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Reasons For Living and Suicidal Ideation Among College Students With Varying Levels Of
Risk For Alcohol Related Problems

A thesis
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirement for the degree
Master of Arts in Clinical Psychology

by
Dorian A. Lamis
May 2006

Dr. Jon Ellis, Chair
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Dr. Peggy Cantrell

Keywords: Suicide, Suicide Ideation, Reasons for Living, Alcohol, Alcohol Problems

ABSTRACT

Reasons For Living and Suicidal Ideation Among College Students With Varying Levels Of Risk For Alcohol Related Problems

by

Dorian A. Lamis

Every year in the United States approximately 30,000 people commit suicide including approximately 1,100 college students. Furthermore, heavy alcohol consumption is prevalent on many college campuses and has been linked to suicidal behavior. The present study was conducted to examine suicidal ideation and reasons for living in college students with varying levels of risk for alcohol related problems. Undergraduate students (n = 161) were administered a survey to assess demographics, suicide ideation status, reasons for living, and the participant's level of risk for alcohol related problems. Results indicated that suicide ideators are significantly more likely than non-ideators to be at risk for alcohol related problems. Also, women were significantly more likely to be suicide ideators and endorse more reasons for living. The results of this study may be used to identify groups who are at an increased risk for suicide, as well as to implement more efficient intervention and prevention programs on the collegiate level.

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CHAPTER 1

INTRODUCTION

Suicide

Suicidal behavior has become an increasingly important health concern over the past few decades due to the drastic increase in its occurrence. In the United States, approximately 30,000 individuals commit suicide each year (Anderson & Smith, 2001). Suicide is the 11th leading cause of death in the U.S. and is ranked third among people between the ages of 15 and 24 (Anderson & Smith). Moreover, suicide is the second leading cause of death among college students (Centers for Disease Control and Prevention [CDC], 1997), and it is estimated that roughly 1,100 college students die from suicide each year (Silverman, Meyer, Sloane, Raffel, & Pratt, 1997). Researchers have attempted to explain the reason people engage in suicidal behavior. However, there is not one single factor but a host of factors working together that best explain suicide. One factor that will be explored in this study is the use of alcohol and the role it plays in suicidal ideation and reasons for living among college students.

Suicide has been described as an “inability to cope with the myriad of life demands, problems and hassles” (Dixon, Heppner, & Anderson, 1991, p.54). Suicide may also be seen as a process or series of events, rather than a single event, with different levels of suicidal behaviors (Bonner & Rich, 1988). Further, suicidal ideation may be defined as a continuum of thoughts about death ranging from mild to severe, and including thoughts about death, hurting one’s self, or the “planning, conduct and outcome” of one’s own suicide (Reynolds, 1991, p. 290). Suicidal ideation alone is considered an important factor in the development of serious suicidal behaviors (Bonner & Rich).

Suicide has also been defined as the extinction of a person’s own existence as a purposeful act that prevents survival and is identified by an individual as the perceived best

solution for a personal problem (Ellis & Range, 1989). Rudd (1989) describes the “suicidal process” as a continuum of behaviors ranging from “ideation to attempts and, ultimately suicide” (p. 179). Suicide has become a dangerously increasing trend that not only threatens individuals, but also affects our society as a whole as suicide appears to have become a viable problem-solving option for many people.

Demographics of Suicide

A relatively high proportion (14%) of the general population is known to have suicidal ideas or thoughts during their lives (Kessler, Borges, & Walters, 1999). An accepted model of suicidal behavior places this behavior along a continuum from suicidal ideation, through a more serious suicidal behavior set that includes contemplations, threats, attempts, and completions (Kirkpatrick-Smith, Rich, Bonner, & Jans, 1991). According to this model, ideation is believed to precede and perhaps lead to contemplation of suicide and threats. By understanding what leads to suicide ideation, a greater understanding of the causes of the completed suicide can result.

Gender Differences

Suicide can be categorized and researched using many different characteristics, such as race, gender, and age among others. Rudd (1989) states that “suicidal ideation can be successfully related to specific demographic traits” (p. 182). There are approximately 25 attempts for every completed suicide in the United States of America and 5 million living Americans have attempted to kill themselves (Kochanek, Murphy, Anderson, & Scott, 2004). Completed suicide rates are approximately four times higher for men than women and, in contrast, rates for suicide attempts are about three times higher for women than for men (Kochanek et al.). Gender differences in suicide rates reveal that men complete the act more often due to the use of more lethal methodology (Ellis & Range, 1989, 1991; Kochanek et al.).

The use of firearms is the most common method used in suicide fatalities and accounts for 54% of all completed suicides. Suffocation/hanging and poisoning are the next most common methods for suicide accounting for 20.4% and 17.3%, respectively, of all completed suicides (Kochanek et al.).

Ethnic Differences

In the United States, there is a consistent difference in suicide rates among ethnic/racial groups. Suicide among African-Americans is substantially rarer than among Whites by about one half (5.1 among Blacks versus 11.3 among Whites per 100,000 annually). White suicide rates are more than twice as high (12.2) as those of non-Whites (5.5). Furthermore, Whites account for approximately 91% of all completed suicides as compared to non-Whites, who account for approximately 9% of all suicide completions (Kochanek et al., 2004). Native Americans are the racial/ethnic group with the highest overall suicide rate, but large variation exists among tribal groups (Kochanek et al.).

Age Differences

There is also variation in suicide rates between different age groups. Relative to those younger, rates of completed suicide are highest among the elderly (age 65 and over). Elderly adults have rates of suicide close to 50% higher than that as the nation as a whole. The elderly made up 12.3% of the population, but represented 17.5% of the suicides (Kochanek et al., 2004). Young adults, ages 20-24, are also at an increased risk for suicidal behavior. Among people 20 to 24 years of age, the suicide rate was 12.8 per 100,000 young adults, with seven times as many deaths among men as among women (Kochanek et al.).

Suicidal individuals are believed to have certain characteristics that distinguish them from nonsuicidal individuals and may be different in many respects from those who have never

considered suicide (Connell & Meyer, 1991). It has been shown of both attempted and completed suicide that depression is the most common clinical syndrome preceding the suicidal behavior (Barraclough, Bunch, Nelson, & Sainsbury, 1974; Silver, Bohnert, Beck, & Marcus, 1971). That depressed individuals tend to express significantly more suicidal wishes has been known for some time (e.g., Beck, 1967). The link between depression and suicide has been attributed to the increased cognitive rigidity of depressed individuals, which hinders their ability to envision other alternatives (Bonner & Rich, 1987).

The most predictive factor in suicide attempts and completions is the presence of feelings of hopelessness (Beck, Steer, Kovacs, & Garrison, 1985). The degree of suicidal intent increases as hopelessness increases (Minkoff, Bergman, & Beck, 1973). Suicidal ideation is closely related to suicide attempts and suicide completions. Persons with higher levels of suicidal ideation may also be more pessimistic (Beck, Steer, Kovacs, & Garrison, 1985), more ambivalent toward life in general (Kovacs & Beck, 1977), and have lower self-esteem (Petrie, Chamberlain, & Clarke, 1988) than individuals with lower levels of suicidal ideation. Furthermore, suicidal individuals are also thought to be more excitable (Mehrabian & Weinstein, 1978) and more emotional than nonsuicidal individuals (Watson & Kucala, 1978).

Reasons for Living

Much of the research on suicide has focused on the maladaptive characteristics of the suicidal individual and characteristics that may contribute to suicidal behaviors. Less attention has been paid to adaptive behaviors or positive expectancies about the future, which may keep a person from considering, or attempting suicide. Linehan and colleagues developed the Reasons for Living Inventory (RFL), which measures adaptive characteristics of non-suicidal individuals that are attributed to or are alleged to prevent the commission of suicide (Linehan, Goodstein,

Nielsen, & Chiles, 1983). The RFL was produced from two independent studies on concentration camp survivors. Both studies focused on adaptive characteristics that kept individuals alive in the concentration camps despite enduring profound physical and emotional pain. Many survivors reported that personal beliefs regarding life and their expectations for the future kept them alive (Linehan et al., 1983). It is important to study both reasons for living and suicide ideation when attempting to determine reasons people engage in suicidal behavior.

Alcohol Use

Alcohol abuse and dependence are both widespread disorders which are identified in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR, American Psychological Association, APA, 2000). On average, 90% of people in Western countries use alcohol at some time in their lives, and 40% experience temporary alcohol-related impairment in some area of life as a result of drinking (Schuckit, 1996). Patterns of alcohol use can be examined in relation to the amounts consumed, the temporal and social attributes of drinking, or the consequences of alcohol abuse (Pirkola, Isometsa, & Heikkinen, 2000). Alcohol misuse generally indicates a range of harmful, maladaptive patterns of alcohol intake with probable need for intervention, and covers clinical states from problematic use to established abuse and dependence.

Demographics of Alcohol Use

The DSM-IV-TR (APA, 2000) states that, “substance dependence is a maladaptive pattern of substance use, leading to clinically significant impairment or distress as manifested by tolerance, withdrawal, and continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance” (p. 110). Heavy drinking is prevalent in both men and women on college campuses

(O'Malley & Johnston, 2002). However, gender differences in alcohol consumption patterns and consequences of drinking are evident across many cultures (Wilsnack, Vogeltanz, Wilsnack, Harris, Ahlstrom, & Bondy, 2000). In the United States, men generally drink alcohol more frequently than women (Midanik, 1994), typically consume larger amounts per drinking occasion (Greenfield, Midanik, & Rogers, 2000), and have a higher prevalence of drinking related problems (Clark & Hilton, 1991).

Young adult drinkers experience proportionately higher rates of alcohol-related problems, including more severe negative consequences, such as DWI arrests and fatalities (Fell, 1990) and victimization (Koss & Dinero). However, the more commonly reported negative consequences are acute reactions, such as drunkenness, hostility towards others, and blackouts. Alcohol related problems have been found to vary directly with rates of alcohol consumption (Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998). Thus, prevalent alcohol use among college students places them at increased risk for alcohol related problems and disorders.

Alcohol and Suicide

The association between heavy alcohol consumption and suicide appears to have been established soundly comparing suicide rates among alcoholics with those among the general population (Tsuang, 1978). One third of successful suicides involve alcohol intoxication, and at least 1 out of every 10 chronic alcoholics die of intentional suicide (Victoroff, 1983). Many studies clearly indicate a strong association between the abuse of alcohol, suicide attempts, and rates of completed suicide. However, as alcoholics also tend to exhibit elevated incidences and prevalences of other associated psychopathology, the specific role of alcohol consumption in suicides remains ambiguous. The exact role of alcohol consumption in suicide will likely remain

unclear, as it would be unethical to experiment with these variables. However, greater clarity can be achieved through traditional research methodology.

Alcohol use disorders are among the most frequent of the mental disorders and they are often concomitant with other disorders. In most psychological autopsy studies, where past psychological history is revealed after death, over 90% of patients who commit suicide have experienced mental disorders, affective, or addictive disorders. In unselected suicide populations, alcohol abuse or dependence was retrospectively found among 15 to 56% of patients who committed suicide (Pirkola, Suominen, & Isometsa, 2004). Of patients with a lifetime addictive disorder, 66% have also been reported to have a lifetime history of at least one other mental disorder (Kessler, Nelson, & McGongle, 1996). Mental and addictive disorders are considered to be key risk factors for suicide and suicidal behavior (Mos'cicki, 1995). The co-occurrence of addictive and other mental disorders in the general population is highly prevalent (Pirkola et al., 2004). In-patient population studies show that alcohol and other substance use disorders are associated with suicidal ideation (Pages, Russo, Roy-Byrne, Ries, & Cowley, 1997). However, the co-morbidity of psychiatric disorders among alcohol-dependent patients is reported to be relatively more important than alcohol dependence in determining the suicidal risk (Driessen, Veltrup, & Webber, 1998).

The study performed by Kirkpatrick-Smith et al. (1991) attempted to test the predictiveness of life stresses, hopelessness, reasons for living, loneliness, depression, and alcohol abuse on suicide in high school students. The results of the study indicated that 46% of the students reported no suicide ideation, 40% reported occasional thoughts of suicide, 10% reported intermittent thoughts, and 4% reported persistent thoughts. Responses to the alcohol survey indicated that 72% of the students drank alcohol (Kirkpatrick-Smith et al, 1991). Alcohol

abuse was found to be a significant predictor of suicide ideation among students. Moreover, alcohol abuse was found to make an independent contribution as a predictor of suicide ideation while also being significantly related to depression, hopelessness, and reasons for living.

There are two problems that arise when attempting to determine the independent roles of alcohol abuse and a psychological disorder such as depression on suicidal ideation and reasons for living. The first is that alcohol abuse and another psychiatric disorder often coexist, making it difficult to assess which is primary. Second, many previous studies have been performed using clinically treated patients who are more likely to have more than one disorder. These factors make determining the independent roles of alcohol abuse and another psychiatric disorder on suicidal ideation and reasons for living difficult. However, it is important to continue to research the role in which alcohol plays in suicidal ideation and reasons for living with the hope of determining alcohol's individual affect on suicidal behavior.

Individual Level Studies

The contribution of alcohol to completed suicides and suicide attempts is complex and appears to include effects ranging from psychosocial disruption, to disinhibited and dysphoric states of mind, to choice of suicide method (Mayfield & Montgomery, 1972). Both short-term and long-term effects, which are sometimes viewed as distal and proximal risk factors, are involved (Pirkola et al., 2000). It has been estimated that 2 to 3.4% of alcohol-dependent individuals in the general population commit suicide. Alcoholics have a 60 to 120 times greater suicide risk than the non-psychiatrically ill population (Murphy & Wetzel, 1990). According to a recent meta-analysis of mortality studies, the lifetime risk for suicide is 7% in patients who are alcohol dependent (Inskip, Harris, & Barraclough, 1998). This number is much higher than the lifetime risk for suicide in the general population. From an empirical perspective, primary

support for the alcohol-suicide link arises from the many individual level studies of alcohol and other drug use among individuals contemplating suicide, attempting suicide, and those who complete suicide.

However, there are limitations in individual level studies. For example, Garrison et al. (1993) demonstrated a relationship between suicidal ideation and alcohol use among a sample of adolescents, Kendall (1983) connected suicide attempts to alcohol problems and dependence in a hospitalized sample, and Klatsky and Armstrong (1993) showed that likelihood of suicide is higher among heavy alcohol consumers than non-users. All of these studies show that alcohol consumption and suicidal behavior are correlated, but all had sampling limitations as well. The response rate in Garrison et al. study was less than 49%, Kendall's sample was composed solely of hospitalized individuals, and Klatsky et al. was composed of self-selected insured individuals. These studies exhibited limited external validity and cannot be directly generalized to alcohol use and suicidal behavior in the general population.

Aggregate Level Studies

An alternative approach to individual level studies is aggregate level studies that look at general population trends in alcohol use and suicide. Aggregate level studies can provide a statistical overview of population-based relationships among major proposed predictors of suicide rates (Gruenewald, Ponicki, & Mitchell, 1995). Suicide rates are associated with levels of alcohol consumption and heavy drinking in populations (Makela, 1996). Makela reported that in male age groups 15-34 and 35-49 years, the suicide rate in Finland from 1950 to 1991 was associated with the per capita alcohol consumption. A similar effect was found in the United States when unemployment was statistically controlled for (Caces & Harford, 1998). Also, a decline in suicide rates in former USSR countries was reported following strict restrictions on

alcohol sales (Wasserman, Varnik, & Eklund, 1994). These aforementioned studies have demonstrated a positive and significant association between per capita alcohol consumption and suicide rates at an aggregate level. However, aggregate level studies also have limitations.

Many of these aggregate level studies have not included controls for alternatives of change in suicide rates. For example, the onset of war or the condition of the economy could be potent extraneous variables. Far more control of concurrent historical trends is necessary before indicting any measure as a strong correlate of suicide rates (Lester, 1993). Environmental, cultural, and social characteristics must be accounted for to be able to successfully conclude that there is a significant link between alcohol consumption and suicide rates in aggregate studies.

Current Study

The prevalence of alcohol use in a college setting coupled with the large increase in suicide rates for college students in recent years has sparked new research interests in youth suicide among alcohol users. The current study investigates reasons for living as opposed to actual suicide. It is important to examine reasons for living because clinicians may potentially be able to halt a suicide attempt before it occurs. Also, by studying a person's reasons for living, additional measures of risk for suicide may be found and prove useful. This is not necessarily the case when using other methods of suicidal assessment. While other methods examine suicidal thoughts that not everyone possesses, the RFL measures reasons for living that everyone possesses.

Research examining alcohol users' reasons for living may enhance intervention and prevention program effectiveness, especially with regard to suicide risk. The current study examines varying levels of risk for alcohol related problems and their effect on suicide ideation and reasons for living. The investigation of risk for alcohol related problems as opposed to

alcohol use or abuse will be an aspect unique to this study as many previous studies have focused on examining only alcohol use or abuse in relation to suicidal behavior.

The results of this study may be used to identify groups who are at an increased risk for suicide within a college population. Once high-risk groups are better detected, more efficient interventions and prevention programs can be implemented to decrease the occurrence of suicidal behaviors on the collegiate level. These new and improved programs could potentially lead to a decrease in suicidal behavior by raising their expectations for life and improving attitudes toward living, so that healthier alternatives to suicide may be introduced.

The purpose of this study is to examine suicidal ideation and reasons for living in college students with varying levels of risk for alcohol related problems. The participants are divided into three groups based on their risk (no risk, low risk, increased risk) for alcohol related problems as determined by their responses on the Alcohol Use Disorders Identification Test (AUDIT). Based on the literature review, the following hypotheses are proposed:

Hypotheses

- H1: There will be a significant difference on the total score of the Reasons for Living inventory among the three different groups of risk for alcohol related problems. The higher one's risk for alcohol related problems, the lower score one will reveal on the RFL.
- H2: Non-suicide ideators will reveal a higher total score on the RFL inventory than suicide ideators.
- H3: Non ideators will score higher than ideators on the Responsibility to Friends subscale of the Reasons for Living inventory.
- H4: Women will reveal a higher total score on the Reasons for Living inventory than men.

- H5: Women will score higher than men on the Survival and Coping Beliefs subscale of the Reasons for Living inventory.
- H6: Suicide ideators will score significantly higher on the Alcohol Use Disorders Identification Test (AUDIT) than nonideators.
- H7: Women will reveal themselves as ideators more often than men.
- H8: Men will score higher than women on the Alcohol Use Disorders Identification Test (AUDIT).

CHAPTER 2

METHOD

Participants

The participants in this study consisted of 161 undergraduate students enrolled in psychology classes at a southeastern university. All participants were volunteers recruited from their regularly scheduled classes and received extra credit for taking part in the study. Students who did not wish to participate in the study were offered alternative means of obtaining extra credit.

Measures

Participants filled out forms online via the Sona-System that were presented to them after they agreed to be active participants in the study by foregoing an informed consent document (Appendix A). An instruction page (Appendix B) was then presented to participants to remind them that their answers are confidential and to answer the questions truthfully. The instruction page (Appendix B) also gave them instructions on how to proceed. After reading the instructions, participants filled out forms that contained a demographic questionnaire (Appendix C), a Suicidal Ideation Questionnaire (Appendix D), an Expanded Reasons for Living Inventory (Appendix E), and an Alcohol Use Disorders Identification Test (Appendix F). The demographic questionnaire (Appendix C) was administered to assess individual characteristics such as class rank, marital status, race, age, and gender.

The expanded Reasons for Living Inventory (Linehan et al., 1983), is a 72-item inventory that evaluates differences in beliefs of suicidal and non-suicidal individuals. The Reasons for Living Inventory (RFL) considers adaptive coping skills that suicidal persons lack rather than negative traits they possess. The respondents rate statements on a 6-point agreement-

disagreement scale. The RFL requires a rating from 1 (not at all important) to 6 (extremely important) in terms of how important a reason would be for living. The resulting inventory is factored into six subscales for reasons for living.

The six subscales include Survival and Coping Beliefs (SCB), Responsibility to Family (RF), Child-related Concerns (CRC), Fear of Suicide (FS), Fear of Social Disapproval (FSD), and Moral Objections (MO) (Linehan et al., 1983). The first three subscales are positive, addressing reasons to live; the latter three are negative, addressing reasons not to die by suicide. Additionally, the 24 item Responsibility to Friends subscale will be included in the expanded Reasons for Living Inventory. The Responsibility to Friends subscale was originally omitted by Linehan after a four factor analyses was done; however, it seems to tap into a separate factor that may be a reason for living, and, therefore, is kept in the expanded inventory.

The Reasons for Living Inventory has been shown to be reasonably reliable and to have good internal consistency, with Cronbach alpha coefficients on each subscale ranging from .72 to .89. In terms of validity, the RFL has been shown to differentiate between suicidal and nonsuicidal individuals, as well as suicide attempters from non-attempters, in both a shopping mall sample and a clinical population of psychiatric inpatients (Linehan et al., 1983). Research involving a college population (Connell & Meyer, 1991) revealed that the RFL's subscales distinguished between suicidal and nonsuicidal individuals, and that non-suicidal individuals had greater Survival and Coping Beliefs, greater Responsibility to Family, and more Moral Objections to suicide.

The Suicide Ideation Questionnaire (Appendix D) that will be used is a modified version of the one used by Reynolds (1987). The Suicide Ideation Questionnaire has been shown to differentiate suicide ideators and non-ideators in several studies (e.g., Ellis & Jones, 1996; Ellis

& Range, 1989). It consists of four categories and requires the participants to select the category that most relates to their situation. Categories one and two consist of the following statements: 1) I have attempted suicide in the past, and 2) I have seriously considered committing suicide in the past. Categories three and four state, 3) The thought of committing suicide has crossed my mind, but I never seriously considered it, and 4) I have never thought of committing suicide.

Participants who select categories one and two are classified as suicide ideators and those who select three and four are classified as non-ideators.

The Alcohol Use Disorders Identification Test (Saunders et al, 1993) is a 10-item self-report instrument designed to identify individuals for whom the use of alcohol places them at risk for alcohol related problems or who are experiencing such problems. The time reference of the Alcohol Use Disorders Identification Test (AUDIT) items is the past year, although a few items have no specific time reference. The AUDIT is comprised of two scales measuring alcohol use and alcohol dependence, which add together to yield a total AUDIT score measuring the risk for alcohol related problems. The alcohol use scale includes questions 1 through 3 on the AUDIT and the alcohol consumption scale includes questions 4 through 10.

AUDIT total scores can range from 0 to 40, and scores of 8 or above have been used to identify individuals who may be at risk for or who are experiencing alcohol related problems (Conigrave, Hall, & Saunders, 1995). Furthermore, a total score between 8 and 12 indicate an at risk drinker and a score of 13 and above indicates a high risk for dependence drinker.

Considerable empirical evidence supports the AUDIT's internal consistency (Barry & Fleming, 1993); AUDIT scores also are moderately to highly correlated ($r_s = .62-.88$) with other self-report screening tests such as the MAST, CAGE, and MacAndrew Scale (Bohn, Babor, &

Kranzler, 1995; Hays, Merz, & Nicholas, 1995; Saunders et al., 1993), providing evidence for its validity.

Procedure

The general purpose of the study was explained as part of the informed consent procedure. By proceeding from an informed consent statement online, the students implicitly agreed to be participants in the study. Participants were then shown an instruction page, a demographic questionnaire, the Suicide Ideation Questionnaire (SIQ), the Expanded Reasons for Living Inventory (RFL), the Alcohol Use Disorders Identification Test (AUDIT). The order of the questionnaires was automatically randomized in the Sona-System. After the participants completed all of the materials online, the study was further explained. The students were then informed that the results of the study could be found in the electronic theses and dissertations collection 2 months after they participated in the study.

Experimental Design

Consistent with published clinical cutoff scores, the Alcohol Use Disorders Identification Test was used to create three groups (no risk = 0-7, at-risk = 8-12, and high risk = 13 and above) of participants with varying levels of risk for alcohol related problems for hypotheses 1. Participants were divided into suicide ideators and non-ideators based on their responses on the Suicide Ideation Questionnaire.

The research design for the hypotheses 1 through 5 was a 2 (gender) X 2 (ideator status) X 3 (alcohol use groups; no risk, at-risk, high risk) Multivariate Analysis of Variance (Manova) with unequal cell sizes. Eight dependent variables were included, consisting of the total RFL score and the seven subscale scores. A Tukey-Kramer post hoc test was used to examine differences in the AUDIT groups on the total RFL score and each subscale score. Post-hoc tests

could not be performed on gender and ideator status because there were fewer than three groups in each category. Thus, independent t-tests were conducted to further test for significant differences between genders and ideator status on the total RFL score and each RFL subscale score.

The research design for hypothesis 6 and 8 was a 2 (gender) X 2 (ideation status) Analysis of Variance (ANOVA) with unequal cell sizes. The dependent variable used for this analysis was the total score on the AUDIT. A Chi-square test of independence was used for hypothesis 7 to test for a significant difference between men and women on the Suicide Ideation Questionnaire. The significance level was set at $p < .05$ for all analyses. Where relevant, Cohen's d was used to calculate the magnitude of the relationship (effect size) between variables. Cohen (1998) cautiously defined effect sizes as "small, $d = .2$," "medium, $d = .5$," and "large, $d = .8$ ", stating that "there is a certain risk inherent in offering conventional operational definitions for those terms for use in power analysis in as diverse a field of inquiry as behavioral science" (p. 25).

CHAPTER 3

RESULTS

A total of 161 students (123 women, 38 men) participated in this study. The majority of the participants were single, White, of traditional college age (18-24), and endorsed Christianity as their religious preference. Frequency data are displayed in Table 1 and Table 2 for the demographic questionnaire and the suicide ideation questionnaire, respectively. Of all participants, 32 (19.8%) were classified as suicide ideators, while the remaining 129 (80.2%) were non-ideators. Of the suicide ideators, 20 (62.5%) had attempted suicide and 12 (37.5%) had contemplated suicide in the past. Moreover, 27 (16.8%) were female ideators, and 5 (3.1%) were male ideators (see Table 2).

On the Alcohol Use Disorders Identification Test (AUDIT), the mean score for all participants was 5.93 out of a potential 40 and the standard deviation was 5.82. A mean of 5.93 out of 40 reveals a score that falls within the range for low risk for alcohol related problems. The range of total scores for all participants was between 0 and 29. The mean score for all participants on the Consumption subscale was 3.29 with a standard deviation of 2.58 and the mean on the Dependence subscale was 2.64 with a standard deviation of 3.94.

On the Reasons for Living Inventory (RFL), the internal consistency for the entire inventory and each subscale was computed using the Cronbach alpha statistic. The results yielded moderately high internal consistency, with coefficients ranging from .81 to .95. Furthermore, a test for correlation between the subscales of the RFL was conducted among men and women as well as among suicide ideators and non-ideators. There were significant correlations that were found for women but not for men and for non-ideators and not for ideators (see Table 3 and Table 4).

Table 1

Demographic Data for All Participants

Question	Category	Value	Percentage of Sample
Age	Mean	21.31	
	Range	18-50	
	Standard Deviation	4.61	
Sex	Female	123	76.4%
	Male	38	23.6%
Marital Status	Single	141	87.6%
	Married	19	11.8%
	Separated	1	0.6%
	Divorced	0	0.0%
	Widowed	0	0.0%
Children	No	150	93.2%
	Yes	11	6.8%
Level of Education	Freshman	58	35.8%
	Sophomore	29	17.9%
	Junior	30	18.5%
	Senior	40	24.7%
	Graduate	1	0.6%
	Non-degree seeking	3	1.9%
Ethnicity	African American	4	2.5%
	Asian American	4	2.5%
	Caucasian	144	88.9%
	Hispanic	2	1.2%
	Other	7	4.3%
Religion	Christian	125	77.2%
	Atheist	8	4.9%
	Hindu	1	0.6%
	Jewish	1	0.6%
	Muslim	1	0.6%
	Unitarian	1	0.6%
	Other	24	14.8%

Table 2

Data for Suicide Ideation Questionnaire for All Participants

Category	Number in Sample	Percentage of Sample
Ideation Level		
1. Attempted suicide in the past	20	12.4%
2. Contemplated suicide in the past	12	7.4%
3. Thoughts of suicide in the past	79	49.0%
4. Never considered suicide	50	31.1%
Ideators		
Ideation Level 1 or 2	32	19.9%
Non-ideators		
Ideation Level 3 or 4	129	80.1%
Sex		
1. Female Ideator	27	16.8%
2. Female Non-ideator	96	59.6%
3. Male Ideator	5	3.1%
4. Male Non-ideator	33	20.5%

Table 3

Correlation Matrix of Gender on the Reasons for Living Inventory

RFL Measure	Child	Fear	Friends	Moral	Family	Social	Coping
Child	--	.21**	-.03	.06	.46**	.11	.44**
Fear	.06	--	.16	.15	.19*	.41**	-.03
Friends	-.07	-.16	--	-.04	.01	.12	-.01
Moral	.38*	.23	-.07	--	.29**	.27**	.26**
Family	.43**	.18	-.15	.62**	--	.41**	.64**
Social	.20	.26	-.26	.52**	.62**	--	.21*
Coping	.26	-.17	.16	.44**	.58**	.39*	--

Note. * $p < .05$; ** $p < .01$; Correlations for female participants ($n = 123$) are presented above the diagonal, and correlations for male participants ($n = 38$) are presented below the diagonal. Child = Child Related Concerns; Fear = Fear of Suicide; Friends = Responsibility to Friends; Moral = Moral Objections; Family = Responsibility to Family; Social = Fear of Social Disapproval; Coping = Survival and Coping Beliefs.

Table 4

Correlation Matrix of Ideator Status on the Reasons for Living Inventory

RFL Measure	Child	Fear	Friends	Moral	Family	Social	Coping
Child	--	.19*	-.08	.15	.45**	.18*	.38**
Fear	.17	--	.05	.20*	.20*	.41**	-.09
Friends	.07	.27	--	.02	-.02	-.02	.07
Moral	.25	.15	-.11	--	.45**	.39**	.31**
Family	.52**	.23	.01	.19	--	.44**	.57**
Social	.00	.25	.24	.13	.54**	--	.19*
Coping	.49**	.14	.00	.41*	.83**	.47**	--

Note: * $p < .05$; ** $p < .01$; Correlations for female participants ($n = 123$) are presented above the diagonal, and correlations for male participants ($n = 38$) are presented below the diagonal. Child = Child Related Concerns; Fear = Fear of Suicide; Friends = Responsibility to Friends; Moral = Moral Objections; Family = Responsibility to Family; Social = Fear of Social Disapproval; Coping = Survival and Coping Beliefs.

Hypothesis 1, which stated that there would be a significant difference in the scores on the RFL between the students in the three different alcohol risk groups, was not confirmed. Participants were divided into three groups based on their total score on the Alcohol Use Disorders Identification Test. An overall score of 0 to 7 on the AUDIT placed participants in the low risk for alcohol related problems group and accounted for 112 (69.6%) of the total number of participants. An overall score of 8 to 12 on the AUDIT placed participants in the at-risk group for alcohol related problems and accounted for 31 (19.3%) of the total number of participants. The participants who obtained an overall score of 13 or above were placed in the high risk for alcohol related problems group and accounted for 18 (9.3%) of all participants. A Multivariate Analysis of Variance (MANOVA) was conducted between the three groups of risk for alcohol related problems on the Reasons for Living Inventory and revealed no main effect.

Hypothesis 2, which stated that non-ideators would reveal a higher total score on the RFL than suicide ideators, was not confirmed. Evaluation of the data in the MANOVA revealed no main effect for ideator status on the RFL. Furthermore, an independent t-test revealed no significant difference between suicide ideators and non-ideators on the RFL (Table 5).

Hypothesis 3, which stated that non-ideators would score higher than ideators on the RFL Friends subscale, was supported. A difference between suicide ideators and non-ideators on the RFL Friends subscale was revealed in the MANOVA to be approaching significance when tested for a main effect, $F(1, 159) = 3.78, p = .054$. However, a significant difference between ideators and non-ideators was found on the RFL Friends subscale when a t-test was conducted, $t(1, 159) = 3.31, p = .001$ (see Table 5). The score for non-ideators ($M = 4.09, SD = .75$) on the RFL Friends subscale was significantly higher than the score for suicide ideators ($M = 3.59, SD = .87$). Cohen's d equation was used to calculate effect size (see Table 5) using the means and

standard deviations of both groups (suicide ideator and non-ideator) for the RFL Friends subscale, and the magnitude of the relationship between ideators and non-ideators was found to be small ($d = 0.25$).

Hypothesis 4, which stated that women would reveal a higher total score on the RFL than men, was supported. The MANOVA revealed gender to have a main effect on the total RFL, $F(1, 159) = 7.21, p = .008$. The score for women ($M = 4.39, SD = .57$) on the RFL was significantly higher than the score for men ($M = 4.05, SD = .57$). Cohen's d equation was calculated for effect size (see Table 6), and the magnitude of the relationship between ideators and non-ideators on the total RFL was found to be of moderate magnitude ($d = 0.59$).

Hypothesis 5, which stated that women would score higher than men on the Survival and Coping Beliefs subscale of the RFL, was supported. The MANOVA revealed a significant main effect of gender on the Survival and Coping Beliefs subscale, $F(1, 159) = 9.31, p = .003$. The score on the Survival and Coping Beliefs subscale for women ($M = 5.05, SD = .89$) was significantly higher than the score for men ($M = 4.69, SD = .99$; see Table 6).

Hypothesis 6, which stated that suicide ideators would score significantly higher on the AUDIT, was supported. An Analysis of Variance (ANOVA) was conducted to test for main effects of ideation status by gender on the Alcohol Use Disorders Identification Test. Suicide ideation status was found to have a significant main effect on the AUDIT, $F(1, 159) = 4.52, p = .035$. The score for ideators ($M = 7.94, SD = 7.64$) was significantly higher on the AUDIT than the score for non-ideators ($M = 5.43, SD = 5.19$; see Table 5). Ideation status was the only main effect found in the ANOVA and there were no interaction effects revealed.

Hypothesis 7, which stated that women would reveal themselves as ideators more often than men, was confirmed. A Chi-square test of independence was performed to examine the

relation between gender and ideator status. The relation between these variables was significant, $X^2(1, 161) = 44.88, p = .000$. Women were found to be more likely than men to reveal themselves as suicide ideators.

Hypothesis 8, which stated that men would score higher than women on the Alcohol Use Disorders Identification Test, was not confirmed. An Analysis of Variance (ANOVA) was performed to test for main effects of gender by ideation status on the AUDIT. Analysis of the data revealed no main effect of gender on the total AUDIT score. There were also no main effects found in an Analysis of Variance (ANOVA) of gender when the Consumption subscale and the Dependence subscale of the AUDIT were used as dependent variables.

Although not hypothesized, there were significant differences found between men and women on the Child Related Concerns subscale and the Responsibility to Family subscale (see Table 6). An independent t-test compared the scores for men and women on the subscales and indicated that there were significant differences between the genders. On the Child Related Concerns subscale, women scored significantly higher than men $t(159,1) = 2.05, p = .036$. Furthermore, analysis of the Responsibility to Family subscale revealed a significantly higher score for women than for men $t(159,1) = 2.56, p = .011$ (see Table 6). It should also be noted that on the Fear of Suicide subscale, the difference between the scores for genders was revealed to be approaching significance with women scoring higher than men (see Table 6). Cohen's *d* equation yielded a medium effect size (.59) for gender on the total RFL and yielded effect sizes ranging from small to moderate for each subscale score (see Table 6).

A significant main effect was found for ideator status on the Moral Objections subscale of the RFL, $F(1, 159) = 4.90, p = .028$. Significant 2-way interactions were also revealed in the Multivariate Analysis of Variance (MANOVA). A significant interaction effect was found

between AUDIT group belonging and ideator status on the total RFL, $F(1, 159) = 3.26, p = .04$, and the Fear of Social Disapproval subscale, $F(1, 159) = 4.63, p = .011$. There were also significant interaction effects found between AUDIT groups and gender on the Responsibility to Family subscale, $F(1, 159) = 3.47, p = .03$, and the Survival and Coping subscale, $F(1, 159) = 3.18, p = .04$ of the RFL. There were no interaction effects found between gender and ideator status on the total RFL or any of the RFL subscales. Furthermore, there was no 3-way (gender, ideator status, AUDIT groups) interaction effect revealed on the total RFL or any of the subscales.

Table 5

Mean Responses on the Reasons for Living Inventory by Suicide Ideator Status, Computed t Values, Probabilities, and Effect sizes (Cohen's d)

	Means		t	p	d
	Suicide Ideator (N = 32)	Non-Ideator (N = 129)			
Total RFL	4.18 (SD = .71)	4.34 (SD = .55)	1.39	.17	0.25
Survival and Coping	4.97 (SD = 1.14)	4.96 (SD = .86)	-.02	.98	-.01
Child Related Concerns	4.28 (SD = 1.94)	4.50 (SD = 1.73)	.63	.53	.12
Fear of Suicide	3.03 (SD = 1.31)	3.16 (SD = 1.23)	.51	.61	.10
Responsibility to Family	4.83 (SD = 1.18)	4.82 (SD = 1.11)	-.06	.95	-.10
Moral Objections	4.52 (SD = 1.37)	4.05 (SD = 1.54)	-1.57	.12	-.32
Social Disapproval	3.19 (SD = 1.48)	3.19 (SD = 1.38)	.04	.99	.00
Responsibility to Friends	3.59 (SD = .86)	4.09 (SD = .75)	3.31	.00**	.63

Note. *p < .05, **p < .01

Table 6

Mean Responses on the Reasons for Living Inventory by Gender, Computed t Values, Probabilities, and Effect Sizes (Cohen's d)

	Means		t	p	d
	Male (N = 38)	Female (N = 123)			
Total RFL	4.05 (SD = .57)	4.39 (SD = .57)	3.07	.00**	.59
Survival and Coping	4.69 (SD = .99)	5.05 (SD = .89)	2.12	.04*	.38
Child Related Concerns	3.95 (SD = 1.88)	4.62 (SD = 1.17)	2.05	.04*	.37
Fear of Suicide	2.79 (SD = 1.11)	3.24 (SD = 1.27)	1.96	.05	.38
Responsibility to Family	4.43 (SD = 1.20)	4.95 (SD = 1.04)	2.56	.01*	.45
Moral Objections	3.84 (SD = 1.63)	4.24 (SD = 1.48)	1.42	.16	.26
Social Disapproval	3.06 (SD = 1.39)	3.23 (SD = 1.40)	.64	.52	.12
Responsibility to Friends	3.86 (SD = .74)	4.03 (SD = .82)	1.16	.25	.22

Note. * p < .05, **p < .01

CHAPTER 4

DISCUSSION

Summary of Major Findings

The purpose of this study was to examine suicidal ideation and reasons for living in college students with varying levels of risk for alcohol related problems. Although there have been previous studies regarding suicidal behaviors and alcohol use/abuse, there has not been a study that focused on risk for alcohol related problems and suicidal behaviors. Researchers tend to treat alcohol use and alcohol problems interchangeably. Inherent in this assumption is the belief that the more alcohol people consume, the more likely they are to experience negative consequences. However, the association between alcohol consumption and alcohol problems is strong only for excessive drinkers (a positive correlation) and abstainers (a negative correlation) (McCreary, Newcomb, & Sadava, 1999). Thus, it is important to measure alcohol consumption and the risk for alcohol related problems separately when examining the roles each play in suicidal behaviors. The current study focused on the relationship between different levels of risk that college students have for alcohol related problems and suicidal behaviors. In addition, the study examined differences in gender and ideation status with regard to reasons for living and levels of risk for alcohol related problems.

Hypothesis 1, which stated that there would be a significant difference in the scores on the Reasons for Living Inventory (RFL) between the students in the three alcohol risk groups, was not supported. Previous studies have shown a positive association between alcohol consumption and suicidal behaviors (Tsuang, 1978; Victoroff, 1983). However, the strong positive association between alcohol consumption and the risk for alcohol related problems is only seen with people at both extremes of the alcohol consumption continuum. For those whose

alcohol consumption is within the normal range, experiencing adverse alcohol related outcomes is not strongly associated with general alcohol consumption (McCreary et al., 1999).

The participants in the current study revealed a mean score that would be categorized in the low risk for alcohol related problems group. There were only 26.1% of the participants who were classified as at-risk or high risk for dependence drinkers. Moreover, the mean score of all participants on the consumption scale of the AUDIT, which was used to evaluate alcohol consumption, was within a range that would not be categorized at either end of the extremes (abstainers, alcoholics). Thus, according to the literature, the risk for alcohol related problems in this college sample would not be expected to be correlated with alcohol consumption. Furthermore, the risk for alcohol related problems and alcohol consumption in this sample population would not be expected to correlate with scores on the RFL.

Hypothesis 2, which predicted that non-ideators would reveal a higher total score on the RFL inventory than suicide ideators, was not supported. This finding is inconsistent with most past and current research, which typically shows non-ideators exhibiting higher reasons for living than suicide ideators (Ellis & Jones, 1996). Ideators usually report fewer reasons for living and lower adaptive characteristics and coping mechanisms to manage life stressors, which in turn makes them more susceptible to suicidal behaviors. Moreover, Linehan et al. (1983) reported the RFL was a valuable tool in differentiating between suicidal and non-suicidal individuals in a shopping mall sample and in a clinical population of psychiatric inpatients.

Hypothesis 3, which predicted that non-ideators would score higher than suicide ideators on the Responsibility to Friends subscale of the RFL, was supported. This finding is consistent with research conducted by Ellis and Jones (1996) where it was reported that non-ideators revealed a higher score on the RFL's Responsibility to Friends subscale when compared to

ideators in a sample of college students. This finding also supports previous research revealing that individuals having fewer resources available to them (eg. friends) to find a solution to their stressor are at a greater risk for suicidal behaviors (Dixon et al., 1991).

The Responsibility to Friends subscale was used in this hypothesis to predict a significant difference between suicide ideators and non-ideators because friends and social networks is an important aspect of college life. Attending college is the first time, for most, that one is forced into a world outside of one's comfort zone. The social networks and relationships with friends that are formed in a college atmosphere can act as a buffer towards suicidal behaviors. As the results suggest, people who are suicide ideators do not feel an obligation to stay alive for their friends, and may perhaps end their friendships and other interpersonal relationships. However, people who do not have any friends to begin with, probably do not have a strong social network, which can in turn cause depression or susceptibility to suicidal behaviors. Thus, the relationship between suicide ideation status and the responsibility one has to one's friends to stay alive can work in two directions.

Hypothesis 4, which stated that women would reveal a higher total score on the RFL, was confirmed. This finding supports previous research revealing gender differences on the RFL (Ellis & Range, 1988) and is also indicative of the lower rate of suicide completion for women, in comparison to men (Ellis & Range, 1989; Kochanek et al., 2004). Women have also been shown to have more protective factors and be more willing to seek help more often than men (Canetto, 1997). A higher score on the RFL suggests a greater level of adaptive characteristics, or reasons for living and may be the result of several characteristics including the ability to adapt to life events, coping techniques, and interpersonal relationships.

Hypothesis 5, which predicted that women will score higher than men on the Survival and Coping subscale of the RFL, was confirmed. This supports past research suggesting that women score consistently higher on the Survival and Coping subscale of the RFL (Ellis & Hirsh, 1996). The Survival and Coping Beliefs subscale combines a number of beliefs about life and living. Included in the Survival and Coping Beliefs subscale are reasons having to do with positive expectations about the future as well as a number of beliefs about one's ability to cope with whatever life has to offer (Linehan et al., 1983). Analyses of the data suggests that women have an overall better attitude about what the future holds than men as well as having better coping skills if they are to encounter stressful circumstances.

Hypothesis 6, which stated that suicide ideators will score significantly higher than non-ideators on the AUDIT, was supported. This finding is consistent with previous research linking suicidal behavior with alcohol use and dependence (Gruenewald et al., 1995; Inskip et al., 1997; Makela, 1996). Because the AUDIT measures both alcohol consumption and alcohol dependence in order to yield a measure of risk for alcohol related problems, the total score on the AUDIT should be positively correlated with suicide ideation. Analyses of the data confirm that people who reveal themselves as suicide ideators are at an increased risk for alcohol related problems.

Hypothesis 7, which predicted that women would reveal themselves as suicide ideators more often than men, was supported. This supports previous research revealing that women are suicide ideators more often than men (Canetto, 1997). The finding that women are more likely to think about suicide is also consistent with the literature that reveals women to attempt suicide more often than men (Kochanek et al., 2004). Thus, the finding in the current study suggests that women have more thoughts about suicide than men and, in turn, are more likely to act on these ideas and attempt suicide.

Hypothesis 8, which stated that men will score higher than women on the AUDIT, was not confirmed. This finding is inconsistent with previous literature that purports that men consume more alcohol than women (Greenfield et al., 2000) and have a higher evidence of drinking related problems (Clark & Hilton, 1991). Furthermore, there was no significant difference found between men and women on the alcohol consumption scale or the alcohol dependence scale of the AUDIT. The findings in the current study provide evidence that there is no significant difference between genders on alcohol consumption, alcohol dependence, and risk for alcohol related problems in the sample.

There were significant differences found between men and women on the Child Related Concerns subscale and the Responsibility to Family subscale. Women scored higher than men on both subscales of the RFL. Both the importance of beliefs about one's responsibility to family, as well as concerns about children are significantly related to whether one reports prior suicidal behavior or currently engages in suicidal behavior (Linehan et al., 1983). In the general population, individuals reporting never considering suicide also tend to attach more importance to both family and child concerns (Linehan et al., 1983). Furthermore, these findings support previous research that women complete suicide at a rate of four times less often than men (Kochanek et al., 2004).

The finding that women score significantly higher on the Child Related Concerns subscale and the Responsibility to Family subscale is likely to be an extension of the traditional roles in society that women have assumed in the past including wife, mother, and homemaker. Another explanation is that women have a maternal instinct that places much concern on family and children. It is also important to note that the vast majority of participants do not have children. This indicates, perhaps, that wanting children in the future is a reason for living. In any

case, women seem to have stronger adaptive characteristics when concerning children and family, which in turn decreases their risk for suicidal behaviors.

On the Moral Objections subscale of the RFL, non-ideators were found to score significantly higher than suicide ideators. The moral objections scale of the RFL measures a person's objection to suicide due to religious beliefs and/or moral values. These results suggest that the ideator status of the participant may be an influential factor on the moral outlook a person has towards suicidal behaviors. Furthermore, someone who is considering suicide probably has already overcome any moral objections that were possessed at one time, or never had any to begin with.

Interaction effects were found between the AUDIT groups and ideator status on the total RFL and the Fear of Social Disapproval. This finding may suggest that as a suicidal person's level of risk for alcohol related problems increases, the less the person would care about what other people would think of them if they were to commit suicide. Moreover, someone who is suicidal may also have fewer adaptive characteristics and coping mechanisms available as there risk for alcohol related problems increases.

Interaction effects were found between the AUDIT groups and gender on the Responsibility to Family subscale and the Survival and Coping subscale. Men who reported a higher risk for alcohol related problems also reported fewer reasons for living on the Responsibility to Family subscale and the Survival and Coping subscale. This may suggest that the sex of the participant may be a mediating factor for varying risks for alcohol related problems on the emotional and interpersonal relationships focused towards familial and child related concerns. Thus, the fewer adaptive strategies and coping techniques that one has to stay alive, the more susceptible they become to suicidal behaviors.

Limitations

This study has several limitations, as most research endeavors do. First, the use of a college population to collect data may have introduced problems. College students display a high level of adaptability that may produce a sampling bias that may not be generalized to the whole population. Also, the sample came from undergraduate psychology students that may hold attitudes unique among other students outside of psychology. Furthermore, college students may not consume alcohol as frequently or develop alcohol dependence as often as the rest of the population. This may be because, in part, to the fact that most college students are not of legal drinking age and many college students only experiment with alcohol as opposed to developing alcohol related problems. One of the limitations in the current study was the lack of alcohol consumers who were dependent on alcohol or who had a high risk of alcohol related problems.

Second, the extra credit given to the undergraduate psychology students and the time in which the data were collected may have been a limitation. Receiving extra credit in courses usually only attracts the most ambitious students who are concerned with their grades. Also, the data were collected and extra credit was offered during the first 6 weeks of the semester. Many students may not have felt the need to acquire extra credit because many of them may not have received any feedback about their grade in such an early stage in the semester. Thus, the majority of participants in the current study may have been overachievers who do not represent the views and attitudes about suicide and alcohol use that the rest of the population possesses.

Third, all of the data collected in this study were based on self-reports, which enabled participants to respond inaccurately due to social desirability bias. Although students were repeatedly told that their answers on the surveys would be kept confidential, there may have been pressure on the participants to answer the questions in a way that they felt would be perceived as

socially acceptable. This socially desirable responding might be seen more frequently in the current study due to the personal nature of the survey questions regarding suicide and alcohol use.

Fourth, there were relatively small percentages of minorities (11.1%) and non-Christian participants (22.8%). The small number of minorities is a limitation that makes it difficult to generalize these results to other populations. The same generalization problem is seen with the unequal amount of Christians and non-Christians, but more importantly the views and attitudes that Christians have about alcohol use and suicide are not representative of a population with many different secular beliefs and religions.

Future Research

The results of this study warrant the need for further research examining the association between suicidal behaviors and the risk for alcohol related problems. A more diverse sample is needed to conduct a more thorough analysis of the association between all of the variables. This diverse sample should include individuals from different ethnic backgrounds, religious affiliations, and educational backgrounds. It is important to examine different minorities in regard to reasons for living because minorities are at an increased risk for suicide. This may be due, in part, to the stress that is in their lives brought on by the pressure they experience to become a part of the dominant culture.

It is equally important to explore the attitudes and views of people with different religious affiliations and educational backgrounds. Religion is a very influential factor in determining one's beliefs and values. Religion must be taken into account by having as diverse of a sample as possible when researching suicidal behavior and risk for alcohol related problems. Future research should also recruit participants from other academic disciplines, as all of the participants

in this study are from psychology classes. A sampling bias may arise if it is found that all psychology students hold the same ideals and values. All of the aforementioned ways to achieve a more diverse sample are useful when recruiting participants from a college population as well as from the general population. Another way to obtain a sample that can be generalized to a larger amount of people is to collect data from a group other than college students.

Data from participants with higher incidences of alcohol related problems should be obtained by future researchers through alcohol support meetings and rehab centers. By collecting data from these places, the researchers would be able to include participants who are dependent on alcohol or who have a high risk of alcohol related problems. Once these participants are targeted and the comparisons made, differences between the risk for alcohol related problems groups on the Reasons for Living Inventory and Suicide Ideation Questionnaire might become more apparent.

Instruments that specifically measure alcohol consumption and dependence should be used in future research. The Alcohol Use Disorders Identification Test has two subscales within the 10 question total that measure alcohol consumption and alcohol dependence. However, these scales combine to measure the risk for alcohol related problems and are not a very comprehensive means of evaluating alcohol use and dependence. Further research should use separate instruments to measure alcohol consumption and alcohol dependence.

Future research should also explore suicide ideation at a more complex level. The Suicide Ideation Questionnaire does differentiate between suicide ideators and non-ideators. However, there are other measures of suicide ideation that could be used to obtain a more comprehensive assessment of suicidal thoughts and ideas.

The current study examined several relationships between suicidal behaviors and the risk for alcohol related problems. These relationships are pertinent to the development of successful intervention and treatment programs. This study is intended to investigate reasons for living, suicide ideation, risk for alcohol related problems, and the associations between all of these variables. Once these associations are made clearer, groups who are at an increased for suicide within a college population may be more easily identified and treated.

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APPENDICES

APPENDIX A

Informed Consent Document

Dorian Lamis: Reasons for Living and Suicidal Ideation among College Students with Varying Levels of Risk for Alcohol Related Problems

IMPORTANT NOTE: BY CONTINUING FORWARD FROM THIS POINT, YOU ARE INDICATING THAT YOU HAVE READ THE FOLLOWING INFORMATION AND AGREE TO BE A VOLUNTARY PARTICIPANT.

INFORMED CONSENT AGREEMENT

This Informed Consent will explain about being a research subject in an experiment. It is important that you read the material carefully and then decide if you wish to participate in this study.

PURPOSE:

The purpose of this study is to examine the possible relationship between participant risk for alcohol related problems and reasons for living and suicidal ideation. This study is also examining the gender differences in the participant's responses.

DURATION:

This activity will take less than 30 minutes.

PROCEDURES:

Participants must be 18 years of age to participate in this study. You will be asked to complete a set of questionnaires.

POSSIBLE RISKS/DISCOMFORTS:

There are no known risks anticipated for participants in the study. However, since it assesses matters related to reasons for living, it is possible that for some seriously depressed persons, negative feelings could be aroused. Counseling resources and crisis response contact information will be made available to all participants. These resources are as follows: during normal office hours (8:00am - 4:30pm) call the Counseling Center at (423) 439-4841. After normal hours and during weekends, you should either a) contact Public Safety at (423) 439-4480 (on campus) b) call 9-1-1 (off campus) or c) go directly to your local emergency room. You may skip any items that make you uncomfortable and/or may withdraw from the study at any time.

POSSIBLE BENEFITS/COMPENSATION:

One point of extra credit is offered for participation in this research in classes where the instructor is offering extra credit. Participants receive extra credit by logging into the Sona-System and following the easy to use instructions on the website for participating in studies and receiving extra credit. Participants establish an account with ETSU.Sona-Systems.com and are assigned a tracking number which experimenters will see. The name of the participant will not be

displayed to experimenters. Upon completion of the study, extra credit earned will automatically appear in your account. After receiving extra credit, the participant will be able to choose what class he/she would like the extra credit to be assigned to.

CONTACT FOR QUESTIONS:

If you have questions about the research, either now or later, please contact Dorian A. Lamis or Dr. Jon B. Ellis at East Tennessee State University, or call (423) 439-6658.

CONFIDENTIALITY:

Every attempt will be made to see that study results are kept confidential. A copy of the records from this study will be stored in the Psychology Department for at least 10 years after the end of this research. The results of the study may be published and/or presented at meetings without naming anyone as a subject. Although rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the East Tennessee State University IRB, and research related personnel from the ETSU Department of Psychology have access to the study records. Records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above. Because this study is online, and records are kept on a secure server, and you are identified only by a tracking number, your actual identity will never be associated with the data (i.e. your answers to items).

VOLUNTARY PARTICIPATION:

By continuing onto the next web page from this point, you are acknowledging that the nature, demands, risks, and benefits of the project have been explained to you as well as are known and available. You are acknowledging that you understand what your participation involves. Furthermore, you are acknowledging that you understand you are free to skip particular items and/or withdraw from the project at any time, without penalty. You are also acknowledging you have read and fully understand the above consent information and that your participation is completely voluntary. If you have questions you need answered before deciding whether to participate, do not continue, but instead contact the researcher(s) directly at Dorianlamis@aol.com or ellis@etsu.edu. If you agree to all the above, please continue.

APPENDIX B

Instruction Page

All surveys are confidential and anonymous.

Read the instructions on EACH page CAREFULLY. Use the scale provided on each sheet to answer.

Take your time. Answer the questions to the best of your ability.

Answer truthfully. There are no wrong answers.

APPENDIX C

Demographic Questionnaire

Please answer all of the following questions as they pertain to you:

1. Age:_____

2. Gender: 1. Female 2; Male

3. Marital Status: 1. Single 4. Divorced
2. Married 5. Widowed
3. Separated

4. Do you have children? 1. Yes 2. No

5. Current level in college: 1. Freshman 4. Senior
2. Sophomore 5. Graduate
3. Junior 6. Non-degree seeking

6. Racial/Ethnic/Cultural Identity:

1. African American/Black 4. European American/White
2. American Indian 5. Hispanic American
3. Asian American 6. Other

7. Religious Affiliation that most applies to you:

1. Christian 5. Jewish
2. Atheist 6. Muslim
3. Hindu 7. Unitarian
4. Buddhist 8. Other

APPENDIX D

Suicide Ideation Questionnaire

PLEASE CHECK ONE OF THE FOLLOWING STATEMENTS AS IT APPLIES TO YOU:

(Your answers are confidential and anonymous. Please answer honestly.)

_____ 1. I have attempted suicide (to kill myself) in the past.

If so, how did you try to commit suicide? _____

How long has it been since you attempted suicide? _____

What kept you from succeeding? _____

Is suicide still an option for you now? _____

How many times have you attempted suicide? _____

_____ 2. I have seriously considered committing suicide in the past to the extent I have made a plan on how I would do it but never followed through with the plan, or I have thoughts about harming myself that do not seem to go away.

_____ 3. The thought of committing suicide has crossed my mind, but I have never seriously considered it or made a plan in the past.

_____ 4. I have never thought about committing suicide.

APPENDIX E

Expanded Reasons for Living Inventory (RFL)

INSTRUCTIONS: Many people have thought of suicide at least once. Others have never considered it. Whether you have considered it or not, we are interested in the reasons you would have for **not** committing suicide if the thought were to occur to you or if someone were to suggest it to you.

Below are reasons people sometimes give for **not** committing suicide. We would like to know how important each of these possible reasons would be to you at this time in your life as a reason to *not* kill yourself. Please rate this in the space at the left on each question.

Each reason can be rated from 1 (not at all important) to 6 (extremely important). If a reason does not apply to you or if you do not believe the statement is true, then it is not likely important and you should put a 1. Please use the whole range of choices so as not to rate only at the middle (2, 3, 4, 5) or only at the extremes (1, 6).

In each space put a number to indicate the importance to you of each for **not** killing yourself.

1. Not at all important (as a reason for **not** killing myself, **or**, does not apply to me, I don't believe this at all).
2. Quite unimportant
3. Somewhat unimportant
4. Somewhat important
5. Quite important
6. Extremely important (as a reason for **not** killing myself, I believe this very much and it is very important).

Even if you never have considered suicide or firmly believe you never would seriously consider killing yourself, it is still important that you rate each reason. In this case, rate on the basis of **why killing yourself is not or would never be an alternative for you.**

In each space put a number to indicate the importance to you of each for **not** killing yourself.

- | | |
|--------------------------------|------------------------------|
| 1. Not At All Important | 4. Somewhat Important |
| 2. Quite Important | 5. Quite Important |
| 3. Somewhat Unimportant | 6. Extremely Important |
-

- _____ 1. I have a responsibility and commitment to my family.
_____ 2. I believe I can learn to adjust or cope with my problems.
_____ 3. I believe I have control over my life and destiny.
_____ 4. I have a desire to live.
_____ 5. I believe only God has the right to end a life.
_____ 6. I am afraid of death.

APPENDIX E (cont.)

- | | | | |
|----|-----------------------------|----|---------------------------|
| 1. | Not At All Important | 4. | Somewhat Important |
| 2. | Quite Important | 5. | Quite Important |
| 3. | Somewhat Unimportant | 6. | Extremely Important |
-

- _____ 7. My family might believe I did not love them.
- _____ 8. I do not believe that things get miserable or hopeless enough that I would rather be dead.
- _____ 9. My family depends upon me and needs me.
- _____ 10. I do not want to die.
- _____ 11. I want to watch my children as they grow.
- _____ 12. Life is all we have and is better than nothing.
- _____ 13. I have future plans I am looking forward to carrying out.
- _____ 14. No matter how badly I feel, I know that it will not last.
- _____ 15. I am afraid of the unknown.
- _____ 16. I love and enjoy my family too much and could not leave them.
- _____ 17. I want to experience all that life has to offer and there are many experiences I haven't had yet which I want to have.
- _____ 18. I am afraid that my method of killing myself would fail.
- _____ 19. I care enough about myself to live.
- _____ 20. Life is too beautiful and precious to end it.
- _____ 21. It would not be fair to leave the children for others to take care of.
- _____ 22. I believe I can find other solutions to my problems.
- _____ 23. I am afraid of going to hell.
- _____ 24. I have a love of life.
- _____ 25. I am too stable to kill myself.
- _____ 26. I am a coward and do not have the guts to do it.
- _____ 27. My religious beliefs forbid it.
- _____ 28. The effect on my children could be harmful.
- _____ 29. I am curious about what will happen in the future.
- _____ 30. It would hurt my family too much and I would not want them to suffer.
- _____ 31. I am concerned about what others would think of me.
- _____ 32. I believe everything has a way of working out for the best.
- _____ 33. I could not decide where, when, and how to do it.
- _____ 34. I consider it morally wrong.
- _____ 35. I still have many things left to do.
- _____ 36. I have the courage to face life.
- _____ 37. I am so inept that my method would not work.
- _____ 38. I am afraid of the actual act of killing myself (the pain, blood, violence)
- _____ 39. I believe killing myself would no really accomplish or solve anything.
- _____ 40. I have hope that things will improve and the future will be happier.
- _____ 41. Other people would think I am weak and selfish.
- _____ 42. I have an inner drive to survive.
- _____ 43. I would not want people to think I did not have control over my life.

APPENDIX E (cont.)

- | | | | |
|----|-----------------------------|----|---------------------------|
| 1. | Not At All Important | 4. | Somewhat Important |
| 2. | Quite Important | 5. | Quite Important |
| 3. | Somewhat Unimportant | 6. | Extremely Important |
-

- _____ 44. I believe I can find a purpose in life, a reason to live.
- _____ 45. I see no reason to hurry death along.
- _____ 46. I am so inept that my method would not work.
- _____ 47. I would not want my family to feel guilty afterwards.
- _____ 48. I would not want my family to think I was selfish or a coward.
- _____ 49. I would not be able to see the effect of my death on others.
- _____ 50. Close friends depend upon me and need me.
- _____ 51. I can find meaning in suffering.
- _____ 52. There are friends I enjoy and love too much to leave.
- _____ 53. I have too much pride in myself.
- _____ 54. Rational people do not kill themselves.
- _____ 55. If I were depressed enough to want to die, I would be too depressed to kill myself.
- _____ 56. I make a contribution to society.
- _____ 57. Society disapproves of killing myself.
- _____ 58. I have people who love me and who would listen to and understand me.
- _____ 59. I see no reason to die and let someone else enjoy the things I worked for.
- _____ 60. It is a sign of weakness and I don't want to be a quitter or a failure
- _____ 61. I am afraid that my death would not matter to anyone.
- _____ 62. The finality of the act would stop me.
- _____ 63. It would be too much of an embarrassment to my family.
- _____ 64. It would hurt my close friends too much.
- _____ 65. There are obligations I feel I should keep.
- _____ 66. I would think of others worse off than myself.
- _____ 67. I have a job in which I am involved and where I am needed.
- _____ 68. I have a responsibility and commitment to my friends.
- _____ 69. I would know I probably was not serious and it was just a passing thought.
- _____ 70. Experiencing unhappiness is an important part of life.
- _____ 71. I would stop feeling sorry for myself.
- _____ 72. The thought of suicide is totally incomprehensible to me.

APPENDIX F

Alcohol Use Disorders Identification Test (AUDIT)

1. How often do you have a drink containing alcohol?
 - 0) Never
 - 1) Monthly or less
 - 2) 2 – 4 times a month
 - 3) 2 – 3 time a week
 - 4) 4 or more times a week

2. How many drinks containing alcohol do you have a typical day when you are drinking?
 - 0) 1 – 2
 - 1) 3 – 4
 - 2) 5 – 6
 - 3) 7 – 9
 - 4) 10 or more

3. How often do you have 6 or more drinks on one occasion?
 - 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily

4. How often during the last year have you found you were not able to stop drinking once you had started?
 - 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?
 - 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
 - 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?
- 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
- 0) Never
 - 1) Less than monthly
 - 2) Monthly
 - 3) Weekly
 - 4) Daily or almost daily
9. Have you or someone else been injured as a result of your drinking?
- 0) No
 - 2) Yes, but no in the last year
 - 4) Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested that you should cut down?
- 0) No
 - 2) Yes, but no in the last year
 - 4) Yes, during the last year

VITA

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University of Georgia: 1999-2003

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Publications

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Ellis, J., & Lamis, D. (2006, April) *Reasons for living: Fifteen years of research*.

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