80
Post-Anxiety	84	2	2.40	1.15	1	5	.50	-.77	-	.88	.80
Post-Resiliency	82	25	4.02	.48	2	5	-.92	3.50	-	.93	.85

Table key: Haz, Dep, Har=alcohol variables; GASP=guilt and shame variables; RTCQ=readiness of change variables; IMPORT=importance to change variables; CONFID=confidence to change variables; UMOT=university motivation variables.

Correlations

The *pre-intervention correlations* (see Table 4), revealed many statistically significant relationships at $p < .05$, thus it was most logical to focus on correlations at the $p < .01$ level.

When looking at the pre-intervention correlations the following stood out. Participants who were higher in autonomy for university motivation also were higher in feeling bad if they acted inconsiderate, and higher in taking action on correcting the behavior they felt guilty about. Participants who scored higher in amotivation for university motivation also were higher in their alcohol use which makes sense as they would be consuming more alcohol if not interested in their pursuits. When looking at anxiety and depression, participants who scored higher on anxiety also were higher in depression scores. When looking at self-worth and resiliency, participants who scored lower on self-esteem also were higher in shame as they felt more like a bad person, and participants who scored lower on resiliency tended also were higher in amotivation for university motivation.

The *post-intervention correlations* (see Table 5), followed the same trend as above, thus the same process was followed. When looking at the post-intervention correlations the following stood out. Participants who were higher in autonomy for university motivation also were higher in feeling bad if they acted inconsiderate, and higher in taking action on correcting the behavior they felt guilty about. Participants who scored low on resiliency also were higher in amotivation for university motivation. Participants who were higher on anxiety still stayed higher in depression but participants who scored lower on anxiety tended also were higher in self-esteem. Participants who scored higher in resiliency tended to also score higher with wanting to take action and readiness to change their alcohol use. Also, participants who scored high in resiliency also were higher in autonomy for university motivation.

Table 4. *Pre-Intervention Correlations*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1.Audit1	-																								
2.Audit2	.37*	-																							
3.Audit3	.65*	.70*	-																						
4.Haz	.92*	.67*	.86*	-																					
5.Dep	.18	-.02	.12	.14	-																				
6.Harm	.31*	.31*	.30*	.35*	.27*	-																			
7.GaspNBE	-.21	-.22	-.36	-.29*	-.17	-.04	-																		
8.GaspGREP	-.19	-.15	-.31*	-.24	.07	.11	.54*	-																	
9.GaspSNE	-.09	-.26*	-.24	-.18	.21	.10	.47*	.49*	-																
10.GaspSW	-.06	-.17	-.07	-.10	.30*	.04	.02	.08	.17	-															
11.RTC-PC	-.11	-.03	-.10	-.11	-.14	-.13	-.05	-.05	-.03	-.10	-														
12.RTC-CO	.26	.19	.23	.28*	.18	.46*	.03	.07	.06	.01	-.58*	-													
13.RTCQ-ACT	-.09	-.05	-.23	-.13	-.01	.22	.16	.24	.07	-.07	-.46*	.54*	-												
14.Umot-Intr	-.20	-.19	-.28*	-.25*	-.05	-.01	.36*	.28*	.32*	.02	-.12	.11	.02	-											
15.UmotInte	.06	-.23	-.17	-.09	-.09	-.02	.31*	.14	.30*	.04	-.02	-.03	.04	.57*	-										
16.Umot-Iden	-.10	-.17	-.25	-.17	-.24	.03	.38*	.35*	.31*	.00	-.05	.08	.19	.57*	.53*	-									
17.Umot-Intro	-.04	.04	-.00	-.01	.04	.19	.18	.04	.16	.00	-.04	.09	.18	.31*	.32*	.34*	-								
18.Umot-Exter	-.18	.00	-.08	.14	-.12	.05	.22	.23	.24	-.14	.13	.08	.05	.44*	.43*	.46*	.34*	-							
19.Umot-Amot	.31*	.12	.23	.30*	.27	.09	-.16	-.04	-.01	.10	.03	.09	-.04	-.29*	-.34*	-.14	-.08	-.29*	-						
20.Umot-Auto	-.12	-.24	-.28*	-.21*	-.14	-.00	.41*	.30*	.37*	.02	-.08	.06	.09	.87*	.83*	.81*	.38*	.53*	-.31*	-					
21.Umot-Contr	-.13	.03	-.04	-.09	-.03	.6	.24	.14	.23	-.07	.04	.11	.15	.44*	.44*	.47*	.87*	.76*	-.21	.54*	-				
22.Esteem	-.02	.08	-.04	-.00	.66*	-.19	.18	-.09	-.24*	-.35*	.09	-.12	.00	.08	.24	.16	-.11	.09	-.37*	.18	-.02	-			
23.Depression	.18	-.02	.12	.14	1.0*	.27	-.17	.07	.21	.30	-.14	.18	-.01	-.05	-.09	-.24*	.04	-.12	.27	-.14	-.03	-.66*	-		
24.Anxiety	.15	-.02	.15	.13	.68*	.19	-.37*	-.09	.05	.22	-.05	.12	.00	-.12	-.13	-.14	.11	-.06	.20	-.15	.04	-.62*	.68*	-	
25.Resiliency	-.03	.06	-.16	-.04	-.46*	.09	.52*	.25	.17	-.30*	.07	.08	.17	.40*	.44*	.35*	.10	.26	-.37*	.48*	.21	.70	-.46*	-.59*	

* $p < .01$

Table key: Audit 1, Audit 2, Audit 3, Haz, Dep, Harm=alcohol variables; GASP=guilt and shame variables; RTCQ=readiness of change variables; UMOT=university motivation variables.

Table 5. *Post-Intervention Correlations*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1.Audit98	-																								
2.Audit99	.42*	-																							
3.Audit100	.45*	.62*	-																						
4.Haz	.90*	.73*	.74*	-																					
5.Dep	.21	.25	.30*	.29*	-																				
6.Harm	.30*	.43*	.52*	.46*	.45*	-																			
7.GaspNBE	-.26	-.24	-.33*	-.33*	-.15	-.14	-																		
8.GaspGREP	-.22	-.25	-.21	-.27	-.13	-.12	.65*	-																	
9.GaspNSE	-.06	-.01	-.11	-.07	-.10	.08	.60*	.50*	-																
10.GaspSW	.00	.01	-.00	.88	.07	.07	.10	.13	.20	-															
11.RTC-PC	.05	-.04	-.09	-.00	-.02	-.21	.00	-.10	-.08	-.04	-														
12.RTC-CO	.17	.20	.38*	.27	.03	.37*	-.05	-.03	.01	.00	-.66*	-													
13.RTCQ-ACT	-.22	-.21	-.19	-.26	-.08	-.08	.28*	.31*	.10	-.02	-.43*	.42*	-												
14.Umot-Intr	-.14	-.14	-.20	-.19	-.05	-.02	.40*	.35*	.22	.10	-.07	.05	.20	-											
15.UmotInte	-.01	-.09	-.15	-.08	.01	.00	.22	.17	.17	.06	.10	-.09	.09	.59*	-										
16.Umot-Iden	-.17	-.17	-.19	-.21	-.10	-.11	.24	.26*	.17*	-.01	-.02	-.12	.29*	.50*	.42*	-									
17.Umot-Intro	.06	.13	.08	.10	.06	.29*	.20	.13	.25	-.08	-.10	.18	.13	.34*	.35*	.27	-								
18.Umot-Exter	.21	.08	.06	-.10	-.01	.05	.22	.20	.24	.05	-.07	.03	.14	.44*	.46*	.45*	.48*	-							
19.Umot-Amot	.17	.06	.18	.17	.16	.21	-.14	-.07	.08	.10	-.30*	.28*	-.06	-.27*	-.23	-.29*	.04	-.20	-						
20.Umot-Auto	-.13	-.16	-.22	-.19	-.05	-.04	.35*	.32*	.23	.07	.00	-.06	.23	.86*	.84*	.74*	.39*	.55*	-.32*	-					
21.Umot-Contr	-.05	.12	.08	.02	.03	.22	.24	.18	.29*	-.03	-.10	.14	.16	.44*	.45*	.39*	.91*	.79*	-.06	.52*	-				
22.Esteem	-.02	-.10	-.17	-.09	-.10	-.22	.18	.05	-.23	-.16	.22	-.23	.23	.24	.21	.28	-.07	.10	-.42*	.29*	-.00	-			
23.Dpression	.05	.00	.19	.09	.12	.31*	-.29*	-.08	.11	.12	-.17	.20	-.13	-.24*	-.09	-.17	.06	-.09	.39*	-.21	.00	-.61	-		
24.Anxiety	.13	-.15	.12	.07	.16	.22	-.28*	-.20	-.05	-.00	-.01	.07	-.19	-.23	-.06	-.10	.07	-.17	.35*	-.16	-.03	-.60*	.66*	-	
25.Resiliency	-.04	-.04	-.13	-.07	-.09	-.14	.37*	.29*	.05	-.18	.14	-.08	.29*	.55*	.19	.44*	.12	.24	-.33	.47	.19	.65	-.57*	-.56*	

* $p < .01$

Table key: Audit 98, Audit, 99, Audit 100, Haz, Dep, Harm=alcohol variables; GASP=guilt and shame variables; RTCQ=readiness of change variables; UMOT=university motivation variables.

Research Question 1

Does SCARP (pre-post) assist students after an alcohol violation to decrease alcohol use and to increase resiliency, readiness to change and confidence/importance?

Analysis: Paired-samples *t*-test

Hypothesis: Participants after SCARP will decrease alcohol use and increase resiliency, readiness to change and confidence to change/importance.

To test the hypothesis that students in the study sample decreased their substance use after SCARP, pre-post paired samples *t*-tests were conducted (see Table 6). The results indicated significance in multiple AUDIT sub-scales scores from pre-post intervention. Compared to the pre-SCARP responses, post-SCARP responses reported a decreased for the amount of drinks they anticipate consuming on a typical day of drinking, and a decrease in how often they anticipate drinking six or more drinks per occasion. Comparing the pre-SCARP hazardous responses, post-SCARP hazardous responses reported a decrease how often they anticipate drinking alcohol, decrease for how many drinks they anticipate consuming on a typical day of drinking and a decrease in how often they anticipate drinking 6 or more drinks per occasion. Compared to the pre-SCARP dependence responses, post SCARP responses reported a decrease in how often they anticipated not being able to stop drinking when they start and how often they anticipate failing to do what is expected of them. The final alcohol sub-scale was conducted comparing pre-SCARP harmful responses, post-SCARP harmful responses reported a decrease in how often they anticipate feeling guilty after drinking and decrease in how often they anticipate not remembering what happened due to drinking. These results suggest that the SCARP pre-post intervention did decrease the anticipation of alcohol use and alcohol use related

problems moving forward. The null hypothesis was rejected in favor of the alternative that SCARP pre-post intervention decreased alcohol use.

Further analysis of the paired sample *t*-test (see Table 6) did not show change in Guilt and Shame Proneness scale and Readiness to Change Questionnaire. Compared to the pre-SCARP pre contemplation to change alcohol use, post-SCARP responses reported an increase in their readiness to change their alcohol use. Compared to the pre-SCARP guilt repair, post-SCARP responses decreased the actions focused on correcting behavior and compared to pre-SCARP shame responses, post-SCARP responses decreased the feeling of bad about one-self or that they were a bad person. These results suggest that the SCARP pre-post intervention did increase participant's readiness to change and decreased shame for participants.

Table 6. *Paired Sample t-test*

	Pre- <i>M</i> (<i>SD</i>)	Post- <i>M</i> (<i>SD</i>)	<i>t</i> (df)	<i>p</i>
Audit1(98)	3.42(2.32)	3.06(2.06)	1.53(84)	.128
Audit2(99)	2.32(.862)	2.04(.892)	3.81(84)	.000***
Audit3(100)	2.19(.852)	1.95(.830)	3.80(84)	.000***
Hazardous	2.64(1.15)	2.35(1.04)	3.20(84)	.002***
Dependence	1.98(1.05)	1.19(.441)	6.11(82)	.000***
Harmful 1	1.63(.546)	1.44(.522)	3.38(84)	.001***
GASP-NBE	5.46(1.09)	5.46(1.06)	.036(84)	.971
GASP-GREP	5.68(.815)	5.50(.097)	2.47(82)	.015**
GASP-SNSE	5.36(.997)	5.12(.123)	2.93(82)	.004*
GASP-SW	2.54(.793)	2.67(.094)	-1.48(84)	.141
RTCQ-PC	3.18(.732)	3.35(.718)	-2.64(82)	.010**
RTCQ-CO	2.72(.726)	(2.63(.791)	1.57(82)	.118
RTCQ-ACT	3.51(.951)	3.57(.898)	-.768(83)	.444
IMPORT	5.20(2.63)	5.42(.291)	-1.11(84)	.270
CONFID	8.95(1.52)	9.14(.128)	-1.20(84)	.230
UMOT-INTRI	3.97(.072)	3.99(.067)	-.516(84)	.607
UMOT-INTE	3.98(.066)	3.98(.070)	.177(82)	.860
UMOT-IDEN	4.21(.058)	4.23(.050)	-.477(83)	.635
UMOT-INTRO	3.88(.081)	3.85(.083)	.735(83)	.464
UMOT-EXTER	4.01(.059)	4.02(.053)	-.334(84)	.739
UMOT-AMOT	2.08(.074)	2.18(.075)	-1.47(84)	.145
UMOT-Autonomous	4.06(.056)	4.06(.053)	-.248(81)	.805
UMOT-Controlled	3.95(.058)	3.93(.060)	.311(83)	.757
Esteem	3.73(.053)	3.68(.055)	1.50(77)	.138

Depression	1.99(.117)	2.11(.115)	-1.69(81)	.093
Anxiety	2.43(1.26)	2.41(1.27)	.302(82)	.764
Resiliency	3.98(.053)	4.02(.055)	-1.47(78)	.144

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

Table key: Audit 1(98), Audit 2(99), Audit 3(100), Hazardous, Dependence, Harmful 1=alcohol variables; GASP=guilt and shame variables; RTCQ=readiness of change variables; IMPORT=importance to change variables; CONFID=confidence to change variables; UMOT=university motivation variables.

Next, a post hoc supplemental analysis was conducted using change scores that were created for all scales that indicated significance and correlations were examined. Significant correlations for post scores are shown in Table 7 and only significant correlations were noted in the table. Most notable was looking at the significant correlations for the dependence change score, specifically, as dependent scores for alcohol use decreased, post-SCARP responses decreased depression, post feeling of bad about oneself, and anxiety but increased resiliency. This data suggests decreasing dependent scores positively correlated with an increase of resiliency and negatively correlated with a decrease in depression, anxiety and shame. Further correlations suggest that the less amount participants anticipated to drink per occasion pre-post change scores resulted in an increase university motivation in introjected regulation motivation. Therefore, as alcohol use went down, participants were more motivated to feel obligated to achieve a university degree.

Results in change score correlations indicated that participants anticipated drinking less, thus resulting in increased resiliency, but no change in the correlation was found in readiness to change or confidence to change.

Table 7. *Change Correlation*

	Post-UMOT-INTRO	Post-Depression	Post-Harmful 1	Post-RTCQ-Action	Post-GASP-SNSE	Post-Anxiety	Post-Resiliency	Post-Hazardous	Post-Gasp-NBE	Post-UMOT-AMOT
Audit2 Chg	.24*									
Audit 3 Chg		.22*	.30**							
Hazardous Chg				-.32**						
Dependence Chg		-.68**			-.25*	-.43**	.35**			
Harmful 1 Chg				-.25*				.22*		
GASP GREP chg						-.22*				

* $p < .05$, ** $p < .0$

Research Question 2

Does gender moderate the efficacy of SCARP (pre-post) for students after an alcohol violation to decrease alcohol use and to increase resiliency, readiness to change, and confidence/importance?

Analysis: Mixed 2 (between groups: gender male/female) x 2 (within groups: SCARP pre/post) ANOVA

Hypotheses: SCARP Intervention will show how a difference exists in how males and females report overall emotions scales after an alcohol violation.

Mixed (2x2) ANOVAs were conducted to review if gender (males vs. females) and/or changes in responses from SCARP pre-post produced significant differences in alcohol use and emotion. Main effects and interactions were examined at the $p < .05$ significance level.

The sample results from Table 8 indicate a significant main effect for gender for AUDIT 1 suggesting females drank alcohol less often when drinking and anticipated drinking less often than males. Table 9 indicated a significant main effect for gender for AUDIT 2 suggesting females drank less alcohol when drinking and anticipated drinking less alcohol than males when drinking. Table 10 indicated a significant main effect for gender (between-subjects) and gender (within-subjects). The significant main effect for gender (between-subjects) and (within-subjects) for pre-post showed the AUDIT 3 suggesting females drank 6 or less drinks more often and anticipated drinking 6 or less drinks more often than males. In the final step of the mixed ANOVA, there was no significant interaction for gender pre-post.

Table 11 indicated a significant main effect for gender for pre-post Hazardous use suggesting females drank in less hazardous ways and anticipated drinking in less hazardous ways than males. Table 12 indicated a significant main effect for gender (between-subjects) and for gender (within-subject) pre-post GASP-GREP suggesting females focused more on correcting or compensating actions and trying to act more considerable towards others. Follow-up tests of the interaction indicated that there was not a significant interaction for (gender pre-post) as both genders indicated significance. The conclusion of this did show that significance for both indicating females change from pre to post was more than males.

Table 13 indicated a significant main effect for gender for GASP-SNSE pre-post suggesting females tended to feel worse about one-self than males. Table 14 indicated a significant main effect for gender for Self-Esteem pre-post suggesting females tended to have lower self-esteem than males. When reviewing Tables 8, 9, 11, 13, and 14 for pre-post (within-subject) significance or significant interaction for (gender change pre-post) no further significance was found.

Table 8. *Audit 1 (measures how often someone drinks and those who drink more score higher)* by Gender

	Female	Male
Pre-M(SD)	2.62(1.32)	3.75(2.54)
Post M-(SD)	2.48(1.40)	3.24(2.11)

	SS	df	MS	F	P	N ²
Between Groups	112.77	2	56.38	9.28	.000***	.18
Within Groups	497.83	82	6.07			
Within Subjects	.059	1	.059	.024	.876	.000
Within Subjects*Gender	2.25	2	1.125	.465	.630	.011

* p < .05, ** p < .01, ***p<.001

Table 9. *Audit 2 (number of drinks consumed and those who drink more score higher)* by Gender

	Female	Male
Pre-M(SD)	1.69(.60)	2.62(.80)
Post M-(SD)	1.59 (.56)	2.25(.94)

	SS	df	MS	F	P	N ²
Between Groups	26.13	2	13.06	12.8	.000***	.23
Within Groups	83.56	82	1.01			
Within Subjects	.112	1	.112	.487	.487	.006
Within Subject*Gender	.776	2	.388	1.68	.191	.040

* p < .05, ** p < .01, ***p<.001

Table 10. *Audit 3*(drinking six or more at a time and those who drink more score higher) by Gender

	Female	Male
Pre-M(SD)	1.69(.60)	2.42(.83)
Post M-(SD)	1.55(.63)	2.15(.84)

	SS	df	MS	F	P	N ²
Between Groups	20.73	2	10.36	10.07	.000***	.19
Within Groups	84.14	82	1.02			
Within Subjects	.945	1	.945	5.88	.017**	.067
Within Subject*Gender	.468	2	.234	1.45	.239	.034

* p < .05, ** p < .01, ***p<.001

Table 11. *Hazardous Alcohol* by Gender

	Female	Male
Pre-M(SD)	2.00(.63)	2.93(1.19)
Post M-(SD)	1.87(.60)	2.55(1.08)

	SS	df	MS	F	P	N ²
Between Groups	40.75	2	20.37	12.62	.000***	.23
Within Groups	132.34	82	1.61			
Within Subjects	.126	1	.126	.350	.556	.004
Within Subject*Gender	.693	2	.346	.964	.386	.023

* p < .05, ** p < .01, ***p<.001

Table 12. *GASP-GREP* by Gender

	Female	Male
Pre-M(SD)	5.89(.73)	5.63(.75)
Post M-(SD)	5.61(.99)	5.46(.83)

	SS	df	MS	F	P	N ²
Between Groups	8.37	2	4.18	3.59	.03*	.08
Within Groups	93.08	80	1.16			
Within Subjects	1.15	1	1.15	6.39	.01**	.074
Within Subject*Gender	2.51	2	1.25	6.97	.002**	.148

* p < .05, ** p < .01, ***p<.001

Table key: GASP-GREP=guilt repair variables

Table 13. *GASP-SNSE* by Gender

	Female	Male
Pre-M(SD)	5.81(.80)	5.11(1.01)
Post M-(SD)	5.51(.92)	4.89(1.17)

	SS	df	MS	F	P	N ²
Between Groups	17.46	2	8.73	4.80	.01**	.10
Within Groups	145.55	80	1.81			
Within Subjects	.000	1	.000	.001	.980	.000
Within Subject*Gender	.343	2	.171	.171	.625	.015

* p < .05, ** p < .01, ***p<.001

Table key: GASP-SNSE=shame negative self-evaluation variables

Table 14. *Self-Esteem* by Gender

	Female	Male
Pre-M(SD)	3.54(.45)	3.82(.44)
Post M-(SD)	3.51(.46)	3.77(.46)

	SS	df	MS	F	P	N ²
Between Groups	3.60	2	1.80	4.62	.01**	.11
Within Groups	29.27	75	.390			
Within Subjects	.003	1	.003	.092	.763	.001
Within Subject*Gender	.007	2	.003	.115	.891	.00

* p < .05, ** p < .01, ***p<.0

Research Question 3

What variables (self-esteem, guilt, shame, depression, anxiety) predict the impact of SCARP (post) to assist students after a substance abuse violation (decrease) substance use; (increase) resiliency, readiness to change and confidence?

Analysis: Multiple regression

Hypothesis: After completing the SCARP program participants who have a decrease in alcohol use, will have less guilt and shame, less depression and anxiety, increased self-esteem, motivation to change and confidence to change.

A multiple regression was analyzed of the sample that included the variables alcohol dependence, alcohol hazardous, resiliency, readiness to change pre-contemplation, and confidence, predicting the outcome variables self-esteem, guilt negative behavior evaluation, guilt repair, shame negative self-evaluation, shame withdraw, depression, and anxiety. As shown in Table 15, alcohol dependence predicted depression, meaning the more a participant indicated alcohol dependence score the more depression they experienced. Resiliency predicted guilt negative behavior evaluation, meaning the more resilient a participant was, the more they would focus on correcting their behavior and take action to change of that behavior.

Table 15. Predicting Alcohol dependence, alcohol harmful, resiliency, readiness and confidence to change

Predictors	Alc Dependence			Alc Hazardous			Resiliency			Readiness to Change PC			Confidence		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Self-Esteem	-.69	.53	.14	-.28	.39	-.08	.03	.12	.03	.39	.26	.17	.34	.46	.08
Guilt NBE	-.24	.17	.15	-.08	.12	-.07	.09	.03	.26*	-.07	.08	-.09	.06	.21	.03
Guilt GREP	-.14	.19	-.08	.08	.14	.06	.06	.04	.15	.08	.10	.09	.00	.25	.00
Shame SNSE	-.12	.16	-.08	-.09	.12	-.08	.03	.04	.08	.04	.08	.05	.28	.21	.14
Shame SW	.20	.15	.14	.02	.11	.02	.04	.03	-.15	-.13	.08	-.18	-.20	.19	-.11
Depression	.74	.18	.41***	.04	.14	.03	-.04	-.04	.11	.00	.10	.00	-.11	.23	-.05
Anxiety	.35	.17	.22**	.15	.13	.13	-.05	-.05	-.15	-.00	.09	.00	.06	.20	.03
R ²			.12			.17			.57			.10			.26

*p<.05, **p<.01, ***p<.001

Table key: Alc Dependence, Alc Hazardous=alcohol variables; Readiness to Change PC=Pre contemplation variables; Guilt NBE, GREP, Shame SNSE, SW=guilt and shame variables.

Research Question 4

Does students' academic motivation after SCARP (post) predict a student's alcohol use, decrease resiliency, readiness to change, and confidence to change?

Analysis: Multiple regression

Hypothesis: After completing the SCARP program, participants who have less motivation for university academics will have an increase in alcohol use, decrease in resiliency, readiness to change and confidence to change.

A multiple regression was analyzed of the sample that included the variables alcohol dependence, alcohol hazardous, resiliency, readiness to change pre-contemplation, and confidence, predicting the outcome variables intrinsic motivation, integrated motivation, identified regulation, introjected regulation, external regulation, amotivation, autonomous, and controlled. As shown in Table 16, resiliency predicted identified regulation, which is someone who identifies with the personal importance or value. Resiliency was close to statistical significance at $\alpha = .07$ for external regulation, and $\alpha = .08$ for Autonomous motivation but not enough to be statistically significant at $p < .05$. Readiness to change pre-contemplation predicted significance for introjected regulation, external regulation, autonomous regulation, and controlled regulation, meaning the more pre-contemplated one was to change alcohol use, the more motivated internally and externally they were. Confidence to change predicted external regulation and controlled motivation, meaning the more confident a participant was to change, they were more likely to just go through the program to complete or fearful of getting in more trouble and were not intrinsically motivated to change. Confidence to change was close to statistical significance at $\alpha = .07$ for amotivation, but not enough to be statistically significant at $p < .05$.

Table 16. Predicting Alcohol, resiliency, readiness and confidence to change

Predictors	Alc Dependence			Alc Hazardous			Resiliency			Readiness to Change PC			Confidence		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Umotintri	-.02	.30	-.00	-.26	.21	-.13	.07	.06	.11	.17	.15	.12	-.43	.37	-.12
Umotinte	-.33	.31	-.11	.05	.22	-.02	.08	.07	.13	.21	.15	.15	-.06	.38	-.01
Umotiden	-.56	.33	-.18	.05	.24	.02	.15	.07	.23*	.26	.17	.17	.46	.41	.12
Umotintro	-.04	.26	-.02	-.30	.17	-.18	.02	.05	.05	.29	.12	.24*	.12	.32	.04
Umotextr	-.11	.31	-.04	-.12	.21	-.06	.12	.06	.20	.31	.14	.23*	1.0	.34	.30*
Umotamot	-.07	.21	-.04	.04	.15	.03	-.03	.04	-.08	.05	.11	.05	.47	.26	.19
Umotauto	-.54	.44	-.13	-.09	.31	-.03	.16	.09	.20	.42	.21	.21*	-.00	.54	-.00
Umotcontroll	-.13	.37	-.03	-.39	.25	.17	.12	.08	.16	.54	.17	.32**	.89	.44	.21*
R ²			.04			.10			.41			.16			.04

*p < .05, **p < .01, ***p < .001

Table key: Alc Dependence, Alc Hazardous=alcohol variables; Readiness to Change PC=Pre contemplation variables; UMOT=university motivation variables.

Summary

Chapter IV began with descriptive statistics showing sufficient normality and reliability of the data, along with adequate test-retest scores of .50 or above in most tests. Correlations post intervention showed participants low on resiliency also high in amotivation; those with anxiety also had depression but those who tended to score lower on anxiety had a higher self-esteem. The results from Research Question 1 suggested that the SCARP pre-post intervention did decrease the anticipation of alcohol use and alcohol use related problems moving forward. Findings related to Research Question 2 indicated that female participants did drink in less hazardous ways, had lower self-esteem, and focused more on correcting behaviors than male participants. Research Question 3 showed that participants who indicated being resilient were more willing to take action in their negative behavior. Research Question 4 revealed that pre-contemplation of change predicted that participants were more externally motivated than intrinsically motivated to change. These findings will be discussed further in Chapter V.

CHAPTER V

Discussion

The topic studied was alcohol use and abuse on college campuses. The research problem is that college students who incur multiple violations for substance use or that are deemed high-risk alcohol users on college campuses face complex issues, such as mental health, motivation, confidence, and self-worth. The study purpose is to examine a college-based intervention program and explore its impacts on student variables (university motivation, readiness to change, importance and confidence to change, self-esteem, guilt, shame, depression, anxiety, and resiliency) that are hypothesized to decrease substance use.

This final chapter includes a discussion of: 1) relations of current findings to research literature, 2) review hypothesis and research, 3) unexpected findings, 4) limitations, 5) future directions, and 6) implications.

Relations of Current Findings to Research Literature

Alcohol skills training programs and personalized feedback interventions have been explored, and no one has found the answer to the overarching quest of truly understanding the most effective way to help individuals who are struggling with alcohol use when an incident has occurred. Decades of research have at best uncovered this to be a complex issue. The intervention program, BASICS, is considered one of the most effective strategies, yet it has not been able to keep alcohol use down long term (Kazemi, et al. p. 41). With the current study, I sought to understand how and why emotions and other variables can be viewed as a necessary

and critical element to for students and the attempt was to assist with the “current knowledge gap” highlighted by Jakubczyk et al. (2018) for substance use on college campuses that previous interventions have not discussed. Skidmore, Kaufman and Crowell (2016) highlighted that substance use is one of the “most critical problems facing college students in the United States” (p. 735) and Vivek H. Murphy (2016) agreed in his opening preface on facing addiction that “substance use disorders represent one of the most pressing public health crisis of our time” (p. v). People are losing their lives, families are losing loved, and many are working to better understand how to help people who are struggling with substances. College campuses remain as a great opportunity to further help to the conversation for providing more holistic interventions for students struggling.

Question 1: Substance Use Decrease and Impact on Emotion

The first research question was: Does SCARP (pre-post) assist students after an alcohol violation to decrease alcohol use and increase resiliency, readiness to change and confidence/importance?

Question One measured if SCARP sample pre-post intervention did decrease substance use anticipation for participants in the study, and if readiness to change had any impacts. The results for question one sample showed statistical significance and a decrease in anticipation of substance use for participants. Participants were found, post-SCARP, to have anticipated decreasing their amount of alcohol consumption when drinking, the amount of having six or more per drinking episode, their inability to stop when drinking, and their feelings of guilt and blackout occasions decreased. These results are consistent with DiFulvio et al. (2012) that an alcohol intervention did decrease drinking behaviors in general. The current study findings also indicated that participants increased in their pre-contemplation stage of change for readiness to

change questionnaire pre-post SCARP, and this point is important, as Carey, Purnine, Maisto and Cary (1999) identified pre-contemplation as “a stage in which the abuser does not perceive a problem and is not likely to seek help” (p. 246). This finding is significant, because pre-contemplation change signals a group of individuals who are in different places than those already contemplating or taking action to change thus suggesting this intervention was shown to produce change for pre-contemplation users.

Wisener and Khoury (2019) discussed that, since alcohol related concerns exist on college campuses, it is important to examine psychological factors associated with internally motivated drinking and problems related to alcohol. They found that students who would drink alcohol as a coping tool for depression would be more open to an intervention that is non-judging and focused on self-compassion, and non-judging was sufficient for those with anxiety who drank to cope. Aurora and Klanecky (2016) shared that “most research has shown greater difficulty regulating emotions is related to increased drinking” (p. 342) and they found support for their hypothesis that drinking alcohol as a coping mechanism does indeed present students with emotion regulation issues. I found in SCARP intervention that participants who anticipated having less dependent alcohol use scores correlated with decreased depression, feeling they are a bad person, anxiety and increase in resiliency which would support findings in current literature. These findings further support the notion that a combination of decreasing substance use, along with emotional regulation awareness, can help assist individuals on a more holistic level.

Question 2: Gender, Substance Use and Emotion

The second research question was: Does gender moderate the efficacy of SCARP (pre-post) for students after a substance abuse violation to decrease substance use and to increase resiliency, readiness to change, and confidence/importance?

In comparison to male participants, female participants reported drinking less alcohol, drinking less often, and anticipated less binge drinking episodes, along with less-hazardous drinking patterns. These findings are supported by Skidmore et al. (2016), as they found that men are more likely to use alcohol, with higher frequency, consume more alcohol, engage in binge drinking more, and are at higher risk for increased alcohol use when compared to women. Stone, Becker, Huber and Catalano (2012) found during young adulthood, men will experience more issues with substances and problems that are related to substances than women. Carey et al. (2010) shared differing societal norms for men and women regarding substance use that may impact gender responses, such as “gender role expectations” or “males having experienced social norms that promote risky drinking” (p. 536).

In comparison to male participants, female participants reported that they tended to feel worse about themselves, and they reported more focus on correcting and compensating their actions towards others or acting more considerate towards others. Conversely, men did not respond in the same way, focusing on guilt and or needed repair; these results suggest that women tended to be more understanding of how they felt towards themselves than men. Nonetheless, these results also suggest that, during the intervention, women should be cautiously aware of the negative impacts so they are not caught in a shame pattern that they are a bad person based on a negative alcohol event in their life. Merianos, Naboros, Vidourek and King (2013) found women to be at an increased risk for mental health diagnosis, as compared to men;

more specifically, female college students are affected with higher rates of depression and lower rates of self-esteem when compared to male students. They also found that men were more at risk for externalizing and substance use disorders. This pattern can be particularly damaging long term when repeated consequences occur and if alcohol use increases, men will be less aware of necessary behavior changes

Question 3: Emotion Impact and Substance Use

The third research question was: What variables (self-esteem, guilt, shame, depression, anxiety) predict the impact of SCARP (pre-post) to assist students after a substance abuse violation (decrease) substance use; (increase) resiliency, readiness to change and confidence)?

Results from Question Three showed that as participants reported alcohol dependence, depression was experienced in those participants, when compared to participants that did not report alcohol dependence. Further analysis indicated that when participants identified as resilient, they were more willing to focus on correcting or changing necessary behaviors. Dvorak, Lamis and Malone (2013) found that among college students, alcohol use is often associated with risk of depression, and that depression can lead to frequent suicidal ideation and attempts. This correlation is logical, as large amounts of alcohol can act as a depressant, explaining why depression is impacted when dependence factors are present. In contrast, when participants reported resiliency, they reported a willingness to change. Weiland et al. (2012) found that resiliency in adolescent years was associated with less drinking later in life, and overall less substance use during transition years, suggesting those with higher resilience have less alcohol problems. Treeby and Bruno (2012) indicated that someone who is using alcohol to help their mood tends to have further problems with alcohol use. In my study, alcohol use showed impact in depressive mood for participants, and increased resiliency showed an impact

for those willing to make a change, supporting my hypothesis for Question Three. In all other regression analysis for Question Three, self-esteem, guilt, shame and anxiety did not show significance for further discussion.

Question 4: Motivation Impact and Substance Use

The fourth research question was: If a lack of academic motivation (pre-post) predicts a student's alcohol use, decrease resiliency, readiness to change and confidence?

Question Four found that participants who were resilient were also showed statistical significance in value for motivation internally for university studies. Martin and Zamboanga (2018) shared that most alcohol research is completed as collaborative research, rather than assisting to focus on college drinking cultures, as defined by areas such as norms around patterns, use-values, as well as when, where, why, and how students drink. This question aimed to uncover areas in values, such as academic motivation and resiliency, that appear to be understudied for college alcohol interventions at universities.

Participants who were identified with readiness to change pre-contemplation for alcohol use, their confidence to change predicted internal motivation, external motivation, external regulation and controlled motivation factor of change. Harris, Walters and Leahy (2008) identified that two thirds of college students would fall in the category of pre-contemplation, even if they report negative consequences due to alcohol. Since this study showed statistical significance with varying results for academic motivation and pre-contemplation/confidence to change, it is hard to identify what motivated students for the SCARP study. Thus, the hypothesis for Question Four was not accepted.

Unexpected Findings

In my study, there were three unexpected findings of particular interest. First, participants actually decreased their actions towards focusing or correcting the behavior. The researcher would have expected these actions to have increased post intervention and did not have any clear understanding to explain this finding. The alternative explanation is that participants possibly were farther away from the incident that occurred, and possibly could have been thinking less about reasons to correct anything. The participants could have moved on and already made changes in their life, indicating no need for further correction.

The second unexpected finding was the high amount of correlations found pre-post. I hoped to narrow down a deeper understanding of emotions for substance use interventions on college campuses and unexpectedly found many scales correlating in some way; thus, adding more questions about emotions and alcohol use. An alternative explanation could simply be that so many factors are involved with social/behavioral human change that it may never be fully explained how emotions and alcohol use impact the population. The case that emotions do impact alcohol use may be a critical next step in alcohol research.

The third unexpected finding was that, in all five gender tables that showed statistical significance for alcohol use, I did not find any significant interaction for gender and alcohol use scores; thus, failing to reject the null hypothesis. An alternative explanation could be because the number of male participants almost outnumbered female participants 2:1 in the sample for the SCARP study.

Limitations

The first limitation focuses on race and ethnicity. Participants identified as White for 77 out of 86 participant (89.5%), and ethnicity of non-Hispanic or Latino or Spanish of origin for 79/86 (91.0%). If there would have been any variable that could have predicted race and ethnicity, this study could not account for such impacts. This study also cannot be generalized for other individuals whom do not identify as White or non-Hispanic or Latino or Spanish of origin. The second limitation was that post alcohol scores focused on anticipatory alcohol questions to measure future alcohol use. My study did not follow longitudinal alcohol usage because of time constraints, yet it did focus on emotions and other variables, such as academic motivation, self-esteem and resiliency, that other studies have not.

The third limitation was that there was no control group and I was not able to compare changes to those who did not receive the SCARP intervention, thus was only able to look at change within SCARP participants. The study was solely based in one geographical area and would not be generalizable outside of the sample to a population. This limitation does not serve to disregard the research findings, but rather to keep in context the demographics of the sample participants studied. The fourth limitation involved the predominantly male (64%) sample of research participants. It was noted for readers to keep in mind when reviewing results that men were the majority in the study presented. The fifth limitation was the low alpha reliabilities for established scales, particularly with the Alcohol Use Disorder Identification Test scale. The low alpha reliabilities were expected to be at adequate standards for this sample study which was not the case.

Future Directions

The future of studying college interventions for alcohol use and emotions appears to still be growing, as support for their correlations continue to surface. Treeby, Rice, Cocker, Peacock and Bruno (2017) advised that when studying shame, guilt, and alcohol use, shame and guilt need to be differentiated clearly, indicating that emotions in the research still appear to be lacking a clear direction for alcohol research. Nourse et al. (2017) shared research for college student interventions need to be ongoing to stay up to date with alcohol and mental health changes as societal and cultural norms change. Martin and Zamboanga (2018) supported this statement, as they called for colleges to focus more on drinking cultures rather than collaborative and large data set studies for this particular research topic. A large percentage of alcohol research for college students and college campus interventions have been heavily focused on explaining the effectiveness of brief alcohol consumption reductions. For example, Skidmore et al. (2016) found, in a meta-analysis, that getting personalized feedback is an effective component in an intervention, yet these interventions are less helpful for those drinking in high-risk ways. Brief interventions do have efficacy in their studies; however, the research needs to dive deeper into emotions for the individuals enrolled in such programs. Carey et al. (2018) found that brief motivational interventions reduced alcohol risk for some individuals, yet enhancing efficacy needs to continue, particularly the psychosocial areas of students' needs during these interventions. If further progress is going to assist individuals to make changes when facing complex issues such as depression, anxiety, guilt, and shame for alcohol use interventions, then universities can no longer solely focus on motivational interviewing and feedback as the only strategies for reduction of alcohol use. Alcohol interventions should be able to articulate

personalized feedback, along with therapist driven skill-sets to navigate the complexity of individual emotions and alcohol use and abuse.

Another area of future focus should continue to be gender impacts and alcohol abuse, combined with giving healthy coping tools as this would be a good addition to the body of research. This study did highlight several factors of significance for gender that college campus interventions can use to benefit alcohol abuse reductions. Carey et al (2018) suggested that men reduce drinking rates less than women, and other psychosocial factors such as living in a fraternity or other masculine norms increase risky alcohol use in men. With research indicating that normative experiences may be different for men and women, a deeper understanding of gender differences with emotions and alcohol use could benefit college campuses. Emerging adults may not be motivated to change their alcohol use, but Carey et al. (2018) indicated that providing sex-specific feedback for protective strategies could help assist men in further strategies for alcohol use reduction.

University motivation could be added to the growing body of literature of understanding alcohol use on college campuses. Early during interventions, if research could assess high risk alcohol users as to their level of university motivation, then researchers could individualize programs focused decreasing alcohol use and increasing university motivation. This strategy could potentially further foster community for those attending universities as those participants could start to see themselves moving forward, possibly impacting emotions immediately in a positive way and potentially decreasing alcohol use. Students are investing a lot when attending a college, and early interventions for alcohol use could limit dropout rates.

I worked to highlight how alcohol use and abuse is complex, and how college alcohol use interventions of the future should desire to become more robust and holistic for future students.

If depression, anxiety, shame, guilt, university motivation, self-esteem, resiliency continue to be explained, alcohol use interventions become pathways to assist students to the best of their ability for all individuals entering the programs, rather than students seeing it as a mandate and only a sole focus on alcohol reduction, could be one part of the larger discussion for alcohol use on college campuses.

Two specific policy recommendation that would benefit universities moving forward that I would put forward at the conclusion of this study. First, universities could implement emotional awareness, resiliency and alcohol impacts as a course that is part of the freshman academic curriculum that is taught by licensed counselors or licensed psychologists. By doing this, it could intertwine a common class that all freshman would take and by year four, a majority of campus would have had the opportunity to have been exposed to such important information in their life.

Second, students must be given a continuum of opportunity on college campuses for alcohol use interventions. One mandated sanction, multiple mandated sanction, or even one high-risk incident does not specifically predict how much an individual is struggling. Each student matters, and by taking the approach of offering a continuum that is holistic can allow students to stay connected to a process even though they may not yet realize how much they are struggling with alcohol or hurting emotionally.

Implications

Universities should identify and work to start fostering and creating long term holistic interventions, as they are well-positioned to help college students. Interventions should be presented as an opportunity to seek out help when students notice signs or symptoms of an alcohol use issue. Emotions are a part of human existence and neglecting them in alcohol

interventions appears to have potential longer lasting impacts for those struggling with alcohol abuse than first thought. A deeper emotional understanding to this issue can lend insight about the most effective ways to inform high risk-alcohol users of the importance of biological, environmental, and developmental changes within individuals who are using alcohol in a dangerous way. Young, impressionable, healthy students are being impacted on a daily basis due to alcohol issues as in NIAAA report of 696,000 student reported assaults, 97,000 sexual assault or date rape and 1,825 student deaths all linked to alcohol related incidents per year in the U.S (p .8).

The SCARP intervention program focused specifically on high-risk alcohol users on a college campus. Throughout this dissertation, I worked to identify that a large body of alcohol research on college campuses studies have not considered complicating factors, such as emotions and university motivation. In my study, I wanted to give sole attention to participants going through multiple mandated interventions or involved in a high-risk alcohol incident on a college campus. These individuals are the ones whom appear to be understudied and misunderstood.

I was not aiming solely for a reduction in alcohol use pre-post intervention, yet it was achieved. One of the most notable findings was that those participants who had less dependent alcohol use scores did show a significance of correlation of post change scores in decreased depression, feeling bad towards self, and anxiety, as well as increased resiliency. These factors of change not only impact those participants with risk reduction of alcohol use, but further highlights that the participants felt better, felt less shame, felt less angst, and more ability to be resilient in life, which are all positive outcomes. In this study, female students did tend to score lower for alcohol use, lower on self-esteem, and higher for guilt and shame. Even though statistical significance was not found in all of these areas, a difference did exist, which furthers

the argument that alcohol use interventions must be adapted on college campuses for the future of university students' well-being.

As much research that has been dedicated to reducing alcohol use on college campuses, my study focused on a deeper humanistic approach. This approach involved not only looking at alcohol but also depression, anxiety, university motivation, guilt/shame, self-esteem, and resiliency. In this study, post-intervention correlations showed those who scored low on resiliency also were higher in amotivation for university motivation. Participants who were higher on anxiety still stayed higher in depression but participants who scored lower on anxiety tended also were higher in self-esteem. Participants who scored higher in resiliency tended to also score higher with wanting to take action and readiness to change their alcohol use. Participants who scored high in resiliency also were higher in autonomy for university motivation. These findings suggest that there is a deeper-rooted emotional experience, outside of alcohol factors that need to be attended to for these individuals. A mixed study with quantitative/qualitative analysis would provide a deeper understanding to alcohol use and emotions.

This research study did attempt to highlight that it is important to study emotions and alcohol use together, rather than separately, when examining participants referred for an alcohol use intervention program on a college campus. If future research continues building college alcohol use interventions with a sole emphasis on alcohol reduction, and fails to build on understanding individual emotional differences, this critical problem of alcohol use and abuse may remain persistent on campuses, in local communities, and nationwide systems. Nonetheless, alcohol use and abuse remain a pressing issue for college universities, so now is time to face this problem as a complex concern, combined with a deeper understanding of

emotions to enhance research on alcohol abuse. If research continues in this direction, college campuses will be more able to assist individuals with alcohol violations. Continuing to address emotions for college students with alcohol violations will continue to decrease stigma. What is clear is that in 2020, alcohol use and abuse stigma is continuing to be reduced, which means society will be looking for the medical and social sciences to catalyze a deeper understanding alcohol use on college campuses.

APPENDICES

Appendix A

Pre Survey Code Book

Introduction

Hello and welcome to the Student Chemical Assessment and Review Program (SCARP). Please complete the survey below constructed by Tom Solem at the UND Counseling Center. The purpose is understand individual substance use patterns and behaviors to better serve students. The survey will take approximately 10 minutes to complete. The data is for research and has been approved by the Institutional Review Board at UND. Your responses are anonymous so please answer the questions honestly as none of your responses will be reviewed until after you complete the program. You can choose to not respond to any questions you feel uncomfortable answering. Thank you for your time and your participation is greatly appreciated. If you have any questions please as to discuss with Thomas Solem, UND Counselor or email at Thomas.Solem@und.edu

Demographic Variables

Name	Item
SCARP ID	Other- (Text box)
gender	Your gender is: (1) Female (2) Male (3) Other (text box)
school	(1) Freshman (2) Sophomore (3) Junior (4) Senior (5) Other (text box)
age	(1) 18 (2) 19 (3) 20 (4) 21 (5) 22 (6) 23 (7) 24 (8) 25 (9) 26 and above
Race	(1) African American/Black (2) Asian American/Asian (3) White (4) Hispanic/Latino (5) Native Hawaiian or Pacific Islander (6) Multi-racial (7) Prefer Not to answer (8) Other (text box)

Ethnicity	1) Hispanic or Latino or Spanish Origin 2) Not Hispanic or Latino or Spanish Origin
Referral Source	1) Office of Student Rights and Responsibilities 2) Housing 3) Other (Text Box)

Alcohol Use Disorder Identification Test

Please check the answer that is correct to you that applies to your drinking.

1=never, 2=monthly or less, 3=Two to four times a month,4=Two to three times a week, 5=four or more times a week

Audit 1	How often do you have a drink containing alcohol?			
1=1 or 2	2=3 or 4	3=5 or 6	4=7 to 9	5= 10 or more

Audit 2	How many drinks do you have on a typical day when drinking?			
1= Never,	2= Less than monthly,	3=Monthly,	4= Weekly,	5=Daily or almost daily

Audit 3	How often do you have six or more drinks on one occasion?	
Audit 4	How often during the last year have you found that you were not able to stop drinking once you started?	
Audit 5	How often during the last year have you failed to do what was normally expected from you because of drinking?	
Audit 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?	
Audit 7	How often during the last year have you had a feeling of guilt or remorse after drinking?	
Audit 8	How often during the last year have you been unable to remember what happened the night before because you had been drinking?	
1=No,	3=Yes, but not in last year	5=Yes, during last year

Audit 9	Have you or someone else been injured as a result of your drinking?
Audit 10	Has a relative, friend, doctor, or health worker been concerned about your drinking or suggested you cut down?

Hazardous Use 1, 2, 3
 Dependence 4, 5, 6
 Harmful Use 7, 8, 9, 10

Guilt and Shame Proneness Scale (GASP)

Very Unlikely	Unlikely	Slightly Unlikely	About 50%	Likely	Slightly Likely	Likely	Very Likely
1	2	3	4	5	6	7	

GASP11	After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?
GASP1 2	You are privately informed that you are the only one in your group that did not make the honor society because you skipped too many days of school. What is the likelihood that this would lead you to become more responsible about attending school?
GASP 13	You rip an article out of a journal in the library and take it with you. Your teacher discovers what you did and tells the librarian and your entire class. What is the likelihood that this would make you would feel like a bad person?
GASP 14	After making a big mistake on an important project at work in which people were depending on you, your boss criticizes you in front of your coworkers. What is the likelihood that you would feign sickness and leave work?
GASP 15	You reveal a friend's secret, though your friend never finds out. What is the likelihood that your failure to keep the secret would lead you to exert extra effort to keep secrets in the future?
GASP 16	You give a bad presentation at work. Afterwards your boss tells your coworkers it was your fault that your company lost the contract. What is the likelihood that you would feel incompetent?
GASP 17	A friend tells you that you boast a great deal. What is the likelihood that you would stop spending time with that friend?
GASP 18	Your home is very messy and unexpected guests knock on your door and invite themselves in. What is the likelihood that you would avoid the guests until they leave?
GASP 19	You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?
GASP 20	You successfully exaggerate your damages in a lawsuit. Months later, your lies are discovered and you are charged with perjury.

	What is the likelihood that you would think you are a despicable human being?
GASP 21	You strongly defend a point of view in a discussion, and though nobody was aware of it, you realize that you were wrong. What is the likelihood that this would make you think more carefully before you speak?
GASP 22	You take office supplies home for personal use and are caught by your boss. What is the likelihood that this would lead you to quit your job?
GASP 23	You make a mistake at work and find out a coworker is blamed for the error. Later, your coworker confronts you about your mistake. What is the likelihood that you would feel like a coward?
GASP 24	At a coworker's housewarming party, you spill red wine on their new cream-colored carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?
GASP 25	Shouting though nobody seems to notice. What is the likelihood that you would try to act more considerately toward your friends?
GASP 26	You lie to people but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?

GASP Scoring:

The GASP is scored by averaging the four items in each subscale.

Guilt–Negative-Behavior-Evaluation (NBE)	11, 19, 24, 26
Guilt–Repair	12, 15, 21, 25
Shame–Negative-Self-Evaluation (NSE)	13, 16, 20, 23
Shame–Withdraw	14, 17, 18, 22

Readiness to Change Questionnaire (RTCQ)

1=Strongly disagree, 2=Disagree, 3=Unsure, 4=Agree, 5=Strongly agree

RTCQ 27	My drinking is ok as it is.
RTCQ 28	I am trying to drink less than I used to.
RTCQ 29	I enjoy my drinking but sometimes I drink too much
RTCQ 30	I should cut down on my drinking

RTCQ 31	It's a waste of my time thinking about my drinking
RTCQ 32	I have just recently changed my drinking habits
RTCQ 33	Anyone can talk about wanting to do something about drinking, but I am actually doing something about it.
RTCQ 34	I am at the stage where I should think about drinking less alcohol
RTCQ 35	My drinking is a problem
RTCQ 36	It's alright for me to keep drinking as I do now
RTCQ 37	I am actually changing my drinking habits right now
RTCQ 38	My life would still be the same, even if I drank less.

RTCQ: Scoring

The RTCQ is scored by averaging the four items in each subscale.

Pre-Contemplation 27, 31, 36, 38

Contemplation 29, 30, 34, 35

Action 28, 32, 33, 37

Importance and Confidence rulers

1= Not at all important, 10= Extremely Important

1= Not at all confident, 10= Extremely Confident

IMP to CH 39	How important is it for you to make a change in your drinking?
CON to CH 40	How confident are you that you could make a change your drinking if you wanted to?

University Motivation (Adapted)

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently attending a University

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Motivation 41	Because this is the type of degree will allow me to attain a certain lifestyle.
Motivation 42	For the income it will provide me.
Motivation 43	I ask myself this question, I don't seem to be able to manage the important tasks related to University work.
Motivation 44	Because I derive much pleasure from learning new Things.
Motivation 45	Because it has become a fundamental part of who I am.
Motivation 46	Because I want to succeed at a University, if not I would be very ashamed of myself.

Motivation 47	Because I chose this type of University to attain my career goals.
Motivation 48	For the satisfaction I experience from taking on interesting challenges
Motivation 49	Because it will allow me to earn money.
Motivation 50	Because it is part of the way in which I have chosen to live my life.
Motivation 51	Because I want to be very good as a University student, otherwise I would be very disappointed.
Motivation 52	I don't know why, we are provided with unrealistic expectations.
Motivation 53	Because I want to be a "winner" in life.
Motivation 54	Because it is the type of University I have chosen to attain certain important objectives.
Motivation 55	For the satisfaction I experience when I am successful at doing difficult tasks.
Motivation 56	Because this type of University provides me with security
Motivation 57	I don't know, too much is expected of us.
Motivation 58	Because this University is a part of my life.

University Motivation Scoring:

Is scored by averaging the three items in each subscale.

Intrinsic motivation	44,	48,	55
Integrated regulation	45,	50,	58
Identified regulation	41,	47,	54
Introjected regulation	46,	51,	53
External regulation	42,	49,	56
Amotivation	43,	52,	57

Self-Esteem Scale

1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree

Esteem 59	On the whole, I am satisfied with myself
Esteem 60-R	At times I think I am no good at all
Esteem 61	I feel that I have a number of good qualities
Esteem 62	I am able to do things as well as most other people
Esteem 63-R	I feel I do not have much to be proud of

Esteem 64-R	I certainly feel useless at times.
Esteem 65	I feel that I'm a person of worth.
Esteem 66-R	I wish I could have more respect for myself.
Esteem 67-R	All in all, I am inclined to think that I am a failure.
Esteem 68	I take a positive attitude toward myself.

Depression and Anxiety Scale

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Dep 69	Down, depressed or hopeless
Dep 70	Little interest in doing things
ANX 71	Anxious, nervous or on edge
Anx 72	I am un able to stop or control worrying

Resiliency Scale

1=Not true at all, 2= Rarely true, 3=Sometimes true, 4=Often true, 5= True nearly all the time

Resilience 73	Able to adapt to change
Resilience 74	Close and secure relationships
Resilience 75	Sometimes fate or God can help
Resilience 76	Can deal with whatever comes
Resilience 77	Past success gives confidence for new challenge
Resilience 78	See the humorous side of things
Resilience 79	Coping with stress strengthens
Resilience 80	Tend to bounce back after illness or hardship
Resilience 81	Things happen for a reason
Resilience 82	Best effort no matter what
Resilience 83	You can achieve your goals
Resilience 84	When things look hopeless, I don't give up
Resilience 85	Know where to turn for help
Resilience86	Under pressure, focus and think clearly
Resilience 87	Prefer to take the lead in problem solving
Resilience 88	Not easily discouraged by failure
Resilience 89	Think of self as strong person
Resilience 90	Make unpopular or difficult decisions
Resilience 91	Can handle unpleasant feelings
Resilience 92	Have to act on a hunch
Resilience 93	Strong sense of purpose
Resilience 94	In control of your life
Resilience 95	I like challenges
Resilience 96	You work to attain your goals
Resilience 97	Pride in your achievements

Appendix 2-Post Survey Code Book

Thank you for completing the Student Chemical Assessment and Review Program (SCARP). Please complete the survey below constructed by the UND Counseling Center. You can choose to not respond to any questions you feel uncomfortable answering. Thank you for your time and your participation is greatly appreciated. If you have any questions please as to discuss with Thomas Solem, UND Counselor or email at Thomas.Solem@und.edu

ID Number (Text Box)

Alcohol Use Disorder Identification Test

Please check the answer that is correct to you that applies to your anticipated drinking.

1=never, 2=monthly or less, 3=Two to four times a month, 4=Two to three times a week, 5=four or more times a week

Audit 98	How often do you anticipate you will have a drink containing alcohol?
----------	-----------------------------------------------------------------------

1=1 or 2 2=3 or 4 3=5 or 6 4=7 to 9 5= 10 or more

Audit 99	How many drinks do you anticipate you will have on a typical day when drinking?
----------	---------------------------------------------------------------------------------

1= Never, 2= Less than monthly, 3=Monthly, 4= Weekly, 5=Daily or almost daily

Audit 100	How often do you have anticipate you will have six or more drinks on one occasion?
-----------	------------------------------------------------------------------------------------

Audit 101	How often do you anticipate you will not be able to stop drinking once you started?
-----------	-------------------------------------------------------------------------------------

Audit 102	How often do you anticipate you will fail to do what was normally expected from you because of drinking?
-----------	----------------------------------------------------------------------------------------------------------

Audit 103	How often do you anticipate you will need a drink in the morning to get yourself going after a heavy drinking session?
-----------	------------------------------------------------------------------------------------------------------------------------

Audit 104	How often do you anticipate a feeling of guilt or remorse after drinking?
-----------	---------------------------------------------------------------------------

Audit 105	How often do you anticipate not being able to remember what happened the night before because you had been drinking?
-----------	----------------------------------------------------------------------------------------------------------------------

1=No, 3=Yes, within the next year 5=Yes, eventually it will happen

Audit 106	Do you anticipate someone else been injured as a result of your drinking
-----------	--------------------------------------------------------------------------

Audit 107	In the next year do you anticipate a relative, friend, doctor, or health worker being concerned about your drinking or suggested you cut down?
-----------	------------------------------------------------------------------------------------------------------------------------------------------------

Hazardous Use	98, 99, 100
Dependence	101, 102, 103
Harmful Use	104, 105, 106, 107

Guilt and Shame Proneness Scale (GASP)

Very Unlikely	Unlikely	Slightly Unlikely	About 50% Likely	Slightly Likely	Likely	Very Likely
1	2	3	4	5	6	7

GASP108	After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?
GASP109	You are privately informed that you are the only one in your group that did not make the honor society because you skipped too many days of school. What is the likelihood that this would lead you to become more responsible about attending school?
GASP 110	You rip an article out of a journal in the library and take it with you. Your teacher discovers what you did and tells the librarian and your entire class. What is the likelihood that this would make you feel like a bad person?
GASP 111	After making a big mistake on an important project at work in which people were depending on you, your boss criticizes you in front of your coworkers. What is the likelihood that you would feign sickness and leave work?
GASP 112	You reveal a friend's secret, though your friend never finds out. What is the likelihood that your failure to keep the secret would lead you to exert extra effort to keep secrets in the future?
GASP 113	You give a bad presentation at work. Afterwards your boss tells your coworkers it was your fault that your company lost the contract. What is the likelihood that you would feel incompetent?
GASP 114	A friend tells you that you boast a great deal. What is the likelihood that you would stop spending time with that friend?
GASP 115	Your home is very messy and unexpected guests knock on your door and invite themselves in. What is the likelihood that you would avoid the guests until they leave?
GASP 116	You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?
GASP 117	You successfully exaggerate your damages in a lawsuit. Months later, your lies are discovered and you are charged with perjury.

	What is the likelihood that you would think you are a despicable human being?
GASP 118	You strongly defend a point of view in a discussion, and though nobody was aware of it, you realize that you were wrong. What is the likelihood that this would make you think more carefully before you speak?
GASP 119	You take office supplies home for personal use and are caught by your boss. What is the likelihood that this would lead you to quit your job?
GASP 120	You make a mistake at work and find out a coworker is blamed for the error. Later, your coworker confronts you about your mistake. What is the likelihood that you would feel like a coward?
GASP 121	At a coworker's housewarming party, you spill red wine on their new cream-colored carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?
GASP 122	Shouting though nobody seems to notice. What is the likelihood that you would try to act more considerately toward your friends?
GASP 123	You lie to people but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?

GASP Scoring:

The GASP is scored by averaging the four items in each subscale.

Guilt–Negative-Behavior-Evaluation (NBE):	108, 116, 121, 123
Guilt–Repair:	109, 112, 118, 122
Shame–Negative-Self-Evaluation (NSE):	110, 113, 117, 120
Shame–Withdraw:	111, 114, 115, 119

Readiness to Change Questionnaire (RTCQ)

1=Strongly disagree, 2=Disagree, 3=Unsure, 4=Agree, 5=Strongly agree

RTCQ 124	My drinking is ok as it is.
RTCQ 125	I am trying to drink less than I used to.
RTCQ 126	I enjoy my drinking but sometimes I drink too much
RTCQ 127	I should cut down on my drinking
RTCQ 128	It's a waste of my time thinking about my drinking

RTCQ 129	I have just recently changed my drinking habits
RTCQ 130	Anyone can talk about wanting to do something about drinking, but I am actually doing something about it.
RTCQ 131	I am at the stage where I should think about drinking less alcohol
RTCQ 132	My drinking is a problem
RTCQ 133	It's alright for me to keep drinking as I do now
RTCQ 134	I am actually changing my drinking habits right now
RTCQ 135	My life would still be the same, even if I drank less.

RTCQ: Scoring

The RTCQ is scored by averaging the four items in each subscale.

Pre-Contemplation	124, 128, 133, 135
Contemplation	126, 127, 131, 132
Action	125, 129, 130, 134

Importance and Confidence rulers

1= Not at all important, 10= Extremely Important

1= Not at all confident, 10= Extremely Confident

IMP to CH 136	How important is it for you to make a change in your drinking?
CON to CH 137	How confident are you that you could make a change to your drinking if you wanted to?

University Motivation (Adapted)

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently attending a University

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Motivation 138	Because this is the type of degree will allow me to attain a certain lifestyle.
Motivation 139	For the income it will provide me.
Motivation 140	I ask myself this question, I don't seem to be able to manage the important tasks related to University work.
Motivation 141	Because I derive much pleasure from learning new Things.
Motivation 142	Because it has become a fundamental part of who I am.
Motivation 143	Because I want to succeed at a University, if not I would be very ashamed of myself.

Motivation 144	Because I chose this type of University to attain my career goals.
Motivation 145	For the satisfaction I experience from taking on interesting challenges
Motivation 146	Because it will allow me to earn money.
Motivation 147	Because it is part of the way in which I have chosen to live my life.
Motivation 148	Because I want to be very good as a University student, otherwise I would be very disappointed.
Motivation 149	I don't know why, we are provided with unrealistic expectations.
Motivation 150	Because I want to be a "winner" in life.
Motivation 151	Because it is the type of University I have chosen to attain certain important objectives.
Motivation 152	For the satisfaction I experience when I am successful at doing difficult tasks.
Motivation 153	Because this type of University provides me with security
Motivation 154	I don't know, too much is expected of us.
Motivation 155	Because this University is a part of my life.

University Motivation Scoring:

Is scored by averaging the three items in each subscale.

Intrinsic motivation	141,	145,	152
Integrated regulation	142,	147,	155
Identified regulation	138,	144,	151
Introjected regulation	143,	148,	150
External regulation	139,	146,	153
Amotivation	140,	149,	154

Self-Esteem Scale

1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree

Esteem 156	On the whole, I am satisfied with myself
Esteem 157-R	At times I think I am no good at all
Esteem 158	I feel that I have a number of good qualities
Esteem 159	I am able to do things as well as most other people
Esteem 160-R	I feel I do not have much to be proud of
Esteem 161-R	I certainly feel useless at times.
Esteem 162	I feel that I'm a person of worth.

Esteem 163-R	I wish I could have more respect for myself.
Esteem 164-R	All in all, I am inclined to think that I am a failure.
Esteem 165	I take a positive attitude toward myself.

Depression and Anxiety Scale

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Dep 166	Down, depressed or hopeless
Dep 167	Little interest in doing things
ANX 168	Anxious, nervous or on edge
Anx 169	I am un able to stop or control worrying

Resiliency Scale

1=Not true at all, 2= Rarely true, 3=Sometimes true, 4=Often true, 5= True nearly all the time

Resilience 170	Able to adapt to change
Resilience 171	Close and secure relationships
Resilience 172	Sometimes fate or God can help
Resilience 173	Can deal with whatever comes
Resilience 174	Past success gives confidence for new challenge
Resilience 175	See the humorous side of things
Resilience 176	Coping with stress strengthens
Resilience 177	Tend to bounce back after illness or hardship
Resilience 178	Things happen for a reason
Resilience 179	Best effort no matter what
Resilience 180	You can achieve your goals
Resilience 181	When things look hopeless, I don't give up
Resilience 182	Know where to turn for help
Resilience	Under pressure, focus and think clearly

183	
Resilience 184	Prefer to take the lead in problem solving
Resilience 185	Not easily discouraged by failure
Resilience 186	Think of self as strong person
Resilience 187	Make unpopular or difficult decisions
Resilience 188	Can handle unpleasant feelings
Resilience 189	Have to act on a hunch
Resilience 190	Strong sense of purpose
Resilience 191	In control of your life
Resilience 192	I like challenges
Resilience 193	You work to attain your goals
Resilience 194	Pride in your achievements

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.): Washington, DC.
- Aurora, P., & Klanecky, A.K. (2016). Drinking motives mediate emotion regulation difficulties and problem drinking in college students. *The American Journal of Drug and Alcohol Abuse*, 42, 341-350. doi: 10.3109/00952990.2015.1133633
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., Monteiro, M. G., & World Health Organization. (2001). AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care.
- Barnett, N.P., & Read, J.P. (2005). Mandatory alcohol intervention for alcohol-abusing college students: a systemic review. *Journal of Substance Abuse Treatment*, 29, 147-158.
- Beblo, T., Fernando, S., Klocke, S., Griepenstroh, J., Aschenbrenner, S., & Driessen, M. (2012). Increased suppression of negative and positive emotions in major depression. *Journal of Affective Disorders*, 474-479. doi: 10.1016/j.jad2012.03.019
- Berrett, L.F., Mesquita, B., Ochsner, K.N., Gross, J.J. (2007). The experience of emotion. *Annual Review of Psychology*, 58, 373-403.
doi:10.1146.annurev.psych.58.110405.085709
- Blank, M., Connor, J., Gray, A., & Tustin, K. (2016). Alcohol use, mental well-being, self-esteem and general self-efficacy among final-year university students. *Social Psychiatry and Psychiatric Epidemiology*, 51, 431-441

- Brook, C.A., & Willoughby, T. (2016). Social anxiety and alcohol use across the university years: adaptive and maladaptive groups. *Developmental Psychology, 52*, 835-845.
Doi:10.1037/dev000110 10
- Buscemi, J., Murphy, J.G., Martens, M.P., McDevitt-Murphy, M.E., Dennhardt, A.A & Skidmore, J.R. (2010). Help-seeking for alcohol-related problems in college students: correlates and preferred resources. *Psychology of Addicted Behaviors, 24*, 571-580. doi: 10.1037/a0021122
- Byrne, B. M. (2016). *Structural Equation Modeling With AMOS: Basic Concepts, Applications, and Programming* (3rd Ed.). New York: Routledge. ISBN 1138797030
- Butler, L.H., & Correia C.J. (2009). Brief alcohol intervention with college student drinkers: face-to-face versus computerized feedback. *Psychology of Addicted Behaviors, 23*, 163-167. doi: 10.1037/a0014892
- Cannon, W.B. (1927). The james-lange theory of emotions: a critical examination of an alternative theory. *The American Journal of Psychology, 100*(3/4), 567-586.
- Carey, K. B., Scott-Sheldon, L.A.J., Carey, M.P., & DeMartini, K.S. (2007). Individual-level interventions to reduce college student drinking: A meta-analytic review. *Addictive Behaviors, 32*, 2469-2496.
- Carey, K.B., Purnine, D.M., Maisto, S.A., & Carey, M.P. (1999). Assessing readiness to change substance abuse: a critical review of instruments. *American Psychological Association, 6*, 245-266.
- Carey, K.B., Carey, M.P., Henson, J.M., Maisto, S.A., & DeMartini, K.S. (2010). Brief alcohol interventions for mandated college students: comparison of face-to-face counseling and computer-delivered interventions. *Society for the Study of Addiction, 106*, 528-537.

- Carey, K.B., & DeMartini, K.S. (2010). The motivational context for mandated alcohol interventions for college students by gender and family history. *Addictive Behaviors, 35*, 218-223.
- Carey, K.B., Merrill, J.E., Walsh, J.L., Lust, S.A., Kalichman, S.C., & Carey, M.P. (2018). Predictors of short-term change after a brief alcohol intervention for mandated college drinkers. *Addictive Behaviors, 77*, 152-159. doi: 10.1016/j.addbeh.2017.09.019
- Cho, S., Su, J., Kuo, S., Bucholz, K., Chan, G., Edenberg, H.J., Dick, D.M., Schuckit, M.A., McCutcheon, V.V., & Kramer, J.R. (2019). Positive and negative reinforcement are differentially associated with alcohol consumption as a function of alcohol dependence. *American Psychological Association, 33*, 58-68.
doi: 10.1037/adb0000436.supp
- Cohen, T. R., Wolf, S.T., Panter, A.T., & Insko, C.A. (2011). Introducing the GASP Scale: a new measure of guilt and shame proneness. *Journal of Personality and Social Psychology, 5*, 947-966.
- Connor, K., & Davidson, J.R.T. (2003). Development of a new resilience scale: the Connor-Davidson Resilience scale. *Depression and Anxiety, 18*, 76-82.
- Warner, R. (2012). *Applied statistics: from bivariate through multivariate techniques*. Sage Publications.
- Corbin, W. R., McNair, L.D., & Carter, J. (1996). Self-esteem and problem drinking among males and female college students. *Journal of Alcohol and Drug Education, 42*, 1-14
- Dearing, R.L., Stuewig, J., & Tangney, J.P. (2005). On importance of distinguishing shame from guilt: relations to problematic alcohol and drug use. *Addictive Behaviors, 30*(7), 1392-1404.

- Dejong, W. (2016). Board of trustees must assume responsibility for making alcohol prevention on campus a top priority. *Journal of American College Health, 64*, 80-84.
doi/10.1080/07448481.2015.1048455
- DiFulvio, G. T., Linowski, S.A., Mazziotti, J.S., & Puleo, E. (2012). Effectiveness of the brief alcohol and screening intervention for college students (BASICS) program with a mandated population. *Journal of American College Health, 60*, 269-280.
- Diulio, A.R., Cero, I., Witte, T.K., & Correia, C.J (2014). Alcohol-related problems and life satisfaction predict motivation to change among mandated college students. *Addicted Behaviors, 39*, 8-11-817
- Dvorak, R.D., Lamis, D.A., & Malone, P.S. (2013) Alcohol use, depressive symptoms, and impulsivity as risk factors for suicide proneness among college students. *Journal of Affective Disorders, 149*, 326-334.
- Fabio A.D., & Saklofske, D.H. (2018). The contributions of personality and emotional intelligence to resiliency. *Personality and Individual Differences, 123*, 140-144.
doi:10.1016/j.paid.2017.11.012
- Fachini, A., Aliane, P.P., Martinez, E.Z., & Furtado, E.F. (2012). Efficacy of a brief alcohol screening intervention for college students (BASICS): a meta-analysis of randomized control trials. *Substance Abuse Treatment, Prevention, and Policy, 7*, 1-10.
doi:10.1186/1747-597X-7-40
- Gonzalez, V.M., & Skewes, M.C. (2013). Solitary heavy drinking, social relationships, and negative mood regulation in college drinkers. *Addiction Research and Theory, 21*, 285-294. doi:10.3109/16066359.2012.714429

Goodman, I., Henderson, J., Peterson-Badali, M., & Goldstein, A.L. (2015). The relationship between psychosocial features of emerging adulthood and substance use change motivation in youth. *Journal of Substance Abuse Treatment, 52*, 58-66.

doi:10.1016/j.jsat.2014.12.004

Greenberg, L.S. (2012). Emotions, the great captains of our lives: their role in the process of change in psychotherapy. *American Psychology*. doi:10.1037/a0029858

Hurbult, S.C., & Sher, K. (1992). Assessing alcohol problems in college students. *Journal of American College Health, 41*, 49-58.

Hustad, J.T.P., Short, E.E., Borsari, B., Barnett, N.P., Tevyaw, T.O., & Kahler, C.W. (2011). College alcohol citations result in modest reductions in student drinking. *Journal of Substance Abuse Treatment, 40*, 281-286. doi:10.1016/j.jsat.2010.11.005

Ilardi, B. C., Leone, D., Kasser, R., & Ryan, R. M. (1993). Employee and supervisor ratings of motivation: Main effects and discrepancies associated with job satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology, 23*, 1789-1805.

(adapted questions)

Izard, C.E. (2009). Emotion theory and research: highlights, unanswered questions, and emerging issues. *Annual Review of Psychology, 60*, 1-25.

doi:10.1146/annurev.psych.60.110707.163539

James, W. (1884). What is an emotion. *Oxford Journals, 9*(34), 188-205.

Jakubczyk, A., Trucco, E.M., Kopera, M., Kobylinski, P., Suszek, H., Fudalej, S., Brower, K.J., & Wojnar, M. (2018). The association between impulsivity, emotion regulation, and symptoms of alcohol use disorder. *Journal of Substance Abuse Treatment, 91*, 49-56.

doi:10.1016/j.jsat.2018.05.004

- Kashdan, T.B., Ferssizidis, P., Collins, R.L., & Muraven, M (2010). Emotion differentiation as resilience against excessive alcohol use: an ecological momentary assessment in underage social drinkers. *Association for Psychological Science, 21*, 1341-1347.
doi:10.1177/0956797610379863
- Kazemi, D. M., Sunn, L., Nies, M.A., Dmochowski, J., & Walford, S.M. (2011). Alcohol screening and brief interventions for college freshman: A harm reduction approach. *Journal of Psychosocial Nursing, 49*, 35-42.
- Keselman, H.J., Huberty, C. J., Lix, L. M., Olejnik, S., Cribbie, R. A., Donahue, B., & Levin, J. R. (1998). Statistical practices of educational researchers: An analysis of their ANOVA, MANOVA, and ANCOVA analyses. *Review of educational research, 68*(3), 350-386.
- Khubchandani, J., Brey, R., Kptecki, J., Kleinfelder, J., & Anderson, J. (2016). The psychometric properties of PHQ-4 depression and anxiety screening scale among college students. *Psychiatric Nursing, 30*, 457-462.
- Kivlahan, D.R., Marlatt, A.G., Fromme, K., Coppel, D.B., & Williams, E. (1990). Secondary prevention with college drinkers: evaluation of an alcohol skills training program. *Journal of Counseling and Clinical Psychology, 58*, 805-810.
- Kokotailo, P. K., Egan, J., Gangnon, R., Brown, D., Mundt, M., & Fleming, M. (2004). Validity of the alcohol use disorders identification test in college students. *Alcoholism: Clinical and Experimental Research, 28*, 914-920.
- Lazarus, R.S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46*(8), 819-834.
- Luoma, J.B., Kohlenberg, B.S., Hayes, S.C., & Fletcher, L. (2012). Slow and steady wins the

race: a randomized clinical trial of acceptance and commitment therapy targeting shame in substance use disorders. *Journal of Counseling and Clinical Psychology*, 80, 43-53.

doi:10.1037/a0026070

Martin, J.L., & Zamboanga, B.L. (2018). Putting multisite college alcohol research into context: a call to assess the drinking culture on college campuses. *Addictive Behaviors*, 77, 291-292.

Mallett, K.A., Marzell, M., Varvil-Weld, L., Turrisi, R., Guttman, K., & Abar, C. (2011). One-time or repeat offenders? An examination of the patterns of alcohol-related consequences experienced by college students across the freshman year. *Addictive Behaviors*, 36, 508-511. doi:10.1016/j.addbeh.2010.12.022

Mallett, K.A., Varvil-Weld, L., Borsari, B., Read, J.P., Neighbors, C., & White, H.R. (2013). An Update of research examining college student alcohol-related consequences: new perspectives and implications for interventions. *Alcoholism: Clinical and Experimental Research*, 37, 709-716. doi:10.1111/acer.12031

Martens, M.P., Neighbors, C., Lewis, M.A., Christine, L.M., Oster-Aaland, L., & Larimer, M.E. (2008). The roles of negative affect and coping motives in the relationship between alcohol use and alcohol-related problems among college students. *Journal of Study on Alcohol and Drugs*, 69, 412-419.

Merinaos, A.L., Nabors, L.A., Vidourek, R.A., & King, K.A. (2013). The impact of self-esteem and social support on college students' mental health. *American Journal of Health Studies*, 28, 27-34.

Merrill, J.E., Read, J.P., & Barnett, N.P. (2012). The way one thinks affects the way one drinks:

- subjective evaluations of alcohol consequences predict subsequent change in drinking behavior. *Psychology of Addictive Behaviors*, 27, 42-51. doi:10.1037/a0029898
- Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Preparing people for change* (3rd ed.). New York: Guilford Press.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.): New York: Guilford Press.
- Milosevic, I., Chudzik, S.M., Boyd, S., & McCabe, R.E. (2017). Evaluation of an integrated group cognitive-behavioral treatment for comorbid mood, anxiety, and substance use disorders: a pilot study. *Journal of Anxiety Disorders*, 46, 85-100.
doi:10.1016/j.janxdis.2016.08.002
- Munn, E.Y., White, H.R., & Morgan, T.J. (2009). Individual and situational factors that influence the efficacy of personalized feedback substance use interventions for mandated college students. *Journal of consulting and Clinical Psychology*, 77, 88-102. doi: 10.1037/a0014670
- National Drug Intelligence Center. (2011). *National drug threat assessment*. Washington, DC: U.S. Department of Justice.
- National Institute on Alcohol Abuse and Alcoholism. (2017). *Alcohol and college students*. Retrieved from: <https://www.niaaa.nih.gov/alcohol-facts-and-statistics>.
- Nourse, R., Adamshick, P., & Stoltzfus, J. (2017). College binge drinking and its association with depression and anxiety: a prospective observational study. *East Asian Arch Psychiatry*, 27, 18-25.
- Palmer, R.S., Kilmer, J.R., Ball, S.A., & Larimer, M.E. (2010). Intervention defensiveness as a

- moderator of drinking outcome among heavy-drinking mandated college students. *Addictive Behaviors*, 35, 1157-1160. doi:10.1016/j.addbeh.2010.08.009
- Pekrun, R., Vogl, E., Muis, K.R., & Sinatra, G.M. (2017). Measuring emotions during epistemic activities: the epistemically-related emotion scales. *Cognition and Emotion*, 31, 1268-1276. doi: 10.1080/02699931.2016.1204989
- Rollnick, S., Heather, N., Gold, R., & Hall, W. (1992). Development of a short 'readiness to change' questionnaire for use in brief, opportunistic interventions among excessive drinkers. *British Journal of Addiction*, 87, 743-754. (Original)
- Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University: Press
Princeton, New Jersey
- Rosenthal, S.R., Clark, M.A., Marshall, B.D.L., Buka, S.L., Carey, K.B., Shepardson, R.L., & Carey, M.P. (2018). Alcohol consequences, not quantity, predict major depression onset among first-year female college student. *Addictive Behaviors*, 85, 70-76.
doi:1016./j.addbeh.2018.05.021.
- Sacks, J.J., Gonzales, K., Bouchery, E., Tomedi, L., & Brewer, R. (2015). 2010 National and State costs of excessive alcohol consumption. *American journal of Preventative Medicine*, 49(5), 73-79. doi:10.1016/j.amepre.2015.05.031
- Shin, S.H., Chung, Y., & Jeon, S.M. (2017). Impulsivity and substance use in young adulthood. *The American Journal on Addictions*, 22, 39-45. doi: 10.1111/j.1521-0391.2013.00324.x
- Stahre, M, J., Roeber, J., Kanny, D., Brewer, R., & Zhang, X. (2014). Contribution of excessive alcohol consumption to death and years of potential life lost in the United States: *preventing chronic disease. Public Health Research, Practice, And Policy*, 11.

doi.org/10.5888/pcd11.130293

Stone, A.L., Becker, L.G., Huber, A.M., & Catalano, R.F. (2012). Review of risk and protective factors of substance use and problem use in emerging adulthood. *Addictive behaviors*, 37, 747-775.

Schachter, S., & Singer, J. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review*, 69(5), 379-399

Schuckit, M. A., Kalmijn, J.A., Smith, T.L., Saunders, G., & Fromme, K. (2012). Structuring a college alcohol prevention program on the low level of response to alcohol model: A pilot study. *Alcoholism: Clinical and Experimental Research*, 36, 1244-1252.

doi:10.1111/j.1530-0277.2011.01723.x

Skidmore, C.R., Kaufman, E.A., & Crowell, S.E. (2016). Substance use among college students. *Child and Adolescent Psychiatric Clinics of North America*, 25, 735-753.

doi:10.1016/j.chc.2016.06.004

Treeby, M., & Bruno, R. (2012). Shame and guilt-proneness: divergent implications for problematic alcohol use and drinking to cope with anxiety and depression symptomatology. *Personality and Individual Differences*, 53, 613-617.

doi:10.1016/j.paid.2012.05.011

Treeby, M.S., Rice, S.M., Cocker, F., Peacock, A., & Bruno, R. (2017). Guilt-proness is associated with the use of protective behavior strategies during episodes of alcohol use. *Addictive Behavior*, 79, 120-123. doi:10.1016/j.addbeh.2017.12.027

Trembley, M.A., Blanchard, C.M., Taylor, S., Pelletier, L.G., & Villeneuve, M. (2009). Work

- extrinsic and intrinsic motivation scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science*, 41, 213-226. doi:10.1037/a0015167
- U.S. Department of Health & Human Services (HHS), Office of the Surgeon General. (2016). Facing Addiction in America: *The surgeon general's report on alcohol, drugs, and health*. Retrieved from <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>
- Walters, S.T., & Baer, J.S. (2006). Talking with college students about alcohol: Motivational Strategies for Reducing Abuse. The Guilford Press: New York-London. (Newest version scale).
- Warner, R.M. (2013). Applied Statistics. From Bivariate Through Multivariate Techniques, 2-22, 100-1172.
- White, H.R., Munn, E.Y., Pugh, L., & Morgan, T.J. (2007). Long-term effects of brief substance use interventions for mandated college students: sleeper effects of an in-person personal feedback intervention. *Alcoholism: Clinical and Experimental Research*, 31, 1380-1391. doi: 10.1111/j.1530-0277.2007.00435.x
- Wisener, M., & Khoury, B. (2019). Associations between specific mindfulness facets, self-compassion, internally motivated drinking, and alcohol related problems. *Mindfulness*, 2073-2081. doi:10.1007/s12671-019-01172-0
- Weiland, B.J., Nigg, J.T., Welsh, R.C., Yau, W.Y., Zubieta, J.K., Zucker, R.A., & Heitzeg, M.M. (2012). Resiliency in adolescents at high risk for substance abuse: flexible adaptation via subthalamic nucleus and linkage to drinking and drug use in early adulthood. *Alcoholism: Clinical and Experimental Research*, 36, 1355-1364.