

# High Risk Sexual Behavior and Reasons for Living in a College Population

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## ABSTRACT

Past research has identified adaptive cognitive beliefs to be lacking in individuals who report suicidal ideation. The purpose of this study was to identify whether these adaptive characteristics, particularly survival and coping beliefs, are absent in individuals who participate in high risk sexual behaviors. Participants included 328 individuals. Results indicated that women scored higher than men, non-ideators scored higher than ideators, and participants at high risk for HIV contraction scored lower than those at low risk and moderate risk on the RFL–Survival and Coping Beliefs subscale. No difference was noted between men and women in regards to reported risky sexual behaviors. The study suggests that the lack of adaptive cognitive beliefs may generalize to other life-threatening and maladaptive behaviors.

**Keywords:** Suicide; Reasons for Living; Adaptive coping strategies

## INTRODUCTION

Over 47,000 deaths occur yearly due to suicide, making suicide the 10<sup>th</sup> leading cause of death in the United States. Young adults of college age are a population who may be more at risk for suicide, with suicide representing the second leading cause in young adults aged 15-24 [1,2]. These figures are themselves startling, but even more so when one takes into consideration that a significant number of actual suicides may be reported by medical examiners as accidents or homicides due to the stigma surrounding suicide [3]. Additionally, it has been estimated that the number of people who attempt suicide may be as much as 25 times the rate of death by suicide, with over 800,000 individuals admitted to the hospital for self-inflicted injury [4].

One group of young people who seem to be especially at risk is college students, perhaps due to the stressors unique to this age and environment, such as interpersonal difficulties, academic pressures, and the transition to the college setting [5,6]. Not only are college students in an age group at higher risk for death by suicide, but they appear to be more vulnerable to suicidal ideation than the general population. For example, suicidal ideation within the past twelve months is reported by 6% of undergraduate students, compared to 3.7% of the general adult population. Beyond ideation, 92% of students who report suicidal ideation in the past year also report a plan for suicide, a higher rate than the 1% of the adult U.S. population who report a plan for suicide in the previous twelve months. Underreporting of suicides may also be an issue among

college campuses, with a significant number of suicides potentially mislabeled as accidental deaths [4,7].

Given its low base rate, it is sometimes difficult to predict suicide, but the identification of risk and protective factors may help identify individuals at risk. For example, high risk sexual behavior has been shown to correlate with many general behavioral problems among adolescents, such as drug and alcohol use, cigarette smoking, antisocial behavior, maladaptive family structure, poor parenting practices, and the influence of friends' problem behaviors [8-11]. Additionally, risky sexual behaviors may be related to risk for engagement in suicidal behaviors, although this relationship is less researched [12].

Numerous studies have shown that college students are participating in many high risk sexual behaviors, such as having multiple sexual partners and engaging in unprotected sex [13,14]. Additionally, because of widespread alcohol use among college students, the tendency to engage in risky sexual behavior has increased [13,15]. Students are consequently at risk for the negative outcomes of risky sexual behavior, particularly the contraction of sexually transmitted infections, calling attention to the need within the college population change and maintain safer sexual practices, particularly through college sponsored prevention programs.

It is important to realize that high risk sexual behaviors are often a symptom of larger behavioral problems. It is possible that individuals who participate in risky behavior have poor adaptation skills and problem solving capabilities, factors which are also related

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to suicidal behavior. Because college students have been shown to be at high risk for suicidal behavior as well as risky sexual behavior, understanding the mechanisms that underlie engagement in both behaviors warrants investigation. Most research surrounding high risk sexual behavior and suicidal behavior has focused on maladaptive characteristics that are present in risk-taking individuals. The purpose of this study was to determine whether adaptive characteristics, particularly survival and coping beliefs, termed reasons for living, are stronger in individuals who do not participate in high risk sexual behaviors when compared to individuals who do.

### Reasons for living

Much research pertaining to suicide centers on maladaptive characteristics of suicidal individuals or negative precursors to suicidal behavior; however, some researchers have switched their emphasis to examine adaptive characteristics that are identifiable in non-suicidal people and lacking in suicide ideators. Two independent researchers, Frankl and Des Pres originated theories based on survivors of Nazi concentration camps [16,17]. They found that the survivor's beliefs about life and their expectations for the future were crucial in keeping them alive through the horrible conditions they experienced. They indicated that it was critical for the prisoners to believe either that they had something meaningful to do with their life or that life, no matter what, was worth living.

Since then, many suicide researchers have focused on values and beliefs that are different in suicide ideators and non-ideators. Some beliefs that have been examined are the importance of family and children, friends, religious values, feelings regarding their own capabilities, the value of living in general, fears about what others will think if they commit suicide, and the fear of the actual pain involved in suicide [18]. Research has shown that many of these beliefs are indeed stronger among non-ideators than ideators [19,20]. This research suggests that finding adaptive characteristics that are inherent in non-suicide ideators may lead to more effective intervention strategies for individuals at high risk for suicide.

In an effort to identify adaptive beliefs that are inherent in non-suicidal individuals and missing in suicidal individuals, Linehan et al. developed the Reasons for Living Inventory (RFL) [18]. The RFL has been shown to differentiate between suicidal and non-suicidal individuals across ethnicities in both clinical and nonclinical populations [21-23]. These data support the idea that suicidal individuals differ from non-suicidal individuals in that they do not maintain a set of adaptive beliefs and expectations regarding their life. This suggests that the RFL may be an important tool in assessing individuals for suicide and for developing effective interventions for suicidal individuals. Interventions may revolve around developing the individual's reasons for living and attaching significant importance to these beliefs.

The Reasons for Living Inventory has been shown to correlate not only with suicidal ideation, but with a number of social problems that affect society. Such research provides evidence that adaptive thinking patterns regarding reasons for living, particularly survival and coping beliefs, affect individuals in a variety of settings. Relationships have been found between reasons for living and spiritual well-being as well as reasons for living and hopelessness

[24,25]. All in all, reasons for living appear to affect many aspects regarding an individual's ability to adapt to life situations.

### High risk sexual behavior

Research regarding sexual practices among college students has shown that they are a population that is indeed at risk for risky sexual behavior and its associated consequences, including contraction of sexually transmitted infections. Caron examined sexual activity among college students longitudinally, collecting data from nearly 6,000 students spanning from 1990 to 2015 [14]. Results showed that most students (87%) reported engaging in sexual intercourse and of these sexually active students, 85% of students reported using some form of birth control during every sexual encounter. In regards to sexually transmitted infections, few students express apprehension over their risk of contracting HIV, with less than 25% of students reporting concern and 20% expressing no concern at all. Additionally, only half of students discuss STI testing with their potential partners, despite having an average of 3 to 4 sexual partners. Overall, the trend over time among students reflected more risky sexual behavior including less discussion regarding condoms and STI testing and an increased willingness have sex without a condom.

In 2007, Brown and Vanable examined event-level data to explore the effect of alcohol consumption and partner type on college students' sexual behavior [13]. When asked to report on their latest sexual encounter, 39% reported unprotected vaginal sex, and 32% reported using alcohol prior to sex. For the entire sample, unprotected vaginal sex was equally likely if the participant consumed alcohol or not. However, for sexual encounters with a non-regular sexual partner, alcohol use was associated with an increase in unprotected vaginal sex. Furthermore, in a study of high-risk sexual activity among college students who used alcohol and marijuana, Simons, Maisto, and Wray found significant associations between high risk sexual behavior and mean blood alcohol content (BAC) per drinking day and intensity of marijuana use [15].

Many of these percentages are startling, particularly the increased trend toward risky sexual behavior including sexual intercourse without STI protection. These studies indicate that a large proportion of college students are putting themselves at risk for contracting HIV and other sexually transmitted diseases. The majority of HIV intervention programs have focused around education regarding HIV transmission. Programs have informed the public that they need to refrain from sex, unless it is within a monogamous relationship, and that they must use condoms at any other time. However, these programs have not taken into account the complex issues surrounding actual risk reduction behavioral changes [26].

Little research has shown that educational programs have been successful in achieving actual behavior change among individuals at high risk for the HIV virus. Jones et al. examined the effects of a single-day, intensive HIV prevention program on minority college women and found an increase in knowledge that was maintained 8 weeks after, as well as an increase in abstinence attitudes, but no significant increase in condom attitudes [27]. Other research has examined the relationship between AIDS knowledge and risky sexual behavior [28]. Although these individuals reported risky

behaviors, 90% indicated that they were not at risk for contracting AIDS, despite their knowledge of HIV transmission.

While these programs focus on risk reduction behaviors, they do not take into account cognitive processes and individual characteristics which may impact sexual risk taking. For example, coping strategies may be related to high-risk sexual activity, although mainly in women. Stein and Nyamathi in 1999 examined gender differences in relationship to stress and coping among minority populations in order to assess whether The Comprehensive Health Seeking and Coping Paradigm (CHSCP) could be a possible intervention strategy in improving behaviors that risk the health of poverty stricken and drug-addicted Black women. The CHSCP suggests that coping styles influence a variety of health-related outcomes, such as poor mental health, drug use, and high risk sexual behaviors. Results showed significant correlations for women in regards to high risk sexual behavior and stress, self-esteem, avoidant coping, depression, and escapist drug use. Correlations were also found for men, although weaker, in regards to high risk sexual behavior and avoidant coping and escapist drug use. These findings suggest that individuals who participate in high risk sexual behavior may indeed have deficits in coping strategies. However, this appears to be more pronounced among women than men.

### Current study

The purpose of the current study was to determine whether adaptive characteristics, particularly survival and coping beliefs, are stronger in individuals who do not participate in high risk sexual behaviors when compared to individuals who do. Given that college students are a population at risk for suicidal behaviors as well as risky sexual behaviors, understanding mechanisms which may underlie both issues is imperative. Specifically, understanding the relationship between adaptive coping skills and consequent risky behavior may provide an avenue for intervention, ultimately decreasing rates of risky sexual behavior and its consequences, such as contraction of STIs.

## RESEARCH METHODOLOGY

### Participants

Participants included 327 undergraduate college students (172 females and 155 males) enrolled in introductory psychology courses. The University is situated in the southeastern United States and has an approximate student enrollment of 15,000 students. Their ages ranged from 17 to 50 years, with a mean of 20.57 years. The majority of the students described themselves as white, single, Baptist, and heterosexual. All participants were volunteers and received extra credit in the course for participating in the study. IRB approval was obtained before the study was initiated, which included a signed consent. Students were presented with options for extra credit and could opt out with no penalty.

### Instruments

Participants completed a short Self-Report Demographic questionnaire, a brief suicide questionnaire, the Reasons for Living Inventory -Survival and Coping Beliefs subscale, and a questionnaire based on the Scale of Sexual Risk Taking [18,29].

The suicide questionnaire asked the participant to check one of the four categories. Category one stated, "I have attempted suicide (tried

to kill myself) in the past." Category two stated, "I have seriously considered committing suicide in the past to the extent that I have made a plan on how I would do it, but I never followed through with it or I have thoughts about harming myself that don't seem to go away." Category three stated, "The thought of committing suicide has crossed my mind, but I never seriously considered it or made a plan in the past." Category four stated, "I have never thought about committing suicide." The participants who checked categories three or four were classified as non-ideators.

The Survival and Coping Beliefs subscale is one of six subscales of the Reasons for Living Inventory (RFL) [18]. It contains 24 statements regarding beliefs that might prevent an individual from committing suicide. The participants are asked to rate each statement in terms of its importance as a reason for not committing suicide if the thought were to cross their mind. The statements are rated on a six-point Likert scale, with one being "Not At All Important" and six being "Extremely Important." Internal consistency for the Survival and Coping Beliefs subscale was found to be +.91 as assessed by the Cronbach alpha coefficient. Test-retest reliability was also found to be high, with a reliability coefficient of 0.83. Evidence for validity within the Survival and Coping Beliefs subscale is also strong. Linehan et al. found that individuals with serious levels of past suicidal ideation or behavior scored lower on the Survival and Coping Beliefs subscale than did individuals with nonserious ideation or no ideation at all [18]. Additionally, in a clinical population, participants with a history of attempting suicide scored lower on the Survival and Coping Beliefs subscale than participants who had not attempted suicide in the past. Other research supports the consistency in which this subscale correlates with the beliefs measured by the total RFL score, finding the Survival and Coping Beliefs subscale to be the highest predictor of suicide ideation [19,25,30-32].

The original Scale of Sexual Risk Taking consisted of 13 questions regarding the participants' sexual behaviors [29]. The questions were weighted according to the level of risk that the behavior has on contraction of sexually transmitted diseases. The original scale was shown to contain good reliability and validity. Reliability was assessed for three separate samples. The Cronbach's alpha coefficients were +.90, +.88, and +.75. Additionally, scores of the SSRT were found to correlate with other problem behaviors, such as cigarette smoking, alcohol use, marijuana use, other drug use, antisocial behavior, and academic failure. These correlations ranged from +.26 to +.55. Due to difficulties in scoring the original Scale of Sexual Risk Taking, an adaptation was designed. The questions were worded in such a way that participants were given a seven point Likert scale format in which to answer. Additionally, two questions that contained the restriction of "opposite sex" intercourse were reworded to include both heterosexual and homosexual relations. The weighting of the questions remained the same as formed by Metzler. The questionnaire was scored by averaging the numbers that were circled by the participant. Questions believed to assess a higher level of risky sexual behavior were assigned twice the value that the participant circled. Once scores were obtained for the sample, participants were equally grouped into a low risk, a moderate risk, and a high risk group.

### Procedure

Participants received a booklet containing a demographic

questionnaire, a suicide questionnaire, the Reasons for Living Inventory – Survival and Coping Beliefs subscale, and the revised version of the Scale of Sexual Risk Taking. Participants were instructed to fill out the questionnaires completely and honestly and were reassured of anonymity.

### Statistical analysis

A two (gender) X two (ideators, non-ideators) X three (high risk, moderate risk, low risk) analysis of variance (ANOVA) was used to analyze differences in scores on the Reasons for Living – Survival and Coping Beliefs subscale. Additionally, an independent group's t-test was used to analyze the effects of gender on risk taking.

## RESULTS

Table 1 represents mean RFL scores for gender, ideation, and sexual risk taking. Main effects were revealed for all three of the independent variables. Women scored higher on the RFL than men,  $F(1,326)=5.45$ ,  $p<0.05$ ; non-ideators scored higher than suicidal ideators,  $F(1,326)=69.56$ ,  $p<0.001$ ; and both the low risk group and the moderate risk group scored higher than the high risk group,  $F(1,326)=6.31$ ,  $p<0.01$ .

Although there were no significant two-way interactions, a three-way interaction was found between gender of the participants, suicidal ideation, and sexual risk taking,  $F(11,312)=3.66$ ,  $p<0.05$ . A Tukey-Kramer post-hoc test revealed significant differences among many of the groups. Male ideators at high risk scored significantly lower than all non-ideators and male ideators at moderate risk. Female ideators at high risk were also shown to score significantly lower than all non-ideators. Female ideators at moderate risk scored significantly lower than female non-ideators at moderate risk. Lastly, male ideators at high risk scored significantly lower than female non-ideators at moderate risk.

The independent groups' t-test that was used to analyze the effects of gender on risk taking did not reveal a gender difference. The difference between the scores for men was not found to be significantly different than the scores for women,  $t(325)=0.319$ ,  $p>0.05$ .

## DISCUSSION

Research has supported the theory that individuals who are suicide ideators often lack cognitive beliefs that are inherent in individuals who do not contemplate suicide [18-20]. The purpose of this study was to examine whether individuals who participate in high risk sexual behavior also lack these adaptive characteristics, particularly survival and coping beliefs, which may be inherent in individuals who refrain from such activities.

**Table 1:** Mean and Standard Deviation scores on the reasons for living inventory-survival and coping beliefs subscale.

Group	Participants	Mean RFL Score (SD)
Females	172	5.08 (.95)
Males	155	4.88 (1.00)
Ideators	53	3.93 (1.28)
Non-ideators	272	5.18 (.76)
Low risk group	103	5.13 (.84)
Moderate risk group	107	5.16 (.82)
High risk group	118	4.71 (1.14)

Women scored higher than men and ideators scored higher than non-ideators on the RFL-Survival and Coping Beliefs subscale. These findings support past research using the RFL [18,19]. More men commit suicide than women, and college men are more likely to report life-threatening and potentially suicidal behavior than college women [33,34]. Thus, these findings are consistent with the theories postulated by Frankl and Des Pres that individuals who maintain beliefs about the importance of survival and expectations for the future are more adaptive than individuals who lack these beliefs [16,17].

It was predicted that participants at low risk for HIV contraction would score higher on the RFL Survival and Coping Beliefs subscale than participants at high risk. This hypothesis was also confirmed. Additionally, individuals at high risk scored significantly lower than individuals at moderate risk. This finding suggests that adaptive cognitive beliefs may generalize beyond suicidal ideation to other life-threatening behaviors. This is consistent with research supporting the general problem behavior model, which states that high risk sexual behavior is most often accompanied by other maladaptive behaviors, particularly in adolescents [35]. If cognitive beliefs regarding survival and future expectations are compromised, it appears that subsequent behavior is also affected.

There was not a significant difference in reported risky sexual behavior between men and women. This finding contradicts past research that has associated risky behaviors more commonly with men than with women. Investigators have noted men reporting nearly twice as many sexual partners as women, using less preventative measures than women, being less likely to abstain from sex, and being less likely to ask their partner for condom usage [36,37].

## CONCLUSION

Although this finding contradicts past research, it is possible that gender roles and stereotypes regarding gender expectations towards sexual activity are no longer as distinct between men and women, particularly at the college level. It may be less acceptable for men to engage in risky sexual activity than in the past. Likewise, it may presently be more acceptable for women to engage in risky sexual activity than in previous years. This study has supported the idea that a relationship exists between both survival and coping beliefs and suicidal ideation and survival and coping beliefs and high risk sexual behavior. This suggests that individuals, particularly college students, who lack important adaptive cognitive belief systems, may be more likely to put themselves in life-threatening situations. Additionally, based on past research, it is likely that individuals engaging in high risk sexual activity are exhibiting additional problem behaviors, such as drug use, violence, criminal activity, and school difficulties. Because of the tendency for these problems to exist together, these individuals are much more likely to present themselves in therapeutic situations, whether by choice or due to requirements from authority figures. Thus, it becomes an important tool for therapists to engage in cognitive exploration when these individuals present themselves. Therapeutic intervention that focuses on building or strengthening these basic coping beliefs may become a vital part of changing maladaptive behaviors in both men and women.

## LIMITATIONS

Although the present study was fruitful in generating ideas regarding cognitive beliefs and high risk sexual behavior, several limitations need to be addressed. First of all, the sample may not be representative of the population in two different ways. College students are likely to be different from the noncollege population in a variety of characteristics. College students may have a higher average intelligence level than a noncollege population. They may also find themselves in an environment that presents them with new ideas and concepts that other individuals are not faced with, changing their outlook on life and their subsequent behavior. Several of the findings in this study may only be applicable to a college population. Additionally, this particular sample may not accurately represent the average college population. This population consisted mainly of white, single individuals. It may be impossible to determine from this study if the results can be generalized to other races. Because of the tendency for individuals who engage in high risk sexual behavior to often engage in other maladaptive behaviors, future research may wish to address a more complete survey of problem behaviors. It would be interesting to determine if the lack of survival and coping beliefs is also related to other problem behaviors, such as drug and alcohol use, problems in school, poor social relationships, poor family relationships, violence, and criminal activity.

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