I, Ashley L Merianos, hereby submit this original work as part of the requirements for the degree of Master of Science in Health Education.

It is entitled:
The Skinny on Body Image and Involvement in Risky Sexual Behaviors among University Students

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The Skinny on Body Image and Involvement in Risky Sexual Behaviors among University Students

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Abstract

AN ABSTRACT OF THE THESIS FOR THE MASTER OF SCIENCE DEGREE IN HEALTH PROMOTION AND EDUCATION, PRESENTED AUGUST 5, 2011 AT THE UNIVERSITY OF CINCINNATI

TITLE: The Skinny on Body Image and Involvement in Risky Sexual Behaviors among University Students

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Engaging in risky sexual behaviors poses serious risks to university students across the United States. Sexually transmitted infections and unplanned pregnancies are highest among the age group of university students. A low level of body image satisfaction is another prevalent issue among university students that may be linked to risky sexual behaviors. Specifically regarding university students, more research is needed to thoroughly understand the relationship between risky sexual behaviors and body image. A comprehensive review of literature revealed several studies that had examined body image and general sexual activity. However, a gap in the research literature was found regarding the potential impact of body image and involvement in risky sexual behaviors. Therefore, the present study was conducted. The purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a one-night stand, ever having engaged in sexual intercourse under the influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual
intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

A total of 465 university students in general education courses at a Midwestern University completed surveys during the 2011 spring quarter (93% response rate). A two-page, 51-item survey was developed and tested for validity and reliability. Descriptive statistics, independent sample $t$-tests, chi-square tests, multivariate analyses of variance, and univariate $F$-tests were performed to analyze the data. Results indicated that most students (78.9%) had engaged in sexual intercourse during their lifetime and 80.5% of sexually active students had engaged in sexual intercourse without the use of a condom. In addition, more than half (53.8%) reported having a low level of body image satisfaction. Engaging in sexual intercourse significantly differed based on level of body image satisfaction. More specifically, students who had high body image were significantly more likely than students who had low body image to have ever engaged in sexual intercourse. However, results indicated no significant relationship between body image and involvement in risky sexual behaviors such as those noted above. Body image satisfaction among students did significantly differ based on level of social support. Students who had high levels of social support had significantly higher levels of body image satisfaction. Recommendations have been included for future studies.
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Chapter One

The Problem

Each year, an estimated 19 million new sexually transmitted infections (STIs) occur (Centers for Disease Control and Prevention [CDC], 2008). Although a variety of methods exist to help prevent STIs, more than 15.3 million new cases are reported annually (National Prevention Information Network [NPIN], 2010). Furthermore, approximately 50% of pregnancies are unintended in the United States each year even though there are various methods to prevent pregnancies as well (Finer & Henshaw, 2006). Currently one of the main public health objectives on the ten-year agenda of Healthy People 2020 (n.d.) is to encourage healthy sexual behaviors in order to prevent STIs and their potential complications. According to the National Survey of Sexual Health and Behavior (NSSHB, 2010), a reported 75% of sexual intercourse acts in the United States nationwide are not condom protected, and an estimated 66% of the sexual intercourse acts that lack condom use are among single people from 14 to 94 years of age. A study conducted by Koutsky (1997) reported that more than half of the people residing in the U.S. would eventually contract an STI at some point in their lifetime. Although recent data reported from NSSHB (2010) depicts that condom use has increased overtime, efforts must be made to promote the use of condoms to reduce risky sexual behaviors overtime.

Risky sexual behaviors create major challenges for university students in the U.S. due to high engagements in these behaviors that ultimately put their health at risk. Youth from 15 to 24 years of age comprise an estimated 25% of the sexually active population in the U.S. (Kirby, 2007). According to the CDC (2006), the Youth Risk Behavior
Surveillance National College Health Risk Behavior Survey (YRBS) displayed that 86% of college students nationwide have reported engaging in sexual intercourse, and 80% of the reported college students are 18 to 24 years of age (CDC, 2006). Furthermore, the CDC (2006) reported that one-third of college students had six or more sex partners in their lifetime, and that only an estimated 28% of students reported consistent condom use. In lieu of startling statistics, STIs and unplanned pregnancies are consequences of risky sexual behaviors and inconsistent condom use among university students.

Furthermore, statistics portray university students have an elevated risk of contracting STIs since engaging in risky sexual behaviors is prevalent among this age group. By 25 years of age, an estimated one in two sexually active persons will contract an STI (Cates, Herndon, Schulz, & Darroch, 2004). In addition, among the estimated 19 million new STI cases found every year, approximately half of new infections are reportedly found among youth 15 to 24 years of age (Weinstock, Berman, & Cates, 2004). Alarming statistics further report STIs as one of the six leading causes of morbidity and mortality among youth and adults in the U.S. (CDC, 2006). The financial cost of new STIs that affect the estimated 9 million youth is around $6.5 billion (Chesson, Blandford, Gift, Tao, & Irwin, 2004). Statistics reveal lack of condom use contributes to the expenses of STIs, and also affects pregnancy rates.

Currently, out of all the developed countries in the world, the U.S. has the highest rate of unintended pregnancies (Greenburg, Bruess, & Conklin, 2011). An estimated one in 20 women will have an unintended pregnancy due to engaging in risky sexual behaviors such as inconsistent or ineffective use of contraceptives (Finer & Henshaw, 2006).
The male condom is a method of contraception that acts as a barrier to sustain bodily fluids such as semen, vaginal secretions, and blood from passing from one person to the other during sexual intercourse (U.S. Food and Drug Administration, 2010).

Constructively, correct and consistent use of male condoms can decrease the probability of STI transmission and reduce the risk of unplanned pregnancies (CDC, 2003; Crosby et al., 2005; Greenberg, Bruess, & Conklin, 2011; Holmes, Levine, & Weaver, 2004; Ness et al., 2004; Rhodes, McCoy, Omli, Cohen, Champion, & duRant, 2006; U.S. Food and Drug Administration, 2010; Weinstock et al., 2004). Perfect condom use reduces the chances of contracting HIV by 80% to 90% (The United States Agency International Development, 2005). Ninety-seven percent of women can avoid unwanted pregnancies through perfect use of condoms, and 86% of women will avoid becoming pregnant if they use condoms typically (Children’s Hospital Boston, 2009). Moreover, consistent condom use provides substantial protection for women against infertility that stems from pelvic inflammatory disease that can result from untreated STIs (Ness et al., 2004).

Although research indicates condom use is a preventative method that university students can use to avoid the risk factors related to risky sexual behaviors and inconsistent condom use, there are contributors that act as barriers to this specific population.

University students engage in risky sexual behaviors due to various barriers that prohibit them from engaging in safe sexual behaviors (Crosby, Sanders, Yarber, Graham, & Dodge, 2002; Greenberg et al., 2011). The barriers that are contributing factors of STIs and unintended pregnancies include perceived susceptibility (Abel & Brunton, 2004; Pavlich, Antil, Kerr, & Thompson, 2007; Thompson et al., 2006), lack of sexual knowledge and education (Clark, Jackson, & Allen-Taylor, 2002; Dilorio, Dudley, Lehr
& Soet, 2000; Kirby, 2007; Synovitz, Hebert, Carlson, & Kelley, 2005), lack of
communication (Dilorio et al., 2000), accessibility, technical errors (Crosby et al., 2002),
and unawareness of the prevalence of STIs (Clark et al., 2002). These contributing
factors distort the behavioral choices of university students. Evidence found by studies
commissioned by organizations such as the National Campaign to Prevent Teen
Pregnancy and World Health Organization’s Global Programme on AIDS indicate that
lack of sexual knowledge and education can act as a barrier for youth in responsible
sexual decision making (Kirby, 2007). Furthermore, studies about sexual knowledge and
education among university students that have been conducted found students who had
higher sexual knowledge or received sexuality education that focused on engaging in
protective sexual behaviors, such as condom use, were more likely to refuse to have
unprotected sex (Dilorio et al., 2000; Kirby 2007; Synovitz et al., 2005). Another major
barrier to engaging in safe sexual behaviors is susceptibility to the consequences of
engaging in risky sexual behaviors, such as STIs or unplanned pregnancies. Studies
demonstrate that university students’ risk perceptions towards contracting STIs and
unplanned pregnancies are low compared to factual statistics (Pavlich et al., 2007).
Research indicates that knowledge, education, and susceptibility are all contributors to
risky sexual behavior among university students, and another negative contributor to this
specific behavior may be linked to a physical domain of human sexuality: body image.

Many more risky sexual behaviors are linked to inconsistent condom use among
university students. Some of these risky behaviors include multiple sexual partners and
one-night stands (CDC, 2006; Kelley, Borawski, & Keene, 2003), alcohol related sexual
intercourse (Kelley et al., 2003; Welsh, Grello, & Harper, 2006), illegal drug use
(Rosengard, Anderson, & Stein, 2006), and body image (Gillen, Lefkowitz, & Shearer, 2006).

Body image is a subjective picture that individuals hold about their self-appearances that represents general cognitions, perceptions, and behaviors they have about their own bodies. Body image is also heavily influenced by social experiences and social support received by loved ones (Grogan, 2008). Social support from family and friends has been determined throughout literature to be a protective factor against body image dissatisfaction (Bearmen, Presnell, Martinez, & Stice, 2006; Brown, Schreiber, McMahon, Crawford, & Ghee, 1995; Gerner & Wilson, 2005; Stice & Whitenton, 2002).

A comprehensive review of literature found studies tend to focus on the connection between body image and sexual experiences, and revealed that people with negative body images are less confident and less comfortable in sexual intercourse than people with positive body images (Ackard, Kearney-Cooke, & Peterson, 2000; Weiderman, 2000; Yamamiya, Cash, & Thompson, 2006). Studies have also focused on the association between body image and sexual desire and functioning among individuals, and reveal that individuals with a negative body image desire less sexual experiences than individuals with a positive body image (Seal, Bradford, & Meston, 2009). Although there is an extensive amount of literature on the linkage between body image and sexuality, there are few studies that have focused on risky sexual behaviors in particular. However, Gillen, and colleagues (2006) did focus on this particular association, and conducted a study that found a statistically significant association between body image and risky sexual behaviors among emerging adult college students.
Gillen and colleagues (2006) found a significant association between the two physical domains of body image and risky sexual behaviors. They discovered that focusing on body image could be a considerably key avenue in decreasing risky sexual behaviors among university students. However, findings were not uniform across both genders. In addition, they only studied emerging adulthood of individuals from 18 to 25 years of age as a whole and did not study the effects of social support. This particular study’s results revealed sex differences among the participants. Males who had a more overall positive body image engaged in risky sexual behaviors more often. Contradictory to males, females who had a more overall negative body image engage in risky sexual behaviors more often. Despite the natural bond of body image and sexuality, few studies have examined them together (Gillen et al., 2006). One model that is utilized to identify an individual’s perceived ability to perform a given behavior that will lead to an anticipated outcome is the self-efficacy model (Bandura, 1977, 1991).

The self-efficacy model was derived from Albert Bandura’s renowned social cognitive theory. It explains the effects that performing a specific behavior has on individuals in regards to the efforts exerted, the duration of persisting to attempt the given behavior, and emotional reactions when individuals are confronted with the threat of failing to perform the behavior (Bandura, 1977). The three basic, key components of the self-efficacy model are: 1) efficacy expectations, 2) outcome expectations, and 3) outcome values (Bandura, 1977, 1991). The first major component of efficacy expectations refers to the belief an individual has that he or she can successfully perform a specific behavior to achieve desired outcomes. The next component of outcome expectations refers to the outcome beliefs an individual holds after performing the given
behavior. The last major component of self-efficacy is outcome values, which refers to the value or significance an individual places on the expected outcomes of performing a specific behavior (Bandura, 1977). These three major components of the self-efficacy model can be utilized to determine university students’ perceived self-efficacy on condom use.

A comprehensive review of literature failed to reveal any other published studies that focused specifically on body image and risky sexual behaviors of university students that live in the United States. To reduce the disparity in literature between these two physical domains, the need to conduct more studies among university students has become more evident. Thus, this particular study was designed to collect information about body image and risky sexual behaviors of university students at a Midwestern University in the United States. This study examined the relationship between efficacy expectations, outcome expectations, and outcome values as well as involvement in risky sexual behaviors among university students. This study is complementary to literature, and contributes supplementary information about university students and risky sexual behaviors. Health educators and program planners can utilize the results from this study to develop and implement effective interventions to modify body image in order to reduce risky sexual behaviors among this particular population.

Statement of the Problem

The purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a
one-night stand, ever having engaged in sexual intercourse under the influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

Research Questions

This study examined the following research questions:

1. What percentage of sexually active university students report using condoms at last sexual intercourse?

2. Does lifetime involvement in sexual intercourse differ based on level of body image satisfaction?

3. Does age of first sexual intercourse differ based on level of body image satisfaction?

4. Does number of lifetime sexual intercourse partners differ based on level of body image satisfaction?

5. Does number of recent sexual intercourse partners differ based on level of body image satisfaction?

6. Does ever having had a one-night stand differ based on level of body image satisfaction?
7. Does ever having had sexual intercourse while intoxicated differ based on level of body image satisfaction?

8. Does ever having had sexual intercourse following illegal drug use differ based on level of body image satisfaction?

9. Does ever having had sexual intercourse without the use of a condom differ based on level of body image satisfaction?

10. Does use of a condom during last sexual intercourse differ based on level of body image satisfaction?

11. Does number of lifetime sexual intercourse partners without the use of a condom differ based on level of body image satisfaction?

12. Does frequency of condom use during sexual intercourse based on level of body image satisfaction?

13. Does perceived self-efficacy regarding condom use differ based on level of body image satisfaction?

14. Does level of body image satisfaction differ based on sex?

15. Does level of body image satisfaction differ based on grade level?

16. Does level of body image satisfaction differ based on level of social support?

Hypotheses

Hypothesis 1: Lifetime involvement in sexual intercourse will be higher among university students with a high level of body image satisfaction.

Alternative Hypothesis: Lifetime involvement in sexual intercourse will be lower among university students with a high level of body image satisfaction.
Null Hypothesis: There will be no significant difference in lifetime involvement in sexual intercourse based on body image satisfaction.

Hypothesis 2: Age of first sexual intercourse will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Age of first sexual intercourse will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in age of first sexual intercourse based on body image satisfaction.

Hypothesis 3: Number of lifetime sexual intercourse partners will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Number of lifetime sexual intercourse partners will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in number of lifetime sexual intercourse partners based on body image satisfaction.

Hypothesis 4: Number of recent sexual intercourse partners will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.
Alternative Hypothesis: Number of recent sexual intercourse partners will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in number of recent sexual intercourse partners based on body image satisfaction.

Hypothesis 5: Ever having had a one-night stand will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Ever having had a one-night stand will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in ever having had a one-night stand based on body image satisfaction.

Hypothesis 6: Ever having had sexual intercourse while intoxicated will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Ever having had sexual intercourse while intoxicated will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in ever having had sexual intercourse while intoxicated based on body image satisfaction.
Hypothesis 7: Ever having had sexual intercourse following illegal drug use will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Ever having had sexual intercourse following illegal drug use will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in ever having had sexual intercourse following illegal drug use based on body image satisfaction.

Hypothesis 8: Ever having had sexual intercourse without the use of a condom will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Ever having had sexual intercourse without the use of a condom will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference based on ever having had sexual intercourse without the use of a condom based on body image satisfaction.

Hypothesis 9: Use of a condom during last sexual intercourse will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Use of a condom during last sexual intercourse will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.
Null Hypothesis: There will be no significant difference based on use of a condom during last sexual intercourse based on body image satisfaction.

Hypothesis 10: Number of lifetime partners without the use of a condom will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Number of lifetime partners without the use of a condom will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in number of lifetime partners without the use of a condom based on body image satisfaction.

Hypothesis 11: Frequency of condom use will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Alternative Hypothesis: Frequency of condom use will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in the frequency of condom use based on body image satisfaction.

Hypothesis 12: Perceived self-efficacy regarding condom use will be higher among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.
Alternative Hypothesis: Perceived self-efficacy regarding condom use will be lower among university students with a high level of body image satisfaction than students with a low level of body image satisfaction.

Null Hypothesis: There will be no significant difference in perceived self-efficacy regarding condom use based on body image satisfaction.

Hypothesis 13: Male university students will have higher level of body image satisfaction than female university students.

Alternative Hypothesis: Male university students will have lower level of body image satisfaction than female university students.

Null Hypothesis: There will be no significant difference in body image satisfaction based on sex.

Hypothesis 14: Freshman and sophomore grade level university students will have a higher level of body image satisfaction than junior, senior, and graduate level university students.

Alternative Hypothesis: Freshman and sophomore grade level university students will have a lower level of body image satisfaction than junior, senior, and graduate level university students.

Null Hypothesis: There will be no significant difference in body image satisfaction based on grade level.

Hypothesis 15: University students with high levels of social support will have a higher level of body image satisfaction than university students with low levels of social support.
**Alternative Hypothesis:** University students with high levels of social support will have a lower level of body image satisfaction than university students with low levels of social support.

**Null Hypothesis:** There will be no significant difference in body image satisfaction based on social support.

**Delimitations**

1. This study was delimited to undergraduate and graduate students attending a Midwestern University in Ohio during the 2011 spring quarter and currently enrolled in general education courses.

2. This study sampled students in selected general education courses and therefore may not be representative of all university students attending the Midwestern University in Ohio.

**Limitations**

This study was limited by the following:

1. The extent to which the university students provide honest, accurate answers.

2. The responses to the questions are dependent on the students’ capacity to recall past sexual behaviors.

3. The ability of the students at the Midwestern University to read and understand the questions being asked.

4. The distribution of the sample population was not representative of all university students in the United States.
5. The short duration of time available for data collection.

Assumptions

Several assumptions were made in this study. It was assumed that the university students will comprehend all of the questions. Also it was assumed that the university students will answer all of the questions accurately and honestly to the best of their ability. Additionally an assumption was made that the participants accurately remembered past sexual activity and reported it truthfully.

Operational Definitions

1. Body image. For the purpose of this study, body image was defined as a subjective picture that individuals hold about their self-appearances that represents general cognitions, perceptions, and behaviors they have about their own bodies. (Not satisfied/slightly satisfied = low level of body image satisfaction; Moderately satisfied/extremely satisfied = high level of body image satisfaction)

2. Social support. For the purpose of this study, social support was defined as the quality of emotional closeness, open communication, and love received from mothers, fathers, family members, and at least one friend perceived by the university students.

3. Risky sexual behaviors. For the purpose of this study, risky sexual behaviors were defined as sexual behaviors that place individuals at higher risk for
contracting sexually transmitted infections and higher risk for unplanned pregnancies.

4. *Sexually active individuals.* For the purpose of this study, sexually active individuals were defined as university students who had ever participated in sexual intercourse.

5. *Sexual intercourse.* For the purpose of this study, sexual intercourse was defined as penile-to-vaginal intercourse.

6. *Consistent condom use.* For the purpose of this study, consistent condom use was defined as utilizing a condom for the full duration of sexual intercourse properly.

   (Never/sometimes (0% to 50% of the time) = inconsistent condom use; Most of the time/always (51% to 100% of the time) = consistent condom use)

7. *Perceived self-efficacy of condom use:* For the purpose of this study, perceived self-efficacy was defined as the confidence level individuals have about talking with their partners about condom use before having sexual intercourse, properly using condoms, obtaining condoms, and purchasing condoms from the store.

   (Not confident at all/slightly confident = low perceived self-efficacy; Confident/extremely confident = high perceived self-efficacy).

8. *Sexually transmitted infections.* For the purpose of this study, sexually transmitted infections were defined as infectious diseases that can be transmitted through penile-to-vaginal intercourse.
Chapter Two

Review of Literature

The purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a one-night stand, ever having engaged in sexual intercourse under the influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

Chapter one introduced the problem, research questions and hypotheses, and provided the delimitations, limitations, assumptions, and operational definitions of this study. This chapter presents a review of the literature to support the need of this study.

Extent of Sexually Transmitted Infections

The World Health Organization (WHO, 1999) estimates that there is 340 million new curable STI cases found each year among adults from 15 to 49 years of age worldwide. Currently STI rates are about 50 to 100 times greater in the U.S. than any other industrialized nation (National Prevention Information Network [NPIN], 2010). It has been estimated that more than 50% of individuals living in the U.S. will contract an
STIs at some point in their lifetime (Koutsky, 1997). Additionally, 65 million individuals are currently living with viral STIs in the U.S (Alexander, Cates, Herndon, & Ratcliffe, 1998). According to the Centers for Disease Control and Prevention (CDC, 2006), there are 19 million new STI cases found every year in the U.S., and approximately 9 million of these new STI cases are reportedly found among individuals from 15 to 24 years of age. STIs affect both men and women of various demographic and socioeconomic backgrounds including all ages, ethnic backgrounds, and economic levels (NPIN, 2010). Unfortunately, STIs reportedly cost the U.S. health care system an estimated $15.9 billion annually (Chesson et al., 2004).

A national survey reported that 66% of single individuals from 14 to 94 years of age that engage in sexual intercourse do not use condoms (NSSHB, 2010). However, recent data portrays that condom use has increased over the years in the U.S. (NSSHB, 2010), consistent condom use can be utilized as a protective measure against STIs (CDC, 2003; Crosby et al., 2005; Greenberg et al., 2011; Holmes et al., 2004; Ness et al., 2004; Rhodes et al., 2006; U.S. Food and Drug Administration, 2010; Holmes et al., 2004; Weinstock et al., 2004). According to the U.S. Food and Drug Administration (2010), male condoms act as barriers to avoid passing bodily fluids, such as semen, vaginal secretions, and blood from person to person during sexual intercourse. Therefore inconsistent condom use is a major risky sexual behavior that can negatively contribute to the spread of STIs (CDC, 2003; Crosby et al., 2005; Holmes et al., 2004)

Healthy People 2020 (n.d.) developed a public health goal of supporting healthy sexual behaviors to prevent the transmission of STIs and the associated complications for individuals in the U.S. Individuals who are diagnosed with several different types of
STIs are required by their health care providers to be reported to the health department and to the CDC, and the STDs have varied negative impacts on individuals’ health.

According to the CDC (2011), an estimated 2,291,000 individuals in the U.S. have been infected with the bacterial STI, Chlamydia. However, this number is estimated, as some potential cases are not reported due to the lack of symptoms and testing for chlamydia. Presently, chlamydia is the most frequently reported bacterial STI in the U.S. with a total of 1,244,180 chlamydial infections reported in 2009 (CDC, 2010). Among the four regions in the U.S., the Midwest has the second highest chlamydia rates of 401.9 cases per 100,000 population. Ohio is ranked 19 out of the 50 states with 48,239 chlamydial cases reported. Of those Ohio chlamydial cases, 8,872 cases are reportedly from the Cincinnati-Middletown metropolitan statistical area and 5,606 cases are from Hamilton County alone.

Overall, women have substantially three times higher chlamydial cases reported than men. The NPIN (2010) reports that although most people do not have symptoms, potential health complications caused by chlamydia can severely affect women. Such health consequences among women with untreated chlamydia include irreversible fallopian tubal scarring, infertility, and pelvic inflammatory disease, which is a major cause of infertility in 10% to 15% of women (NPIN, 2010). Although complications caused by chlamydia among men are uncommon, infections can cause urethritis, spread to the epididymis and cause pain, or in rare cases cause sterility (CDC, 2011).

The CDC (2011) estimates about 700,000 individuals annually contract the bacterial STI gonorrhea, and almost half of the cases are not reported. Subsequently, the second most commonly reported bacterial STI in the U.S. is gonorrhea with a total of
301,174 cases reported in 2009 to the CDC (CDC, 2010). By region, the Midwest has the second highest gonorrhea rates, and Ohio is ranked 11 out of the 50 states with 15,988 reported cases. Of those Ohio reported gonorrhea cases, 3,219 are reported in the Cincinnati-Middletown metropolitan statistical area, and 2,459 are reported in Hamilton County. Similar to chlamydia, gonorrhea symptoms are silent and often go unnoticed. Furthermore, gonorrhea can lead to similar health complications as chlamydia in women, such as fallopian tubal scarring, infertility, and pelvic inflammatory disease (NPIN, 2010). Although health consequences caused by this bacterial STI are infrequent among men, gonorrhea can cause epididymitis that could lead to infertility if it is left untreated. Consequently, chlamydia and gonorrhea increase individuals’ susceptibility to contract the human immunodeficiency virus (HIV), which is the virus that causes acquired immune deficiency syndrome, or AIDS. This increased susceptibility contracting HIV is often due to the infections spreading to the blood or joints (CDC, 2011). STIs increase susceptibility to the spreading and acquiring HIV/AIDS (Rhodes et al., 2006).

The third leading reported bacterial STI in the U.S. is the genital ulcerative disease called syphilis, with a total of 13,997 reported cases in 2009 (CDC, 2010). Among the four regions in the U.S., the Midwest has the third highest syphilis rates of 2.8 cases per 100,000 population, and Ohio is ranked 18 out of the 50 states of primary and secondary syphilis cases. Moreover, there are 124 cases of primary and secondary syphilis reported in the Cincinnati-Middletown metropolitan statistical area, which nearly doubled from the 62 cases that are reported in 2008. In Hamilton County alone, 105 syphilis cases are reported. Symptoms of syphilis vary, although most symptoms do not manifest for years. There are three stages of syphilis: primary, secondary, and latent
stage. The primary and secondary stages are curable and can show mild symptoms of sores and rashes (NPIN, 2010). The latent stage, however, is incurable and the symptoms from the first two stages disappear. The complications of the latent stage of syphilis are severe, and include paralysis, gradual blindness, dementia, and can potentially lead to death (CDC, 2011). All three common STIs are cofactors and potential precursors for HIV/AIDS, and several studies have been conducted to prevent STIs and decrease risky sexual behaviors (Rhodes et al., 2006).

Extent of Unintended Pregnancies

Unintended pregnancies are pregnancies that are unplanned or unwanted at the time of conception. The global rate of unintended pregnancies in 2008 is reported as 55 of 1,000 females (Guttmacher Institute, 2009a). According to Greenburg and colleagues (2011), the U.S. has the highest rate of unintended pregnancies than all other developed countries worldwide. In 2001, approximately 50% of pregnancies in the U.S. are unintended, and one of 20 women will have an unintended pregnancy (Finer & Henshaw, 2006); of those 50% of pregnancies, a fraction of the pregnancies were aborted. The Alan Guttmacher Institute (2009a), who oversees abortion laws, reported that 49% of all pregnancies are unwanted, and 40% of females have an abortion performed to terminate the pregnancy (Guttmacher Institute, 2009b). Additionally an estimated 41.6 million females worldwide have had an abortion performed (Guttmacher Institute, 2009a). In 2005, a total of 1.21 million abortions were performed in the U.S., and approximately two percent of females have an abortion annually (Jones, Zolna, Henshaw, & Finer, 2008). Consistent condom use can help reduce the rate of unintended pregnancies (Finer
& Henshaw, 2006). Accordingly, only three percent of women will become pregnant with perfect and consistent condom use, and 14% of women that use condoms typically and consistently will avoid pregnancy (Children’s Hospital Boston, 2009).

**Extent of Inconsistent Condom Use among University Students**

There is a high prevalence of engaging in risky sexual behaviors among university students in the U.S., as young adults 15 to 24 years of age represent an estimated 25% of the sexually active population (CDC, 2011; Kirby 2007). According to the CDC (2006), the YRBS found that 86% of college students surveyed has engaged in sexual intercourse, and 80% of those students surveyed are young adults 15 to 24 years of age. Moreover, approximately 72% of the surveyed college students reported inconsistent condom use, and 33% of the college student population have reported at least having six different sex partners in their lifetime (CDC, 2006). Overall, studies have shown that college students do not use condoms consistently (American Academy of Pediatrics, 2001).

Studies have been conducted to compare the condom use rates of males and females. The CDC (2006) reported that sexually active males have a higher condom use rate of 70%, whereas females condom use rate is an estimated 56%. Additionally, the Substance Abuse and Mental Health Services Administration (2007) reported that females are four times more likely to be infected with an STI compared to males. Consistent condom use of male condoms has been proven to reduce the transmission of STIs and decrease the risk of unintended pregnancies (Crosby et al., 2005; Holmes et al., 2004).
Prevalence of sexually transmitted infections among university students

STIs are one of the six most frequent causes of morbidity and mortality among young adults (CDC, 2006). Approximately half of the 19 million new STI cases found annually in the U.S. are reportedly found among young adults 15 to 24 years of age (Weinstock et al., 2004). According to the CDC (2006), sexually active individuals from 15 to 24 years of age are at higher risk of contracting STIs than any other age-specific group. Signifying the elevated risk of STIs among this age group, by 25 years of age, half of the population will have contracted an STI (Cates et al., 2004). Although the monetary costs of curable STIs among young adults are indefinite, it is estimated to be around $6.5 billion per year (Kirby, 2007). Furthermore, the three leading curable STIs reported among young adults are chlamydia, gonorrhea, and syphilis (CDC, 2006).

According to the CDC (2010) and the age-specific rates of chlamydial cases in 2009, women from 15 to 19 years of age are reported to have the highest rates of 3,329.3 cases per 100,000 females, and 3,273.9 cases per 1000,000 females from 20 to 24 years of age respectively. Chlamydial rates for males are reported to have lower rates than women among this specific age range, however they are still reported as the highest among age-specific males from 20 to 24 years of age with rates of 1,120.6 cases per 100,000 males (CDC, 2010).

Age-specific rates of the second most common curable STI, gonorrhea, are parallel to that of chlamydial cases in 2009: women from the age of 15 to 24 years of age are reported to have the highest number of gonorrhea cases of 568.8 cases per 100,000 females 15 to 19 years of age, and 555.3 cases per 100,000 females among 20 to 24 years
of age (CDC, 2010). Among men, the highest gonorrhea rates reported are 20 to 24 years of age with a reported rate of 407.5 cases per 100,000 males.

Similar to the first two leading STIs, the rates of primary and secondary syphilis are the highest among individuals from 20 to 24 years of age. Among women from 15 to 19 years of age, primary and secondary syphilis rates have significantly increased overtime, and have the highest rates from 20 to 24 years of age. Additionally, rates for males increased the most from 15 to 24 years of age from 2008 to 2009, and the highest primary and syphilis rates are found among males from 20 to 24 years of age. However statistics illustrate that as males get older, syphilis rates decrease (CDC, 2010). Chlamydia, gonorrhea, and syphilis are curable among young adults, and can lead to health complications if not cured (CDC, 2011).

Viral STIs are also prevalent among young adults. Human Papillomavirus (HPV) causes an estimated 95% of cervical cancer cases in the U.S. (Janicek & Averette, 2001), and approximately 28.6% of cases are linked to genital warts (Dunne et al., 2007). According to the CDC (2006), HPV is reported to be the highest among individuals 14 to 19 years of age at a rate of 35%, and among individuals from 20 to 29 years of age at a rate of 29%. According to a study conducted at the University of California at Berkley, almost half of the 467 women who underwent a routine gynecological exam reportedly had HPV (Bauer et al., 1991). Furthermore, The American Cancer Society (2009) estimates that 50 to 75% of individuals who have ever engaged in sexual intercourse will contract HPV, even though approximately 70% of HPV cases disappear within the first year of contracting the disease, and 90% of cases are fought off by immune systems after two years.
Extent of unintended pregnancies among university students

Young adults from 15 to 24 years of age account for approximately one-quarter of the sexually active population, and some of these young adults will have unintended pregnancies (CDC, 2011). Finer and Henshaw (2006), the highest rates of unintended pregnancies are among females from 18 to 24 years of age. According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2007), approximately more than 30% of females from 15 to 19 years of age in the U.S. become pregnant once, and 80% of them are unintended pregnancies. In 2005, about 40 of 1,000 females from 15 to 19 years of age gave birth, and 83% of those births were to females who were unmarried (Kirby, 2007). Additionally, 50% of abortions are performed on females 25 years of age and younger, and approximately 33% of those abortions on females are from 20 to 24 years of age (Greenberg et al., 2011, p.266).

Contributing Factors of Inconsistent Condom Use among University Students

There are various barriers that contribute to STIs and unintended pregnancies among university students. A major contribution of risky sexual behaviors among university students is inconsistent condom use. A study conducted by Rhodes and colleagues (2006) found that almost 33% of sexually active college students never use condoms during sexual intercourse over a three-month period. Moreover, the study revealed that female students are less likely to report consistent condom use than male students. Diclemente and colleagues (2002) performed a study in Alabama to assess risky sexual behaviors and the rate of STIs among low-income youth, and their findings suggested that inconsistent condom use results from past sexual experiences. Accordingly, participants who have engaged in risky sexual behaviors previously are
more prone to engage in these behaviors again, which ultimately increase the participants’ susceptibility to STIs. Inconsistent condom use among university students is a prevalent issue with statistically proven contributing factors.

There are existing barriers to utilizing condoms consistently that are contributing factors of STIs and unintended pregnancies (Crosby, Sanders, Yarber, Graham, & Dodge, 2002; Greenberg et al., 2011). Some of these contributing factors are perceived susceptibility (Abel & Brunton, 2004; Pavlich et al., 2007; Thompson et al., 2006), lack of sexual knowledge and education (Clark et al., 2002; Dilorio et al., 2000; Kirby, 2007; Synovitz et al., 2005), lack of communication (Dilorio et al., 2000), accessibility (Crosby, Sanders, Yarber, & Graham, 2003; Reece, Mark, Schick, Herbenick, & Dodge, 2010; Shlay, McClung, Patnaik, & Douglas, 2004), technical errors (Crosby et al., 2002), and unawareness of the prevalence of STIs (Clark et al., 2002). Although these barriers contribute to STIs and unintended pregnancies, studies portray that lack of sexual education and knowledge, perceived susceptibility, lack of communication, accessibility, and technical errors are main contributing factors of engaging in risky sexual behaviors, and particularly inconsistent condom use.

Perceived susceptibility of STIs and unintended pregnancies

Perceived susceptibility of STIs and unintended pregnancies are another barrier to inconsistent condom use among university students. Studies have demonstrated that university students have an overall low perception of risk and vulnerability for engaging in these behaviors. A study conducted by Abel and Brunton (2004) examined young sexually active individuals’ condom use and perceived susceptibility to STIs. They found that about 75% of the youth believe that other individuals are susceptible to STIs,
and that only 23% of those individuals believe they could contract STIs. Thus, students’ underestimation of contracting STIs has impacted their sexual behaviors by increasing unsafe behaviors, such as inconsistent condom use.

Another study conducted by Pavlich and colleagues (2007) assessed university students’ beliefs about STIs and their beliefs about HIV/AIDS through survey research. The results of this study portrayed that although 79% of students agreed that STIs are a prevalent issue among their peers, only 16% of the student participants agreed that they are at risk of contracting STIs. Alarmingly, 19% of the university students reportedly never use condoms during sexual intercourse, and another eight percent claim to seldom or occasionally use condoms. Pavlich and colleagues (2007) suggest that increasing sexual education methods could educate college students to alter their perceived susceptibility, and teach them a more accurate susceptibility of contracting STIs.

*Lack of knowledge and education*

Awareness of the health costs of risky sexual behaviors could help prevent the transmission of STIs and the amount of unintended pregnancies. Clark and colleagues (2002) performed a study in an urban children’s hospital to assess STI knowledge and STI education among youth participants from 12 to 21 years of age. Almost all participants in the study reported to be educated about STIs by school programs, parents, and friends, yet only two percent were able to correctly name the eight major STIs, and only three percent were able to name the four major incurable STIs. This study demonstrates the lack of proper sexual education among youth.

A study conducted by Frost and Darroch (2008) investigated factors associated with contraceptive choices and inconsistent method use by surveying individuals
nationwide. Frost and Darroch reported that contraceptive choice was associated mainly with partnership, experiential, and attitudinal factors. They emphasized the importance of greater efforts needed to educate women and their partners on utilizing contraceptives effectively and consistently during sexual intercourse to lower unintended pregnancy rates.

**Lack of communication and confidence**

Lack of communication about condom use prior to engaging in sexual activities is another barrier to safe sexual behaviors. Dilorio and colleagues (2000) studied self-efficacy and outcome expectancies and the correlations with high safe sex communication; their study determined the extent to which communication about safer sex and HIV among college students is important in condom use. The findings suggested that participants with high level of confidence are more likely to discuss safe sex methods with their partners, and are more likely to report condom use. Additionally, increased communication about safer sexual behaviors among partners has been linked to increased condom use (Sterk, Klein, & Elifson, 2003). A study conducted by Sterk and colleagues (2003) identified there is a relationship between sexual communication and condom use self-efficacy by reporting that the higher and better the sexual communication between partners predict higher condom use self-efficacy.

A study conducted by Farmer and Meston (2006) investigated predictors of condom use self-efficacy among university students; they reported sex differences in condom use self-efficacy, condom use attitudes, and condom use behaviors. Farmer and Meston (2006) found that men report higher condom use self-efficacy and condom use
attitudes, and also that men are more confident in their ability to request and access condoms than women.

**Accessibility**

Accessing condoms is a major contributing factor to inconsistent condom use. Sexual health professionals work towards promoting the usage of correct and consistent condom use by dedicating significant resources through condom-distribution programs to make condoms easily accessible due to cost and barriers presented by stores (Shlay et al., 2004). Stores often keep condoms behind locked glass doors to prevent individuals from purchasing them unless they ask a store attendee to unlock it. Some communities are advocating for condoms to be easily accessed in stores for purchase to avoid barriers of embarrassment of asking for help to open condom cases (Reece et al., 2010). A study conducted by Burke, Wilson, and Bernstein (2009) found that 69% of individuals who have received condoms from condom-distribution programs utilized them, demonstrating that raising accessibility decreases the barriers to use them. Another study referred to inaccessibility of condom use before engaging in sexual intercourse to be a “condom error”, and technical condom errors are frequently reported as a common barrier to correct and consistent condom use (Crosby, Sanders, Yarber, & Graham, 2003).

**Technical errors**

Technical errors are barriers related to consistent condom use. A study conducted by Crosby and colleagues (2002) among university students at Indiana University studied correct use of condoms during sexual engagement. The findings of the study portrayed that 61% of the student participants did not examine the expiration date, 74% of the students did not check for visible damage of the condom, and only 67% of students used
condoms before starting sexual activity. Additionally, the study indicated that 30% of students placed the condom on the wrong way and 40% did not leave any space at the end of the tip as suggested. Moreover, Crosby and colleagues (2002) discovered that consistency of condom use is impacted by condom availability and lack of communication.

**Determinants of Risky Behaviors and Inconsistent Condom Use**

Many additional risky behaviors are linked to inconsistent condom use among college students. Some of these risky behaviors are multiple sexual partners and one-night stands (CDC, 2006; Kelley et al., 2003), alcohol related sexual intercourse (Kelley et al., 2003; Welsh, Grello, & Harper, 2006), illegal drug use (Rosengard et al., 2006), and body dissatisfaction (Eisenberg, Neumark-Sztainer, & Lust, 2005).

**One-night stands**

Studies have indicated that men have more sexual partners (Schmitt, Couden, & Baker, 2001) and lower their standards for short-term partners as compared with long-term mates (Woodward & Richards, 2005). In a study conducted by Paul and Hayes (2002), male college students reported that their most regretful experience of engaging in one-night stands was choosing undesirable or unattractive partners. Another study found that women report lower satisfaction than males and experience more regret than males after engaging in one-night stands (Campbell, 2008). The Trivers’ parental investment proposal found that the costs females report for engaging in one-night stands are the risk of STIs, a reputation for easy sexual accessibility, and the potential burden of parental care if they become pregnant (Woodward & Richards, 2005). There are other risky
factors linked to individuals engaging in one-night stands, such as being under the influence of alcohol or illicit drug use, and contextual or situational factors such as partner characteristics and location that create an opportunity to engage in one-night stands (Paul & Hayes, 2002). By engaging in one-night stands, there are higher risks involved with engaging in inconsistent condom use (Campbell, 2008).

**Alcohol influence**

Another barrier to consistent condom use among university students is alcohol related. According to a study conducted by Kelley and colleagues (2003) among university students, there is a significant correlation between use of alcohol and risky sexual behaviors. Findings portrayed that students who were in sequential relationships were twice as likely to engage in risky sexual behaviors due to consumption of alcohol. Kelley and colleagues (2003) further reported that 27% of students involved in these relationships engage in regrettable sexual activities while under the influence of alcohol.

A study conducted by Welsh and colleagues (2006) explored the relationship between alcohol and casual sexual intercourse among university students. Out of the 382 students who participated in the study, 65% reported engaging in casual sexual intercourse after consuming alcohol or other drug use. Welsh and colleagues (2006) concluded that there is a significant relationship between alcohol and drug use and casual sexual intercourse encounters among university students.

**Illegal drug use**

Drug use is associated with increased risk of sexual risk behaviors including inconsistent condom use and increased number of sexual partners (Rosengard et al., 2006). A study conducted by Rosengard and colleagues (2006) assessed the correlates of
condom use and motivation for condom use among drug users, and reported common reasons for not utilizing condoms. Some of the reasons drug users were less likely to utilize condoms were that they had a lower perceived risk of contracting STIs, reported loss of sensation while using condoms, and also the lack of availability of condoms.

**Body Image**

An additional contributing factor to inconsistent condom use among university students may involve the physical domain of body image. Body image is a subjective picture that individuals hold about their self-appearances and represents general cognitions, perceptions, and behaviors they have about their bodies. Moreover, body image is an individual’s mental representation of the body that has both perceptual components and attitudinal components (Gerner & Wilson, 2005). Research conceptualizes the term body image satisfaction based on individuals who have discrepancies between their true appearances of their body sizes in comparison to the their perceptions of their ideal body sizes (Grogan, 2008). Higher discrepancies made between the true body sizes and the ideal body sizes of individuals lead to higher body dissatisfaction, which may result in lower self-esteem and other physical issues like eating disorders (Grilo & Misheb, 2005).

Body dissatisfaction is highly prevalent in the U.S. (Eisenberg, Neumark-Sztainer, & Lust, 2005). A survey conducted in the U.S. among individuals from 13 to 29 years of age found that 56% of women were displeased with their appearance, 43% of men were displeased with their overall appearance, and 45% of these men were specifically concerned about their muscle tone (Garner, 1997). Body image is a major
concern of physical, psychological, and social transitions as young adults develop (Bearman, Presnell, Martinez, & Stice, 2006; Jones & Crawford, 2005). Furthermore, body image dissatisfaction is a significant issue among college students. A study conducted at a university found that more than 65% of female students and more than 30% of male students were not satisfied with their body images (Forrest & Stuhldreher, 2007).

Body weight, body height, and overall body mass index (BMI) are widely utilized physical measurements of the body. Height and weight are comparable to a standard weight table. These measurements define an individual’s weight in classes and include an overweight and obese category. Obesity is defined as individuals who are an estimated 20% or above the ideal weight for the person’s size (Grogan, 2008). A study conducted by Harring, Montgomery, and Hardin (2010) investigated the inaccuracy of body weight perceptions and the links between unhealthy weight management strategies and depression through the nationwide 2006 National College Health Assessment Survey. Their study found that fewer females than males were overweight, yet more females were trying to lose weight. Conversely this study depicted that more females reportedly perceive themselves more overweight than they actually are.

Male and female differences in body image

Although studies have shown that women are usually more concerned about their body image than men (Cash, Morrow, Perry, & Hrabosky, 2004; Grilo & Masheb, 2005), men too have body image concerns (Bergstrom, Lewis, & Neighbors, 2006; Davis, Karvinen, & McCreary, 2005). According to Davis and colleagues (2005), females prefer thinness, whereas males prefer musculature. Females also report dissatisfaction as
early as third grade or eight years of age, and mostly report discontentment in places of substantial adipose tissue in the middle and lower body regions, such as the stomach, thighs, hips, and buttocks (Levine & Smolak, 1999). Similar to females, Grogan (2008) proposes that body image dissatisfaction starts among men as early as eight years of age. However men report discontentment with their bodies based on comparing their bodies with the ideal “V-shape” body type that is defined as a big muscular upper body and slim hips. Research proposes a theme that males are more concerned with increasing the size of their body and gaining muscle (McCabe & Ricciardelli, 2003; Weltzin, Weisensel, Franczyk, Burnett, & Bean, 2005), which is correlated with muscles and body image among men (Carlson Jones, 2004). Additionally, studies depict that college females perceive their actual build to be heavier than the ideal build (Cash et al., 2004b). Ultimately research displays varied negative health-related consequences associated with body image dissatisfaction among male and female college students (Grossard, Lee, Neighbors, & Larimer, 2008).

**Body image and social support**

Body image is heavily influenced through social experiences, and since it is socially constructed, it can be altered by new information (Grogan, 2008). Grogan (2008) infers that individuals with high body dissatisfaction may have the motivation to engage in health-related behaviors such as exercising, to decrease their body dissatisfaction. However, these individuals may be inhibited due to the concern that they may not have the ability to engage in health-related behaviors and will not be accepted by others. Body image has also been found to be highly important in the development of interpersonal relationships, especially among adolescent females (Levine & Smolak,
According to a study focusing on noticeable body differences and disfigurements, individuals have more difficulty and suffer from anxiety in meeting new people and forming relationships (Cash & Pruzinsky, 2002).

Common themes have been revealed throughout literature between the association between social support of existing relationships and body image. Individuals who report poor relationships with parents have higher dieting and high body dissatisfaction longitudinally (Archibald, Graber, & Brooks-Gunn, 1999). In addition, a strong relationship has been identified between body image satisfaction and maternal influences. Females that suffer from eating disorders reportedly feel less accepted and less close to their parents than the females who do not suffer from eating disorders (Swarr & Richards, 1996). May and colleagues (2006) had similar findings that females who are not emotionally close with their mothers put them at elevated risks for weight concerns, however, they found an insignificant difference between males and their mothers. They also appraised father-daughter relationships and father-son relationship and found that this relationship is a significant predictor of weight concerns between both types of relationships. Research identifies social support from mothers as protective factors against body dissatisfaction (Brown et al., 1995). Additionally, research portrays that social support from other family members positively contributes to body image satisfaction longitudinally (Bearmen, Presnell, Martinez, & Stice, 2006; Stice & Whitenton, 2002).

Body image has been analyzed based on peer influences among males and females. A study conducted by Stice and colleagues (2002) reported that peers have more significant influences than family members in predicting negative eating behaviors,
such as binge eating. In addition, Gerner and Wilson (2005) drew conclusions that lower perceived social support and peer intimacy are predictors of body image dissatisfaction among females. Individuals’ body image appearances and behaviors linked to body image may also reflect their peers’ body image appearances and behaviors (Stice et al., 2002). There is a gap in literature on body image focusing on males and social support, including their relationships with family and peers (Ricciardelli & McCabe, 2004).

Family and peers may negatively influence body image satisfaction levels by family members and peers criticizing individuals’ physical appearances (Jones, Vigfusdottir, & Lee, 2004). Specifically, females who are criticized by individuals emotionally close to them are at higher risk for body image dissatisfaction, internalizing the cultural ideal thinness, developing negative eating behaviors, and ultimately lower self-esteem (Keery, Boutelle, van den Berg, & Thompson, 2005). A longitudinal study conducted by Eisenberg, Neumark-Sztainer, Haines, and Wall (2006) found that an estimated one-third of high school males and approximately one-half of high school females suffered criticism about their weight, and was significantly associated with high body image dissatisfaction five years after reporting the criticism.

Body image and human sexuality

Over the past 50 years, body image research has evolved from a single perspective related to weight-related issues among women and has began to explore new, valuable advances in knowledge to the field (Cash & Pruzinsky, 2002). In addition, many current studies have been conducted on the association between body image and sexuality. Previous studies have only focused on the associations between body image and general sexual experiences, such as sexual functioning, sexual desire, sexual
satisfaction, and confidence in engaging in sexual intercourse (Ackard, et al., 2000; Cash, Maikkula & Yamamiya, 2004a; Seal et al., 2009; Weaver & Byers, 2006; Weiderman, 2000; Yamamiya et al., 2006).

A study conducted by Ackard and colleagues (2000) considered the relationship between a woman’s overall self-image, body image, and sexual behaviors to better understand the link between body image and sexuality. This study reportedly found that there is a significant correlation between a woman’s overall self-image and body image in relation to predicting sexual activities. About 40% of participants who reported body image satisfaction engaged in more sexual activity, had greater comfort with their bodies in front of their partners, and were comfortable leaving the lights on during sexual activities, compared to the estimated 60% of women who reported body image dissatisfaction. This study warrants further concern about the correlation between the two physical domains of healthy sexual experiences and body image as women with a higher body image dissatisfaction level are linked to lower overall self-image and sexual behaviors (Ackard et al., 2000).

Weiderman (2000) conducted a study based on body image and sexuality by examining how a woman’s self-consciousness impacts physical intimacy with a partner. The study found that approximately one-third of the participants reported being self-conscious about their body image during physical intimacy with partners within their lifetime. Weiderman (2000) controlled for true body size and still reported that body image and sexual anxiety were significantly associated with sexual experiences, sexual esteem, and avoidance of sexual activities. Wiederman’s report included the recommendation to study different aspects of human sexuality as body image
dissatisfaction and self-consciousness has a significant impact on a youthful woman’s sexuality.

Body image and sexuality has been researched further in a study focusing on self-consciousness and individuals uncomfortable with exposing their bodies during sexual activities based on body image dissatisfaction among university students. This study conducted by Cash and colleagues (2004a) reported that university students who are self-conscious about their bodies might decrease their sexual functioning, desire, and performance due to their unwillingness to expose their bodies to their partners. The study also found that both males and females who reported higher body image satisfaction had more confidence in showing their bodies during sexual relations. In contrast, women and men differed in their physical characteristics such as weight and gender-related shape attributes they reportedly were self-conscious about. Males were more dissatisfied with their musculature, waist, chest, and genitals, whereas women were more dissatisfied with their weight and high adipose tissue areas such as stomach, waist, hips, and buttocks. Cash and colleagues (2004a) found a strong correlation between physical self-consciousness of the subjects’ body images and sexual activities.

The relationship between body image, body esteem, and sexual desire was investigated in a recent study among college women. Seal and colleagues (2009) investigated the correlation between body image and sexual functioning through self-reports based on sexual desire and clinical settings of physiological responses to sexual arousal. Seal and colleagues (2009) found that the higher the self-reported body esteem, the higher it is related to higher self-reported sexual desires. Furthermore, high body self-esteem was significantly related to sexual desires that were confirmed through the
laboratory measures of erotic stimulus and sexual functioning. This study is the first study to show a significant relationship between body esteem and sexual desire in a clinical setting.

Weaver and Byers (2006) conducted a study that examined the link between body image, sexual functioning, and exercise among university women. The study measured body mass index (BMI), physical activity levels, body image, and sexual functioning through anonymous questionnaires. Body image was examined through three different aspects. The first part is through a questionnaire about body parts and eating disorders. The second aspect of measuring body image is a questionnaire that focused solely on body image avoidance behaviors. The last part measures body image dysphoria by asking the participants to identify their physical appearance in different situational scenarios, such as mood-related situations or how they feel they look after meals. Weaver and Byers (2006) found that body image satisfaction was significantly related to better sexual functioning. Women who suffered from body image dissatisfaction and body image dysphoria reportedly had higher sexual anxiety, lower sexual functioning, lower sexual esteem and lower assertiveness than women who do not suffer from body image dysphoria. Conversely, BMI and physical activity levels had no significant association with sexual functioning. Weaver and Byers’ study had common themes of significant associations between body image and sexuality by reporting that body image dissatisfaction was directly related to poorer sexual functioning.

In relation to sexual functioning, another study conducted by Yamamiya and colleagues (2006) studied the association between body image and sexual experiences among college women. Yamamiya and colleagues (2006) reported that body image was
directly related to sexual difficulties by investigating self-confidence during sexual activities, sexual functioning, sexual assertiveness, and the ability to abstain from unwanted sexual activities, and emotional feelings during sexual experiences. This study found that body dissatisfaction correlated with low self-confidence during sexual activities, poor sexual functioning, reduced sexual assertiveness, emotional disengagement during sexual intercourse, and the inability to make safe sex decisions.

This study also focused on both body image and contextual body image in different scenarios, such as body exposure during sexual activities. The findings raise concern between body image and risky sexual behaviors, such as an increased number of sexual partners and inconsistent condom use (Yamamiya et al., 2006).

_Body image and inconsistent condom use_

Although there are many studies that have examined the link between body image and sexuality, few studies have focused specifically on the association between body image and risky sexual behaviors. According to Greenberg and colleagues (2011) there is an existing link between body images and sexual behaviors. Individuals that have a more positive body image are more likely to make healthy sexual decisions, such as engaging in consistent condom use, while individuals that have poor body images are less likely to feel comfortable or confident enough to make healthy sexual decisions. Few studies have focused on the relationship between body image and risky sexual behaviors.

A study conducted by Gillen and colleagues (2006) found statistically significant results between body image and risky sexual behaviors. Moreover, Gillen and colleagues focused on the relationship between body images, risky sexual behaviors, and attitudes among emerging college students. Fifty-nine percent of the college student participants
reported risky sexual behaviors, and 68% of those students reported inconsistent condom use. Findings in this study also found that females who have a more positive evaluation of their bodies engaged in less risky sexual behaviors than women with a more negative evaluation of their bodies. Conversely, males who reported a more positive evaluation of their bodies were more likely to report risky sexual behaviors than males with negative evaluation. Gillen and colleagues discovered that focusing on body image could be a key avenue for decreasing risky sexual behaviors among college students.

Littleton, Radecki-Breitkopf, and Berenson (2005) studied the impact of negative body image on risky sexual behaviors among women in a tri-ethnic sample seeking help at family planning clinics in Texas. The results depicted that body image was a significant predictor of inconsistent condom use: the more dissatisfied the women were with their body image, the more inconsistent condom use and multiple partners were reported than the women that were more satisfied with their bodies. Additionally, the younger the women were, the more sexual partners were reported. Findings suggest there is a significant relationship between body image and risky sexual behaviors.

Wingood, DiClemente, Harrington, and Davies (2002) found a significant relationship between body dissatisfaction and unprotected sex, and the fear of negotiating condom use among African American adolescents. The study found that women with dissatisfied body images were two times more likely to not have control in a sexual relationship, and almost two times more likely to fear the results of discussing condom use with their partners. Furthermore, the participants were 1.5 times more likely to report never using condoms during last sexual intercourse within the past 30 days. Wingood
and colleagues (2006) concluded that women who have dissatisfied body images were more susceptible to unintended pregnancies and STIs due to lack of condom use.

Focusing specifically on body weight and risky sexual behaviors, Eisenberg and colleagues (2005) performed a study of the relationship between weight-related issues and high-risk sexual behaviors among college students. Eisenberg and colleagues (2005) found that college students with weight-related issues and a higher BMI were two to three times more likely to engage in risky sexual behaviors than those with a normal BMI. More specifically, women who utilized unhealthy weight control behaviors had a greater association with using no contraception at last sexual intercourse.

Self-Efficacy Model

The self-efficacy model is derived from Albert Bandura’s renowned social cognitive theory to explain the effects that performing a specific behavior has on individuals in regard to the efforts exerted, the duration of persisting to attempt the given behavior, and emotional reactions when individuals are confronted with the threat of failing to perform the behavior (Bandura, 1977). The three key components of the self-efficacy model are: 1) efficacy expectations, 2) outcome expectations, and 3) outcome values (Bandura, 1977, 1991). The first major component of efficacy expectations refers to the belief an individual has that he or she can successfully perform a specific behavior to achieve desired outcomes. The second component, outcome expectations, refers to the outcome beliefs an individual expects after performing the given behavior. The last major component of self-efficacy is outcome values, which refers to the value or significance an individual places on the expected outcomes of performing a specific
behavior (Bandura, 1977). Bandura’s self-efficacy model has been successful in predicting health behaviors. Moreover, the self-efficacy model has been utilized to determine university students’ self-efficacy on condom use (Baele, Dusseldorp, & Maes, 2001; Dilorio et al., 2000; Farmer & Meston, 2006).
Chapter Three

Methods

The purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a one-night stand, ever having engaged in sexual intercourse under the influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

Chapter one introduced the problem, research questions and hypotheses, and provided the delimitations, limitations, assumptions, and operational definitions of this study. This chapter presents a review of the literature to support the need of this study. Chapter two provides a review of the literature that supported and justified the need of this study. This chapter describes the methodology utilized in this study.

Participants

The participants in this study were represented by a convenience sample of students from the University of Cincinnati. The University of Cincinnati has a total
population of 31,523 undergraduate students on the uptown main campus (UC Facts, 2010). A sample of 380 was needed to have a confidence level of 95% with a confidence interval of 5%. Criteria were established in order for the students to be eligible to participate in this study. The inclusion criteria were as follows: participants had to be undergraduate students enrolled at the university in a sample of eight general education courses at the University of Cincinnati uptown campus during the 2011 spring quarter. Moreover, individuals had to have participated in sexual intercourse within their lifetime to answer all of the sections on the survey. If participants did not meet the inclusion criteria, their information was not recorded or utilized in the data analysis. Furthermore, participation by the students was voluntary, and no incentives were given.

**Instrumentation**

A two-page, 51-item questionnaire was developed to determine sexually active university students’ condom use during sexual intercourse and how satisfied university students were with their overall body image. The impact of body image on sexual behaviors such as inconsistent condom use, perceived-self efficacy regarding condom use, and other risky sexual behaviors such as engaging in one-night stands and examining sexual behaviors while intoxicated and utilizing illegal drugs were also examined. In addition, this study also examined how body image differs among university students based on sex, grade level, and level of social support. The survey was divided into six sections and designed to determine information about the participants’ overall body satisfaction, level of social support, history of sexual behaviors and condom use, frequency of condom use, perceived self-efficacy in condom use, and their demographics.
The term sexual intercourse was defined at the top of the second page of the survey instrument.

**Body image.** The first section of the survey addressed body image satisfaction and asked 17 close-ended questions about how satisfied the participants were with their overall body appearance and 15 different body parts including face, hair, arms, stomach, waistline, hips, buttocks, thighs, height, and weight on a 4-point scale ranging from “not satisfied at all” receiving a score of 1, “slightly satisfied” receiving a score of 2, “moderately satisfied” receiving a score of 3, to “extremely satisfied” receiving a score of 4. The last question in this section asked individuals “Which best describes your weight?” ranging from very underweight to very overweight on a 5-point Likert scale. These 17 questions formed an overall body image score of participants.

**Social support.** Section two of the survey addressed the level of social support university students feel from significant others by asking 12 questions. This section asked the students’ questions about how strongly they agreed or disagreed with statements about emotional closeness to others on a 5-point scale ranging from strong disagree to strongly agree. Statements in this section included “I feel emotionally close to my dad”, “I talk to my dad about things that are important to me”, and “I feel loved by my dad”. In addition, these set of questions also asked the participants about social support they experience from their mothers, another family member besides their parents, and friends.

**History of sexual behaviors and condom use.** The third section of the survey instrument requested students to answer the question “Have you ever had sexual intercourse (penile-to-vaginal intercourse)”, and if “no” skip to section 5, and if “yes”
then answer the following nine questions about sexual behaviors and condom use history. The students are asked to write how many years of age they were when they first had sexual intercourse, how many sexual partners they have had in their lifetime, how many sexual partners they have had in the last 30 days, and how many partners have they had sexual intercourse with without the use of a condom. Furthermore, the questionnaire asked participants to check “yes” or “no” to five questions that asked about risky sexual behaviors such as “Have you ever had sexual intercourse while intoxicated?” and “Have you ever had sexual intercourse without the use of a condom?”

*Frequency of condom use.* The fourth section of the questionnaire asked individuals to answer the question “When you have sexual intercourse, how often do you or your partner use a condom?” The possible answers provided ranged from “never (0% of the time)”, “sometimes (1% to 50% of the time)”, “most of the time (51% to 99% of the time)”, to “always (100% of the time)”. Participants who selected never or sometimes were defined as engaging in inconsistent condom use, whereas participants who selected most of the time and all the time were defined as engaging in consistent condom use.

*Perceived self-efficacy in condom use.* The fifth section of the survey addressed perceived self-efficacy in condom use. A series of four questions were asked to determine the participant’s confidence and perceived self-efficacy in condom use by asking questions such as “How confident do you feel that you can purchase a condom from the store”. The participants were requested to choose on a 4-point scale from not confident at all ranging to extremely confident. Individuals who selected the “not confident at all” or “slightly confident” category had low perceived self-efficacy in
condom use, whereas participants who selected the “confident” or “extremely confident” category had high perceived self-efficacy in condom use.

**Demographics.** The last section of the survey instrument asked participants about their demographic and background information. This section consisted of seven items that included information about their sex, age, height, weight, grade level, marital status, and sexual orientation.

**Instrument Testing**

A variety of methods were utilized to establish validity and reliability of the survey instrument. Face validity and content validity were tested before the survey was administered to the participants. Face validity was established by developing the survey instrument by a comprehensive review of literature. The content validity of this survey instrument depended on the degree that the survey measured all of the areas that represent the concept. The concept of the survey was to determine participants’ sexual behaviors, history of condom use at last sexual intercourse, their perceived self-efficacy in condom use, and their overall body image. The survey was first sent to an expert panel to determine the content validity. The expert panel involved an expert in survey design and research from the University of Cincinnati, and one health education professor from the University of Cincinnati.

The researcher sent every expert on the panel the survey instrument with a cover letter that explained the purpose of this particular study, and why the expert had been selected to participate in the review of the instrument. This information was sent to the panel of experts via email, and hard copies were also mailed to the experts. The cover
letter directed the experts to critique the survey and examine if the questions were clear and understandable. Moreover, the experts were asked to verify if the items measured what they were intended to measure. The researcher requested the expert to provide revisions, feedback, and any questions they had about the survey instrument, and to return them within two weeks via email or hard copies could be sent through the mail. The expert panel confirmed that the items on the survey instrument measured what they intended to measure and only suggested minor revisions. The research incorporated the panel of experts’ revisions and feedback into the final survey instrument.

Stability reliability of the survey instrument was established by utilizing the test-retest method. The survey was administered to a convenience sample of 16 undergraduate university students on the uptown main campus of the University of Cincinnati at two different points in time. The students were male and female members of a health, fitness, and leisure course and represented various grade levels, majors, and race/ethnicities. The survey was first administered to the participants at the beginning of class on a Wednesday. The participants were informed that their participation was voluntary and participants had the option to withdrawal from the study at any time. The following page included information about anonymity and confidentiality, time duration to complete the questionnaire, and also the process of obtaining the participant’s consent. Due to anonymity, the participants were asked to record the last four digits of their phone numbers paired with their favorite color on the top right of the surveys so they could be distinguished during the second round of surveys. The identical procedure for the first round was followed for the second round of surveys during the following week. The participants were re-informed about the anonymity and confidentiality of the study, and
to give their consent to participate in the study. The duration of time to complete the survey was also given. After the surveys were received, the responses on the first surveys were compared to the second surveys to determine if there were any inconsistent responses between the two surveys taken at different times. The data was entered into the SPSS software program to calculate the correlation coefficient. The Pearson correlation coefficient for parametric items was $> .84$ and Kendall’s tau-b coefficient for nonparametric items was $> .86$ which indicated that the sample was stable over time. Internal consistency reliability of the survey instrument was confirmed by calculating Chronbach alphas for each of the parametric subscales, yielding Chronbach alphas $> .80$

**Procedures**

The researcher’s thesis committee was requested to approve the study proposal, survey instrument, cover letters, and informal and formal consent forms, and upon approval was submitted to the University of Cincinnati Institutional Review Board (IRB). The IRB approved the study.

The primary researcher selected general education courses from the University of Cincinnati’s list of undergraduate course offerings to administer the survey instrument in, including health education and health, fitness, and leisure courses. The researcher emailed the instructors of the courses the survey with a cover letter explaining the purpose of the study and requesting permission to administer the survey in their courses during the spring 2011 quarter. The instructors who granted permission were requested to email the researcher the days and times of their classes, the number of sections, and the number of students in each section. A total of 11 instructors were asked to participate,
eight responded to the email, and eight out of the eight instructors that responded agreed to administer the survey in their courses. Surveys were distributed in the courses from which permission was obtained during class time in May and June of 2011.

A total of 22 classes were surveyed, which included 16 sections of health, fitness, and leisure courses and six sections of health education courses. The researcher introduced the purpose of the study to the students that were enrolled in the approved classes, and informed the students that their responses would be anonymous. The researcher told the students to refrain from putting any identifying information about themselves, such as their names, social security numbers, and University of Cincinnati identification numbers on the surveys to protect anonymity. Additionally, the researcher also informed the students that their participation in the study was completely voluntary, and by completing the survey they were granting their permission to include their responses in the study. The students received a cover letter with a survey attached reiterating the purpose of the study, and their anonymity. Moreover, the cover letter explained that by completing the survey, the students were giving permission to incorporate their responses into the study, and that the survey would take approximately five to ten minutes to complete.

The researcher requested that the students put their surveys face down in an envelope that was placed on the desk at the front of the classroom. The researcher counted the number of surveys collected in each course to keep an accurate count of surveys that were completed, and discarded any of the surveys that did not meet requirements to be utilized in the study. A total of 480 surveys were collected from the 22 classes. Fifteen surveys were eliminated due to incomplete information. As a result, a
sample of 465 was utilized for the study after eliminating the incomplete surveys. Surveys were kept locked in a personal filing cabinet at the researcher’s office until data entry was conducted for the study. Upon the completion of the data analysis, all surveys were kept for three years in a locked cabinet.

**Data Analysis**

The program Statistical Package for Social Sciences (SPSS) was used for data analysis. Demographic and background information were described by descriptive statistics, including frequencies, means, standard deviations, and ranges. A series of independent samples t-tests, odds ratios, multivariate analyses of variance, and univariate \( F \)-tests were computed. An alpha level of 0.05 was established for determining significance.
Chapter Four

Results and Discussion

The purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a one-night stand, ever having engaged in sexual intercourse under the influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

Chapter one introduced the problem, research questions and hypotheses, and provided the delimitations, limitations, assumptions, and operational definitions of this study. This chapter presents a review of the literature to support the need of this study. Chapter two provides a review of the literature that supported and justified the need of this study. Chapter three described the methodology utilized in this study. This chapter discusses the results of the research conducted.

Participation

Participating students \((n = 465)\) were enrolled in 22 sections of health, fitness and leisure courses and health education courses during the spring quarter of 2011 at a
Midwestern University. Initially, a total of 500 surveys were distributed and 480 were returned, resulting in a 96% response rate. Out of the 480 surveys returned, 15 surveys were incomplete and eliminated, resulting in a total sample size of 465 and a total participation rate of 93%. A power analysis was conducted a priori based on a total population of 31,523 undergraduate students with a confidence level of 95% and a confidence interval of 5% and indicated that a sample of 380 students was needed to achieve a representative sample.

Demographic and Background Characteristics

Most participants were females (64.9%) (Table 4.1). Grade levels included freshman (16.8%), sophomores (19.0%), juniors (21.6%), seniors (39.9%), and graduate students (2.8%). Marital status of participants were mainly single and in a steady relationship (49.1%), single and not in a steady relationship (43.3%), and also there were a few that were engaged (4.3%) and married (3.3%).

Ages ranged from 18 years of age to 52 years of age ($M = 21.62$, $SD = 3.408$). Moreover, the height of participants ranged from 59 inches to 80 inches ($M = 67.29$, $SD = 4.128$). The participants reported their weight ranging from 90 pounds to 330 pounds ($M = 156.29$, $SD = 38.470$). Participants were also asked about their sexual orientation on a 7-point scale ranging from exclusively heterosexual to exclusively homosexual. Most participants self-reported as being exclusively heterosexual (86.3%) whereas only three percent of the population reported being exclusively homosexual ($M = 1.37$, $SD = 1.203$).
Body Image

Students were asked to rate how satisfied they were with their overall body appearance (1 item) and how satisfied they were with 15 body parts including the face, skin complexion, hair, shoulders, arms, chest, stomach, waistline, hips, buttocks, thighs, calves, feet, height, and weight via a 4-point scale (1 = “not satisfied at all”; 4 = “extremely satisfied”). The body image satisfaction score was subsequently dichotomized into two categories: low level and high level based on the median split (low = 24 to 47; high = 48 to 64). Results indicated that 53.8% reported a low level of body image satisfaction whereas 46.2% reported a high level of body image satisfaction (Table 4.2). Participants were also asked to best describe their weight on a five-point Likert scale. Students reported being very underweight (1.1%), about the right weight (62.6%) slightly underweight (10.1%), slightly overweight, (21.1%), and very overweight (4.5%) (\( M = 47.15, SD = 8.317 \)). Overall, most reported being “about the right weight.”

Social Support

Students were asked to report their emotional closeness to significant others including their mothers, fathers, other family members, and friends on a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) (Table 4.3). University students reported emotional closeness with a mean of 4.34 (\( SD = 0.883 \)) to mothers, a mean of 3.78 (\( SD = 1.152 \)) to fathers, a mean of 4.15 (\( SD = 0.956 \)) to another family member, and a mean of 4.56 (\( SD = 0.720 \)) to at least one friend. Participants also reported how comfortable they felt talking to their significant others and reported a mean
### Table 4.1. Demographic and Background Characteristics of Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>300</td>
<td>64.9%</td>
</tr>
<tr>
<td>Male</td>
<td>162</td>
<td>35.1%</td>
</tr>
<tr>
<td><strong>Grade Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>77</td>
<td>16.8%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>87</td>
<td>19.0%</td>
</tr>
<tr>
<td>Junior</td>
<td>99</td>
<td>21.6%</td>
</tr>
<tr>
<td>Senior</td>
<td>183</td>
<td>39.9%</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>13</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single &amp; Not in a steady relationship</td>
<td>199</td>
<td>43.3%</td>
</tr>
<tr>
<td>Single &amp; in a steady relationship</td>
<td>226</td>
<td>49.1%</td>
</tr>
<tr>
<td>Engaged</td>
<td>20</td>
<td>4.3%</td>
</tr>
<tr>
<td>Married</td>
<td>15</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Notes:

N = 465; All categories do not total 465 due to missing data; Percents refer to valid percents; Missing values excluded
Table 4.2. Body Image Satisfaction Score

<table>
<thead>
<tr>
<th>Body Image</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level of body image satisfaction</td>
<td>250</td>
<td>53.8%</td>
</tr>
<tr>
<td>High level of body image satisfaction</td>
<td>215</td>
<td>46.2%</td>
</tr>
</tbody>
</table>

Notes:

- $N = 465$; Percents refer to valid percents; Missing values excluded
- Low level = 24 to 47; High level = 48 to 64
### Table 4.3. Social Support

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel loved by my mom.</td>
<td>4.74</td>
<td>0.587</td>
</tr>
<tr>
<td>I feel loved by at least one friend.</td>
<td>4.72</td>
<td>0.616</td>
</tr>
<tr>
<td>I feel loved by another family member.</td>
<td>4.69</td>
<td>0.642</td>
</tr>
<tr>
<td>I feel emotionally close to at least one friend.</td>
<td>4.56</td>
<td>0.720</td>
</tr>
<tr>
<td>I talk to a friend about things that are important to me.</td>
<td>4.54</td>
<td>0.685</td>
</tr>
<tr>
<td>I feel loved by my dad.</td>
<td>4.53</td>
<td>0.936</td>
</tr>
<tr>
<td>I feel emotionally close to my mom.</td>
<td>4.34</td>
<td>0.883</td>
</tr>
<tr>
<td>I talk to my mom about things that are important to me.</td>
<td>4.26</td>
<td>0.934</td>
</tr>
<tr>
<td>I feel emotionally close to another family member.</td>
<td>4.15</td>
<td>0.956</td>
</tr>
<tr>
<td>I talk to another family member about things that are important to me.</td>
<td>3.92</td>
<td>1.063</td>
</tr>
<tr>
<td>I feel emotionally close to my dad.</td>
<td>3.78</td>
<td>1.152</td>
</tr>
<tr>
<td>I talk to my dad about things that are important to me.</td>
<td>3.72</td>
<td>1.240</td>
</tr>
</tbody>
</table>

Notes:
Range = 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), to 5 (Strongly Agree); N = 465; Missing values excluded
of 4.26 ($SD = 1.240$) to mothers, a mean of 3.72 ($SD = 1.240$) to fathers, a mean of 3.92 ($SD = 1.063$) to another family member, a mean of 4.54 ($SD = 0.685$) to at least one friend. The last items asked participants to report how loved they felt and reported a mean of 4.74 ($SD = 0.587$) to mothers, a mean of 4.53 ($SD = 0.936$) to fathers, a mean of 4.69 ($SD = 0.616$) to another family member, a mean of 4.72 ($SD = 0.616$) to at least one friend.

**History of Sexual Behaviors and Condom Use.**

University students were asked their history of sexual behaviors. Approximately 79% of participants reported that they have had sexual intercourse within their lifetime (Table 4.4). The average age of first sexual intercourse was reported as a mean of 17.15 years of age ($SD = 1.901$). In addition, the number of sexual intercourse partners of students reported in their lifetime was a mean of 4.99 partners ($SD = 5.544$), and the numbers of sexual intercourse partners students reported in the past 30 days of taking the questionnaire was a mean of 0.82 ($SD = 0.634$). Roughly 41% of sexually active participants have engaged in one-night stands. Moreover, an estimated 76% of sexually active participants have had sexual intercourse while intoxicated, and an estimated 21% of sexually active participants have had sexual intercourse following illegal drug use.

Participants were also asked about their history and involvement in condom use. Of the 79% of participants who have reportedly been sexually active, 80% of the participants have reported that they have had sex without a condom, and approximately 41% of the participants did not use a condom during last sexual intercourse. In addition, students reported that they have had sexual intercourse without the use of a condom with
a mean of 2.08 partners ($SD = 3.333$). Participants were also asked to identify how often they use a condom during sexual intercourse on a scale ranging from 0% to 100% of the time, and most participants reported they use condoms 51% to 99% of the time ($M = 2.66$, $SD = 1.006$).

**Perceived Self-Efficacy in Condom Use**

Students were asked to report their confidence and perceived self-efficacy in condom use based on a range from 1 (not confident at all) to 4 (extremely confident). Sixty-six percent of participants felt extremely confident that they could talk to a partner about condom use before having sexual intercourse with a mean of 3.57 ($SD = 0.667$) (Table 4.5). When students were asked how confident they felt in properly using a condom during sexual intercourse, 68% reported they were extremely confident ($M = 3.61$, $SD = 0.647$). Similarly, an estimated 68% of participants felt that they were extremely confident to obtain a condom prior to having sexual intercourse. In addition, participants were asked how confident they felt in purchasing condoms from the store and slightly greater than 65% of students reported being extremely confident.
### Table 4.4. History of Sexual Behaviors and Condom Use

<table>
<thead>
<tr>
<th>Item</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have ever had sexual intercourse (penile-to-vaginal intercourse)</td>
<td>366</td>
<td>78.9</td>
</tr>
<tr>
<td>Have ever had sexual intercourse without the use of a condom</td>
<td>293</td>
<td>80.5</td>
</tr>
<tr>
<td>Have ever had sexual intercourse while intoxicated</td>
<td>277</td>
<td>76.1</td>
</tr>
<tr>
<td>You or your partner used a condom the last time you had sexual</td>
<td>213</td>
<td>58.7</td>
</tr>
<tr>
<td>intercourse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have ever had a one-night stand</td>
<td>149</td>
<td>40.9</td>
</tr>
<tr>
<td>Have ever had sexual intercourse following illegal drug use</td>
<td>78</td>
<td>21.4</td>
</tr>
</tbody>
</table>

**Notes:**

*N = 465; All categories do not total 465 due to missing data; Percents refer to valid percents; Missing values excluded; The last five questions were asked only to students who reported that they had ever had sexual intercourse.*
<table>
<thead>
<tr>
<th>How confident do you feel that you can. . . . ?</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain a condom prior to having sexual intercourse?</td>
<td>3.61</td>
<td>0.647</td>
</tr>
<tr>
<td>Properly use a condom during sexual intercourse?</td>
<td>3.61</td>
<td>0.647</td>
</tr>
<tr>
<td>Talk with a partner about condom use before having sexual intercourse?</td>
<td>3.57</td>
<td>0.667</td>
</tr>
<tr>
<td>Purchase a condom from a store?</td>
<td>3.52</td>
<td>0.778</td>
</tr>
</tbody>
</table>

Notes:
Range = 1 (Not Confident at All), 2 (Slightly Confident), 3 (Confident), to 4 (Extremely Confident); $N = 465$; Missing values excluded
Hypothesis Testing

Null Hypothesis 1: There will be no significant difference in lifetime involvement in sexual intercourse based on level of body image satisfaction.

A chi-square test was conducted to determine whether lifetime involvement in sexual intercourse differed significantly based on body image. Results indicated that engaging in sexual intercourse significantly differed based on level of body image satisfaction. University students with a high level of body image satisfaction were 1.842 times likely to have engaged in sexual intercourse in their lifetime than students with a low level of body image satisfaction, $\chi^2 (1) = 6.772, p = 0.009$. Therefore, the null hypothesis was rejected.

Null hypothesis 2. There will be no significant difference in age of first sexual intercourse based on body image satisfaction.

An independent samples $t$-test was conducted to compare the mean age of first sexual intercourse of sexually active university students with a low level of body image satisfaction to the mean number of sexually active university students with a high level of body image satisfaction. Results indicated that students with a low level of body image satisfaction ($M = 17.24, SD = 1.819$) did not significantly differ from students with a high level of body image satisfaction ($M = 17.06, SD = 1.983$) regarding the age of first sexual intercourse, $t (360) = 0.887, p = 0.376$. Therefore, the null hypothesis was not rejected.

Null Hypothesis 3. There will be no significant difference in number of lifetime sexual intercourse partners based on body image satisfaction.

An independent samples $t$-test was conducted to compare the mean age of lifetime sexual intercourse partners of sexually active university students with a low level of body
image satisfaction to the mean number of lifetime sexual intercourse partners of sexually active university students with a high level of body image satisfaction. Results indicated that students with a low level of body image satisfaction ($M = 4.76$, $SD = 5.23$) did not differ significantly from students with a high level of body image satisfaction ($M = 5.23$, $SD = 6.269$) regarding the number of lifetime sexual intercourse partners, $t (351) = -0.786$, $p = 0.432$. Therefore, the null hypothesis was not rejected.

Null Hypothesis 4. There will be no significant difference in number of recent sexual intercourse partners based on body image satisfaction.

An independent samples $t$-test was conducted to compare the mean number of recent sexual intercourse partners of sexually active university students with a low level of body image satisfaction to the mean number of recent sexual intercourse partners of sexually active university students with a high level of body image satisfaction. Results indicated that students with a low level of body image satisfaction ($M = 0.80$, $SD = 0.665$) did not differ significantly from students with a high level of body image satisfaction ($M = 0.84$, $SD = 0.601$) regarding the number of recent sexual intercourse partners, $t (359) = -0.561$, $p = 0.575$. Therefore, the null hypothesis was not rejected.

Null Hypothesis 5. There will be no significant difference in ever having had a one-night stand based on body image satisfaction.

A chi-square test was conducted to determine if ever having had engaged in a one-night stand differed based on body image. The chi-square test found no significant difference between sexually active university students with a low level of body image satisfaction (54.4%) and sexually active university students with a high level of body
image satisfaction (45.6%) based on ever having had a one-night stand, $\chi^2 (1) = 1.467, p = 0.226$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 6.** There will be no significant difference in ever having had sexual intercourse while intoxicated based on body image satisfaction.

A chi-square test was conducted to determine whether ever having had sexual intercourse while intoxicated differed based on body image. The chi-square test found that sexually active university students with a low level of body image satisfaction (52.3%) did not significantly differ from sexually active university students with a high level of body image satisfaction (47.7%) based on ever having had sexual intercourse while intoxicated, $\chi^2 (1) = 1.497, p = 0.221$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 7.** There will be no significant difference in ever having had sexual intercourse following illegal drug use based on body image satisfaction.

A chi-square test was conducted to determine if ever having had sexual intercourse following illegal drug use differed based on body image. The results showed that there was no significant difference between sexually active university students with a low level of body image satisfaction (48.7%) and sexually active university students with a high level of body image satisfaction (51.3%) based on ever having had sexual intercourse while intoxicated, $\chi^2 (1) = 0.133, p = 0.715$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 8.** There will be no significant difference based on ever having had sexual intercourse without the use of a condom based on body image satisfaction.
A chi-square test was conducted to determine if ever having had sexual intercourse without the use of a condom differed based on body image. The results revealed that sexually active university students with a low level of body image satisfaction (51.5%) did not significantly differ from sexually active university students with a high level of body image satisfaction (48.5%) based on ever having had sexual intercourse without the use of a condom, $\chi^2(1) = 0.585, p = 0.444$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 9.** There will be no significant difference based on use of a condom during last sexual intercourse based on body image satisfaction.

A chi-square test was conducted to determine if utilizing a condom during last sexual intercourse differed based on body image. The chi-square test revealed no significant difference between sexually active university students with a low level of body image satisfaction (50.2%) that used condoms during last sexual intercourse and sexually active university students with a high level of body image satisfaction (49.8%) that used condoms during last sexual intercourse, $\chi^2(1) = 0.042, p = 0.837$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 10.** There will be no significant difference in number of lifetime partners without the use of a condom based on body image satisfaction.

An independent samples $t$-test was conducted to compare the mean number of lifetime partners without the use of a condom of sexually active university students with a low level of body image satisfaction to the mean number of lifetime partners without the use of a condom of sexually active university students with a high level of body image satisfaction. Results indicated that students with a low level of body image satisfaction
Body Image and Risky Sexual Behaviors

(M = 2.21, SD = 4.055) did not significantly differ from students with a high level of body image satisfaction (M = 1.95, SD = 2.356) regarding the number of lifetime partners they have had without the use of a condom, \( t(354) = 0.752, p = 0.452 \). Therefore, the null hypothesis was not rejected.

**Null Hypothesis 11.** There will be no significant difference in the frequency of condom use based on body image satisfaction.

Frequency of condom use was collapsed and re-coded into two levels: never (0% of the time)/sometimes (1% to 50%) and most of the time (51% to 99%) of the time)/always (100% of the time). This was performed in order to divide the frequency into low frequency of condom use and high frequency of condom use. A chi-square test was conducted to determine if the frequency of condom use differed based on body image satisfaction. The chi-square test found no significant difference between sexually active university students with a low level of body image satisfaction who never/sometimes use condoms (48.3%) and most of the time/always use condoms (52.8%) compared to sexually active university students with a high level of body image satisfaction who never/sometimes use condoms (51.7%) and most of the time/always use condoms (47.2%), \( \chi^2(1) = 0.704, p = 0.402 \). Therefore, the null hypothesis was not rejected.

**Null Hypothesis 12.** There will be no significant difference in perceived self-efficacy regarding condom use based on body image satisfaction.

A multivariate analysis of variance (MANOVA) was conducted to determine whether perceived self-efficacy regarding condom use differ based on body image. Results displayed that there was no significant difference in perceived self-efficacy
regarding condom use among university students with a low level of body image satisfaction and perceived self-efficacy regarding condom use among university students with a high level of body image satisfaction, $F = (4, 407) = 0.791, p = 0.532$. Therefore, the null hypothesis was not rejected.

*Null Hypothesis 13.* There will be no significant difference in body image satisfaction based on sex.

A chi-square test was conducted to determine whether body image satisfaction differed based on sex. The chi-square test found that female university students with a low level of body image satisfaction (56.7%) and with a high level of body image satisfaction (43.3%) did not significantly differ from male university students with a low level of body image satisfaction (48.1%) and with a high level of body image satisfaction (51.9%), $\chi^2 (1) = 3.070, p = 0.080$. Therefore, the null hypothesis was not rejected.

*Null Hypothesis 14.* There will be no significant difference in body image satisfaction based on grade level.

Grade levels were collapsed and re-coded into two categories: freshman/sophomore and junior/senior/graduate student. These grade levels were combined in order to divide students into lower classmen (35.7%) and upper classmen (64.3%). A chi-square test was conducted to determine if there was a difference in body image satisfaction based on grade level. The chi-square test revealed no significant difference between freshman/sophomore university students with a low level of body image satisfaction (58.5%) and a high level of body image satisfaction (41.5%) compared to junior/senior/graduate university students with a low level of body image satisfaction.
and body image satisfaction (48.8%), $\chi^2 (1) = 2.291, p = 0.130$. Therefore, the null hypothesis was not rejected.

**Null Hypothesis 15.** There will be no significant difference in body image satisfaction based on social support.

A MANOVA was conducted to determine if there was a significant difference in body image satisfaction based on social support. Results indicated that body image satisfaction differed significantly based on social support, $F (12, 449) = 2.607, p = .002$. Therefore, the null hypothesis was rejected. Individual univariate $F$-tests were conducted to determine the specific body image satisfaction subscale items that differed significantly based on social support. University students with a high level of body image satisfaction ($M = 1.107, SD = 0.977$) significantly talked to another family member about things that are important to them than university students with a low level of body image satisfaction ($M = 3.77, SD = 1.107$), $F (1, 462) = 11.834, p = .001$. University students with a high level of body image satisfaction ($M = 4.79, SD = 0.483$) significantly felt more loved by another family member than university students with a low level of body image satisfaction ($M = 4.61, SD = 0.738$), $F (1, 462) = 8.694, p = .003$. University students with a high level of body image satisfaction ($M = 4.79, SD = 0.438$) significantly felt loved by at least one friend than university students with a low level of body image satisfaction ($M = 4.61, SD = 0.768$), $F (1, 462) = 4.606, p = .032$. University students with a high level of body image satisfaction ($M = 4.80, SD = 0.454$) significantly felt more loved by their mothers than university students with a low level of body image satisfaction ($M = 4.69, SD = 0.671$), $F (1, 462) = 4.581, p = .033$. 

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Discussion

A total of 465 students completed a survey regarding sexually active university students’ condom use during sexual intercourse and how satisfied university students are with their overall body image. The impact of body image on sexual behaviors such as inconsistent condom use, perceived-self efficacy regarding condom use, and other risky sexual behaviors such as engaging in one-night stands, and examining sexual behaviors while intoxicated and utilizing illegal drugs were also examined. Participants were enrolled in general education courses at a Midwestern university. The majority of participants were females (64.9%), most participants were heterosexual (86.3%), and over half were upper classmen (64.3%). Most of the participants were of single marital status (92.4%), and more specifically reported single and not in a steady relationship (49.1%) and single and in a steady relationship (43.3%). Steady relationship was defined as a mutual agreement that the participants and their partners were not dating anyone else.

More than half (53.8%) of participants had a low level of body image satisfaction, and the majority of participants (62.6%) selected that they were about the right weight. More than three-fourths of participants (78.9%) have had sexual intercourse, and the majority of sexually active university students (80.5%) have had sexual intercourse without the use of a condom. Nearly half of sexually active university students (41.3%) did not use a condom the last time they had sexual intercourse. Moreover, nearly half of sexually active university students (40.9%) have had a one-night stand. More than three-fourths of participants (76.1%) have had sexual intercourse while intoxicated, and nearly one-fourth of participants (21.4%) have had sexual intercourse following illegal drug use.
Participants identified how often they use a condom during sexual intercourse, and more than half of participants (59.8%) reported they use condoms most of the time or always (51% to 100% of the time). More than half of participants (66%) said they were extremely confident in talking with a partner about condom use before having sexual intercourse. Nearly three-fourths of university students (68%) reported that they felt extremely confident in properly using a condom during sexual intercourse, and the majority of participants (68.4%) felt that they were extremely confident in obtaining a condom prior to having sexual intercourse. In addition, more than half of participants (65.4%) reported feeling extremely confident in purchasing condoms from the store.

This study included 15 hypotheses that examined five dependent variables: body image satisfaction, age, sex, grade level, and social support. There were 13 independent variables that were considered: lifetime involvement in sexual intercourse, age of first sexual intercourse, number of lifetime sexual intercourse partners, number of recent sexual intercourse partners, ever having had a one-night stand, sexual intercourse while intoxicated, sexual intercourse following illegal drug use, having sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime partners without the use of a condom, frequency of condom use, and perceived self-efficacy regarding condom use.

Results indicated that engaging in sexual intercourse significantly differed based on level of body image satisfaction (Table 4.6). University students with a high level of body image satisfaction were 1.842 times likely to have engaged in sexual intercourse in their lifetime than students with a low level of body image satisfaction, $\chi^2 (1) = 6.772, p = 0.009$. However the results showed that the age of first sexual intercourse, number of
sexual intercourse partners in lifetime, and number of sexual partners in the past 30 days did not significantly differ based on level of body image satisfaction (Table 4.7).

Results showed that sexually active university students with a low level of body image satisfaction did not significantly differ from sexually active university students with a high level of body image satisfaction based on if they have ever engaged in a one-night stand, had sexual intercourse while intoxicated, and had sexual intercourse following illegal drug use (Table 4.8). In addition, results indicated there was no significant difference of ever having had sexual intercourse without the use of a condom and used a condom during last sexual intercourse based on level of body image satisfaction.

Moreover, the results indicated that frequency of condom use did not significantly differ based on level of body image satisfaction (Table 4.9).

Finally, level of body image satisfaction did not differ based on males and females (Table 4.10). Furthermore, level of body image satisfaction did not significantly differ based on grade level. The results did show significant differences in level of body image satisfaction based on level of social support (Table 4.11). Individual tests indicated four specific satisfaction subscale items that differed significantly based on social support. Results showed that level of body image satisfaction of university students significantly differed based on social support from: a family member besides their parents, friends, and their mothers. University students with a high level of body image satisfaction significantly talked to another family member about things that are important to them compared to university students with a low level of body image satisfaction. Moreover, university students with a high level of body image satisfaction reportedly felt more loved by another family member than university students with a low
Table 4.6. Odds Ratios for Body Image Satisfaction based on whether Individuals Have Ever Had Sexual Intercourse in their Lifetime.

<table>
<thead>
<tr>
<th>Item</th>
<th>Low Level of Body Image Satisfaction</th>
<th>High Level of Body Image Satisfaction</th>
<th>OR</th>
<th>(95% CI)</th>
<th>χ²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaged in sexual intercourse</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>64 (65.0)</td>
<td>34 (34.7)</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>185 (50.5)</td>
<td>181 (49.5)</td>
<td>1.842 (1.158, 2.928)</td>
<td>6.772</td>
<td>.009</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 
N = 465; All categories do not total 465 due to missing data; Percents refer to valid percents; Missing values excluded.
### Table 4.7. Sexual History based on Level of Body Image Satisfaction

<table>
<thead>
<tr>
<th>Item</th>
<th>Low Level of Body Image Satisfaction</th>
<th>High Level of Body Image Satisfaction</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at first sexual intercourse</td>
<td>17.24 (1.819)</td>
<td>17.06 (1.983)</td>
<td>0.887</td>
<td>.376</td>
</tr>
<tr>
<td>Number of sexual intercourse partners in lifetime</td>
<td>4.76 (4.760)</td>
<td>5.23 (6.269)</td>
<td>-0.786</td>
<td>.432</td>
</tr>
<tr>
<td>Number of sexual partners in the past 30 days</td>
<td>0.80 (0.665)</td>
<td>0.84 (0.601)</td>
<td>-0.561</td>
<td>.575</td>
</tr>
</tbody>
</table>

Notes:

\( N = 465 \); All categories do not total 465 due to missing data; Percents refer to valid percents; Missing values excluded
Table 4.8. Odds Ratios for Risky Sexual Behaviors among Sexually Active University Students based on Level of Body Image Satisfaction.

<table>
<thead>
<tr>
<th>Item</th>
<th>Body Image Satisfaction</th>
<th>OR (95% CI)</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Level of Body Image Satisfaction</td>
<td>High Level of Body Image Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engaged in a one-night stand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>103 (47.9)</td>
<td>112 (52.1)</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>81 (54.4)</td>
<td>68 (45.6)</td>
<td>0.772 (0.508, 1.174)</td>
<td>1.467</td>
</tr>
<tr>
<td>Engaged in sexual intercourse while intoxicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>39 (44.8)</td>
<td>48 (55.2)</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>145 (52.3)</td>
<td>132 (47.7)</td>
<td>0.740 (0.456, 1.200)</td>
<td>1.497</td>
</tr>
<tr>
<td>Engaged in sexual intercourse following illegal drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>146 (51.0)</td>
<td>140 (49.0)</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38 (48.7)</td>
<td>40 (51.3)</td>
<td>1.098 (0.665, 1.811)</td>
<td>0.133</td>
</tr>
<tr>
<td>Had sexual intercourse without the use of a condom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>33 (46.5)</td>
<td>38 (53.5)</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>151 (51.5)</td>
<td>142 (48.5)</td>
<td>0.817 (0.486, 1.373)</td>
<td>0.585</td>
</tr>
<tr>
<td>Used a condom during last sexual intercourse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>77 (51.3)</td>
<td>73 (48.7)</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>107 (50.2)</td>
<td>106 (49.8)</td>
<td>1.045 (0.688, 1.587)</td>
<td>0.042</td>
</tr>
</tbody>
</table>

Notes:
$N = 465$; Percents refer to valid percents; Missing values excluded
Table 4.9. Odds Ratios of Frequency of Condom Use among Sexually Active University Students based on Level of Body Image Satisfaction.

<table>
<thead>
<tr>
<th>Item</th>
<th>Low Level of Body Image Satisfaction</th>
<th>High Level of Body Image Satisfaction</th>
<th>OR</th>
<th>(95% CI)</th>
<th>( \chi^2 )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Condom Use</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Sometimes</td>
<td>70 (48.3)</td>
<td>75 (51.7)</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of the time/Always</td>
<td>114 (52.8)</td>
<td>102 (47.2)</td>
<td>0.835</td>
<td>(0.548, 1.273)</td>
<td>0.704</td>
<td>.402</td>
</tr>
</tbody>
</table>

Notes:
\( N = 465 \); Never/sometimes is equivalent to 0% to 50% of the time and most of the time/always category is equivalent to 51% to 100% of the time; Percents refer to valid percents; Missing values excluded.
### Table 4.10. Odds Ratios for Body Image Satisfaction Differences of University Students based on Sex and Grade level.

<table>
<thead>
<tr>
<th>Item</th>
<th>Low Level of Body Image Satisfaction n (%)</th>
<th>High Level of Body Image Satisfaction n (%)</th>
<th>OR</th>
<th>(95% CI)</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>170 (56.7)</td>
<td>130 (43.3)</td>
<td>1.0</td>
<td>(1.000, 1.000)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Male</td>
<td>78 (48.1)</td>
<td>84 (51.9)</td>
<td>1.408</td>
<td>(0.960, 2.067)</td>
<td>3.070</td>
<td>.080</td>
</tr>
<tr>
<td>Grade Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman/Sophomore</td>
<td>96 (58.5)</td>
<td>68 (41.5)</td>
<td>1.0</td>
<td>(1.000, 1.000)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Junior/Senior/Graduate Student</td>
<td>151 (51.2)</td>
<td>144 (48.8)</td>
<td>1.346</td>
<td>(0.916, 1.980)</td>
<td>2.291</td>
<td>.130</td>
</tr>
</tbody>
</table>

Notes:

$N = 465$; Percents refer to valid percents; Missing values excluded
Table 4.11. Body Image Satisfaction based on Social Support.

<table>
<thead>
<tr>
<th>Item</th>
<th>Low Level of Body Image Satisfaction M (SD)</th>
<th>High Level of Body Image Satisfaction M (SD)</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I talk to another family member about things that are important to me.</td>
<td>3.77 (1.107)</td>
<td>4.11 (0.977)</td>
<td>11.834</td>
<td>.001</td>
</tr>
<tr>
<td>I feel loved by another family member.</td>
<td>4.61 (0.738)</td>
<td>4.79 (0.483)</td>
<td>8.694</td>
<td>.003</td>
</tr>
<tr>
<td>I feel loved by at least one friend.</td>
<td>4.61 (0.738)</td>
<td>4.79 (0.438)</td>
<td>4.606</td>
<td>.032</td>
</tr>
<tr>
<td>I feel loved by my mom.</td>
<td>4.69 (0.671)</td>
<td>4.80 (0.454)</td>
<td>4.581</td>
<td>.033</td>
</tr>
</tbody>
</table>

Notes:
$N = 465$; Missing values excluded
level of body image satisfaction. University students with a high level of body image satisfaction significantly felt loved by at least one friend than university students with a low level of body image satisfaction. Furthermore, university students with a high level of body image satisfaction significantly felt more loved by their mothers than university students with a low level of body image satisfaction.
Chapter Five

Conclusions and Recommendations

Major challenges arise among university students based on their engagement in risky sexual behaviors. STIs and unplanned pregnancies are the highest among the age group of university students and pose serious risks to university students. Moreover, body image dissatisfaction among university students can increase risks that arise from low self-esteem and physical issues such as eating disorders. Specifically regarding university students, more research on the association between risky sexual behaviors and body image was warranted.

In an effort to improve health and decrease costs, some strategies have been identified to combat risky sexual behaviors such as comprehensive sexuality education. Moreover, strategies have been identified to combat body image dissatisfaction such as interventions and counseling. Despite the known health consequences of engaging in risky sexual behaviors, most individuals do not utilize condoms during sexual intercourse. Moreover, individuals do not seek help or counseling for their body image issues. In addition, university students in the U.S. have revealed high levels of inconsistent condom use during sexual intercourse, and also low levels of body image satisfaction.

Following a comprehensive review of literature, no published study was found that examined body image and involvement in sexually risky behaviors among university students. Therefore, the purpose of this study was to examine the impact of body image on students’ involvement in risky sexual behaviors, including age at first sexual intercourse, number of lifetime sexual partners, number of recent sexual partners, ever having engaged in a one-night stand, ever having engaged in sexual intercourse under the
influence of alcohol or other drugs, ever having engaged in sexual intercourse while intoxicated, ever having engaged in sexual intercourse without the use of a condom, use of a condom during last sexual intercourse, number of lifetime sexual intercourse partners without the use of a condom, frequency of condom use during sexual intercourse and perceived-self efficacy regarding condom use. This study also examined whether body image satisfaction differed significantly among sexually active university students based on: sex, grade, and level of social support.

Chapter one introduced the problem, research questions and hypotheses, and provided the delimitations, limitations, assumptions, and operational definitions of this study. This chapter presents a review of the literature to support the need of this study. Chapter two provides a review of the literature that supported and justified the need of this study. Chapter three described the methodology utilized in this study. Chapter four provided the results of the research conducted in this study. This chapter presents conclusions, discussion of the findings, and provides recommendations for the field and recommendations for future research.

Conclusions

A total of 465 university students completed surveys regarding their history of condom use during sexual intercourse, and how satisfied university students are with their overall body image. The university students were enrolled in general education courses during the 2011 spring quarter at a Midwestern university. Most participants were females (64.9%) and self-identified as heterosexual (86.3%). Over half of the university students were upper classmen (64.3%) who were classified as junior, senior, or
graduate level students. Mainly participants indicated their marital status as single (92.4%), and more distinctively were single and not in a steady relationship (49.1%), and single and in a steady relationship (43.3%).

When examining the level of body image satisfaction, more than half of participants in this study reported low levels of body image satisfaction (53.8%). The present study found that the majority of the university students surveyed have had sexual intercourse (78.9%), and the majority of the sexually active university students (80.5%) have had sexual intercourse without the use of a condom. Additionally, results of this study indicated that almost half of sexually active university students (41.3%) did not use a condom the last time they had sexual intercourse.

The present study also examined the participants’ history of engaging in risky sexual behaviors. Nearly half of sexually active participants (40.9%) reported having had a one-night stand. In addition, the majority of participants (76.1%) have had sexual intercourse while intoxicated, and around one-fourth of participants (21.4%) have engaged in sexual intercourse following illegal drug use.

Upon examining the frequency of inconsistent condom use, the present study found that more than half of participants (59.8%) reported they use a condom most of the time or always (51% to 100% of the time). The present study also examined perceived self-efficacy of condoms, and found that more than half of participants (66%) said they were extremely confident in talking with a partner about condom use before having sexual intercourse. Additionally, most of the participants (68%) reported that they felt extremely confident in properly using a condom during sexual intercourse, and participants (68.4%) mainly reported that they were extremely confident in obtaining a
condom prior to having sexual intercourse. Furthermore, many of the university students (65.4%) reported that they felt extremely confident in purchasing condoms from the store.

The present study also found that participants engaging in sexual intercourse significantly differed based on level of body image satisfaction. The participants who reported a high level of body image satisfaction were more likely to have engaged in sexual intercourse in their lifetime than participants who reported a low level of body image satisfaction.

Finally, level of body image satisfaction significantly differed based on level of social support. Results indicated that level of body image satisfaction of university students significantly differed based on level of social support. Participants who reportedly felt social support from another family member besides their parents, their friends, and their mothers were more likely to report high levels of body image satisfaction. Specifically, university students with a high level of body image satisfaction significantly talked to another family member about things that are important to them, and also felt more loved by another family member than university students with a low level of body image satisfaction. Furthermore, university students with a high level of body image satisfaction significantly felt loved by their mothers than university students with a low level of body image satisfaction. These findings support that body image satisfaction levels predict sexual behaviors. In addition, these findings illustrate that social support are predictors of body image satisfaction.
Discussion

Both body image and sexually risky behaviors increase various risks among individuals in the United States. More specifically, low levels of body image satisfaction contribute to significant problems in the U.S. (Grossbard, Lee, Neighbors, & Larimer, 2009). The present study found that 53.8% of the university students surveyed reported a low level of body image satisfaction. Although the present study’s hypothesis specifically examined level of body image satisfaction, it is worth noting that the majority of participants (62.6%) considered themselves at about the right weight. These findings concur with those of other studies in displaying that university students tend to have low levels of body image satisfaction, despite their true physical measurements (Cash et al., 2004b; Forrest & Stuhldreher, 2007; Frobes, Doroszewicz, Card, & Adams-Curtis, 2004; Grossbard et al., 2009). Students’ different levels of body image satisfaction can place them at increased risk of engaging in various risky behaviors (Gillen et al., 2006).

In addition to low levels of body image satisfaction, risky sexual behaviors contribute to significant problems in the U.S. Results indicated that 79% of participants had engaged in sexual intercourse within their lifetime. Among the 79% of sexually active individuals, 40% had engaged in one-night stands, 76% had engaged in sexual intercourse while intoxicated, and an estimated 21% had engaged in sexual intercourse following illegal drug use. These results correspond with those of other studies that found that the majority of university students are sexually active (Gillen et al., 2006), and risky sexual behaviors are prevalent among this population (CDC, 2006; Kelley et al., 2003; Welsh et al., 2006). Moreover, risky sexual behaviors in regards to inconsistent condom use is also prevalent among university students, as 80% of the participants
reported having had sexual intercourse without the use of a condom, and 41% of the
participants had sexual intercourse without the use of a condom at last sexual intercourse.
These alarming statistics are comparative to the literature that less than half of sexually
active students reported consistent condom use within their lifetime and also consistent
condom use at last sexual intercourse (CDC, 2006; Rhodes et al., 2006). When students
engage in risky sexual behaviors, they tend to increase their risk for contracting STIs and
unintended pregnancies.

The present study also examined involvement in risky sexual behaviors and
inconsistent condom use and also the perceived self-efficacy in condom use. It is
important to note that the majority of participants reported high-perceived self-efficacy in
condom use. On average, participants reported that they felt very confident in using
condoms, including being able to properly using condoms, obtaining condoms prior to
having sexual intercourse, and also purchasing condoms from a store. If the results
regarding actual condom use are accurately low, then it suggests that opportunities are
needed to motivate university students to consistently and correctly use condoms.
Moreover, these results are similar to the findings of Dilorio and colleagues (2000) as
they suggest safer sex communication about condom use and increased self-efficacy in
condom use may not increase actual condom use despite students reporting high levels of
confidence in utilizing safe sex communication with their partners. Thus, additional
research in this area is warranted to increase condom use.

Although results indicated that level of body image satisfaction was not
associated with decreased involvement in risky sexual behaviors among university
students, it does propose body image as a potential area of intervention. The present
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study identified the participants who reported having a high level of body image satisfaction were more likely than their counterparts to have engaged in sexual intercourse in their lifetime. These findings are similar from the Gillen and colleagues (2006) study, which found that a high level of body image satisfaction among male university students was associated with higher levels of engaging in sexual intercourse. Ackard and colleagues (2000) also had similar findings to the present study, as they found that females with higher level of body image satisfaction reported higher levels of sexual activities. One possible explanation is that individuals who have higher levels of body image satisfaction have more confidence in their physical appearance and have more opportunities to engage in sexual intercourse. However, these results do not implicate that increasing low levels of body image satisfaction are associated with increasing engagement in risky sexual behaviors among university students, but rather suggest creating comprehensive interventions that address increasing level of body image satisfaction. This can be done to increase level of body image satisfaction while concurrently focusing on other issues, such as sexuality education, as high level of body image satisfaction may pose increased risks for engaging in risky sexual behaviors for university students.

The present study found that body image satisfaction did not significantly differ based on age, sex, or grade level. These findings differed from the study by Gillen et al. (2006), which found gender differences in associations between body image and risky sexual behaviors. One possible explanation for this difference is that gender roles were not clearly represented with the majority of participants (64.9%) being females. Moreover, Gillen and colleagues study differed as it focused on emerging college
students from 18 to 20 years of age. Thus, additional research in body image satisfaction and its associations with sex, age, and grade level are warranted.

Although the present study did not find any significant differences of body image satisfaction based on age, sex, or grade level, the present study found that level of body image satisfaction significantly differed based on level of social support. This study had similar findings to Ackard and colleagues (2000) that found that individuals with high body image satisfaction were positively associated with relationships and overall satisfaction in their relationships with others. Similar findings related to parental influence on level of body image satisfaction were presented by McCabe and Ricciardelli (2003); they indicated that parents were an imperative channel for conveying sociocultural ideals and attitudes about body image to both females and males. In addition, similar findings of peer influence on level of body image satisfaction was established by Jones et al. (2004), who found a significant association between body image and peer influences. One possible explanation of the significant association is that research depicts that individuals are likely to adopt the values and behaviors of their peers. Therefore, the more positively supported that individuals feel by significant others, the more likely they are to feel satisfied with their body overall. Thus, body image interventions can focus on increasing social support as an access to increasing level of body image satisfaction.

**Recommendations**

*Recommendations for practice.* When considering strategies to improve body image satisfaction, individuals should consider the findings of the present study. This
study indicated that participants with a high level of body image satisfaction were more a low level of body image satisfaction. In addition, results indicated that level of body image satisfaction significantly differed based on level of social support that university students felt from their significant others. Participants who reportedly felt a high level of social support, particularly from relatives, friends, and their mothers were more likely to report high levels of body image satisfaction. These results indicate that social support from parents, family members, and peers are imperative factors to consider when designing intervention strategies for increasing the level of body image satisfaction of university students. Most university students spend the majority of their time among peers at school due to attending classes on campus, social activities, and living away from their parents. Therefore it may be practical to primarily focus on this factor when creating and designing programs. Furthermore, the present study found similar findings that level of social support is directly related to level of body image. Thus, including family support and peer support in future programs and interventions is recommended.

*Recommendations for improving research.* A recommendation for improving this research study would be to collect a sample that contained equal number of students that are males and females. Another recommendation would be to obtain a sample that contained equal numbers of students in each grade level. Using such stratified sampling procedures would create a more diverse and representative sample of the university population at large.

Another recommendation would be to examine the difference of the impact of body image on risky sexual behaviors by examining males and females in two different studies. Modifications of the survey to the body image section could be made to fit both
males and females stereotypical body image issues that have been illustrated throughout literature. Moreover, examining males and females separately may provide more insight of which significant others influence them the most. In addition, researching significant differences that males and females have based on level of body image satisfaction may provide more insight with the association of level body image satisfaction with risky sexual behaviors. It is possible that certain barriers are caused by level of body image satisfaction that are gender-specific that could prevent individuals from engaging in safe sexual behaviors such as utilizing condoms.

Recommendations for future research. It is evident more studies need to be conducted on body image dissatisfaction among university students. Since the study was cross-sectional in nature, cause and effect results could not be made. Therefore, it is currently unknown whether increasing body image satisfaction will result in changes in becoming involved in risky sexual behaviors. However, results from this study do indicate that body image and social support should be further explored. Moreover, more studies need to be conducted on inconsistent condom use among university students. This particular study obtained data from a sample of university students at a Midwestern university, therefore may limit the generalization of the findings to students at other universities. Moreover, this present study can only be generalized to university students, and could be studied in different populations.

The present study found the self-efficacy model to be beneficial in exploring the students’ perceptions of confidence in condom use. Future studies should consider utilizing this model in evaluating the effectiveness of confidence promoting programs and interventions. Evaluations should be employed to identify strategies that assist in
increasing body image and safe sexual behaviors, while decreasing risky sexual behaviors.

Future research should also consider developing common strategies for ensuring consistency among data collection and reporting measures for level of body image satisfaction. One challenge associated with body image research is the difficulty to compare results of different studies, especially since body image is a subjective measure an individual holds. Body image research is difficult to interpret and compare due to inconsistent measures of body image satisfaction that have been utilized throughout different studies (Cash & Pruzinsky, 2002). Therefore, BMI or body weight standard, physical measurements may be substituted for a more sufficient measure among individuals.

Finally, few studies have examined the association between body image and sexuality despite their natural connection to the body. Future studies should continue to examine participants’ level of body image satisfaction and develop strategies for more effectively relaying information so individuals can increase their level of body image satisfaction. While experts have continued to provide new research in an effort to promote high levels of body image satisfaction, there are still low levels of body image satisfaction reported among the general population. In addition, many studies do not focus on risky sexual behaviors in particular but instead examine general sexual experiences as a whole, however, examining risky sexual behaviors among the university population may be more pertinent. Although experts continue to provide new information in effort to promote safe sexual behaviors and quality health, there is still high involvement in risky sexual behaviors among the general population. Additionally,
after investigating the low levels of body image satisfaction reported, the frequency of university students engaging in risky sexual behaviors, and the consequences associated with these behaviors, a multitude of strategies should be employed in order to investigate both body image satisfaction and risky sexual behaviors.
References


sample of unmarried heterosexual college students in the southeastern United States. 


