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**AN EVALUATION OF DATING VIOLENCE RISK FACTORS FOR DIVISION  
III STUDENT-ATHLETES**

by

Nicole Cantor

A Thesis

Submitted to the  
Department of Psychology  
College of Science and Mathematics  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Clinical Psychology  
at  
Rowan University  
May 15, 2018

Thesis Chair: DJ Angelone, Ph.D., and Meredith Joppa, Ph.D.

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## **Dedications**

I would like to dedicate this manuscript to my ever-supportive mother and father.

## **Acknowledgments**

This project would not have been possible without the endless amounts of support and guidance from both Dr. DJ Angelone and Dr. Meredith Joppa. Their unwavering commitment to shaping me into the best researcher I can be has left me with more gratitude than I can express. To both of you, thank you.

## **Abstract**

Nicole Cantor

### **AN EVALUATION OF DATING VIOLENCE RISK FACTORS FOR DIVISION III STUDENT-ATHLETES**

2017-2018

DJ Angelone, Ph.D., and Meredith Joppa, Ph.D.  
Master of Arts in Clinical Psychology

College students are at particular risk for dating violence (DV) perpetration and victimization. One group of college students who may be at increased risk is college student-athletes. Currently, no information exists on the dating and relationship behaviors of both male and female Division III student-athletes. The current study looks to identify both the frequency of DV perpetration and victimization among men and women along with specific risk factors for DV perpetration and victimization. We hypothesize that hazardous drinking and hostile sexism may be risk factors for DV perpetration and victimization among men and women. Among men, both hostile sexism and hazardous drinking were predictive of DV perpetration and victimization. Among women, hazardous drinking was predictive of DV perpetration while both hazardous drinking and hostile sexism were predictive of DV victimization. These findings may serve as an important first step in identifying behaviors that contribute to DV among student-athletes, and can be used to inform future prevention interventions aimed at decreasing DV among student-athletes.

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## **Chapter 1**

### **Introduction**

Dating violence (DV) is estimated to occur in up to 45% of dating relationships (Pederson & Thomas, 1992) and can be defined as the victimization or perpetration of physical violence, sexual violence, threats of physical or sexual violence, stalking, and psychological aggression against a dating partner in a dating relationship (Black et al., 2011; Breiding, Basile, Smith, Black, & Mahendra, 2015; Niolon et al., 2017). Dating partners perpetrate the majority of female rape at 51.1%, while dating partners perpetrate 44.8% of male rape by forcing their partner to penetrate them (CDC, 2012). Additionally, approximately 35% of women and 28% of men in the United States have reported victimization of some form of DV in their lifetime (Black et al., 2011), with nearly half of all women and men experiencing psychological aggression by a dating partner (Niolon et al., 2017; Smith et al., 2017). In terms of perpetration, estimates that up to one third of women and nearly half of men have perpetrated dating violence within a relationship (Straus, 2008). Together, over 80% of young men and women have either perpetrated or experienced DV (Smith, White, & Moracco, 2009).

One population highly susceptible to DV perpetration and victimization is young adults, defined as the developmental period between adolescence and adulthood (Arnett, 2000; Munsey, 2006). In fact, 47% of women and 38% of men first experience DV between the ages of 18 and 24 (Black et al., 2011). Many young adults attend colleges or universities immediately following high school (Arnett, 2000; Bianchi & Spain, 1996). As such, college students serve as an important and often representative sample of young adults. Further, DV is more prevalent among college-aged couples than any other age

group (Karakurt & Keiley, 2013) with estimates of DV within a college population ranging between 10 to 50% (Harned, 2002; Mulford & Giordano, 2008).

National Collegiate Athletic Association (NCAA) student-athletes are one subgroup of college students who may be at particular risk for DV. Student-athletes are overrepresented as perpetrators in incidents of sexual assault reported to campus judicial affairs (Crosset, Ptacek, McDonald, & Benedict, 1996). Student-athletes also exhibit high rates of dating aggression, which includes sexually, psychologically, and physically aggressive behaviors towards a dating partner (Chandler, Johnson, & Carroll, 1999; Forbes, 2006). Finally, student-athletes have reported a greater likelihood than non-athletes to have fondled someone of the opposite sex against their will, and having forced sex with someone of the opposite sex (Chandler et al., 1999). These behaviors, often associated with sexual violence outside of dating relationships, may be indicative of student-athletes increased risk for DV perpetration.

It is important to note however, that research on student-athletes' dating behaviors is sparse. What research does exist focuses exclusively on Division I student-athletes and concerns men as perpetrators and women as victims. In addition, these data do not provide prevalence rates or specific risk factors for DV victimization and perpetration for both male and female student-athletes at any NCAA competition level. Given that prevalence rates and risk factors for DV appear to vary by gender, this represents a gap in the literature (Cercone, Beach, & Arias, 2005; Kaukinen, Gover, & Hartman, 2012; Makepeace, 1981). Some researchers report higher rates of victimization among college women than men and higher rates of perpetration for college men than women, while others report similar rates of perpetration among college men and women (Cercone et al.,

2005; Follette & Alexander, 1992; Foshee & Matthew, 2007; Makepeace, 1981). More recent work suggests college women perpetrate DV more than men (Kaukinen et al., 2012). To date, no study has investigated gender differences in the rates of perpetration and victimization of DV among student-athletes.

As described above, the majority of research on student-athletes has focused on Division I student-athletes, despite potential differences between intercollegiate divisions. Division I student-athletes often maintain a focused and physically demanding lifestyle while employing a “win-at-all-costs” mentality, which may lead to greater levels of aggression, dominance, and hyper-masculinity for men both on and off the field (Jackson & Davis, 2000). In contrast, Division II and III student-athletes are hypothesized to be more similar to non-athletes than to Division I athletes. Division II and III student-athletes are not afforded the same privileges as Division I student-athletes; they do not enjoy the same tuition, room and board, tutoring opportunities, and medical care (Jackson & Davis, 2000). As such, Division II and III student-athletes are under less pressure to prioritize their athletic responsibilities and win at all costs. Unfortunately, there is a paucity of data on DV involvement among Division II or Division III student-athletes, despite Division III schools representing 41% of NCAA institutions.

In addition to understanding prevalence rates, identifying specific risk factors for DV among student-athletes could assist in minimizing this population’s risk for DV perpetration and victimization. An examination of the factors that increase risk for DV among NCAA Division III student-athletes has the potential to inform a targeted intervention aimed at reducing DV and promoting healthy relationships for student-athletes. The research literature on DV has hypothesized several risk factors relevant to

college-students. The current study proposes that hazardous drinking and hostile sexism, two risk factors for DV among college-students, are risk factors for DV among Division III student-athletes.

Alcohol use is a known risk factor for both DV perpetration and victimization among college students (Kaukinen, 2014). Drinking alcohol prior to a sexual act is associated with greater likelihood of DV given alcohol's impact on a potential victims' ability to resist unwanted sexual advances (Gidycz et al., 2007). Alcohol can also prevent potential victims from interpreting warning signs of an assault while diminishing a perpetrator's understanding of consent (Gidycz et al., 2007). Also, perpetrators often use alcohol as a justification or excuse for violent behavior such as DV (Koss & Cleveland, 1997). In addition, hazardous drinking, a form of problem-drinking behavior, is consistently associated with DV (Kaufman Kantor & Straus, 1990; Shorey, Stuart, & Cornelius, 2011).

Of particular concern is that college students engage in greater levels of hazardous drinking and are more frequently intoxicated than their non-college counterparts (Schulenberg et al., 2017), thus potentially exacerbating their risk for DV. College students consume large quantities of alcohol and are at risk for both alcohol use disorders and negative consequences associated with their alcohol use, more so than their non-college peers (Shorey, Brasfield, Zapor, Febres, & Stuart, 2015). With regard to student-athletes, both men and women are likely to engage in hazardous drinking (Green, Nelson, & Hartmann, 2014). Further, male student-athletes sometimes exhibit high rates of alcohol use in conjunction with sexual risk behaviors associated with DV, such as condomless sex and having multiple sexual partners (Grossbard, Lee, Neighbors,

Hendershot, & Larimer, 2007; Locke & Mahalik, 2005). Overall, student-athletes have a propensity to engage in high rates of alcohol use, a known risk factor for DV perpetration and victimization among college students (Gidycz, Warkentin, & Orchowski, 2007; Grossbard et al., 2007). Taken together, these findings suggest that hazardous drinking may serve as an important risk factor for DV perpetration and victimization among student-athletes.

In addition to hazardous drinking, several attitudinal risk factors are associated with DV perpetration and victimization (for a review, see Capaldi, Knoble, Shortt, & Kim, 2012). For example, hostility toward women is known to predict DV perpetration against women (Abbey, Jacques-Tiura, & LeBreton, 2011). Another attitudinal risk factor for DV is sexism. Recently, sexism has been identified as one of the most important predictors of DV (Ibabe & Elgorriaga, 2016). Ambivalent sexism, defined as the simultaneous existence of male structural power and female dyadic power, consists of both hostile sexism and benevolent sexism (Glick & Fiske, 1997). Hostile sexism represents sexism that fits the definition of prejudice. Individuals who endorse hostile sexism believe women are inferior, and therefore do not deserve respect (Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016). Benevolent sexism represents subjectively positive reactions towards women that maintain restricted roles (Glick & Fiske, 1996). Individuals who endorse benevolent sexism have a stereotypical view of women and believe women are weak and should be protected (Morelli et al., 2016). Endorsing hostile sexism contributes to a more positive attitude toward DV perpetration and victimization, whereas endorsing benevolent sexism may protect against DV perpetration (Valor-Segura, Expósito, & Moya, 2008, 2011). Previously, hostile sexism

has been associated with the justification of DV following an act of betrayal (Forbes et al., 2005). Ultimately, hostile sexism serves as an important risk factor for DV perpetration and victimization as it enforces an unequal balance of power between men and women, leaving men feeling entitled to exerting dominance over their partner. Currently, hostile sexism is recognized as a risk factor for DV among college students (Forbes, Jobe, White, Bloesch, & Adams-Curtis, 2005; Lisco, Parrott, & Tharp, 2012).

In regard to student-athletes, it is possible that hostile sexism increases risk for DV. Student-athletes are more likely to endorse beliefs that are reflective of a rape-supportive culture than non-athletes (Boeringer, 1996, 1999; Crossett et al., 1996; Forbes, 2006; Frintner & Rubinson, 1993). In rape-supportive cultures, the victim is typically blamed, while the perpetrator is exonerated or their actions justified (Bieneck & Krahe, 2011; Sizemore, 2013). Rape-supportive cultures often foster sexist beliefs, the acceptance of violence, hostility towards women, and rape myths (Boeringer, 1996, 1999; Crossett et al., 1996; Forbes, 2006; Frintner & Rubinson, 1993). Such beliefs help individuals make sense of victimization, to facilitate the belief that “this won’t happen to me.” In terms of perpetration, sexist beliefs are often predictive of DV (Morelli et al., 2016). This may be reflected in student-athletes given their likelihood to endorse the acceptance of violence, rape myths, hostility toward women, and sexist beliefs as compared to non-athletes (Boeringer, 1996, 1999; Crossett et al., 1996; Forbes, 2006; Frintner & Rubinson, 1993). It is therefore reasonable to hypothesize that student-athletes’ endorsement of hostile sexism may be predictive of the frequency of DV perpetration and victimization.

To understand how to prevent DV victimization and perpetration among Division III intercollegiate athletes, the frequency and prevalence of DV, type of DV (victimization, perpetration, or both), and risk factors for DV must be made known. Therefore, the current study aims to 1) identify the prevalence and frequency of DV perpetration and victimization among men and women within a sample of Division III student-athletes, and 2) evaluate if hazardous drinking and hostile sexism act as risk factors that may predict the frequency of DV victimization and perpetration within this population. We hypothesized that hazardous drinking and hostile sexism would predict the frequency of DV victimization and perpetration among men and women.

## Chapter 2

### Methodology

#### Participants

Participants included intercollegiate student athletes within a public NCAA Division III university in the northeastern U.S. with an undergraduate student enrollment of approximately 15,000. Our final sample consisted of 350 student athletes (53.1% male and 45.4% female, 0.9% preferred not to say, 0.6% did not answer) from 16 sports teams (7 male teams and 9 female teams). These teams included football, men's and women's track and field, field hockey, men's and women's soccer, men's and women's swimming and diving, men's and women's cross country, baseball, men's and women's basketball, volleyball, softball, and women's lacrosse. The mean age was 19.5 ( $SD = 1.26$ , range 18-25) and the majority of the sample were freshman (31.1%,  $n = 109$ ), followed by sophomores (28.6%,  $n = 100$ ), juniors (24.9%,  $n = 87$ ), and seniors (12.0%,  $n = 42$ ), while 3.4% did not report their academic year ( $n = 12$ ). The sample was predominantly White (78.3%,  $n = 274$ ), followed by Black or African American (16.9%,  $n = 59$ ), American Indian or Alaska Native (1.1%,  $n = 4$ ), and Native Hawaiian or Pacific Islander (.6%,  $n = 2$ ). Within our sample, 8% ( $n = 28$ ) identified as "Other," 4.9% ( $n = 17$ ) identified as multi-racial, and 0.6% ( $n = 2$ ) preferred not to identify their race. Given the small sample sizes of participants who identified as other than White, those participants were grouped together as Non-White for subsequent analyses. In terms of ethnicity, the majority of our sample identified as Non-Hispanic (81.4%,  $n = 285$ ) followed by Hispanic (8.3%,  $n = 29$ ), while 7.7% ( $n = 27$ ) preferred not to identify their ethnicity and 2.6% ( $n = 9$ ) of participants did not answer. The majority of our sample identified as



heterosexual (94%,  $n = 329$ ), followed by bisexual (3.1%,  $n = 11$ ) and homosexual (1.4%,  $n = 5$ ). Within our sample 0.6% ( $n = 2$ ) preferred not to indicate their sexual orientation and 0.9% ( $n = 3$ ) of participants did not answer. Finally, 64% ( $n = 224$ ) of participants were in a relationship while 36% ( $n = 126$ ) were not.

## **Procedure**

We administered surveys during the Fall 2016 and Spring 2017 semesters. Surveys assessed the frequency of DV perpetration and victimization and measured engagement in or endorsement of our hypothesized risk factors in a sample of NCAA Division III student-athletes. Coaches described the project to all students in advance and coordinated with our research assistants to find a time and date for their team to be surveyed. Research assistants attended team meetings to oversee the distribution of the survey packets and complete the informed consent process. Team coaches left the room during the informed consent and survey administration process to protect student confidentiality. After collecting the informed consent forms, each student-athlete received either a survey packet or an alternate packet based on the student-athlete's decision to participate or not. Student-athletes who did not wish to participate were given an alternate packet. This packet included material such as puzzles and word games, and minimized the risk of teammates and coaches knowing who did and did not participate.

## **Measures**

**Sociodemographics.** We obtained sociodemographic information through the use of eight questions about gender, sexual orientation, age, academic year, race, ethnicity, relationship status, and team membership.

**Revised Conflict Tactics Scale.** The Revised Conflict Tactics scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) measures the use of sexual coercion, injury, physiological aggression, and physical attacks in dating relationships in addition to the ability to use reasoning or negotiation when dealing with conflicts through 39 items. First, items of greater social acceptability are presented, such as “discussing something calmly.” Items then become more severe, and end with engaging in “physical assault using a knife or a gun.” There are two subscales measuring levels of severity of sexual coercion, injury, psychological aggression, and physical attacks: minor and severe. The negotiation scale is broken into two subscales: cognitive and emotional. The CTS2 asks about chronicity (from once to more than 20 times) of behaviors within the past year. Items are typically scored by determining the prevalence of the behavior, followed by the chronicity or frequency (Straus, 2004). Prevalence scores are dichotomous and identify if the participant has ever perpetrated DV or experienced DV victimization (yes or no). The chronicity score is the sum of the number of times dating partners used each act by those who used at least one of the acts in a scale. Frequency scores, the most common method for scoring the CTS2, measure the average amount of DV perpetration and victimization in the past year and are obtained by taking the midpoint for each response (Straus, Hamby, & Warren, 2003). These midpoints, from both the minor and severe subscales, are then added for each scale to capture the average amount of a particular behavior occurring within a relationship. Two items were not included in the CTS2 in the current study: one from the cognitive subscale of the negotiation scale and another from the minor subscale of the physical aggression scale. The missing item from the cognitive subscale of the negotiation scale asked “I suggested compromise to an

argument” and the missing item from the minor subscale of the physical assault scale asked “I pushed or shoved my partner.” To account for these missing items, an average score was generated for each participant based on their responses to the other items within the subscale. Because this study is interested in DV as defined by the victimization or perpetration of physical violence, sexual violence, threats of physical or sexual violence, stalking, and psychological aggression, the frequency scores from the physical assault, sexual coercion, injury, and psychological aggression subscales were combined into two separate composite scores for DV perpetration or victimization (Straus, 2004). Reports on the internal consistency of the CTS2 subscales vary, with Cronbach’s alphas ranging from .34 to .92 (Straus et al., 1996). The present sample demonstrated strong internal consistency with  $\alpha = .93$  for items relating to behavior done to a partner, and  $\alpha = .92$  for items relating to behavior a partner did to the participant.

**Ambivalent Sexism Inventory.** The Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996) is a 22-item self-report measure of sexist attitudes. The ASI contains two subscales, comprised of 11 items each, which assess hostile and benevolent sexism. The current study is only interested in hostile sexism, which encompasses the belief that women are inferior to men and unworthy of respect, but worthy of subservience and domination by men. An example item measuring hostile sexism is “once a woman gets a man to commit to her, she usually tries to put him on a tight leash.” Items are measured on a six-point Likert scale ranging from zero (disagree) to five (strongly agree) and averaged to create a mean score. Higher scores represent greater endorsement of hostile sexism. The hostile sexism subscale of the ASI demonstrates good Cronbach’s alpha

coefficients ranging from .80 to .92 (Glick & Fiske, 1996). Within the current sample, the hostile sexism subscale demonstrated good internal consistency ( $\alpha = .79$ ).

**Alcohol Use Disorders Identification Test.** The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993) is a 10-item measure of harmful and hazardous alcohol use. The AUDIT covers the domains of alcohol consumption, drinking behavior, adverse reactions to drinking, and alcohol related problems. Each item asks for either the frequency or amount of the behavior, with scores for each item ranging from zero to four. Answers to all 10 items vary, with some answers ranging from never to four or more times a week and others ranging between never to daily or almost daily when assessing for frequency. Questions regarding the quantity of alcohol intake have answers that range from one or two drinks to 10 or more drinks. A hazardous drinking score on the AUDIT is represented by a score of eight or above. The AUDIT demonstrates a range of internal consistency with alphas ranging from 0.40 to 0.83 (Saunders et al., 1993). In the present sample, the AUDIT demonstrated good internal consistency ( $\alpha = .82$ ).

## **Chapter 3**

### **Results**

#### **Analysis Strategy**

To begin, we obtained prevalence and frequency scores of DV perpetration and victimization among men and women within a sample of Division III student-athletes. We then assessed demographic differences in the frequency of DV perpetration and victimization. Next, T-tests and chi-square tests determined significant gender differences in hazardous drinking and hostile sexism. We also ran a series of bivariate correlations between our primary variables, including separate bivariate correlations to assess for gender differences. Finally, we ran four negative binomial generalized linear models (GLM) to determine if hazardous drinking and hostile sexism predict the frequency of DV perpetration and victimization among men and women within our sample. We ran GLMs by gender and by DV type. Identifying gender differences in our risk factors contributed to our decision to run the GLMs by gender in addition to DV type. We ran a negative binomial GLM to account for zero inflation in our outcome variables.

#### **Frequency DV Perpetration and Victimization**

Within our sample, 58.2% of participants reported experiencing DV victimization in the past year. Of those who experienced DV victimization, 50.5% were men and 49.5% were women. In addition, 59.5% of our sample reported perpetrating DV against their partner in the past year. Of those who perpetrated DV, 48.7% were men and 51.3% were women.

The average frequency score of DV perpetration within our sample was 16.2 instances in the past year, while the average frequency score of DV victimization within

our sample was 19.8 instances in the past year. Table 1 shows differences in student athletes' frequency of DV perpetration during the past year by gender, academic year, age, race, ethnicity, and relationship status. Participants who identified as other than male or female were excluded from subsequent analyses. There were no significant differences in the frequency of DV perpetration during the past year by gender, academic year, age, ethnicity, and relationship status. There was a significant difference in frequency of DV perpetration by race, with participants who identified as Non-white reporting more frequent perpetration of DV than those who identified as White ( $p < .01$ ).

Table 1

*Frequency Differences in NCAA Division III Student-Athletes' DV Perpetration by Gender, Academic Year, Race, Ethnicity, Sexual Orientation, and Relationship Status*

	DV Perpetration		
	M (SD)	<i>t, F</i>	<i>df</i>
Gender		1.20	329
Male	17.84 (39.43)		
Female	13.65 (22.79)		
Academic Year		.60	3, 317
Freshman	13.04 (36.11)		
Sophomore	18.17 (37.07)		
Junior	15.86 (23.63)		
Senior	20.05 (33.26)		
Race		2.78**	329
White	11.76 (21.09)		
Non-White	28.11 (52.57)		
Ethnicity		-.12	296

Table 1 (Continued)

	DV Perpetration		
	M (SD)	<i>t, F</i>	<i>df</i>
Hispanic	14.46 (22.52)		
Non-Hispanic	15.19 (32.23)		
Sexual Orientation		.42	3, 325
Straight	15.83 (33.14)		
Gay/Lesbian	8.60 (12.10)		
Bisexual	20.00 (31.60)		
Romantic Relationship		-.25	329
Yes	16.50 (34.30)		
No	15.56 (32.01)		

*Note.* DV = dating violence. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 2 shows frequency differences in student-athletes who experienced DV victimization during the past year by gender, academic year, age, race, ethnicity, and relationship status. There were no significant differences in the frequency of DV victimization during the past year by gender, academic year, age, ethnicity, and relationship status. There was a significant difference in frequency of DV victimization by race, with participants who identified as Non-White reporting more frequent DV victimization than those who identified as White ( $p < .05$ ). Given our primary concern with gender differences in DV perpetration and victimization, we did not investigate these racial differences further.

Table 2

*Frequency Differences in NCAA Division III Student-Athletes' DV Victimization by Gender, Academic Year, Race, Ethnicity, Sexual Orientation, and Relationship Status*

	DV Victimization		
	M (SD)	<i>t, F</i>	<i>df</i>
Gender		.81	328
Male	21.69 (48.33)		
Female	17.29 (50.39)		
Academic Year		.63	3, 316
Freshman	14.46 (46.78)		
Sophomore	20.56 (42.93)		
Junior	23.13 (63.95)		
Senior	24.18 (37.00)		
Race		2.58**	(28
White	14.69 (41.70)		
Non-White	34.20 (64.80)		
Ethnicity		-.11	396
Hispanic	17.57 (30.97)		
Non-Hispanic	18.62 (50.48)		
Sexual Orientation		.41	3, 324
Straight	19.67 (50.011)		
Gay/Lesbian	7.60 (12.68)		
Bisexual	22.09 (35.56)		
Romantic Relationship		-.23	328
Yes	20.99 (65.17)		
No	18.86 (36.87)		

*Note.* DV = dating violence. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



## Gender Differences in Risk Factors

Table 3 presents gender differences in hazardous drinking and hostile sexism. Overall, men engaged in more hazardous drinking than women, but this difference was only significant at the trend level ( $p < .09$ ). Men also exhibited a greater endorsement of hostile sexism than women ( $p < .001$ ). These results suggest gender differences in the proposed risk factors for DV perpetration and victimization among Division III student-athletes.

Table 3

### *Gender Differences in Primary Variables*

	Male (N=186)	Female (N=158)		
	M (SD)	M (SD)	$\chi^2, t$	<i>df</i>
	N (%)	N (%)		
DV Perpetration	17.84 (39.43)	13.65 (22.79)	1.20	329
DV Victimization	20.99 (46.11)	16.96 (48.46)	.81	328
Hazardous drinkers (y/n)	124 (67%)	91 (57%)	3.25 <sup>^</sup>	1
Hostile Sexism	2.46 (.82)	1.85 (.79)	6.86 <sup>***</sup>	331

*Note.* Y/N = yes/no, reported frequency of yes; DV = dating violence. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . <sup>^</sup> $p < .09$ .

## Bivariate Correlations Among Primary Variables

To explore the bivariate correlations among the primary variables, we conducted a series of Pearson correlations for continuous variables and point-biserial correlations when utilizing a dichotomous variable (Table 4).

Table 4

### *Bivariate Correlations Between Primary Variables*

	DV Perpetration	DV Victimization	Hazardous Drinking	Hostile Sexism
DV Perpetration				
DV Victimization	.86***			
Hazardous Drinking	.16**	.13*		
Hostile Sexism	.10	.12*	.12*	

*Note.* DV = dating violence. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

There was a significant positive correlation between DV perpetration and DV victimization ( $r = .86, p < .001$ ). There was a significant positive correlation between DV perpetration and hazardous drinking ( $r = .16, p < .01$ ). Additionally, there was a significant positive correlation between DV victimization and both hostile sexism ( $r = .12, p < .05$ ) and hazardous drinking ( $r = .13, p < .05$ ). Table 5 displays the bivariate correlations separately for men and women between the primary variables. There was a significant correlation between DV perpetration and victimization for both men ( $r = .77, p < .01$ ) and women ( $r = .95, p < .001$ ). In addition, hazardous drinking was positively correlated with DV perpetration among women ( $r = .20, p < .05$ ). No other relationships

between the primary variables were significant at the bivariate level when separated by gender.

Table 5

*Bivariate Correlations for Men and Women Between Primary Variables*

	DV Perpetration	DV Victimization	Hazardous Drinking	Hostile Sexism
DV Perpetration	-	.77**	.20*	.09
DV Victimization	.95***	-	.14	.15
Hazardous Drinking	.14	.10	-	.03
Hostile Sexism	.09	.08	.14	-

*Note.* Men's scores on the bottom diagonal, women's scores on the top diagonal; DV = dating violence. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Generalized Linear Models**

Tables 6 and 7 summarize the results of four generalized linear models estimating the effects of hostile sexism and hazardous drinking on DV perpetration and victimization for men and women, respectively. Given the gender differences identified in our risk factors, we ran separate generalized linear models for men and women. A significant model for men ( $p < .01$ ) and women ( $p < .01$ ) emerged with hazardous drinking and hostile sexism predicting frequency of DV perpetration and victimization.

Table 6

*Generalized Linear Model Estimating the Effects of Hostile Sexism and Hazardous Drinking Variables on Male DV Perpetration and Victimization*

Variable	Perpetration		Victimization	
	Exp(B)	95% CI	Exp(B)	95% CI
Hazardous Drinking	2.19**	(1.57, 3.04)	1.64**	(1.18, 2.28)
Hostile Sexism	1.42**	(1.13, 1.79)	1.33*	(1.06, 1.67)

Note. Exp(B) = odds ratio; CI = confidence interval. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 7

*Generalized Linear Model Estimating the Effects of Hostile Sexism and Hazardous Drinking Variables on Female DV Perpetration and Victimization*

Variable	Perpetration		Victimization	
	Exp(B)	95% CI	Exp(B)	95% CI
Hazardous Drinking	2.00**	(1.43, 2.81)	2.48**	(1.77, 3.47)
Hostile Sexism	1.16	(.96, 1.41)	1.63**	(1.33, 2.01)

Note. Exp(B) = odds ratio; CI = confidence interval. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Factors associated with perpetration.** Both hazardous drinking ( $\chi^2 = 21.66$ ,  $B(SE) = .78$ ,  $p < .01$ ) and hostile sexism ( $\chi^2 = 8.96$ ,  $B(SE) = .35$ ,  $p < .01$ ) were associated with frequency of DV perpetration among males. Among females, only hazardous drinking was associated with frequency of DV perpetration ( $\chi^2 = 16.32$ ,  $B(SE) = .70$ ,  $p < .01$ ).

**Factors associated with victimization.** Among males, both hazardous drinking ( $\chi^2 = 8.73$ ,  $B(SE) = .50$ ,  $p < .01$ ) and hostile sexism ( $\chi^2 = 6.24$ ,  $B(SE) = .29$ ,  $p < .05$ ) were associated with frequency of DV victimization. Similarly, both hazardous drinking ( $\chi^2 =$

27.85,  $B(SE) = .91, p < .01$ ) and hostile sexism ( $\chi^2 = 21.44, B(SE) = .49, p < .01$ ) were associated with frequency of DV victimization among women.

## **Chapter 4**

### **Discussion**

The purpose of the current study was twofold. First, we identified the frequency of DV perpetration and victimization among men and women in a sample of NCAA Division III student-athletes. Second, we identified if hazardous drinking and hostile sexism as hypothesized risk factors predicted the frequency of DV victimization and perpetration within our sample.

Currently, no research exists on DV among Division III student-athletes, much less risk factors associated with DV within this population. Consistent with DV literature among adolescents and previous reports on college dating relationships (Cercone et al., 2005; Foshee, Bauman, Linder, Rice, & Wilcher, 2007; Kaukinen et al., 2012), our findings indicate that men and women are both victims and perpetrators of DV. This may be explained by the fact that DV perpetration and victimization are not mutually exclusive; those who experience DV victimization are likely to perpetrate DV against their partner (Kaukinen et al., 2012). Other research suggests that men's violence influences women such that their experience as victims impacts their propensity to use violence against their partners (Herrera, Wiersma, & Cleveland, 2008). However, this relationship between men and women is not bidirectional; no studies currently implicate women's use of violence as influencing men's use of violence. Interestingly, in the current study, men both perpetrated DV against their partner and experienced DV victimization more frequently than women. In addition, within our sample, more women reported perpetrating DV within the past year while more men reported experiencing DV victimization within the past year. One possible explanation may be that should a man

frequently perpetrate violence against his partner, that partner may be more likely to perpetrate violence against him in return. This supports the notion that a man's frequent perpetration against his female partner may be followed by his partner perpetrating DV against him.

DV may occur among student-athletes for a variety of reasons. Developmentally, there is a small window of time devoted to learning how to navigate relationships. Between adolescence and young adulthood, young people are expected to begin dating, learn how to navigate relationships, and establish what they desire in a life partner. As such, while some factors may remain constant, the nature of dating relationships often changes between adolescence and young adulthood. One population transitioning between adolescence and young adult dating practices is college students, including student-athletes. Often living independently from their parents for the first time, college students enjoy more privacy, freedom, and autonomy while struggling to act as an adult and adhere to a variety of responsibilities. This may translate into more mature and uninhibited behaviors in student-athletes, such as hazardous drinking, which has been shown to predict both DV victimization and perpetration among men and women. Further, regardless of their enjoyment of the newfound independence, college students-athletes may ascribe their beliefs regarding women—potentially sexist beliefs—to their parents and what they witnessed within the household. Finally, some college students, potentially including student-athletes, have been reported to lack both communication and relationship skills (Fredlanda et al., 2005; Kaukinen, 2014), which may contribute to conflict. In sum, a variety of negative or underdeveloped behaviors may leave student-athletes susceptible to DV.

Despite a lack of significant differences in the rate at which men and women either perpetrate DV against their partner or experience DV victimization, significant differences exist between men and women concerning hostile sexism. Men, on average, endorsed higher levels of hostile sexism. This is not surprising given that sexist attitudes (particularly hostile) appear to be consistently held by men over women and are linked with DV and sexual harassment (Morelli et al., 2016). Hostile sexism affects the acceptance of DV, attitudes toward DV, the exoneration of perpetrators of DV, victim's blame, and the approval of male aggression in dating relationships (Durán, Moya, Megías, & Viki, 2010; Forbes et al., 2005; Koepke, Eyssele, & Bohner, 2014; Sakallı-Uğurlu, Yalçın, & Glick, 2007; Valor-Segura et al., 2008, 2011; Yamawaki, 2007). In the current study, hostile sexism is associated with greater frequency of DV perpetration and victimization among men and greater frequency of DV victimization among women.

Hostile sexism may be a significant predictor of the frequency of DV perpetration and victimization among student-athletes for several reasons. The more men harbor sexist beliefs towards women—such as they are not equal and they strive to diminish and inhibit men—the more likely it is that they may feel able to inflict harm on women. This is consistent with the literature that identifies student-athletes' likelihood to endorse sexist beliefs (Boeringer, 1996, 1999; Crossett et al., 1996; Forbes, 2006; Frintner & Rubinson, 1993). In addition, sexist beliefs can lead to DV during conflict (Bascón, Saavedra, & Arias, 2013). This may be due to a power imbalance between men and women: if a woman is not a man's equal, then one solution to settling a conflict is violence given that she deserves to be punished. This coincides with our finding that hostile sexism is also associated with DV victimization among women. Should a woman believe she is not a



man's equal she may feel deserving of violence. Additionally, women often employ self-blame following an instance of violence, including DV, to help resolve feelings of confusion concerning "why me?" (Ullman, Peter-Hagene, & Relyea, 2014). As such, women's endorsement of hostile sexism may be an example of self-blame; because women believe themselves to be less than men, they deserve the experience of DV victimization during conflict. In addition, self-blame often leads to re-victimization (Janoff-Bulman, 1979; Miller, Markman, & Handley, 2007). Alternatively, women who endorse hostile sexism may see themselves as innocent, pure, and required to adhere to certain stereotypes. Therefore, they may willingly allow dominance by men and buy-in to an unequal power dynamic. Overall, the endorsement of hostile sexism among women may be perpetuating DV victimization.

Further, our results indicate that hazardous drinking is a predictor of DV perpetration and victimization among both men and women. College student athletes are held to a high standard and adhere to certain rules during their season (Cantor, Joppa, & Angelone, In Preparation). One such rule forbids alcohol use up to 48 hours before a game (Cantor et al., In Preparation). This provides less of an opportunity for student athletes to drink in season. As such, college student athletes may engage in more hazardous drinking outside of their season in an attempt to enjoy something that is typically restricted. This results in uninhibited behaviors typical to hazardous drinking, such as DV, which may be justified or excused as the product of alcohol use.

Overall, our findings support a predictive relationship between hostile sexism, hazardous drinking, and DV among Division III student-athletes. For the first time, hostile sexism and hazardous drinking are identified as risk factors for DV perpetration

and victimization among student-athletes. In addition, the current study provides the first report of the frequency of DV perpetration and victimization among male and female student-athletes.

That is not to say, however, that this study is without its limitations. Our data are cross-sectional and comes from one Division III northeastern University. As a result, there is no way to compare data within or outside of our sample. To further substantiate potential differences in Division III student-athletes from Division I and II, future studies should seek to compare data across multiple universities of various Divisions. Such data may speak to whether prevention interventions should vary based on Division and other relevant differences. Further, it may also be beneficial to assess DV perpetration and victimization along with hazardous drinking and hostile sexism longitudinally. A longitudinal design would could assist our conclusion of whether a targeted prevention intervention to decrease DV should be delivered by academic year. In addition, longitudinal data could identify specific periods of time during the academic year when athletes are at most risk for DV perpetration or victimization. These time periods could then be targeted through a DV prevention intervention. Another limitation concerns how we measured DV. The current study utilized a total DV score that encompassed all forms of DV (psychological or physical attacks, sexual coercion, and injury). Assessing type of DV may be informative for prevention efforts as it may help determine what serves as risk factors for what type of DV.

Finally, future studies should assess protective factors for DV perpetration and victimization in addition to risk factors. Understanding the protective factors for DV among male and female Division III student-athletes serves an important purpose, and

one that will inform efforts to minimize the frequency of DV perpetration and victimization among this population. While the current study provides initial data to assist in our understanding of DV experiences among Division III student-athletes, there are certainly more behaviors that warrant assessment. Continuing to understand the behaviors of this population that contribute to DV perpetration and victimization, especially those potentially unique to this population, can only help to inform a targeted prevention intervention to limit DV.

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