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## Beliefs of and Attitudes Toward Sexual Violence by a Diverse Group of Self-Identified Male Collegiate Athletes

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Beliefs of and Attitudes towards Sexual Violence by a Diverse Group of Self-identified  
Male Collegiate Athletes

by

Belinda-Rose James, B.S.

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science in Public Health  
Department of Community and Family Health  
College of Public Health  
University of South Florida

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Social Cognitive Theory, Theory of Planned Behavior, Theory of Gender and Power

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## Dedication

I would like to dedicate this study to my Heavenly Father, who is my guide and eternal rest; to my earthly father who endows me with love and research advice; to my mother who supports me unconditionally; and to my fiancé for his support and continued motivation.

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## Table of Contents

List of Tables .....	iv
List of Figures .....	vi
Abstract.....	vii
Chapter One: Introduction.....	1
Rationale and Significance.....	1
Background.....	2
Global Sexual Violence.....	2
National Collegiate Sexual Violence.....	3
Social Structure of Male Collegiate Athletics.....	4
Athletic Identity.....	5
The Conviction of a Male Collegiate Athlete– From a Victim’s Perspective.....	6
Primary Risk Factors Addressed in the Literature.....	9
Secondary Risk Factors Addressed in the Literature.....	9
All-Male Social Fraternity Membership.....	10
Negative Consequences of Sexual Violence.....	11
Importance of This Study.....	12
Chapter Two: Theoretical Frameworks and Purpose of the Study.....	14
Social Ecological Model and Causal Continuum.....	14
Theory of Planned Behavior.....	16
Social Cognitive Theory.....	17
Theory of Gender and Power.....	18
Concepts and Constructs.....	19
Rape Myth Acceptance.....	20
Reactive Aggression.....	21
Sexual Coercion.....	22
Sexual Division of Power.....	24
Purpose.....	26
Objective.....	26
Hypotheses.....	27

Chapter Three: Methodology .....	28
Research Design.....	28
Recruitment.....	28
Sample.....	29
Sample Size.....	30
Instrument.....	34
Historical and Social Development of Scales.....	37
Attitudes Toward Women Scale.....	37
Bredemeier Athletic Aggression Inventory – Short Form.....	38
Illinois Rape Myth Acceptance Scale – Short Form.....	38
Sexual Coercion Subscale .....	39
Marlowe-Crowne Scale – Short Form C.....	40
Validity and Reliability of Scale Scores.....	41
Attitudes Toward Women Scale.....	41
Bredemeier Athletic Aggression Inventory – Short Form.....	41
Illinois Rape Myth Acceptance Scale – Short Form.....	41
Sexual Coercion Subscale .....	42
Marlowe-Crowne Scale – Short Form C.....	42
Data Collection.....	42
Data Analysis.....	44
Chapter Four: Results.....	47
Enrollment Numbers.....	47
Total Study Participant Sample.....	47
Athlete versus Non-Athlete Comparison Sample.....	50
Overall Findings among Athletes versus Non-Athletes.....	55
Illinois Rape Myth Acceptance Scale Findings among Athletes versus Non-Athletes.....	57
Attitudes Toward Women Scale Findings among Athletes versus Non-Athletes.....	58
Sexual Coercion Subscale Findings among Athletes versus Non-athletes.....	59
Athletic Aggression among Self-identified Athlete Sample.....	65
Chapter Five: Discussion.....	69
Multi-Level.....	70
Risk Factors of Sexual Violence.....	71
Self-Reports of Sexual Coercion.....	73
Reactive Aggression and Athletic Identity.....	74
Fraternity Membership and Athletic Identity.....	75
Strengths and Limitations.....	76
Feasibility of Conducting Future Studies with this Population.....	77
Future Directions for Research.....	79
Conclusion.....	81

References.....	83
Appendix: Additional Tables.....	96

## List of Tables

Table 1: Summary of Dependent, Independent, and Control Variables.....	36
Table 2: Total Sample Demographic Information.....	49
Table 3: Scale Descriptives.....	50
Table 4: T-test for Control Variable Age among the Total Sample.....	50
Table 5: T-test for Control Variable Age among Athletes versus Non-Athletes.....	51
Table 6: Athlete versus Non-Athlete Sample Demographic Information.....	53
Table 7: Overall Athlete versus Non-Athlete Mean Scores.....	56
Table 8: ANOVA for Each Dependent Variable by Athletic Association.....	57
Table 9: ANCOVA for the Dependent Variable of IRMAS.....	58
Table 10: ANCOVA for the Dependent Variable of Attitudes Toward Women.....	59
Table 11: Binary Logistic Regression for the Dependent Variable of Sexual Coercion...62	
Table 12: Cross tabulation of Sexual Coercion by Athletic Association.....	63
Table 13: Sexual Coercion Subscale of the Revised Conflict Tactics Scale Items.....	63
Table 14: Binary Logistic Regression for the Dependent Variable of Sexual Coercion among Athletes.....	64
Table 15: ANOVA for the Dependent Variable of Athletic Aggression.....	66
Table 16: ANCOVA for the Dependent Variable of Athletic Aggression.....	67



Table 17: Independent Samples T-Test for the Dependent Variable of Reactive Aggression.....	68
Table 18: Reactive Aggression Mean Comparisons.....	68
Table A1: Illinois Rape Myth Acceptance – Short Form.....	96
Table A2: Attitudes Toward Women Scale.....	98
Table A3: Bredemeier Athletic Aggression Scale – Short Form.....	99
Table A4: Sexual Coercion Subscale.....	101
Table A5: Marlowe-Crowne Social Desirability Scale Short Form C.....	103
Table A6: Demographics Questions.....	104

## List of Figures

Figure 1. Depiction of Social Ecological Model and Causal Continuum Frameworks....	15
Figure 2. Depiction of Theoretical Frameworks (hypothesized).....	19
Figure 3. Sample Size Analysis for Athletes versus Non-Athletes.....	31
Figure 4. Sample Size Analysis for UAA Athletes versus Recreational Athletes.....	32
Figure 5. Central and Non-central Distributions for Athletes versus Non- Athletes.....	32
Figure 6. Central and Non-central Distributions for UAA Athletes versus Recreational Athletes.....	33
Figure 7. Total sample size as a function of power plot for Athletes versus Non-Athletes.....	33
Figure 8. Total sample size as a function of power plot for UAA Athletes versus Recreational.....	34

## Abstract

The objective of this research was to assess the beliefs of and attitudes towards sexual violence among self-identified male, undergraduate, athletes and non-athletes. Research has shown that there is an association between the subculture of athletics and the beliefs and attitudes towards sexual violence. Male, undergraduate, athletes have disproportionately been reported for sexual violence. This study examined common risk factors attributed to perpetration of sexual violence: rape myth acceptance, lower attitudes toward women, reactive aggression, and physical and verbal sexual coercion. Multiple-level risk factors were studied in order to acquire a comprehensive understanding of what possible associations between male collegiate athletes and sexual violence. Findings indicate that self-identified athletes have lower attitudes towards women, are more likely to accept rape myths, and have a higher prevalence of verbal and physical coercion. Recreational athletes were found to have higher levels of reactive aggression as compared to University Athletic Association athletes. Future studies should include self-identified athletes (e.g., recreational athletes) as they have been understudied.

## **Chapter One**

### Introduction

#### **Rationale and Significance**

Sexual violence is pervasive amongst male collegiate athletes (Crosset, 2000; Gage, 2008; Heckman, 2009; Koss & Gaines, 1993; Parent, 2003; Trebon, 2007). There is a scarcity of published literature concerning what contributes to the sexual violence. This study aims to assess the beliefs of and attitudes towards sexual violence amongst a diverse group of self-identified male collegiate athletes versus non-athletic collegiate males in order to plan and implement preventive measures to reduce sexual violence on college campuses. The World Health Organization (WHO) reports that sexual violence is prevalent amongst groups or societies that employ aggression and violence as a mode to achieve objectives (Jewkes, Sen, & Garcia-Moreno, 2002). These normative beliefs are essential to many male collegiate sports, which are largely competitive and involve some level of contact. In the present study, common risk factors attributed to sexual violence were examined by utilizing reliable and valid scales to assess: rape myth acceptance, sexual division of power, reactive aggression, and physical and verbal sexual coercion within the collegiate sport setting. The survey questionnaire consisted of three separate summative likert scales and a prevalence scale that assessed each concept and construct. Findings from this study will be used to propose theory-based interventions aimed at a

diverse group of male collegiate athletes. It is proposed that the findings may be used to target other high-risk sexually violent populations.

## **Background**

### **Global sexual violence.**

Sexual violence is a global problem that disregards basic human rights. Sexual violence, as defined by the Centers for Disease Control and Prevention (CDC), is “any sexual act that is perpetrated against someone's will” (Basile & Saltzman, 2002). The four types of sexual violence are: non-contact sexual abuse (e.g., threatened sexual violence, exhibitionism, verbal sexual harassment, forced marriage, forced prostitution, denial of rights to use contraception); abusive sexual contact (e.g., unwanted touching); attempted nonconsensual sex act; and completed nonconsensual sex act (e.g., rape) (Basile & Saltzman, 2002). Anderson (2005) reported that “rape is about violence and domination; it is about exerting power over a vulnerable person” (pg. 165). Though some countries have a paucity of published research on sexual violence, it has been found that on average one in four women world-wide have experienced some form of sexual violence (Jewkes, Sen, & Garcia-Moreno, 2002). It is also thought that the majority of sexual violence goes unreported (Centers for Disease Control and Prevention [CDC], 2008). The implications on sexual violence have a profound effect on physical, emotional, and mental health (Jewkes, Sen, & Garcia-Moreno, 2002). The deterioration of social health has also been shown to be prevalent amongst victims of all ages (Basile & Saltzman, 2002). This impact of sexual violence is particularly prevalent within the United States of America (USA) (Tjaden & Thoennes, 2000).

### **National collegiate sexual violence.**

Sexual violence within the USA is endemic (Tjaden & Thoennes, 2000). The Centers for Disease Control and Prevention (2008) reported that 10.6% of all US women have experienced forced sex at some time in their life. Tjaden and Thoennes (2000) report that on average 302,091 women in the USA are forcibly raped each year. Nationally, very few women (2.8%) report that they were victims of attempted rape alone (Tjaden & Thoennes, 2000). Among college-aged women, that number increases to between 20%-25% who report either attempted or completed rape during their collegiate years (CDC, 2008). That means one in four college-aged women have or will endure physical, emotional, social, and mental grievances due to sexual violence. When a search is made in Google.com, within less than half of a second you will yield over 2,290,000 articles, books, publications, and websites reporting sexual crimes and allegations perpetrated by college athletes.

Research by Mercurio (2010) suggests that male collegiate athletes commit more sexual violence compared to non-athletes. Results showed that on one particular campus although male athletes comprised only 2% of the student population, they accounted for 45% of sexual violence cases on campus (Koss & Gaines, 1993). Another study by Frintner and Rubinson (1993) also indicated that although the male collegiate athletes comprised less than 2% of the male population, they accounted for 23% of reported sexual violence cases. According to the WHO, increased risk of a male committing sexual violence is “related to attitudes and beliefs, as well as behaviour arising from situations and social conditions that provide opportunities and support for abuse”

(Jewkes, Sen, & Garcia-Moreno, 2002, p. 159). The U.S. Department of Education recognized this social environment in an April 4, 2011 letter that encouraged institutions to include sexual violence trainings for student athletes and coaches (Ali, 2011).

### **Social structure of male collegiate athletics.**

Male collegiate sports are an integral part of the university culture (Messner, 2002). University athletics bring in an abundance of revenue and prestige (Schwartz, 2009). Although the majority of the earnings come from alumni donations and ticket sales (Isidore, 2010), sponsorship agreements with hefty payments from various corporations such as Pepsi, Coca-Cola, and Nike add to the annual profits of the National Collegiate Athletic Association (NCAA) team (Schwartz, 2009). According to a 2010 report by Cable News Network (CNN), each NCAA school earned on average 15.8 million dollars in 2010, with the top five schools earning closer to a billion dollars during the 2010 season (Isidore, 2010). Due to the revenue that these NCAA athletes produce, they are typically protected from outside regulations that would normally condemn deviant and normative actions (Messner, 2002). According to Messner (2002), large revenue generating sports (e.g., football, basketball) are referred to as center sports. These sports, due to their historical placement within society and long traditions with the university, are a center part of the university's structure. These sports are quite different from marginal sports, which are known, but not as prominent on a college campus.

Although center sports are so entrenched within the core of the university, all athletes are often protected from any form of outside regulation and control (Lockhart, 2009). The culture within collegiate athletics is then highly protected and regarded with

the utmost care. Protection of athlete deviant behavior may allow the hyper-masculine ideologies and aggressive subculture to prosper within male collegiate sports (Gage, 2008; Messner, 2002). Gage (2008) argues that the same masculine behavior that allows male collegiate athletes to win games may also cause repressive and detrimental behavior. These philosophies of domination and aggression in male collegiate athletes are often fueled by media influences. Athletes may then embody the notions of hypermasculinity, domination, and aggression, which may reinforce certain stereotypes of athletes displayed in the media. This perpetuates a reciprocal relationship between athletes and the culture of male collegiate athletics (Anderson, 2009).

### **Athletic identity.**

Athletic identity is the extent to which an individual identifies him or herself with the perception of what constitutes an athlete (Brewer, Van Raalte, & Linder, 1993; Lamont-Mills & Christensen, 2006). Their perception of what constitutes an athlete is often defined by group interactions, media outlets, and various social affiliations (Brewer et al., 2000; Glanz, Rimer, & Viswanath, 2008; Grossbard et al., 2009; Lamont-Mills & Christensen, 2006; Tasiemski, Kennedy, Gardner, & Rachel, 2004). Athletic identity includes “social, cognitive, and affective elements” (Lamont-Mills & Christensen, 2006, p. 472) and may engulf the entire self (Adler & Adler, 1989). Engulfment of athletic identity may lead to diminished maturity in other identity dimensions (e.g., academic and social roles) (Adler & Adler, 1989). Athletic identity has a strong effect on behavior and perceived norms (Grossbard et al., 2009). The cognitive element of athletic identity is used to interpret information and subsequently make decisions based upon one’s



perceived athletic identity (Lamont-Mills & Christensen, 2006). Prior research has been dichotomous in how athletes are identified (i.e., athlete versus non-athlete) (Grossbard et al., 2009; Lamont-Mills & Christensen, 2006). However, active participation in sports and the subsequent submersion in athletic culture still have a heavy impact on recreational athletes (Lamont-Mills & Christensen, 2006). Findings show that the impact of exclusivity, or self-worth, and both positive and negative affectivity are equal among both UAA and recreational male athletes (Lamont-Mills & Christensen, 2006). This is largely due to the self-identification as an athlete (Grossbard et al., 2009; Lamont-Mills & Christensen, 2006).

Due to the fact that dating violence and the formation of relatively negative attitudes towards women may begin among high school athletes (Forbes, Adams-Curtis, Pakalka, & White, 2006) and that not all high school athletes go on to play UAA sports (Anderson, 2009), this study included self-identified athletes who play recreational sports. Inclusion of self-identified athletes is also important as it contains the largest amount of male sport participants, which largely goes unstudied (Lamont-Mills & Christensen, 2006).

#### **The conviction of a male collegiate athlete – from a victim’s perspective.**

The Bureau of Justice (2000) reports that only 39% of rape cases are ever reported (as cited from Rape Abuse and Incest National Network, 2011). After enduring a traumatic event such as sexual violence, which compromises your physical, mental, and emotional health, the victim may fear being ostracized and stigmatized. Stigmatization can come from a variety of sources and is often affiliated with victim blaming. For

instance, Kaukinen and DeMaris (2009) showed that responses by medical personnel and law enforcement often heightened the impact of a sexual assault on a victim by leading questions and victim-blaming (as cited in Barnett, et al., 2011, p. 332). A 2008 study by Campbell also showed tendencies for medical personnel to contribute to victim blaming by asking such questions as “what did you do to make him attack you?” (as cited in Barnett, et al., 2011, p. 332). Women are made to feel responsible for their own sexual victimization and thus receive responses of victim-blaming (Bay-Chen, Livingston & Fava, 2011). According to Bohmer and Parrot (1993), if she is not being blamed, there is also a chance that either law enforcement or people close to her will not believe her (as cited in Trebon, 2007, p. 3). In response to antagonism from law enforcement and society, the Federal Bureau of Investigation released a statement that more people falsely report their own death than file a false report alleging sexual assault (as cited in Trebon, 2007, p. 3). Despite the victim’s awareness of wrongdoing by her perpetrator, this verbal antagonism may or may not hinder a woman’s desire to press forward with her report.

The possibility for empathy and apathy towards the victim are viable reactions from health and/or legal service providers. Countless questions will be asked of the victim within the confines of the law enforcement agency and then again with medical personnel. If the claim makes it to court, the victim will have to answer the same questions to her lawyer before trial and possibly within the trial itself. In addition, he/she will most likely receive numerous questions and remarks from friends, family, acquaintances, and strangers alike (Barnett et al., 2011). Even if the victim was brave enough to report the sexual assault to the police, the conviction rate is very low (Crosset,

Benedict, & McDonald, 1995). According to Crosset et al. (1995) although the general population has a sexual violence conviction rate of 80%, the conviction rate of an athlete is a mere 38%. This reinforces the notion that collegiate athletes are highly protected from outside social regulation (Messner, 2002). An additional reason for such a low conviction rate is that only 30 of 82 Division One schools have established regulations and plans for how to deal with accusations of crimes against athletes (Lockhart, 2009). Lockhart goes on to say that although the voluminous 427-page 2009 NCAA Division One manual has strict regulation about food choices, clothing, and monetary acceptance from fans and/or booster clubs, it does not mention “arrest” or detail plans for criminal acts (p. 1). The current 2011-2012 NCAA Division One manual does not make reference to these potential criminal acts either. The NCAA defers to the individual universities, who have opted not to institute a formal sexual violence plan. With liberal regulations from universities, yet such protective measures for their revenue generating athletic teams, it is nearly impossible for sexual violence convictions to be made (Messner, 2002). Considering these oppositions to justice for sexual violence victims, it would be advantageous to the research community to conduct specific and tailored empirical studies towards male collegiate athletes in order to incorporate effective prevention programs against sexual violence. More research and prevention programs would not only protect the integrity of the sport, but also prevent one in four collegiate women from enduring sexual violence.

### **Primary risk factors addressed in the literature.**

Though many published articles have identified high-risk populations (e.g., fraternity men, basketball players, wrestlers, hockey players, and football players), there has not been a study to date, which has queried the beliefs of and attitudes towards of sexual violence among self-identified male collegiate athletes. Prior studies examining collegiate athletes of varying sports identified the following risk factors for sexual violence: gender attitudes towards women, hegemonic masculinity, learned aggression, and rape myth acceptance (Burt, 1980; Dabbs, 1998; Kimble, Russo, Bergman, & Galindo 2010; Koss & Gaines, 1993). These variables will be discussed in depth in chapter two.

### **Secondary risk factors addressed in the literature.**

The congruence amongst the majority of published empirical literature is that rape myth acceptance, sexual division of power, and learned reactive aggression are contributing factors towards sexual violence. In addition to the primary three risk factors, a minority of literature also suggests that masculine discourse, alcohol use, and drug use, are also contributing factors (Adams, Anderson, & McCormack, 2010; Curry, 2000; Parent, 2003). Although male collegiate athletics teach discipline and teamwork, the hypermasculine discourse of these sports is its downfall (Anderson, 2009). The frequent use of war-like analogies and associations relating to sexuality and gender aim to invoke aggressive responses (Adams et al., 2010). With the increase of hyper-masculinity in sports, there is an associated attitude of low opinions towards women (Gage, 2008). Research shows that identification with a particular “image” leads to actions that endorse

and reinforce conformity to the perceived image (Smiler, 2006). Thus, if one visualizes oneself as extremely masculine, one will be more apt to portray that image in both personal and public relations.

Parent (2003) suggests there is an innate propensity for individuals who are molded to exert anger and rage to do so outside the confinement of a stadium (Parent, 2003). In fact, it may be quite hard for individuals to instantaneously turn off their “game-face” and capsize their adrenaline and testosterone levels after a game – the time when most sexual violence occurs against women (Parent, 2003). Curry (2000) similarly found that commonly displayed aggression in the locker room and on the field and/or court by male collegiate athletes also carried over into various social settings. The normative behavior of heavy episodic alcohol and drug use is prevalent amongst male collegiate athletes (Barnett, Miller-Perrin, & Perrin, 2011). Studies have shown that many collegiate athletes leave after the game and use alcohol as a means to celebrate a victory or mourn a loss. The relationship of alcohol consumption with the anger, anxieties, and arrogance of the sport sometimes leads to criminal behavior (Burns, 2009). This inclination to become violent has been learned through social norms of hypermasculinity and frequent episodic alcohol use.

#### **All-male social fraternity membership.**

Members of all-male social fraternities have consistently been found to have lower attitudes towards women (i.e., hold more traditional views on gender roles) and higher rates of sexual coercion (Boeringer, 1999; Murnen & Kohlman, 2007; Sanday, 1990). Research has shown that members of all-male social fraternities frequently use

non-physical sexual coercion in order to obtain various forms of sex (Boeringer, Shehan, & Akers, 1991; Sanday, 1990). Interestingly, Boeringer et al. (1991) found that although fraternity members reported higher levels of non-physical sexual coercion as compared to non-fraternity men, they did not differ from non-fraternity men in self-perceived probability of committing sexual violence.

Similarly to male athletes, the role of culture is proposed to contribute to higher levels of sexual violence among all-male social fraternity members (Boeringer, 1999; Sanday, 1990). Sanday (1990) explains that from the very beginning of the pledge process, fraternity members participate in anti-feminine rituals that encourage the ideology of difference in power between genders. This culture is heightened by the fact that, like some athletic groups, all-male social fraternity members usually reside in a single house off-campus. The seclusion from controlling forces, the high level of secrecy, rituals, and encouraged male bonding help to foster and perpetuate an anti-feminine culture (Boeringer, 1996; Martin & Hummer, 1989). Due to the overwhelming research that indicated lower attitudes toward women and higher levels of sexual coercion among all-male social fraternity members, fraternity member affiliation was used as a covariate within all ANCOVAs in the current study.

### **Negative consequences of sexual violence.**

The negative consequences of sexual violence may affect the victim, perpetrator, coaching staff, and the university. These negative consequences may affect the physical, social, emotional, and mental wellness of all involved.

The physical implications for the victim of sexual violence may lead to sexually transmitted infections, sterility, homicide, pregnancy, and suicidal thoughts. Thirty-three percent of rape victims have suicidal thoughts and 13% of all rape victims will attempt suicide (Caruso, n.d.). Holmes (1996) indicates that over 32,000 pregnancies occur due to forcible sexual violence every year. Emotional and mental health has also been shown to deteriorate rapidly evidenced by depression, alienation and stigmatization, negative health behaviors, and significantly reduced likelihood of future social relations (Tjaden & Thoennes, 2000). The consequences of sexual violence have caused these victims to go from thriving to surviving.

There may be negative consequences for perpetrators regardless of whether the incident was reported (Basile & Saltzman, 2002). The emotional consequences of perpetration may cause excessive bouts of guilt and depression, which may lead to negative health behaviors. A minority of research also indicates attempted and completed suicides among perpetrators of sexual violence (Duane, Stewart, & Bridgeland, 1997). If a male collegiate athlete is convicted of sexual violence he may receive a social stigma, which severely decreases the longevity of his career and inhibits his emotional well-being. In addition, the possibility of conviction and sentencing may also affect his psychological, social, and physical health. Undue stress and social stigmatization may also be experienced by the coaching staff and the university.

### **Importance of This Study**

This study sought to use a comprehensive approach to understand what pertinent intrapersonal, interpersonal, and societal – level variables cause male collegiate athletes

to be prone to sexual violence. The large majority of published studies among college students have only assessed a single variable (e.g., rape myth acceptance), rather than using a holistic approach. By measuring rape myth acceptance, sexual division of power, verbal and physical sexual coercion, and reactive aggression, science is able to provide evidence for a potential association between these variables and sexual violence perpetration among male collegiate athletes. By reporting this study's findings, the scarcity of published literature on sexual violence will be enhanced. This study assessed the beliefs of and attitudes among non-athletes, University Athletic Association (UAA) athletes, and recreational athletes. There are no published empirical studies to date, which assess the beliefs and attitudes towards sexual violence amongst self-identified male collegiate athletes. Previous studies have suggested that team-based versus individual sport participation may have an effect on an athlete's beliefs and attitudes (Gage, 2008; Sawyer et al., 2002). The theory of planned behavior, the social cognitive theory, and the theory of gender and power were utilized to guide testing and to address fundamental contributors of sexual violence that impact our world. Each question that was asked in this study gave a voice to one in four collegiate women that will be sexually assaulted.



## **Chapter Two**

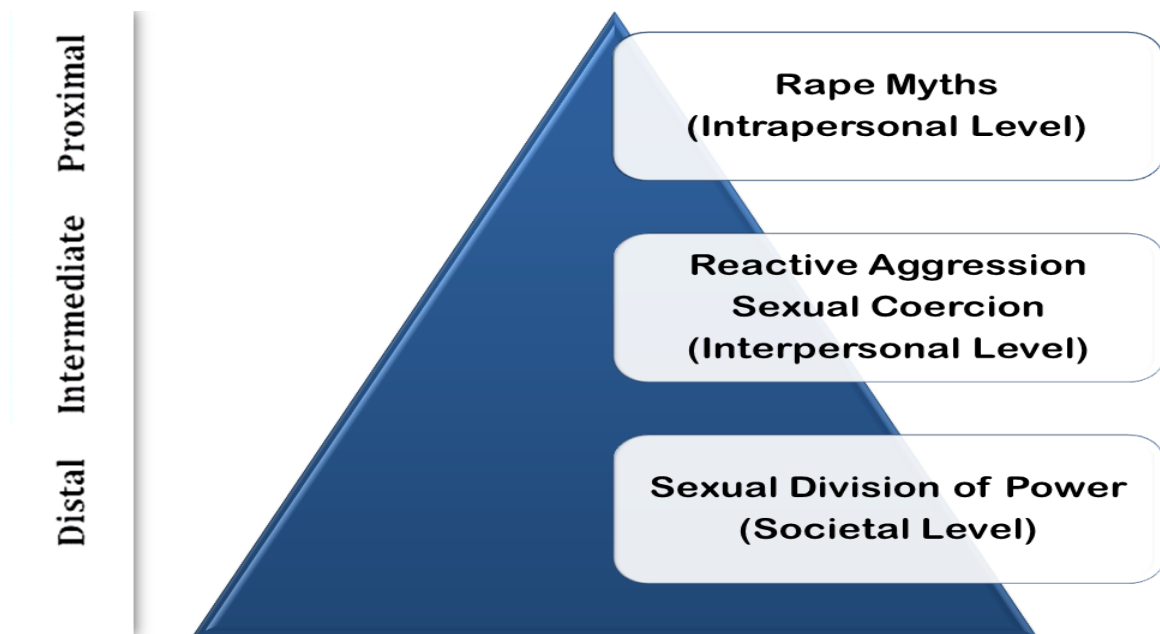
### **Theoretical Frameworks and Purpose of the Study**

#### **Social Ecological Model and Causal Continuum**

Although the topic of sexual violence amongst athletes is not new to scientific study, allegations of continuous perpetration highlights the need for further insight into the topic of interest from multi-factor levels (Gage, 2008). The social ecological model (SEM) is a framework that is used to analyze public health problems from a holistic viewpoint (Coreil, 2010). The framework suggests that there are five different levels - intrapersonal, interpersonal, institutional, community and society - that reciprocally interact with one another and subsequently influence an individual. The intrapersonal level is comprised of psychological and biological components such as attitudes and genetics. The interpersonal level looks at how close relationships (e.g., husband, wife, family, peers) influence health, whereas the institutional level looks at relationships through schools, civic groups, and work settings. The community level comprises factors such as ethnicity/culture, social class, and social capital. The societal level, which is most distal, seeks to understand how factors such as government, economics, and infrastructure, and accepted norms (e.g., gender norms) affect one's health (Coreil, 2010).

The Causal Continuum is a framework for understanding social epidemiologic research, which is “based on the differing levels of directness of effect for various etiologic factors affecting health” (Coreil, 2010, p. 46). The Causal Continuum ranges

from proximate (intrapersonal level), to intermediate (interpersonal and institutional level) to distal determinants (community and societal level) (Coreil, 2010). The more distal the determinant is (factors further away from the intrapersonal-level), the more indirectly it affects one's health (Coreil, 2010). According to the Causal Continuum, as factors become more distal, they become less modifiable (Coreil, 2010). These two frameworks are imperative structures to comprehend when studying and analyzing health behaviors. It would be advantageous for the scientific community to use multi-level approaches in order to truly understand this perpetual violence. This study looked at rape myth acceptance (intrapersonal level), reactive aggression (interpersonal level), and sexual division of power (societal level) in order to better understand sexual violence from a holistic approach.



*Figure 1. Depiction of Social Ecological Model and Causal Continuum Frameworks.*

## **Theory of Planned Behavior**

Evolving from the theory of reasoned action, the theory of planned behavior (TPB) uses constructs that assess individual impetus in order to envisage the likelihood of an individual performing a particular behavior (Glanz et al., 2008). The three main constructs of TPB are: subjective norm, perceived control, and attitude. According to Glanz et al., (2008), TPB assumes that “the best predictor of a behavior is behavioral intention, which in turn is determined by the attitude toward the behavior and social normative perceptions regarding it” (p. 68). Thus your intentions are the result of a learned process based on social norms and subsequently your attitude towards those norms. TPB has successfully predicted and explained a wide-array of intentions and subsequent behaviors associated with the intentions (Glanz et al., 2008). Since rape myth acceptance not only assesses your attitudes towards rape, but predicts the propensity of someone committing rape (Bohner, Siebler, & Schmelcher, 2006; Koss, Leonard, Beezely, & Oros, 1985), it is imperative that this intrapersonal-level theory be used to assess rape myth acceptance. According to Fishbein and Ajzen (1975), behavior is best predicted by measuring behavioral intention, which is determined by attitude (as cited in Glanz et al., 2008). The questions on the Illinois Rape Myth Acceptance Scale embody this principle. For instance, question number 13 asks “A woman who "teases" men deserves anything that might happen” (Payne, Lonsway, & Fitzgerald, 1999). The focus is on the attitude towards how the woman behaves rather than the behavior of sexual violence itself. By separating the attitude towards the behavior rather than asking about

the behavior itself, researchers are more likely to get an honest assessment of attitudes, which have been associated with predicting behavior (Glanz et al., 2008).

### **Social Cognitive Theory**

Social cognitive theory (SCT), founded by Albert Bandura, is rooted in the psychology of cognition. It emphasizes “human information processing capacities and biases that influence learning from experience, observation, and symbolic communication” (as cited in Glanz et al., 2008, p. 170). A scientifically supported theoretical framework, SCT yields a comprehensive inspection on dynamic variables that manipulate the process through which behavioral learning occurs (Glanz et al., 2008). SCT is divided into three different subcategories that address the environment, personal, and behavioral influences. It also posits that although one of these distinct categories may shape a person’s behavior, people also seek to manipulate them for their own needs (Glanz et al., 2008). SCT has nine key components: reciprocal determinism, outcome expectations, self-efficacy, collective efficacy, observational learning, incentive motivation, facilitation, self-regulation, and moral disengagement. According to Glanz et al. (2008) “behavior is a product of an individual’s learning history, present perceptions of the environment, and intellectual and physical capacities. Thus, behavior can be changed through new learning experiences, guidance in the adjustment of perceptions, and support for the development of capacities (p. 176).” This interpersonal-level theory was utilized when addressing the learned behavior of reactive aggression and the available social situations that may encourage acts of reactive aggression. By assessing

this behavior, which is a learned process through social norms, we may be able to potentially mitigate sexual violence.

### **Theory of Gender and Power**

Developed in 1987 by Robert Connell, the theory of gender and power posits that the “power relationships between genders and within genders arise from global dominance of men over women” (as cited in Wingwood, Camp, Dunkle, Cooper, & DiClemente, 2009, p. 395). The WHO also recognizes this difference as they state “at the heart of sexual violence directed at women is gender inequality (Jewkes, Sen, & Garcia-Moreno, 2002, p. 174). The three structures under this theory are: *the sexual division of labor, the sexual division of power, and the structure of cathexis*. The sexual division of labor inspects economic preference of men over women. The sexual division of power inspects the abuse of power by men over women in both the institutional context and societal-level relationships. The last construct, the structure of cathexis, inspects attachments and societal norms. This construct evaluates the potential attachments/needs that women may need men to fulfill. They consist of sexual, emotional, and financial attachments (Wingwood, Camp, Dunkle, Cooper, & DiClemente, 2009).

Wingwood and Diclemente (2000) argue that the idea of gender is both bargained and demonstrated through relations of power and that relational power affects the “social transactions of everyday life” (as cited in Wingwood et al., 2009, p. 398). In a society where cultural norms are patriarchal in nature and laws are more reactive than proactive, it is crucial to consider the dire difference in power between genders when assessing the beliefs and attitudes of male collegiate athletes at public universities within the

southeastern United States. This study assessed gender roles and the power differentials between them.

Combination of Social Cognitive Theory, Theory of Gender and Power, and Theory of Planned Behavior

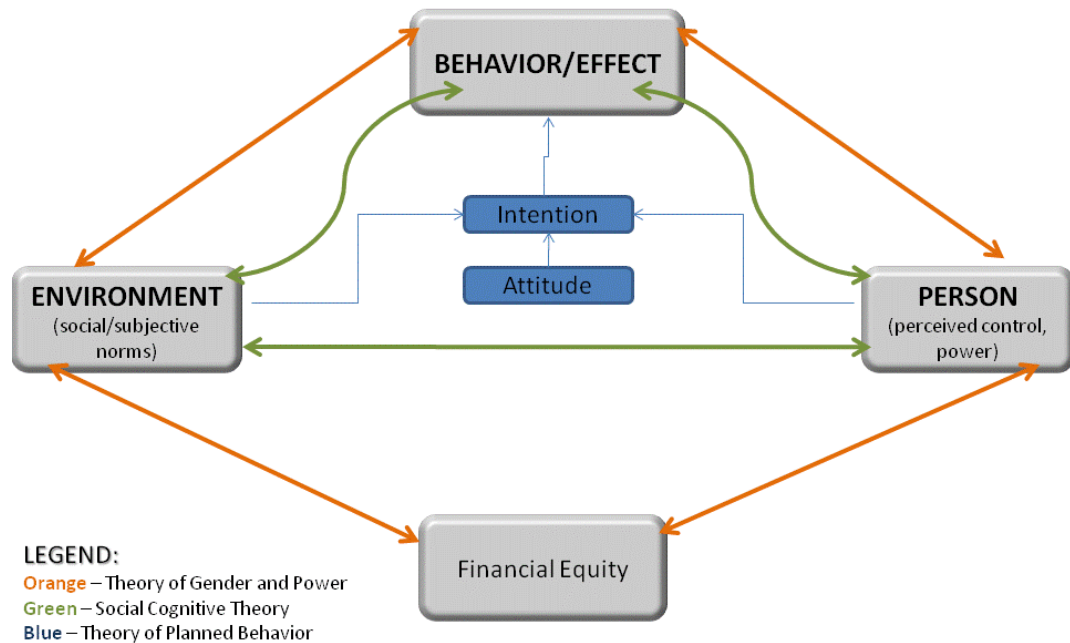


Figure 2. Depiction of Theoretical Frameworks (hypothesized).

**Concepts and Constructs**

This study used the theory of planned behavior to analyze the concept of rape myth acceptance, the social cognitive theory to analyze the concept of reactive aggression, and the theory of gender and power to analyze the construct of sexual division of power.

### **Rape myth acceptance.**

According to the WHO, men who are sexually violent show traits of hyper-masculinity and are more likely to blame the victims for the sexual violent act (Jewkes, Sen, & Garcia-Moreno, 2002). Additionally Sawyer, Thompson, and Chicorelli (2002) and Boeringer (1999) report that male collegiate athletes have been found to be more supportive of “rape myths” than the average college male. Rape myths, as defined by Boeringer (1999), are “beliefs and situational definitions that excuse rape or define assaultive situations as something other than rape.” The concept of rape myth acceptance is a widely used measure to determine the propensity of someone committing sexual violence (Bohner, Siebler, & Schmelcher, 2006; Koss, Leonard, Beezely, and Oros, 1985). Studies have shown that rape myth acceptance is not only an indication of rape, but also alter an individual’s definition of rape. Burt (1980) shows that the higher the acceptance of rape myths, the narrower the definition of rape becomes. The theory of planned behavior was utilized to fully understand the concept of rape myths, an intrapersonal-level phenomenon. According to the theory of planned behavior, attitudes towards a certain behavior are directly determined by that individual’s belief(s) about potential outcomes that will occur after performing a certain behavior (Glanz et al., 2008). Rape myths (a type of belief) was used to understand attitudes towards women (Burt, 1980), which has an effect on the propensity to commit rape (Burt, 1980). Frequently used scales that measure rape myth acceptance are the: Burt Rape Myth Acceptance Scale (BRMAS), the Illinois Rape Myth Acceptance Scale (IRMAS), and the Illinois Rape Myth Acceptance – Short Form (IRMA-S). The latter has been proven to be

more reliable due to change in modern rape myth beliefs that are more subtle, and the inclusion of psychological and societal relations (McMahon, 2010; Moynihan et al., 2010; Payne et al., 1994). For the purposes of this study, the IRMA-S was used.

### **Reactive aggression.**

A common attribute of many successful athletes is aggression. The ability to skillfully and swiftly maneuver past opponents or attack human obstacles with tenacity are skills many head coaches seek when recruiting players to comprise their teams. As current athletic director of Texas Agricultural and Mechanical University Clarence William “Bill” Byrne stated in an article by Parent (2003), “You don’t win football games with choirboys. You’ve got to be tough to play” (p. 137). Aggression is divided into two subcategories – reactive and instrumental. Reactive aggression, as defined by Kimble et al. (2010) is an act or behavior that intentionally causes injury or discomfort. Instrumental aggression is an act or behavior that is used to accomplish a specific aim, which may be sports-related (Kimble et al., 2010). Reactive aggression is shown to be correlated with attitudes (Brown, 2006) and was the type of aggression assessed in this study. The social cognitive theory was used to assess the interpersonal-level concept of reactive aggression. This form of aggression is by definition intentional (Brown, 2006). It should be noted that “intentional”, for the purposes of this study, refers to the cognitive process in which male collegiate athletes come to associate aggression as an appropriate option in order to achieve a certain outcome and thus when certain situations present themselves, a natural inclination will be to act aggressively in order to achieve certain outcomes. This outlook coincides with the social cognitive theory as it argues that actions



are motivated by learned behaviors, opportunities within and influences from the environment, and personal drives (Glanz et al., 2008). The Bredemeier Athletic Aggression Inventory Short Form (BAAGI-S) was used to assess aggressive motives. The understanding of reactive (intentional or hostile) aggression should aid in future prevention programs that emphasize the reduction of sexual violence by athletes towards women.

### **Sexual coercion.**

Sexual coercion is defined as “behavior that is intended to compel the partner to engage in unwanted sexual activity” (Straus, Hamby, Boney-McCoy, & Sugarman, 1996, p. 290). According to Straus et al. (1996) sexual coercion includes both verbal pressuring and “physical force” (p. 290). The reported prevalence of sexual coercion typically varies as the definition of sexual coercion widens. For those studies in which the definition of sexual coercion was operationalized to only include sexual intercourse, the prevalence amongst college men was around 10% (Fiebert & Osburn, 2001; Forbes & Adams-Curtis, 2001); however, when studies employed the complete definition, which included unwanted touching of sexual organs, rates of 25% - 33% were found (Fiebert & Osburn, 2001). It is imperative to note that full range of the definition of sexual coercion constitutes sexual violence (Basile & Saltzman, 2002). Dabbs (1998) reports that the relationship between sexual coercion and athletes is nothing new; however, the continued occurrence of sexual coercion increases the significance and need for empirical studies. There are many feminist theories that suggest that the significant power imbalance between sexes is the root of and nourishment for sexual coercion (Hines, 2007). The

inherent ways of a patriarchal hegemonic society conditions young men to believe that they are superior economically, politically, and physically (Hines, 2007). The belief of and perpetuation of this male dominance may cause collegiate athletes to verbally insist or physically force women to engage in various forms of sex (Hines, 2007). Another theory argues that sexual coercion is a means to maintain social order (Clark & Lewis, 1977). Due to the ingrained thought that women are the possessions of men, men sometimes assert sexual coercion because it is simply their right to do so. It also serves as a reminder that they alone hold the power.

Another theory poses that women are indeed the problem. Society has taught women to be passive and excusing. This learned behavior has allowed for victimization of women by their male counterparts (Kanin, 1985; Russell, 1975; Warshaw & Parrot, 1991). There have been many theories that have been proposed to explain why sexual coercion is found at such alarming rates amongst college students, however few empirical studies have been conducted to scrutinize why these rates exist (Hines, 2007).

In studies with college students in the US, both high rates of verbal and forced sexual coercion have been found in casual and dating relationships (Fiebert & Tucci, 1998; Forbes & Adams-Curtis, 2001). These rates have been shown to be even higher in athletes (Crosset, 2002; Dabbs, 1998). Some researchers have said that there appears to be a link between the acceptance of misogyny, admiration of violence, objectification, and the aggressiveness of team sports (Kidd & Curry, 1991; Sabo & Pamepinto, 1990). Research has consistently shown a correlation between these coveted values and sexual coercion (Adams-Curtis & Forbes, 2004; Hines, 2007). Due to the established and

irrefutable correlation of the aforementioned values, the inclusion of the Sexual Coercion subscale of the Conflict Tactics Scale – Revised was used in this thesis to assess the act(s) of sexual violence amongst male collegiate athletes and their non-athletic male counterparts.

### **Sexual division of power.**

Increased likelihood of males committing sexual violence is directly related to the ingrained attitude of male superiority (Jewkes, Sen, & Garcia-Moreno, 2002). The theory of gender and power posits that there is a relationship of power between genders and that it is due to global dominance of men over women. Its second construct, the sexual division of power, has been used to decipher differences and misuse of power and authority in relationships and structures at both the institutional-level and societal-level that favor men over women (as cited in DiClemente, Crosby, & Kegler, 2009, p. 395). So prevalent is gender inequality that a renowned USA band named No Doubt (1995) sang the following: “I’m just a girl in the world. That’s all that you’ll let me be! I’m just a girl, living in captivity. Your rule of thumb makes me worrisome.”

The power difference between male collegiate athletes and young women is hegemonic in nature and is created and reinforced through societal norms – sexual and social relationships. The 15-item short form of the Attitudes Toward Women (ATW) Scale was used in this study to assess the sexual division of power. Power for the purposes of this study is defined as dominance over another individual and the ability to change an unfavorable situation.

There is a strong association between the exertion of power by athletes of revenue sports (e.g., football and basketball) and sexual misconduct (Koss & Gaines, 1993). The United States Court of Appeals for the Tenth Circuit recognized this power difference in 2006 when it noted that sexual violence amongst certain athletic groups has been a cause of concern for many years (Heckman, 2009). A 2008 study by Gage showed that there is an increased attitude of hypermasculinity (a sub-component of sexual division of power) among male collegiate center athletes (e.g., basketball, football, baseball) as compared to marginal athletes (e.g., tennis, golf) and male collegiate non-athletes. This gender-directed attitude had a crucial impact on overall sexual behaviors, as center athletes engaged in more acts of sexual aggression. Gender attitudes also differed in intensity among non-athletes, marginal athletes, and center athletes. Center athletes scored higher on all three hypermasculinity scales and lower on the attitudes towards women scales than marginal athletes and non-athletes. Results of this study reveal that simple athletic involvement does not alone indicate one's ideologies of masculine norms, increased sexual involvement, sexual violence, and lowered attitudes towards women. The type of sport participated in has a significant influence on masculine norms, which feeds into sexual division of power. The privileged position of dominance is not the concern that this study wishes to address. This study addressed the belief and attitude that exertion of such sanctioned dominance in sexual relations is acceptable by collegiate athletes (Messner, 2002). The beliefs of and attitudes towards sexual violence amongst male collegiate athletes are partly due to the power-imbalance between genders, and it is essential to study this imbalance in the struggle to combat these assaults.

## **Purpose**

The purpose of this research was to assess the beliefs of and attitudes towards sexual violence among male, undergraduate, collegiate athletes and male, undergraduate, non-athletic collegiate students. This assessment sought to determine if there is an association between the subculture of collegiate sports and the beliefs and attitudes of sexual violence. While both populations have been accused of and charged for committing one of the four types of sexual violence, male, undergraduate, collegiate athletes have disproportionately been reported for the offense, as compared to other collegiate subpopulations. This study examined common intra personal, interpersonal, and societal-level constructs that are risk factors attributed to perpetration of sexual violence: rape myth acceptance, reactive aggression, and sexual division of power. This study also measured the relationship between attitudes and beliefs of and the occurrence of verbal and physical sexual violence by using the sexual coercion subscale to measure the interpersonal-level violence. Findings from this study may be used to establish theory-based sexual violence interventions aimed at male, undergraduate, collegiate athletes.

## **Objective**

The objective of this study was to assess and comprehend how factors at multiple levels within the Social Ecological Model contribute to sexual violence by male collegiate athletes:

- ❖ Intrapersonal – Rape Myth Acceptance
- ❖ Interpersonal – Reactive Aggression, Verbal and Physical Sexual Coercion

❖ Societal – Sexual Division of Power

**Hypotheses**

The hypotheses of this study are comparative in nature between male collegiate athletes and non-athletic collegiate males. Study participants self-identified as athletes and indicated whether they participate in an UAA sport or arecreational sport. Non-athletic, for the purposes of this study, is defined as anyone that has self-identified as a non-athlete.

- ⊙ Hypothesis 1: Male collegiate athletes will exhibit greater support for rape myths than male non-athletic collegiate students.
- ⊙ Hypothesis 2: Male collegiate athletes are more likely to have less positive attitudes towards women than male non-athletic collegiate students.
- ⊙ Hypothesis 3: Male collegiate athletes are more likely to use verbal sexual coercion tactics than male non-athletic collegiate students.
- ⊙ Hypothesis 4: Male collegiate athletes are more likely to use physical sexual coercion tactics than male non-athletic collegiate students
- ⊙ Hypothesis 5: Male UAA collegiate athletes are more likely to engage in reactive aggression than male collegiate athletes that participate in recreational sports.

## **Chapter Three**

### **Methodology**

#### **Research Design**

This study used a causal comparative research design. A cross-sectional instrument was administered to male, undergraduate, athletes and to a comparison group of non-athletic, undergraduate, collegiate male students at a public university in the southeastern United States. The study used confidential Internet surveys for descriptive purposes. Each research participant provided electronic informed consent prior to starting the Internet survey.

#### **Recruitment**

Eligible research participants were male, undergraduate, collegiate students who were at least 18 years of age or older and currently enrolled at the university. Undergraduate instructors of classes that contain athletes and their non-athletic counterparts were asked to make formal announcements to their classes regarding the study; specifically, male, undergraduate students were invited to participate in a short, online-study examining male, undergraduate, college students' beliefs regarding gender and relationship details (for further details regarding recruitment, please refer to the Data Collection Section). General newsletters, flyers, and e-mails were used to advertise throughout the university. To ensure sufficient representation of male, undergraduate, collegiate athletes in the study sample, participant characteristics and, specifically, group

membership (e.g., male, undergraduate, collegiate athletes versus male, undergraduate, non-athletic college students) were reviewed on a weekly basis as surveys were obtained. Stratified sampling strategies were employed, as necessary, to achieve representation of 365 male, undergraduate, collegiate students with approximately equal numbers of athletes and non-athletes.

Financial incentives have been shown to increase participation rates in web-based surveys (Solomon, 2001). Respondents who completed the online survey could provide their e-mail addresses to be entered into a raffle for 20 cash prizes, each valued at \$50 USD. Each participant could only win one raffle. At the end of the data collection period, a numbered list of respondent e-mails was generated and winners were selected at random. Winners of the 20 drawings were contacted via e-mail at the conclusion of the recruitment phase.

### **Sample**

The southeastern U.S. is home to numerous public universities with thriving athletic teams. The institution involved in this study was a NCAA Division One school and home to over 47,000 students. According to Forbes, Adams-Curtis, Pakalka, and White (2006), there is a strong link between athletic participation at NCAA Division One schools and aggression against women. Sexual violence is more prominent amongst NCAA Division One schools where: (a) athletics brings in an abundance of revenue; (b) there is national prominence; (c) and the athletes receive scholarships and free room and board in isolated buildings, as compared to smaller schools where the athletes are more integrated into the university population. This finding coincides with previous studies



(Crosset, Benedict, & McDonald, 1995; Koss & Gaines, 1993) which, showed that athletes within NCAA Division One schools were overrepresented among students who were reported to the institution judicial boards for sexual violence. Results from one study found that athletes of these schools engaged more often in individual sexual violence and gang rapes (Koss & Gaines, 1993). A steady increase of fame and exposure of the institution's athletics has led to an increase of intensive training, which is associated with masculine discourse and anti-feminist attitudes in their daily social environment (Adams, Anderson, & McCormack, 2010). Constant social submersion makes the self-identified athletes at this particular institution a prime population for this investigation.

### **Sample Size**

This study looked at the main effects between variables within groups. The power analysis program, GPower, was used to determine an appropriate sample sizes in order to use analysis of covariance (ANCOVA) to analyze the findings. An ANCOVA was conducted for each dependent variable (Attitudes Toward Women Scale, Sexual Coercion Subscale, and Illinois Rape Myth Acceptance Scale). The Bredemeier Athletic Aggression Inventory was only administered to those who self-identified as athletes. Due to the fact that the latter scale was administered to a smaller population, a more conservative effect size was sought.

To compute an appropriate sample size to analyze the scales that were asked of both athletic and non-athletic undergraduate collegiate males, the following inputs were used: an effect size of 0.19, alpha of 0.05, and power of 0.95. The total sample size

needed was 363. The study oversampled the undergraduate male non-athletic research participants in order to match characteristics between the two groups.

To compute an appropriate sample size to analyze the Bredemier Athletic Aggression Inventory that was asked of UAA athletes and recreational athletes, the following inputs were used: an effect size of 0.27, alpha of 0.05, and power of 0.95. The total sample size needed was 181.

<b>F tests - ANCOVA: Fixed effects, main effects and interactions</b>		
<b>Analysis:</b> A priori: Compute required sample size		
<b>Input:</b>	Effect size f	= 0.19
	$\alpha$ err prob	= 0.05
	Power (1- $\beta$ err prob)	= 0.95
	Numerator df	= 1
	Number of groups	= 2
	Number of covariates	= 25
<b>Output:</b>	Noncentrality parameter $\lambda$	= 13.1043000
	Critical F	= 3.8692833
	Denominator df	= 336
	Total sample size	= 363
	Actual power	= 0.9504934

*Figure 3. Sample Size Analysis for Athletes versus Non-Athletes*

F tests - ANCOVA: Fixed effects, main effects and interactions		
<b>Analysis:</b> A priori: Compute required sample size		
<b>Input:</b>	Effect size f	= 0.27
	$\alpha$ err prob	= 0.05
	Power (1- $\beta$ err prob)	= 0.95
	Numerator df	= 1
	Number of groups	= 2
	Number of covariates	= 29
<b>Output:</b>	Noncentrality parameter $\lambda$	= 13.1949000
	Critical F	= 3.9042019
	Denominator df	= 150
	Total sample size	= 181
	Actual power	= 0.9504427

Figure 4. Sample Size Analysis for UAA Athletes versus Recreational Athletes

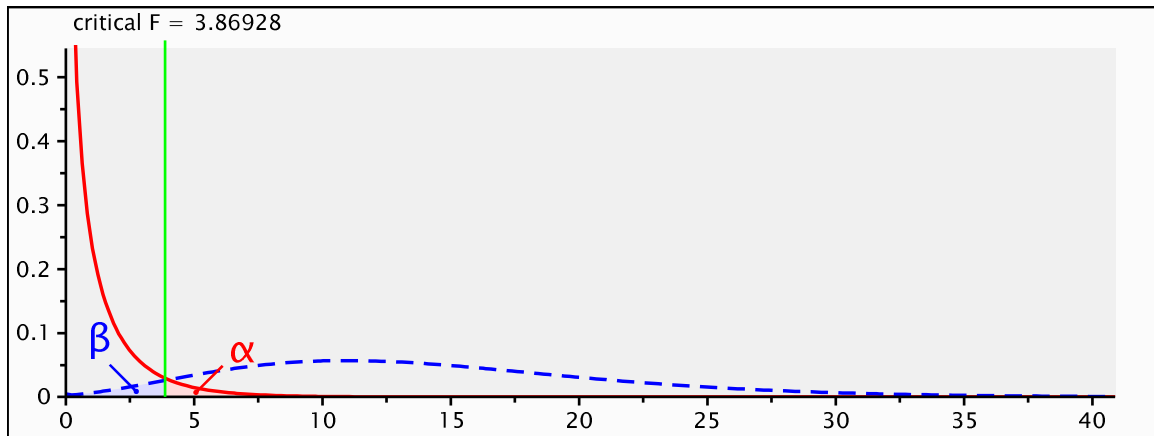


Figure 5. Central and Non-central Distributions for Athletes versus Non-Athletes

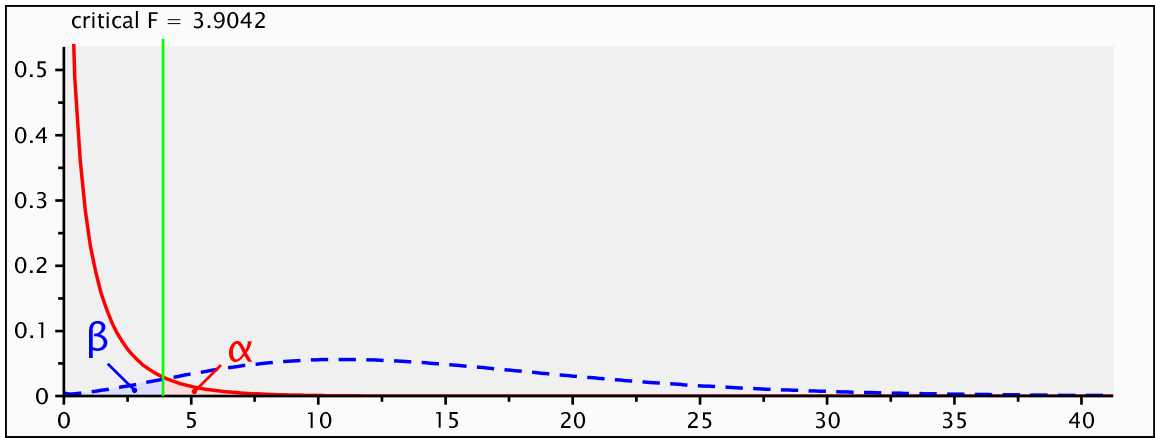


Figure 6. Central and Non-central Distributions for UAA Athletes versus Recreational Athletes

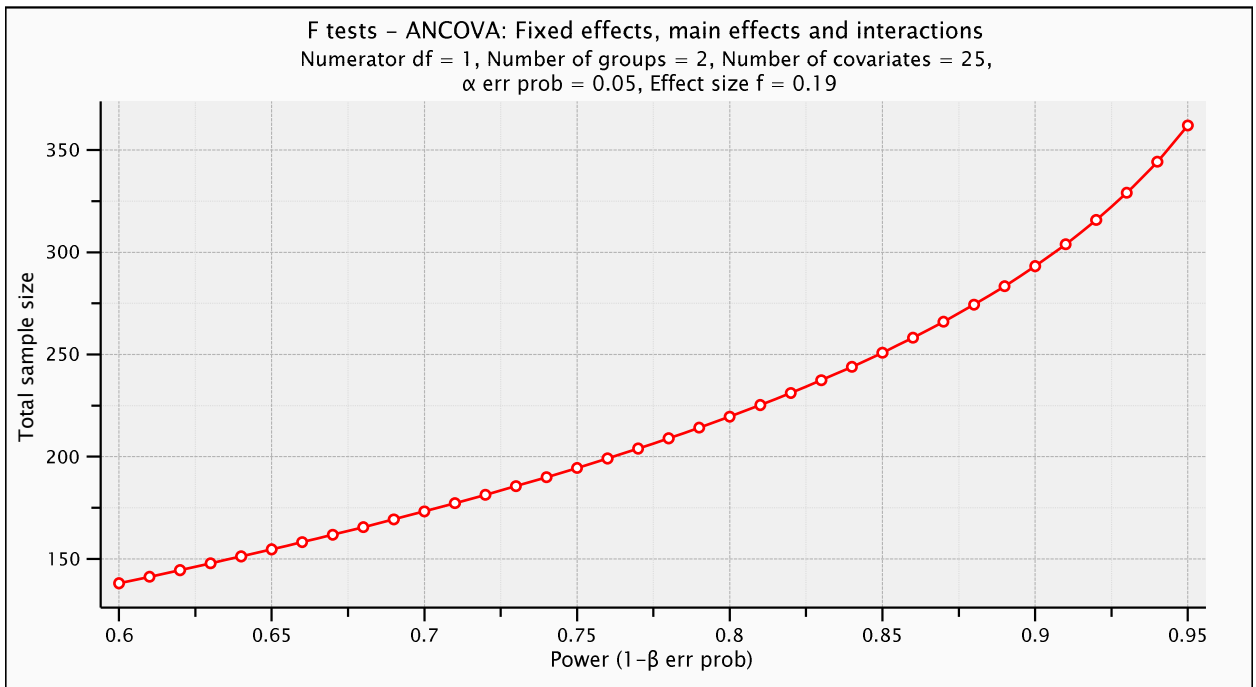


Figure 7. Total sample size as a function of power plot for Athletes versus Non-Athletes

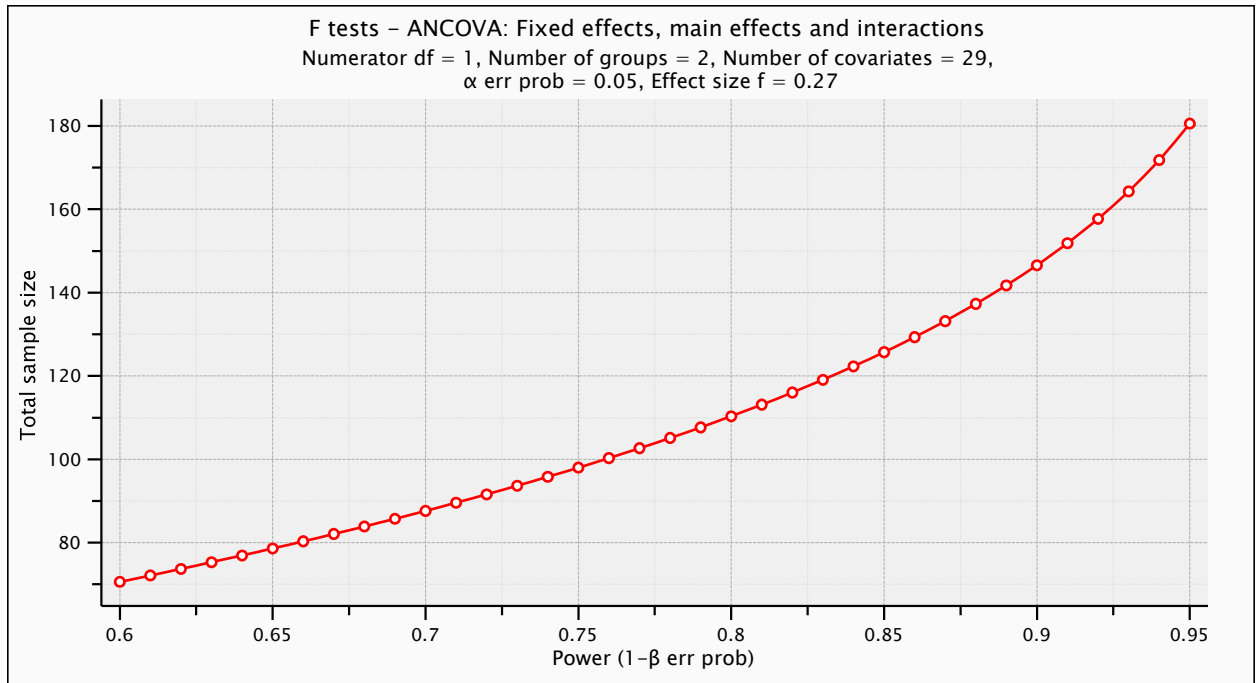


Figure 8. Total sample size as a function of power plot for UAA Athletes versus Recreational Athletes

### Instrument

The instrument consisted of items from four different scales (Table 1): the 20-item Illinois Rape Myth Acceptance Short Form (IRMA-SF) (Payne et al., 1999), the Bredemeier Athletic Aggression Inventory Short Form (BAAGI-S) (Bredemier, 1975), the 7-item Sexual Coercion (SC) subscale of the Revised Conflict Tactics Scale (Straus et al., 1996), and the 15-item short form of the Attitudes Toward Women Scale (ATW) (Spence, Helmreich, & Stapp, 1973). The scales were used to analyze rape myth acceptance, reactive aggression, verbal and physical sexual coercion, and sexual division of power respectively. For the purposes of this study, a single item from the ATW scale was removed as it has been found not to be relevant or understandable to modern day students and thus could cause students to randomly pick an answer, as opposed to

documenting their true beliefs. This possible occurrence could affect the outcome of the scores and hinder reliability. For these reasons, question number eight of the ATW scale was omitted: “It is ridiculous for a woman to run a locomotive and for a man to darn socks.” A lie scale was embedded into the instrument in order to minimize self-reporting bias. The instrument began with a valid 13-item short form version of the Marlowe-Crowne (M-C) social desirability scale (Reynolds, 1982) and concluded with demographic questions, per the Dillman method (Dillman, Smyth, & Christian, 2009). Table 1 describes the dependent, independent, and control variables that were used in the survey. The control variables were included in every regression analysis.

Table 1

*Summary of Dependent, Independent, and Control Variables*

Variable	Type of Measurement	Response Values
<b>Dependent Variables</b>		
Variable: Gender Roles Scale: Attitudes Toward Women Scale Number of Items: 14 Range: 14-56	Interval	1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree
Variable: Athletic Aggression Scale: Bredemeier Athletic Aggression Inventory Number of Items: 30 Range: 30-120	Interval	1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree
Rape Myths Scale: Illinois Rape Myth Acceptance Scale Number of Items: 20 Range: 20-100	Interval	1= Strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree
Variable: Sexual Coercion (Verbal & Physical) Scale: Sexual Coercion Subscale of the Conflict Tactics Scale - Revised Number of Items: 7 Range: 0-7	Nominal	1 = Once 0 = Never
<b>Independent Variables</b>		
Are you an athlete?	Nominal	1=No 2=Yes
Do you play recreational or a University Athletic Association Sport?	Nominal	1=Recreational (i.e., I play recreational sports through the rec center) 2= UAA Sport (i.e., I play for the university)
<b>Control Variables</b>		
Social Desirability Scale: Marlowe-Crowne Number of Items: 13 Range: 0-13	Interval	0=False 1=True Reverse Code: 1=False 0=True
Age (in years)	Interval	Fill in the blank

Table 1 Continued.

Academic Classification	Nominal	1=First Year 2=Second Year 3=Third Year 4=Fourth Year 5=Fifth Year 6=Sixth or more
What is your current Relationship Status?	Nominal	1=Single 2=In a relationship
What is your Sexual Preference?	Nominal	1= I like to have sex with women 2= I like to have sex with men 3= I like to have sex with men and women 4= Prefer not to disclose
Are you a member of a Fraternity?	Nominal	1 = No 2 = Yes
What is your Race/Ethnicity?	Nominal	0= Caucasian American/White 1= African American/Black 2= Hispanic or Latino 3= American Indian/Alaskan Native 4=Native Hawaiian/Pacific Islander 5=Asian
Length of Sport Involvement?	Interval	Fill in the blank
What Sport do you play?  (please list all if more than one)	Nominal	Fill in the blank

### Historical and Social Development of Scales

#### Attitudes toward women scale.

In 1972, Janet Spence and Robert Helmreich developed and published a 55-item scale that would measure the beliefs and attitudes towards women (Gage, 2008). The scale was developed because of the influence of the women's movement, which



encouraged gender-related psychological research (Spence & Hahn, 1978). The items on the scale pose whether or not women should have equal rights and equal roles in society. The scale was initially designed to show the prevalence of gender stereotypes amongst certain populations. In 1973, Spence, Helmreich, and Stapp developed the 15-item short form of the Attitudes Toward Women scale. This scale has proven to be just as valid and reliable as the original scale, so much so that the very originators only use the short-form for their own research (Spence & Hahn, 1997). According to Spence & Hahn (1997), “The AWS is intended to assess people’s beliefs about the responsibilities, privileges, and behaviors in a variety of spheres that have traditionally been divided along gender lines but could, in principle, be shared equally by men and women” (p. 18).

**Bredemeier athletic aggression inventory – short form.**

The Bredemeier Athletic Aggression Scale, developed in 1975, is a 100-item questionnaire, which recognizes the two types of aggression – instrumental and aggressive. Bredemeier was one of the first social scientists to recognize the various forms of aggression and thus created a survey with two subscales measuring instrumental (or “assertive”) and reactive (or “hostile) aggression (as cited in Kimble, 2010, 451). Later, a short form version of the Bredemeier Athletic Aggression Scale (BAGGI-S) was developed by shortening the original scale to 30 items (15 items under each subscale).

**Illinois rape myth acceptance scale – short form.**

Social scientist Martha Burt wrote a seminal article in 1980, which built upon the concept of rape myths introduced by Brownmiller in 1975 (Burt, 1980). In this article, Burt established a rape myth acceptance scale, which has been used excessively since its

original date of publication. In 1994 Payne, Lonsway, and Fitzgerald introduced the Illinois Rape Myth Acceptance Scale, affording researchers the opportunity to have a more advanced, holistic, and culturally sound questionnaire. Two of its original authors, Lonsway and Fitzgerald (1994), defined rape myths as “*attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women*” (as cited in Payne et al., 1994, p. 29). This definition varied from the others as it dealt with psychological and societal function (Payne et al., 1994). Within the same article, they introduced a valid and reliable short form, because the length of the original scale might limit its use (Payne et al., 1994). This short form analyzes general attitudes towards rape myths by using questions from seven subscales extracted from the original instrument: 1. *She asked for it*; 2. *It wasn't really rape*; 3. *He didn't mean to*; 4. *She wanted it*; 5. *She lied*; 6. *Rape is a trivial event*; 7. *Rape is a deviant event*. The IRMA-SF has been used extensively among different populations (Basow & Minieri, 2010; Chapleau, Oswald, & Russell, 2008; McMahon, 2010). It has also been used repeatedly amongst collegiate athletes.

#### **Sexual coercion subscale.**

The Sexual Coercion Scale is a subscale of the Revised Conflict Tactics Scale (CTS-2). With the abundance of partner violence cases, research on this area needed a scale that would incorporate more specific variables than what was in the original CTS. Straus (1996) then decided to add the 7-item sexual coercion scale, thereby enabling researchers to fully enquire of multiple variables relating to sexual coercion (e.g., physical and verbal), while allowing the CTS-2 instrument to remain brief. The initial

construction of this subscale began by incorporating three different levels of coercion (insistence, threats of force, and actual force) with three different types of sexual acts (anal, oral, and vaginal). This fusion of levels and acts was initially captured in nine items. Later, four items were added to consider sexual acts at the insistence level. After pretesting a collective pool of 13 items, the author arrived at a final scale comprised of seven items (Straus, et al., 1996).

### **Marlowe-Crowne scale – short form c.**

There has always been some form of speculation or doubt as to the accuracy of self-reported personality assessments. This plague of doubt has often caused contention over the validity and reliability of research scale scores, as subjects may have falsified their own behavior in favor of social desirability (Andres & Meyer, 2003; Barger, 2002). Subsequent to the cornucopia of misrepresentation among self-reports, various social desirability scales were designed and implemented among social and clinical researchers. Though a wealth of scales have been developed, the Marlowe-Crowne Social Desirability Scale has been tested and demonstrates reliable scale scores. This scale, developed in 1960, contains 33-items that refute response bias. Due to its recognized and acclaimed importance, many researchers have developed “abbreviated subscales of this instrument” (Barger, 2002, p. 287). One of the nine different abbreviated subscales, also called short forms, that were developed is the 13-item Marlowe-Crowne Short Form C (Reynolds, 1982). Like the original, this short form has been widely used as a discriminate index for validity of numerous constructs (Barger, 2002). For the purposes of this study it was used

to not only validate the self-reported responses of the group, but also compare to the rates of social desirability between the two groups.

### **Validity and Reliability of Scale Scores**

#### **Attitudes toward women scale.**

This scale is a 15-item short form of the original 55-item scale. The scale score reliability has been shown to range from 0.85 to 0.88, with a retest reliability of .86 (Daugherty, 1986; Gage, 2008; McDowell & Cunningham, 2008). The validity has been proven by its continuous usage over 30 years (Cunningham, 2008).

#### **Bredemeier athletic aggression inventory – short form.**

This short form is a 30-item scale that has been tested on numerous collegiate and intercollegiate sports teams. Statistical significance has been found with inter-class variables. A strong reliability has also been proven via retesting (Gee, 2010; Keeler, 2000; Kimble et al., 2010). According to Bredemeier (1975), the instrumental subscale score has 0.86 reliability and the reactive aggression subscale score has 0.90 reliability (Keeler, 2000).

#### **Illinois rape myth acceptance scale – short form.**

This is a 20-item short form of the original 45-item Illinois Rape Myth Acceptance Scale. The reliability for the short form score has been shown to range between 0.86 and 0.87. Numerous authors have also conducted series of studies with the short form in order to prove construct validity through theoretical and empirical relationships with the rape myth variables (McMahon, 2010; Moynihan et al., 2010; Payne et al., 1994).

### **Sexual coercion subscale.**

This scale is a 7-item subscale that has been used to ask about sexual coercion practices from either the victim or the perpetrators point of view. This instrument has been used multiple times with college students (Hines, 2007; Straus, et al., 1996; Straus, 2004). The SC subscale has been shown to conduct exceptional cross-cultural construct validity and reliability of scale score, with an overall alpha ranging between .82 and .87 (Straus, 2004; Straus, 1996).

### **Marlowe-Crowne scale – short form c.**

Reynolds (1982) created 3 individual short forms of the 1960 Marlowe-Crowne Social Desirability Scale. The last version, form C, has been proven to be most reliable with an internal consistency of .76 (Moss, 2008; Reynolds, 1982). This 13 item scale has also shown higher levels of internal consistency in subsequent studies.

### **Data Collection**

Before the start of the study, a web-based questionnaire was created through Qualtrics computer software. The web-based survey was tested multiple times to make sure that it was both simple and user-friendly prior to offering it to the study participants. The questionnaire included: an informed consent page, the instruments, a page requesting address information for the distribution of incentives, and a list of emotional and mental wellness resources at the university. Undergraduate instructors, whose classes contain male, undergraduate, athletes and non-athletes, were contacted. These instructors were informed about: (a) the general principle behind the study; (b) the confidentiality of the study; and (c) the incentives associated with the study. Any questions and/or concerns

about the study were addressed. An e-mail to each instructor included a copy of the approved IRB protocol and the IRB approval letter. These instructors were asked to allow the principal investigator (PI) to come into their class and explain the study to his/her students. If the instructor accepted, then the PI explained the study and answered any questions that the class may have had during a class session. IRB approved flyers promoting the study were left at each class detailing how the students could access the online survey. An initial e-mail was sent out over the university list serv containing a brief overview of the study and a direct and active hyperlink to the online survey. Announcements about the study were also sent out concurrently through the online university newsletter. An e-mail to all of the university athletes was sent out explaining the general principle behind the study, the confidentiality of the study, the incentives associated with the study, and addressing any questions and/or concerns of the study. The e-mail was concise in nature.

After each participant filled out the survey, he was instructed to click on a hyperlink that directed him to a separate secure site to enter his school e-mail address. This was done in order to: separate the data from the contact information; verify that only the students of that university were participating in the survey; and thwart possible duplications in study responses. This was done through Qualtrics Survey software. An option was selected within Qualtrics to not record IP addresses or any other personal information. The university e-mail addresses were used to contact the winners of the 20 drawings. Drawing winners received a \$50 gift card.

## **Data Analysis**

The survey instrument consisted of five separate scales: Illinois Rape Myth Acceptance Short Form, Attitudes Toward Women, Bredemeier Athletic Aggression Inventory-Short Form, Sexual Coercion Subscale, and the Marlowe-Crowne Social Desirability Scale. The data from these scales were gathered and cleaned. Each scale was coded according to the intentions of the authors of the respective scales. Item to item correlations were checked to ensure that all items correlated well with the other items in the scale. The Illinois Rape Myth Acceptance Scale was the only scale that did not require renaming the variables or recoding the scores. The Marlowe-Crowne scale had eight items that had to be reverse coded (e.g., a score of “1” became a “0” and vice versa). All items consist of “desirable, but uncommon behaviors (e.g., admitting mistakes) or undesirable, but common behaviors (e.g., gossiping)” (Palhaus, 1991, p. 28). Scores range from 0 to 13. Higher scores represent self-selection of more socially desirable results and thus a higher desire for approval (Palhaus, 1991).

The Attitudes Toward Women Scale is comprised of 14 items, seven of which are reverse coded (Spence & Helmreich, 1978). Higher scores meant more profeminist and unrestricted attitudes towards women.

The Sexual Coercion subscale was coded according to a scoring manual by the author (Straus, 2004a). The items were scored according to “ever prevalence” (Straus, 2004a). Higher scores were equated with verbal and physical sexual coercion that had ever occurred. A mean score was not calculated for this scale as recommended by the original author (Straus, 2004a). Straus (2004a) states that calculating the mean would

cause "... an extremely skewed distribution which makes the mean, and even the median, inappropriate, violates the assumptions of many statistical procedures, and also creates problems with outliers. Moreover, the distribution is so skewed that no transformation is sufficient to normalize it" (Straus, 2004a, p. 3). A binary logistic regression was calculated to see if there was a significant difference in sexual coercion between athletes and non-athletes. Prevalence and chronicity scores were calculated, which corrected for outliers (Straus, 2004a).

The Bredemeier Athletic Aggression Inventory – Short Form did not require renaming of any variables nor did it require recoding some or all of the items. The BAGGI-SF was reverse coded in order to display a positive correlation - higher scores to reflect higher levels of aggression. The two subscales – reactive and instrumental aggression– were defined as separate variables in order to compare reactive aggression among UAA and recreational athletes.

In addition to the dependent variables (scales) being recoded and renamed, certain string variables were also recoded so that they could be used as covariates or independent variables. This was done for age and major.

Three of the four scales measuring the dependent variables consisted of Likert items that were summed separately in order to obtain the scale score. These scales were: Illinois Rape Myth Acceptance Scale, Attitudes Toward Women Scale, and the Bredemeier Athletic Aggression Inventory. The participants' scores were tallied and entered into SPSS. Measures of frequencies, descriptive statistics, independent and paired t-tests, chi-squares, ANOVAs, ANCOVAs, and a binary logistic regression were



conducted. The first group was comprised of all participants who completed the online questionnaire. The second group was a subsample of 379 athletes and non-athletes that were comparable based on age. The third group consisted solely of athletes. More information on the statistical reasoning for stratification is outlined in chapter four.

An ANCOVA was conducted for the first two scales (Attitudes Toward Women Scale and Illinois Rape Myth Acceptance Scale). A binary logistic regression was conducted for the Sexual Coercion subscale. Each analysis separated the subsample by athletic association - male, undergraduate athlete versus male, undergraduate non-athlete. In each analysis the scale score was the dependent variable, and the Marlowe-Crowne score and 5 demographic questions were used as covariates (age, sexual preference, fraternity membership, current relationship status, and academic classification). The relative risk was also calculated for the Sexual Coercion Subscale. The Bredemier Athletic Aggression Inventory was only completed by those who self-identified as athletes. As such, UAA athletes versus recreational athletes were compared by using an ANOVA and ANCOVA. This was done so that if needed, an adjustment could be made to the dependent variable that took into account the level to which the dependent variable scores were affected by a propensity to provide socially desirable answers on the four scales. In addition, it also yielded the ability to test for the significance of covariates.

## **Chapter Four**

### **Results**

#### **Enrollment Numbers**

Over the two and a half month recruitment period, 1,969 study participants accessed and began the online questionnaire; however, 1,267 study participants completed the questionnaire. All available data were used in the analysis portion (J. D. Kromrey, personal communication, May 14, 2012). Total sample numbers are listed for each analysis. Data were analyzed among three groups: total study participant sample; athlete and comparable non-athlete subsample; and athlete subsample. This was done in order to thoroughly answer the hypotheses and also to provide future research directions.

#### **Total Study Participant Sample**

Demographic data were obtained from all those who completed the study (see Table 2). The respondents represented mostly third year (29%) and fourth year (27.6%) undergraduate students. Almost half of the respondents (49.1%) were single at the time of this study, while 48.1% were in a relationship. The majority of respondents (87.1%) indicated that they preferred to have sexual relations with women. A minority of the sample (10.8%) indicated that they were a member of a fraternity. The majority of the sample (62.7%) self-identified as Caucasian American/White, and 12.78% indicated Hispanic ethnicity. Study participants were eligible to choose more than one race and/or ethnicity. This resulted in 11.27% self-identifying as more than one race.

The mean and the reliability were measured for four out of the five scales (see Table 3). The Marlowe-Crowne Social Desirability Scale (i.e., Q86) had a mean of 19.67 and its reliability was 0.681. The scale was completed by 1,564 study participants. The mean of the Illinois Rape Myth Acceptance Scale (i.e., Q87) was 43.96 and its alpha reliability was 0.877. The scale was completed by 1,443 study participants. The Attitudes Toward Women Scale (i.e., Q84) had an alpha reliability of 0.813 and its mean was 27.56. The scale was completed by 1,289 study participants. The Sexual Coercion Subscale (i.e., Q53) had an alpha reliability of 0.727 and was completed by 1,261 study participants. The author of this scale has highly recommended that the mean should not be calculated for this subscale, as that the scale should be scored according to ever prevalence (e.g., 0=No, 1=Yes), because the subscale typically has high rates of a zero score (Straus, 2004a). The Bredemeier Athletic Aggression Inventory Short Form (i.e., Q85) was only completed by athletes and was compared between UAA and recreational athletes. Reliabilities and descriptives on this measure will be discussed in the third section of this chapter (“athletic aggression among self-identified athlete sample”).

An independent samples t-test was used to determine possible confounders within the entire sample (Table 4). Demographic variables were compared between athletes and non-athletes. Age was found to be significantly different between the two groups. The mean difference between the groups was found to be -1.485 and the significance level was 0.001 [ $t(1261) = -3.469, p < .05$ ]. The Levene’s Test for Equality of Variances was used to satisfy the assumption of equal variances. The significance level for this test was 0.389 and thus non-significant; as it is greater than the set alpha level of 0.05. Due to age

being a potential confounder, a comparable subsample of non-athletes, that were similar in age, was formed.

Table 2

*Total Sample Demographic Information*

	N	Valid Percent
What is your academic classification?	1267	100%
First Year	98	7.7%
Second Year	190	15.0%
Third Year	367	29.0%
Fourth Year	350	27.6%
Fifth Year	142	11.2%
Sixth or more	57	4.5%
Prefer not to disclose	63	5.0%
What is your current relationship status?	1267	100%
Single	622	49.1%
In a relationship	609	48.1%
Prefer not to disclose	36	2.8%
What is your sexual preference?	1267	100%
I like to sleep with women	1103	87.1%
I like to sleep with men	79	6.2%
I like to sleep with men and women	38	3.0%
Prefer not to disclose	47	3.7%
Are you a member of a fraternity?	1267	100%
Yes	137	10.8%
No	1100	86.8%
Prefer not to disclose	30	2.4%
What is your race/ethnicity?	1267	
Caucasian American/White	795	62.7%
African American/Black	86	6.7%
Hispanic, Latino, or of Spanish Origin	162	12.78%
American Indian/Alaskan Native	4	0.31%
Native Hawaiian/Pacific Islander	2	0.157%
Asian	75	5.91%
Multi-Racial	143	11.27%

Table 3

*Scale Descriptives*

Scale	General Alpha Reliability Derived from Other Studies	Alpha Reliability Analysis from this Study	Mean	Range	Standard Deviation
Marlowe-Crowne	0.76	0.681	19.67	0-13	2.865
Illinois Rape Myth Acceptance	0.85 - 0.88	0.877	43.96	20-100	11.279
Attitudes Toward Women	0.86 -0.87	0.813	27.56	14-56	6.602
Sexual Coercion	0.82 – 0.87	0.727	N/A (Straus, 2004a)	0-7	N/A

Table 4

*T-test for Control Variable Age among the Total Sample*

Q88N: What is your age (in years)?	t-test for Equality of Means						
	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	- 3.469	1261	.001	-1.485	.428	-2.325	-.645
Equal variances not assumed	- 3.674	395.825	.000	-1.485	.404	-2.280	-.691

**Athlete versus Non-Athlete Comparison Sample**

The total number of self-identified athletes was found to be 257. Among this group, 68 were found to be over the age of 23 years old. Due to the age-limitations under the NCAA's "five year rule" (NCAA, 2011, p. 152), the 68 individuals that were over 23

years of age were removed from the sample. The remaining 188 athletic study participants were then separated into groups by age. Within this sample there were: twelve 18 year olds; forty-eight 19 year olds; thirty-seven 20 year olds; forty-six 21 year olds; thirty-two 22 year olds; and fourteen 23 year olds. Non-athletes were then stratified by age and a comparable sample, by age, was formed through SPSS analytics software. A comparable sample of 191 non-athletic undergraduate collegiate males was selected, for a total sub-sample of 379 study participants. A t-test was run on this sample to ensure that age was no longer significantly different between the athletes and non-athletes (Table 5). The mean difference between the groups was found to be 0.32 and the significance level was 0.927[t(377)= 0.092, p>.05]. Age was used as a covariate in all ANCOVAs to ensure that the variable was controlled.

Table 5

*T-test for Control Variable Age among Athletes versus Non-Athletes*

What is your age (in years)?	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	.092	377	.927	.032	.346	-.649	.713
Equal variances not assumed	.092	376.855	.927	.032	.346	-.649	.713

The majority of the athlete and non-athlete subsample was either 19 (25.1%) or 21 (24.3%) years of age. Over half (55.4%) of the athlete and non-athlete subsample were single, while 41.7% were in a relationship at the time of the study. The majority (87.6%) of the subsample identified that they like to have sex with women alone. A large minority (16.4%) of the subsample indicated that they are members of a fraternity. Fifty-five and sixth of a percent of the subsample self-identified as Caucasian American/White, 15.8% indicated that they were of Hispanic ethnicity, and 7.65% self-identified as African American/Black, 0.26% self-identified as American Indian/Alaskan Native, 0.26% self-identified as Native Hawaiian/Pacific Islander, 6.59% self-identified as Alaskan, and 13.19% self-identified as being of more than one race. Study participants were permitted to choose multiple races/ethnicities, so that a true representation could be calculated. Chi-squares were conducted for the variables academic classification, current relationship, sexual preference, and fraternity membership (Table 6). Sexual preference and fraternity membership were found to be significantly different between athletes and non-athletes. All demographic variables were used as covariates in subsequent ANCOVAs and the binary logistic regression.

The reliabilities of each scale were measured among this subsample and found to be similar to the entire sample. The Marlowe-Crowne scale had a 0.665 reliability and the mean of the Marlowe-Crowne scale was 19.48. The Illinois Rape Myth Acceptance scale had a reliability of 0.872 the mean of this scale was 45.43. The mean of the Attitudes Toward Women scale was 26.14 and the reliability was 0.812. The Sexual Coercion scale had a reliability of 0.808. A mean was not calculated for this score as the scale looks

dichotomously at ever prevalence (i.e., has sexual coercion ever happened) (Straus, 2004a).

Table 6

*Athlete versus Non-Athlete Sample Demographic Information*

Demographic Variable	Athlete		Non-Athlete		t-test/Chi Squared
	N	Valid Percent	N	Valid Percent	
What is your age?	188		191		t= .092
Eighteen	12	6.4%	12	6.3%	
Nineteen	47	25.0%	48	25.1%	
Twenty	37	19.7%	39	20.4%	
Twenty-One	46	24.5%	46	24.1%	
Twenty-Two	32	17.0%	32	16.8%	
Twenty-Three	14	7.4%	14	7.3%	
What is your academic classification?	188		191		X <sup>2</sup> =4.834
First Year	24	12.8%	23	12.0%	
Second Year	45	23.9%	48	25.1%	
Third Year	54	28.7%	55	28.8%	
Fourth Year	42	22.3%	52	27.2%	
Fifth Year	16	8.5%	8	4.2%	
Sixth or more	3	1.6%	1	0.5%	
Prefer not to disclose	4	2.1%	4	2.1%	
What is your current relationship status?	188		191		X <sup>2</sup> =5.142
Single	99	52.7%	111	58.1%	
In a relationship	80	42.6%	78	40.8%	
Prefer not to disclose	9	4.8%	2	1.0%	



Table 6 Continued.

What is your sexual preference?*	188		191		$X^2=10.355$
I like to sleep with women	171	91.0%	161	84.3%	
I like to sleep with men	2	1.1%	15	7.9%	
I like to sleep with men and women	8	4.3%	9	4.7%	
Prefer not to disclose	7	3.7%	6	3.1%	
Are you a member of a fraternity?***	188		191		$X^2=9.742$
Yes	39	20.7%	23	12.0%	
No	141	75.0%	166	86.9%	
Prefer not to disclose	8	4.3%	2	1.0%	
What is your race/ethnicity?					$X^2=4.345$
Caucasian American/White	97	51.69%	114	59.7%	
African American/Black	14	7.4%	15	7.8%	
Hispanic, Latino, or of Spanish Origin	33	17.5%	27	14.1%	
American Indian/Alaskan Native	0	0%	1	0.5%	
Native Hawaiian/Pacific Islander	1	0.5%	1	0.5%	
Asian	14	7.4%	11	5.7%	
Multi-Racial	27	14.4%	24	12.56%	

Notes: \* $p<0.05$ , \*\* $p<0.01$

## **Overall Findings among Athletes versus Non-athletes**

All data were stratified by athletic association to compare means between the two independent groups (athletes versus non-athletes) (Table 7). Non-athletes had a higher mean score on the Attitudes Toward Women scale. A higher mean score corresponds with attitudes of profemininity, while lower scores correspond with promasculine views and traditional views of women. The mean differences between athletes and non-athletes of sexual coercion was not calculated. The relative risk was conducted instead, per the direction of the author of the scale (Straus, 2004a). This will be discussed more in the “*Sexual Coercion Subscale Findings among Athletes versus Non-athletes*” section of this chapter.

Overall, athletes had a higher mean score than non-athletes on the Illinois Rape Myth Acceptance Scale. A higher mean indicates that athletes in this sample: “(1) hold more traditional sex role stereotypes, (2) endorse the notion that the relation of the sexes is adversarial in nature, (3) express hostile attitudes toward women, and (4) are relatively accepting of both interpersonal violence and violence more generally” (Payne et al., 1999, p. 55). Information about the Bredemeier Athletic Aggression Inventory will be discussed in the third section of this chapter (“athletic aggression among self-identified athlete sample”).

ANOVAs (Table 8) and ANCOVAs were used to determine whether or not significant relationships existed between the two independent groups and the dependent variables. The proportion of total variance that contributed to an effect were: 8% and 4.6% for the ATW and IRMAS scales, respectively. With the exception of the IRMAS

ANCOVA, all of the tests of homogeneity of variances were found to be significant for each ANOVA and ANCOVA (Table 10). A significant difference in the variances does not satisfy one of the assumptions of a one-way ANOVA nor ANCOVA. However, the degrees of freedom for each of the regression tests were large, which indicates a large sample size. The degrees of freedom for IRMAS and ATW were 376 and 375, respectively. Due to a large sample size and because the study included two intact groups, there may be significant differences in variance; however both the ANOVA and ANCOVA tests are known to be robust against violations against homogeneity of variance.

Table 7

*Overall Athlete versus Non-athlete Mean Scores*

Are you an Athlete?		Attitudes Toward Women	Illinois Rape Myth Acceptance Scale
Total Participants		377	378
Yes	Mean	24.2742	47.7647
	N	186	187
No	Mean	27.9476	43.1670
	N	191	191

Table 8

*ANOVA for Each Dependent Variable by Athletic Association*

			Sum of Squares	df	Mean Square	F	Sig.
ATW by Athletic Association***	Between Groups	(Combined)	1271.608	1	1271.608	34.349	.000
	Within Groups		13882.493	375	37.020		
	Total		15154.101	376			
IRMAS by Athletic Association***	Between Groups	(Combined)	1997.413	1	1997.413	18.022	.000
	Within Groups		41673.174	376	110.833		
	Total		43670.587	377			

Note: \*\*\* $p < .0001$

### **Illinois Rape Myth Acceptance Scale Findings among Athletes versus Non-athletes**

A one-way ANOVA was used to see if there was a relationship between athletic association and rape myth acceptance score. The probability of error is less than 0.05 ( $p=0.0001$ ) (Table 8) [ $F(1, 376) = 18.02, p < .05$ ].

An ANCOVA was conducted, per the data analysis plan, subsequent to performing the one-way ANOVA. The ANCOVA (Table 9) controlled for six different covariates: Marlowe-Crowne Social Desirability scale; sexual preference; academic classification; current relationship status; fraternity membership; and age. The only significant variable was the independent variable – athletic association. The p-value was found to be 0.0001 [ $F = 16.706, p < 0.001$ ].

Table 9

*ANCOVA for the Dependent Variable of IRMAS*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2998.618 <sup>a</sup>	7	428.374	3.897	.000
Intercept	7045.391	1	7045.391	64.093	.000
Social Desirability	357.146	1	357.146	3.249	.072
Sexual Preference	16.078	1	16.078	.146	.702
Academic Classification	1.528	1	1.528	.014	.906
Relationship Status	185.899	1	185.899	1.691	.194
Fraternity Membership	66.475	1	66.475	.605	.437
Age	190.537	1	190.537	1.733	.189
Athletic Association***	1836.408	1	1836.408	16.706	.000
Error	40671.968	370	109.924		
Total	824214.801	378			
Corrected Total	43670.587	377			

Notes: \*\*\* p<.0001

a. R Squared = .069 (Adjusted R Squared = .051)

**Attitudes Toward Women Scale Findings among Athletes versus Non-athletes**

A one-way ANOVA was conducted to see if there was a relationship among the two levels of athletic association and the continuous scale score from the Attitudes Toward Women scale. The ANOVA was found to be significant, with a probability of error to be less than 0.05 alpha level (p=0.0001) (Table 8) [F(1, 375) = 34.349, p < .05]. Results from the ANCOVA indicated that two of the six covariates (Marlowe-Crowne Social Desirability scale, sexual preference, academic classification, current relationship status, fraternity membership, and age) that were controlled for were found to be significant (p< .05). The covariates that were found to be significant when testing

whether athletic association had an effect on attitudes toward women were: sexual preference and fraternity membership. The significance levels for these covariates were  $p=0.042$  and  $p=0.037$ , respectively. Athletic association was also found to be significant at  $p$ -value of 0.0001 (Table 10).

Table 10

*ANCOVA for the Dependent Variable of Attitudes Toward Women*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1749.465 <sup>a</sup>	7	249.924	6.880	.000
Intercept	2285.341	1	2285.341	62.910	.000
Social Desirability	99.995	1	99.995	2.753	.098
Sexual Preference*	151.992	1	151.992	4.184	.042
Academic Classification	7.652	1	7.652	.211	.647
Relationship Status	14.464	1	14.464	.398	.528
Fraternity Membership*	159.824	1	159.824	4.400	.037
Age	.884	1	.884	.024	.876
Athletic Association***	1189.719	1	1189.719	32.750	.000
Error	13404.636	369	36.327		
Total	272665.000	377			
Corrected Total	15154.101	376			

Notes: \*  $p < .05$ . \*\*\* $p < .0001$

**Sexual Coercion Subscale Findings among Athletes versus Non-athletes**

Athletic association was used as a predictor in a binary logistic regression test for the dependent variable of the Sexual Coercion Subscale. This was done, instead of an

ANCOVA, because the author of the scale stated in a 2004 scoring manual that the mean should not be assessed as typically 70-90% of a non-clinical population will indicate that they have “never” verbally or physically coerced someone into having sex (Straus, 2004a). Straus (2004a) goes on to say that calculating the mean would lead to skewed results and that prevalence should be considered rather than the mean of the scale. Thus a binary logistic regression and a relative risk calculation were performed in order to investigate the hypothesis that male undergraduate athletes engage in more acts of sexual coercion than male undergraduate non-athletes (Table 11). Six covariates were used in the binary logistic regression: Marlowe-Crowne Social Desirability scale; sexual preference; academic classification; current relationship status; fraternity membership; and age. The covariate “relationship status” was found to be significant in addition to athletic association (Table 11). The chi-squared for the binary logistic regression test was found to be significant [ $X^2(20, 373) = 41.809, p < 0.01$ ]. The relative risk was manually calculated from an SPSS cross tabulation output (Table 12) and found to be 1.436. The relative risk was also calculated in SAS and found to be 1.4329 with a confidence interval of (1.1445, 1.7941). The relative risk then indicates that athletes were 1.43 times more likely to report engaging in sexual coercion as compared to non-athletes. Stated another way, athletes were 43% more likely to report engaging in sexual coercion as compared to non-athletes.

The Sexual Coercion subscale of the Revised Conflict Tactics Scale, was measured according to “ever prevalence” (Straus, 2004a). This score means that one or more sexual coercive acts occurred within the last 12 months or prior (Straus, 2004a).

Respondents were asked to indicate the number of times that seven different types of sexual coercion occurred in the past year or prior (e.g. once, twice, three to five, six to ten, eleven to twenty, twenty or more, or not in the past year, but occurred previously). Any self-reported occurrence of sexual coercion that occurred in the 12 months or prior was given a value of 1, regardless of the frequency. If a study participant indicated that a particular form of sexual coercion had “never” occurred then a score of zero was assigned. Amidst the 379 study participants that were included, the number of times that one or more acts of sexual coercion were self-reported was 395. The frequency amounted to 3,360 acts of verbal and physical sexual coercion. Some of the items from the scale had a higher number of self-reported sexual coercion (Table 13).

A binary logistic regression was also conducted to see if there was a significant difference in sexual coercion between UAA athletes and recreational athletes. There were no significant differences found between the two groups (Table 14). Significant covariates were found for those who identified as being ages 19, 20, and 22. The chi-square for the test was non-significant at  $p=0.065$  [ $X^2(20, 373) = 33.023, p > 0.05$ ].



Table 11

*Binary Logistic Regression for the Dependent Variable of Sexual Coercion*

	B	S.E.	Wald	df	Sig.
Academic Classification			2.284	6	.892
First Year	.485	1.028	.222	1	.637
Second Year	.839	.978	.736	1	.391
Third Year	.612	.941	.423	1	.516
Fourth Year	.341	.937	.132	1	.716
Fifth Year	.187	1.033	.033	1	.856
Sixth Year	.850	1.501	.321	1	.571
Relationship Status*			7.823	2	.020
Single	.585	.768	.580	1	.446
In a Relationship	1.176	.774	2.307	1	.129
Sexual Preference			6.219	3	.101
Women	1.129	.820	1.898	1	.168
Men	-.276	1.049	.069	1	.792
Women and Men	1.268	.966	1.723	1	.189
Fraternity Member			3.532	2	.171
Yes	.472	.864	.298	1	.585
No	-.111	.832	.018	1	.894
Athletic Association**	.591	.226	6.836	1	.009
Age			5.209	5	.391
18	-.792	.761	1.083	1	.298
19	-1.162	.619	3.524	1	.060
20	-.938	.585	2.574	1	.109
21	-.455	.535	.722	1	.395
22	-.739	.539	1.882	1	.170
Social Desirability	.062	.041	2.282	1	.131
Constant	-3.303	1.745	3.586	1	.058

Notes: \* p< .05. \*\*p<.01

Table 12

*Cross tabulation of Sexual Coercion by Athletic Association*

			Athlete	Non-Athlete	Total
SC	Ever	Count	101	72	173
		% of Total	26.9%	19.1%	46.0%
	Never	Count	85	118	203
		% of Total	22.6%	31.4%	54.0%
Total		Count	186	190	376
		% of Total	49.5%	50.5%	100.0%

Table 13

*Sexual Coercion Subscale of the Revised Conflict Tactics Scale Items*

Item Number	Item Statement
1*	I made my partner have sex without a condom
2	I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex.
3	I used force (like hitting, holding down, or using a weapon) to make my partner have sex.
4*	I insisted on sex when my partner did not want to (but did not use physical force).
5	I used threats to make my partner have oral or anal sex
6*	I insisted my partner have oral or anal sex (but did not use physical force).
7	I used threats to make my partner have sex.

*Note:* \* indicates higher frequency of reported sexual coercion

Table 14

*Binary Logistic Regression for the Dependent Variable of Sexual Coercion among Athletes*

	B	S.E.	Wald	df	Sig.
Academic Classification			4.623	6	.593
First Year	1.781	1.836	.942	1	.332
Second Year	1.521	1.799	.715	1	.398
Third Year	.725	1.746	.172	1	.678
Fourth Year	.848	1.709	.246	1	.620
Fifth Year	-.258	1.741	.022	1	.882
Sixth Year	22.048	21376.893	.000	1	.999
Relationship Status			3.829	2	.147
Single	.074	.854	.008	1	.931
In a Relationship	.719	.861	.696	1	.404
Sexual Preference			3.302	3	.347
Women	1.461	1.188	1.512	1	.219
Men	2.423	1.944	1.552	1	.213
Women and Men	.373	1.472	.064	1	.800
Fraternity Member			1.896	2	.387
Yes	1.012	1.039	.948	1	.330
No	.475	.977	.236	1	.627
Age			8.494	5	.131
Eighteen	-2.024	1.358	2.219	1	.136
Nineteen*	-3.022	1.177	6.594	1	.010
Twenty*	-2.556	1.130	5.115	1	.024
Twenty-One	-2.002	1.054	3.609	1	.057
Twenty-Two*	-2.242	1.015	4.883	1	.027
Social Desirability	-.035	.063	.310	1	.578
Athlete Group (UAA vs. Recreational)	-.784	.479	2.681	1	.102
Constant	.495	2.594	.036	1	.849

Note: \*  $p < .05$ .

### **Athletic Aggression among Self-identified Athlete Sample**

The Bredemeier Athletic Aggression Inventory short form was only distributed to those who self-identified as athletes. The Bredemeier Athletic Aggression inventory is comprised of two individual subscales – reactive and instrumental aggression. Each subscale is comprised of 15 items. The reliability of the overall short form and the individual subscales (instrumental and reactive) were analyzed. The overall reliability was 0.838, the instrumental subscale was 0.801, and the reactive subscale was 0.89.

The fifth hypothesis of this study sought to determine if there was a difference in reactive aggression between UAA and recreational athletes. An ANOVA was performed amongst self-identified athletes to determine if athletic association (UAA versus recreational athlete) had an effect on the mean of the outcome variable – athletic aggression. Results of the ANOVA indicated that athletic association did not have a significant effect on the outcome variable ( $p=0.067$ ) (Table 15). An ANCOVA was performed and the results indicated that athletic association was not significant (Table 16). An independent samples t-test was then conducted to compare the differences in means of reactive aggression (a subscale of the Bredemeier Athletic Aggression Inventory) amongst UAA and recreational athletes (Table 17). Reactive aggression, as explained in chapter 1 and 2, has been proposed to be a variable that contributes to injurious behavior towards others (Burns, 2009; Kimble et al., 2010). The mean difference between the groups was found to be 4.14480 and the significance level was 0.016 [ $t(180)= 2.42, p<.05$ ]. The mean of the recreational athletes (40.92) was significantly higher than UAA athletes (36.78) (Table 18).

Table 15

*ANOVA for the Dependent Variable of Athletic Aggression*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	397.038 <sup>a</sup>	1	397.038	3.391	.067
Intercept	481779.895	1	481779.895	4114.648	.000
Athletic Association	397.038	1	397.038	3.391	.067
Error	21076.017	180	117.089		
Total	1013670.000	182			
Corrected Total	21473.055	181			

*Note:* a. R Squared = .018 (Adjusted R Squared = .013)

Table 16

*ANCOVA for the Dependent Variable of Athletic Aggression*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1121.378 <sup>a</sup>	7	160.197	1.370	.221
Intercept	10987.278	1	10987.278	93.938	.000
Social Desirability	406.060	1	406.060	3.472	.064
Sexual Preference	.883	1	.883	.008	.931
Academic Classification	4.650	1	4.650	.040	.842
Relationship Status	186.087	1	186.087	1.591	.209
Fraternity Membership	41.244	1	41.244	.353	.553
Age	1.598	1	1.598	.014	.907
Athletic Association	368.606	1	368.606	3.151	.078
Error	20351.677	174	116.964		
Total	1013670.000	182			
Corrected Total	21473.055	181			

*Note:* a. R Squared = .052 (Adjusted R Squared = .014)

Table 17

*Independent Samples T-Test for the Dependent Variable of Reactive Aggression*

		t-test for Equality of Means						
		t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
REACT	Equal variances assumed	2.422	180	.016	4.14480	1.71105	.76851	7.52110
	Equal variances not assumed	2.087	32.196	.045	4.14480	1.98569	.10105	8.18856

Table 18

*Reactive Aggression Mean Comparisons*

	Athletic Association	N	Mean	Std. Deviation	Std. Error Mean
REACT	Recreational Athlete	155	40.9226	7.90901	.63527
	UAA Athlete	27	36.7778	9.77569	1.88133

## **Chapter Five**

### **Discussion**

The purpose of this research was to assess the beliefs of and attitudes towards sexual violence among self-identified male, undergraduate, athletes and self-identified male, undergraduate, non-athletic students. The primary goal of this research was to test whether or not certain variables that were theorized to be risk factors for sexual violence were more prevalent among male undergraduate athletes, as compared to male undergraduate non-athletes. The secondary goal of this research was to use a multi-level approach to assess and comprehend the previously mentioned theorized variables. The tertiary goal of this research was to find out if accounts of self-reported sexual violence were higher in athletes versus non-athletes. The quaternary goal of this research was to compare the means of reactive and instrumental aggression within the athletic group.

The original intention of the PI was to do a multi-university study which would distribute the same questionnaire to a variety of athletes and non-athletes; however, various scandals, hazing incidents, and other unfortunate events occurred at many different universities within the eastern United States during the seven months of initial recruitment for this study. These series of events at various universities, coupled with the established protective nature of university athletes (Lockhart, 2009; Messner, 2002), restricted the PI from obtaining a wider geographic sample. Thus, the data were collected from one university. Multiple steps were taken to recruit study participants: (a)



announcing the study within multiple classrooms across multiple disciplines; (b) announcing the study weekly through an online newsletter; (c) sending an aggregated e-mail to all those who met the eligibility requirements (male, undergraduate, collegiate students who were currently enrolled and were at least 18 years or older); (d) sending an aggregated e-mail to all eligible UAA athletes; (e) awarding monetary lotteries to 20 study participants. All study participants were categorized by athletic association to compare means among two dependent variables (attitudes towards women and rape myth acceptance). The relative risk of sexual coercion was measured. A secondary stratification was done to compare the means within the group of athletes (recreational versus UAA athletes) among a single dependent variable (reactive aggression).

### **Multi-Level Approach**

Using multiple-level variables and theories is essential to understanding and making significant changes to the prevalence of sexual violence. As discussed in chapter two, there is a causal continuum of proximal, intermediate, and distal factors. Proximal factors are easier to be modified than distal factors. The continuum of factors within this study range from rape myth acceptance (proximal), to reactive aggression and sexual coercion (intermediate), sexual division of power (measured as societal attitudes toward women) (distal). Having knowledge of potential risk factors, significant covariates, high risk populations (e.g., self-identified athletes, fraternity members), and an understanding that proximal factors are more modifiable, will then aid researchers in prioritizing time and resources.

## **Risk Factors of Sexual Violence**

This study analyzed various theorized sexual violence risk factors: attitudes toward women, acceptance of rape myths, and reactive aggression. Since the two comparison groups were selected groups that were not randomly derived, differences in variances between the dependent variables may be expected. The difference is heightened by the large sample size that was achieved. Although some of the homogeneity of variances tests revealed that the variances were significantly different, ANCOVAs and ANOVAs are known to be quite robust. Thus, we felt justified in accepting the findings of the f-tests and rejecting the null hypotheses associated with sexual coercion, rape myth acceptance, and attitudes toward women.

More specifically, male collegiate athletes had a higher mean score of rape myth acceptance as compared to non-athletes. This indicates that the null hypothesis may be rejected in favor of the directional hypothesis, which assumes that there are significant differences between the means of the IRMAS scale, and that they vary according to athletic association (athlete versus non-athlete). The lower Attitudes Toward Women mean score obtained by male athletes shows that this population holds more traditional views on gender roles. This significant difference indicates that we may reject the null hypothesis in favor of the alternative hypothesis – “Male collegiate athletes are more likely to have lower attitudes of women than male non-athletic collegiate students.” A binary logistic regression revealed that there is a significant difference between athletes and non-athletes when it comes to sexual coercion. Athletes had greater likelihood of self-reported verbal and physical sexual coercion. These results suggest that hypotheses 3

and 4 are correct – “Male collegiate athletes are more likely to use verbal sexual coercion tactics than male non-athletic collegiate students” and “Male collegiate athletes are more likely to use physical sexual coercion tactics than male non-athletic collegiate students.” The last scale – Bredemeier Athletic Aggression Inventory – was found to be non-significant for the overall scale. However, the independent samples t-test analyzed the mean scores of the reactive aggression subscale. The results showed that recreational athletes had higher levels of reactive aggression than UAA athletes, thus disproving the fifth hypothesis.

When conducting a binary logistic regression for the dependent variable of sexual coercion and attitudes toward women, there were significant covariates that were found. These covariates were not consistently significant for all regression tests, but rather varied according to the dependent variable. Significant covariates pertaining to sexual coercion will be discussed in the next section (“self-reports of sexual coercion”). The covariates that were found significant for the dependent variable of attitudes towards women were “fraternity membership” and “sexual preference.” The relationship between fraternity membership and lower attitudes towards women is consistent with the literature (Boeringer, 1999; Franklin, 2008; Nurius, P. S., Norris, J., Dimeff, L. A., & Graham, T. L, 1996). Research has also shown that sexual assault has been a part of fostering bonding amongst male-only fraternities (Flood, 2004). Fazio (1977) explains that an individual, who freely chooses to participate in a certain behavior that is different from his /her personal attitude, will later shift his/her attitude to be more accepting of the behavior. Past experiences from male-bonding events among fraternity brothers could

then be revealed through various questionnaires and/or other forms of quantitative and qualitative research. More qualitative and quantitative research should be done on the association between attitudes towards women and sexual preference. It is important to understand the differences in attitudes amongst the various subpopulations as it may have an effect on receptivity towards future interventions. The discovery that level of covariate significance varies according to the dependent variables is imperative for researchers to know and thus should be considered in future research studies. There were no significant covariates for the dependent variables of reactive and instrumental aggression and rape myth acceptance.

### **Self-Reports of Sexual Coercion**

When conducting a binary logistic regression for the dependent variable of sexual coercion, one significant covariate was found. The covariate that was found significant for the sexual coercion subscale was “current relationship status.” The self-reported frequency of sexual coercion was higher for 3 out of the 7 questions on the sexual coercion. The commonality among these three items was the use of verbal sexual coercion (Table 13). Indeed, research shows that verbal sexually coercive acts are viewed as more socially acceptable and are more prominent (Koss et al., 1985; Straus, 2004b). Verbal sexual coercion endangers the welfare of women (DeGue & DiLillo, 2005; Koss et al., 1985). A study by Koss et al. (1995) reported that out of over 1,800 male collegiate students, 22.4% of them had self-identified using less severe sexual coercion tactics (e.g., false promises, threats to end the relationship). The men in the Koss et al. study knew that the women were resistant and thus used extreme verbal pressure (Koss et al., 2005). One

study indicated that 1 in 4 college women reported emotional manipulation by a male partner who verbally coerced them into having sex (Koss, Gidycz, & Wisniewski, 1987). More recent research indicated that 7 in 10 college women reported receiving verbal sexual coercion by male partners that manipulated their emotions in an effort to have sex (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). More research should also be conducted on the relationship between “current relationship status” and incidence and prevalence of sexual coercion.

There was no significant difference in sexual coercion between UAA athletes and recreational athletes (Table 14). This indicates that both populations should be considered for future research and intervention methods. Significant covariates were found for those who identified as being ages 19, 20, and 22. There is no indication from the items of the Sexual Coercion subscale, nor specific literature that supports why there would be a significant difference among these ages. Preventative measures should be conducted for incoming freshmen before they reach these older ages and intervention methods should be targeted at older male collegiate athletes.

### **Reactive Aggression and Athletic Identity**

Overall, there was no significant difference in aggression between recreational athletes and UAA athletes when a composite score of reactive and instrumental aggression was compared. However, the variable of reactive aggression was shown to be higher in recreational athletes than UAA athletes. This finding is the antithesis of hypothesis 5, which predicted that UAA athletes would have higher scores of reactive aggression than recreational athletes. This means that recreational athletes report

engaging in more behaviors that intentionally cause injury or discomfort. This finding may suggest that UAA athletes may exhibit more restraint and are not as affected by perceived threatening situations compared to recreational athletes, or that recreational athletes may have higher levels of displaced anger and thus may be more volatile when placed in threatening situations. Previous research mentioned in chapters one and two illustrate that reactive aggression is a significant factor in predicting injurious behaviors towards potential sexual partners. It would then be beneficial for future research studies to include recreational athletes in studies concerning sexual violence.

### **Fraternity Membership and Athletic Identity**

Both fraternity membership and athletic identity have been theorized in previous studies to be high-risk populations for sexual violence perpetration. In this current study, among the athlete and non-athlete sub-sample, 12% of non-athletes identified as being a member of a fraternity. Among athletes, 20.7% identified as being a fraternity member. Three and a half percent of UAA athletes identified as being a member of a fraternity, while 23.9% of recreational athletes identified as being a member of a fraternity. Having such a large minority of self-identified athletes involved in two protective and isolated cultures that typically degrade women and promote masculinity could lead to an increase in sexual violence perpetration. More research should be done on the prevalence of those who identify as both a fraternity member and an athlete (both UAA and recreational athletes). Research should also be conducted to assess whether those who self-identify as both a fraternity member and athlete have higher rates of self-reported sexual coercion as compared to those who self-identify as being just a fraternity member or just an athlete. It

is also possible that focus groups and/or interventions could be conducted with all-male social fraternity members as a way to reach male collegiate athletes.

### **Strengths and Limitations**

The study had several strengths and limitations. To date there are no published articles focusing on multi-level factors related to sexual violence among self-identified athletes that have also measured sexual coercion prevalence. All studies to date have looked at sexual violence among NCAA athletes alone and have assessed a singular level of social ecological factors. Most of the time the sole variable measured in previous studies has been rape myth acceptance. By including three different social ecological factor levels, science is able to obtain a more comprehensive understanding of contributors to sexual violence amongst this particular population. This study also used multiple theories to assess various risk factors. Another strength of the study, is the inclusion of self-reported prevalence and chronicity of sexual coercion, and documentation of covariates that significantly affect sexual coercion. The study also reported the covariates that could significantly impact attitudes toward women. This inclusion of data significantly helps the dearth of research concerning sexual violence among college athletes. Use of proven scales and assessment of reliabilities were also strengths of this study. Finally, the attainment of a large sample size and sufficient power enabled the researcher to thoroughly examine the study outcomes.

A major limitation to this study was a lack of random selection, due to the fact that this study intended to compare mean differences among two self-selected groups. This limitation led to increased variances among the two populations (athletes versus non-athletes). The lack of randomization also affects the generalizability of the results.

Another limitation to this study is that it could not use various techniques under the Dillman method, such as prepaid incentives and personalized e-mails. Prepaid incentives have been shown to be very effective and yield higher participation rates (Dillman et al., 2009), but were not utilized due to limited contact information. Personalized e-mails were not sent out to the athletes as e-mail addresses were not available until the closing period of the study and the PI had already opted for e-mails to be sent through the registrar's office. In an effort not to oversaturate respondents within a two week period, personalized e-mails were not distributed. An additional limitation is that the Sexual Coercion subscale of the Revised Conflict Tactics Scale only measures sexual violence within relationships. Each item asked the study participant to self-report how many times he had coerced a "partner" into some form of sex. The term "partner" could have been perceived as a steady romantic partner or sexual partner, but it may exclude those who have previously engaged in sexual coercion outside of a relationship. Additionally, the number of UAA athletes that participated in the study was small (n=29), relative to the number of recreational athletes (n=159), so it is important to be cautious in drawing conclusions between the two groups of athletes. Lastly, this study analyzed cross-sectional data and thus causality of findings cannot be demonstrated.

### **Feasibility of Conducting Future Studies with this Population**

The feasibility of future studies depends on the level of cooperation amongst the individual UAAs. If UAAs are not in place, then the respective athletic coaches should be contacted. The level of receptivity from the UAA/coaches, will determine the data collection procedure. Researchers should be aware that gaining access to collegiate



athletes in order to conduct a study on sexual violence is very difficult, which contributes to the dearth of literature (Sawyer et al., 2002). Once the clearance has been issued by the IRB, it is important to alert the athletes to the study either by e-mail or in a classroom setting, so that they are aware of the study. Athletes will be more likely to open an e-mail or access a link through a newsletter to take the online survey if they have had prior knowledge of the research study. The principal investigator purposefully selected classes that had athletes in them and announced the study in those select classes. In order not to acquire students within just one particular college, e-mails were sent through the campus newsletter and registrar's office. Leaders of various student groups and academic listservs were also asked to send out e-mails announcing the study. Including key student and faculty leaders is important as the rapport of the students and/or faculty in charge of each classroom/department will increase the likelihood of students participating and completing the questionnaire.

Internet surveys are another important aspect to data collection as it allows athletes with busy schedules the opportunity to take the questionnaire at their leisure. There are many benefits to utilizing an online questionnaire such as automated data-collection, cost-effective measures, and ease for the research participants. Allowing students to take the questionnaire online as opposed to administering it in a collective setting also ensures that any form of social desirability is at a minimum. Even with this preventative measure, the researcher should include a social desirability scale within the questionnaire. In addition, budgets should be thoroughly analyzed and adjusted so that incentives may be distributed amongst the research participants. Personalized e-

mails/letters should also be used to optimize response rates (Dillman et al., 2009). Lastly, future studies should clearly define in the questionnaire what constitutes an “athlete,” as this will have a large impact on their results. Among the self-identified group of athletes in this study were those who played for the university, those who were involved in intramural sports, and those who competed regularly outside of the university.

### **Future Directions for Research**

Although this study has the potential to contribute to the field, there is much to be examined in the research arena of sexual violence among athletes. Future studies should include recreational athletes as it has been shown in this study that athletic identity contributes towards reactive aggression, rape myth acceptance, attitudes towards women, and physical and verbal sexual coercion. Because athletic identity is a contributing factor, the rates of sexual violence should be considered among athletes who attend community colleges as well, as this population has also been understudied. Similarly to athletes at a four-year institution, some compete recreationally and some compete with hopes of transferring to a four-year institution and later being drafted into a professional athletic team. Longitudinal studies should be conducted that assess the initial beliefs and attitudes among this population and then compare the attitudes among the athletes that do transfer to four-year institutions to the athletes that do not. Studies of this nature could measure the potential effect that the competitive and protective culture of athletics at four-year institutions may have on athletes that transfer from community colleges. Future studies should continue to assess multiple factor-level variables in order to achieve an understanding of the impacts of these variables and to be able to prioritize intervention

efforts. Future studies should also assess the secondary risk factors that were mentioned in this study: masculine discourse; alcohol use; and drug use. The use of alcohol at unsupervised events has been shown in previous research to contribute to violence and coercion (Burns, 2009). Alcohol use could also contribute to misperceptions of sexual advances, which may lead to sexual coercion or sexual assault (Farris, Treat, Viken, & McFall, 2008). Future interventions should include ways to diminish “less severe” sexual coercion (DeGue & DiLillo, 2005), as this type of sexual coercion seems to have very high rates. This may be done by educating both male and female college students on what constitutes sexual coercion and advice on how to avoid pressuring others and also what to do if you feel pressured.

A minimum of previously mentioned covariates should be included in future research as there are clear significant impacts on the variables of interest. These covariates are: social desirability, age, sexual preference, fraternity membership, current relationship status, and academic classification. Future research should also conduct longitudinal studies to examine whether incoming collegiate men with low attitudes towards women self-seek fraternities and athletic teams or if fraternities and athletic teams solely contribute to these pronounced beliefs and attitudes. As the U.S. Department of Education has suggested (Ali, 2011), sexual violence interventions are needed for male athletes and their coaches. Semester workshops could also be conducted to educate athletes on potential risk factors of committing sexual violence, mindfulness of sexual intent misperceptions, the effect of alcohol and drugs, and also to empower athletes to utilize bystander intervention methods. This should be conducted at both the high school

and collegiate levels. Finally, the inclusion of social capital should be considered for these future interventions. According to Glanz et al. (2008), social capital is defined as “relationships between community members including trust, reciprocity, and civic engagement (p. 294). By building strong accountability within the athletic community and bridging these sports with the rest of the academic community, the risk and rate of sexual violence may decrease. More research on beliefs of and attitudes towards and rates of sexual violence is needed in order to make meaningful contributions to university policies and practice issues focused on intervention and prevention.

### **Conclusion**

Sexual violence is a criminal behavior that can be stopped. Sexual violence is a choice on the part of one individual. Its roots lie deep within social norms and patriarchal structures world-wide. Sexual violence continues to run rampant because of dormant conversations and actions on the part of various built environments. By investigating the attitudes and beliefs of a communal population who is reportedly prone to such violence, researchers everywhere maybe able to create interventions and programs which address the overarching problem.

This study sought to use a comprehensive approach to understand what pertinent variables cause athletes to be more prone to sexual violence. By measuring rape myths, sexual division of power, reactive aggression, and sexual coercion, research is able to pinpoint or refute these concepts and constructs. By reporting this study’s findings, the scarcity of published literature on sexual violence will be enhanced as there are minimal empirical studies which assess the beliefs and attitudes towards sexual violence among

self-identified athletes. The use of the social cognitive theory, the theory of gender and power, and the theory of planned behavior have the potential to address fundamental contributors of sexual violence that impact our collegiate populations.

The future decline in the rates of sexual violence on collegiate campuses is contingent upon more research among athletes and collegiate males. More research will enable sound intervention plans and subsequent environmental changes on college campuses. Research may also bring about effective intervention programs for all collegiate and adolescent athletes – as it has been proven that athletes often enter universities with an established hypermasculinity attitude (Anderson, 2009). It is also imperative to target the head coaches of adolescents and collegiate athletic programs (Ali, 2011). The coaches of these programs may also hold these ingrained views.

By conducting this study, important knowledge has been added to a scarce amount of literature. Though there continue to be barriers to accessing UAA collegiate athletes, many important factors have been discovered through this study (e.g., athletic identity, significant covariates, importance of including multiple ecological levels). As the results indicate, this study has yielded empirically based findings that may be used as foundation for future interventions to potentially thwart sexual violence among a large population of self-identified athletes.

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## Appendix

### Additional Tables

Table A1

*Illinois Rape Myth Acceptance Scale – Short Form*

The Illinois Rape Myth Acceptance Scale – Short Form (Payne et al., 1999)	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A woman who is raped while she is drunk is at least somewhat responsible.	1	2	3	4	5
Although most women wouldn't admit it, they generally like being physically forced to have sex.	1	2	3	4	5
If a woman is willing to "make out" with a guy, then it's no big deal if he goes a little further and has sex with her.	1	2	3	4	5
Many women secretly desire to be raped.	1	2	3	4	5
If a woman doesn't physically fight back, you can't really say that it was rape.	1	2	3	4	5
Men from nice middle-class homes almost never rape.	1	2	3	4	5
Rape accusations are often used as a way of getting back at men.	1	2	3	4	5
Usually, only women who dress sexy are raped.	1	2	3	4	5
If the rapist doesn't have a weapon, you really can't call it a rape.	1	2	3	4	5
Rape is unlikely to happen in a woman's own neighborhood.	1	2	3	4	5
Women tend to exaggerate how much rape affects them.	1	2	3	4	5

Table A1 Continued.

A lot of women lead a man on and then they cry rape.	1	2	3	4	5
A woman who "teases" men deserves anything that might happen.	1	2	3	4	5
When women are raped, it's often because the way they said "no" was unclear.	1	2	3	4	5
Men don't usually intend to force sex on a woman, but sometimes they get too sexually carried away.	1	2	3	4	5
A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.	1	2	3	4	5
Rape happens when a man's sex drive gets out of control.	1	2	3	4	5
Most rape and sexual assaults are committed by strangers.	1	2	3	4	5
In Illinois, a 15 year-old can give consent to have sex.	1	2	3	4	5
If someone came to me and claimed that they were raped, my first reaction would be to not believe them.	1	2	3	4	5

Table A2

*Attitudes Toward Women Scale*

Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973)	Strongly agree	Agree	Disagree	Strongly disagree
Swearing and obscenity are more repulsive in the speech of a woman than a man.	1	2	3	4
Under modern economic conditions with women being active outside of the home, men should share in household tasks such as washing dishes and doing laundry.	1	2	3	4
It is insulting to women to have the "obey" clause remain in the marriage service.	1	2	3	4
A woman should feel as free as a man to propose marriage.	1	2	3	4
Women should worry less about their rights and more about becoming good wives and mothers.	1	2	3	4
Women should assume their rightful place in business and all the professions along with men.	1	2	3	4
A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.	1	2	3	4
The intellectual leadership of a community should be largely in the hands of men.	1	2	3	4
Women should be given equal opportunity with men for apprenticeship in the various trades.	1	2	3	4
Women earning as much as their dates should bear equally the expense when they go out together.	1	2	3	4
Sons in a family should be given more encouragement to go to college.	1	2	3	4
In general, the father should have greater authority than the mother in the bringing up of the children.	1	2	3	4
Economic and social freedom is worth far more to women than acceptance of the ideal femininity which has been set up by men.	1	2	3	4
There are many jobs in which men should be given preference over women in being hired or promoted.	1	2	3	4

Table A3

*Bredemeier Athletic Aggression Inventory-Short Form*

Bredemeier Athletic Aggression Short Form (Bredemeier, 1975)	Strongly disagree	Disagree	Agree	Strongly Agree
I am usually unaware of angry feelings when I compete.	1	2	3	4
During an athletic performance I am often more irritated than people may think.	1	2	3	4
I enjoy frustrating my opponent.	1	2	3	4
When things go wrong in a game, I do not tend to take it out on my opponent.	1	2	3	4
I relish picking my opponent apart piece by piece until the individual has nothing left.	1	2	3	4
When I have an opponent down, I delight in keeping him down.	1	2	3	4
When my opponent gets the best of me, I often get mad enough to throw something.	1	2	3	4
At times I cannot control my urge to harm an opponent.	1	2	3	4
At times I am surprised by my anger toward an opponent.	1	2	3	4
When the unexpected happens in a contest, I always adjust without becoming irritated.	1	2	3	4
I am usually calm and poised before participating in an athletic event.	1	2	3	4
It is easier for me to compete against an opponent that I do not know personally.	1	2	3	4
Performing well is more important to me than the satisfaction that I get from beating somebody.	1	2	3	4
It does not take much to upset me in an athletic contest.	1	2	3	4
There have been times when I have “rubbed it in” after I have done something well, or my rival has done something poorly.	1	2	3	4
You have to punish people if you want to win.	1	2	3	4
When my coach doesn’t treat me right, I can feel resentment build up inside me.	1	2	3	4

Table A3 Continued.

I generally feel better when I keep my emotions under control and concentrate solely on my performance.	1	2	3	4
I usually do not withdraw from my teammates after frustrating competitive experiences.	1	2	3	4
Seldom is my opponent able to pressure me into making an error.	1	2	3	4
There have been times, in the heat of competition, when I have become aware of another side of me that I didn't realize existed.	1	2	3	4
I have never had a temper tantrum in a competitive sport situation.	1	2	3	4
During competition, I more often go into an inner shell to listen to my own voice than listen to the outside noise.	1	2	3	4
A winner is someone whose performance is completely detached from emotional responses to other people.	1	2	3	4
I like to compete because I can take my frustrations out on my opponent in a sport event.	1	2	3	4
My anger against officials seldom goes unchecked.	1	2	3	4
It is easier for me to get psyched up for a competitive situation by thinking negative thoughts about my rival.	1	2	3	4
I have never intensely disliked my opponent.	1	2	3	4
I have never felt any desire to harm my opponent.	1	2	3	4
I am aware of my opponent only for the sake of strategy.	1	2	3	4

Table A4

*Sexual Coercion Subscale*

Sexual Coercion Subscale (Straus, 1996)	Once	Twice	3-5 times	6-10 times	11-20 times	More than 20 times	Not in the past year, but has happened before	Never
I made my partner have sex without a condom	1	2	3	4	5	6	7	0
I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex.	1	2	3	4	5	6	7	0
I used force (like hitting, holding down, or using a weapon) to make my partner have sex.	1	2	3	4	5	6	7	0
I insisted on sex when my partner did not want to (but did not use physical force).	1	2	3	4	5	6	7	0
I used threats to make my partner have oral or anal sex	1	2	3	4	5	6	7	0



Table A4 Continued.

I insisted my partner have oral or anal sex (but did not use physical force).	1	2	3	4	5	6	7	0
I used threats to make my partner have sex.	1	2	3	4	5	6	7	0

Table A5

*Marlowe - Crowne Social Desirability Scale Short Form C*

Marlowe-Crowne Social Desirability Scale Short Form C (Marlowe & Crowne, 1964; Reynolds, 1982)	True	False
It is sometimes hard for me to go on with work if I am not encouraged.	1	2
I sometimes feel resentful when I do not get my way.	1	2
On a few occasions I have given up doing something because I thought too little of my ability.	1	2
There have been times when I felt like rebelling against people in authority even though I knew they were right.	1	2
No matter who I am talking to, I am always a good listener.	1	2
There have been occasions when I took advantage of someone.	1	2
I am always willing to admit it when I make a mistake.	1	2
I sometimes try to get even than to forgive and forget.	1	2
I am always courteous, even to people who are disagreeable.	1	2
I have never been irked when people expressed ideas very different from my own.	1	2
There have been times when I was quite jealous of the good fortunes of others.	1	2
I am sometimes irritated by people who ask favors of me.	1	2
I have never deliberately said something that hurt someone's feelings.	1	2

Table A6

*Demographic Questions*

What is your age (in years)?	Fill in the blank						
What is your Major?	Fill in the blank						
What is your Academic Classification?	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth or more	Prefer not to disclose
What is your current Relationship Status?	Single	In a relationship					
What is your Sexual Preference?	I like to have sex with women	I like to have sex with men	I like to have sex with men and women	Prefer not to disclose			
Are you a member of a Fraternity?	No	Yes					
What is your Race/Ethnicity ? (You may pick more than one)	Caucasian American / White	African American/ Black	Hispanic or Latino	American Indian/ Alaskan Native	Native Hawaiian/ Pacific Islander	Asian	
Are you an Athlete?	No	Yes					

Table A6 Continued.

Do you play recreational or a University Athletic Association Sport?	Recreational (i.e., I play recreational sports through USF Rec)	UAA Sport (i.e., I play for USF)					
Length of Recreational Sport Involvement (in semesters)	Fill in the blank						
Recreational Sport? (please list all)	Fill in the blank						
How long have you played an UAA sport for USF? (in semesters)	Fill in the blank						
Did you transfer from another university/college where you played the same sport?	No	Yes					
What USF Sport do you play? (please list all if more than one)	Fill in the blank						

What is your position in that sport?  (please list all if more than one)	Fill in the blank						
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