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**DEVELOPMENT, FEASIBILITY AND ACCEPTABILITY OF A HEALTHY  
RELATIONSHIP INTERVENTION AMONG COLLEGE STUDENT-  
ATHLETES: A MIXED METHODS STUDY**

by

Nicole Cantor

A Dissertation

Submitted to the  
Department of Psychology  
College of Science and Mathematics  
In partial fulfillment of the requirement  
For the degree of  
Doctor of Philosophy  
at  
Rowan University  
May 19, 2019

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## **Dedications**

This document, and the hours of work it reflects, is dedicated to my brother, Michael. My biggest fan, supporter, and confidant, without him this would not have been possible. You will always be missed, and never forgotten.

## **Acknowledgments**

I would like to thank my mentors, Meredith and DJ, for believing in me and trusting me. I cannot thank you enough, as this project would not have been possible without your unwavering support. Additionally, thank you to Lauren Wallace and Giuliana Caprara, who have such promising and exciting research futures ahead of them as demonstrated by their work on this project.

## **Abstract**

Nicole Cantor

### **DEVELOPMENT, FEASIBILITY AND ACCEPTABILITY OF A HEALTHY RELATIONSHIPS INTERVENTION FOR COLLEGE STUDENT-ATHLETES: A MIXED METHODS STUDY**

2019-2020

DJ Angelone, Ph.D., and Meredith Joppa, Ph.D.

Doctor of Philosophy

College student-athletes are one subgroup of college students at risk for unhealthy relationship behaviors. Despite this, research on student-athletes dating behaviors is limited, and what research does exist pertains exclusively to Division I athletes, focusing on male student-athletes as perpetrators. While attempts have been made to mitigate instances of dating violence and promote healthy relationships, these interventions are education-based and not tailored to the specific strengths and challenges of student-athletes. In addition, the efficacy of these preexisting interventions has not yet been evaluated. The current study represents stage 1 of the NIH Stage Model for Behavioral Intervention Development and evaluates the feasibility and acceptability of a recently developed, data-driven intervention entitled Supporting Prevention in Relationships for Teams (SPoRT). We hypothesized that student-athletes will find SPoRT both feasible and acceptable, as this intervention takes a skills-based approach and student-athletes were consulted in the development of SPoRT content and delivery.

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## Chapter 1

### Introduction

#### Background

Upwards of 47% of women and 38% of men first experience dating violence between the ages of 18 and 24 (Black et al., 2011). In fact, dating violence is more common among college-aged couples relative to other age groups (Karakurt & Keiley, 2013). Dating violence, which includes multiple forms of unhealthy relationship behaviors, 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 partner in a dating relationship (Black et al., 2011; Breiding, Chen, & Black, 2014). Among college students specifically, physical aggression occurs in 20% to 30% of dating relationships, while psychological aggression occurs in 50% to 80% of dating relationships, and sexual aggression occurs in 15% to 25% of dating relationships (Gover et al., 2008; Shorey et al., 2011).

Student-athletes, especially those affiliated with the National Collegiate Athletics Association (NCAA), are one group of college students at high risk for dating violence (McCray, 2015) and sexual risk behaviors. Overall, student-athletes are overrepresented as perpetrators in judicial affairs complaints as compared to their non-athlete counterparts (Boeringer, 1996; Chandler et al., 1999; Crosset et al., 1996; Forbes, 2006; Frintner & Rubinson, 1993; Murnen & Kohlman, 2007). As such, the NCAA Board of Governors require student-athletes engage yearly in education on sexual violence prevention (<https://www.ncaa.org/about/resources/media-center/news/board-adopts-sexual-violence-policy>). Student-athletes are also at high risk for engaging in sexual risk behaviors, which

lead to unintended health outcomes such as unwanted pregnancy and sexually transmitted diseases (McCray, 2015).

It is important to note that most research on male and female student-athletes' dating relationships was published in the 1990's and early 2000's. Further, this research focuses exclusively on NCAA Division I student-athletes and not their Division II or Division III counterparts. This is despite Division III student-athletes being dissimilar to their Division I and II student counterparts (Jackson & Davis, 2000). According to a systemic-review of the literature from the past 22 years concerning violence against women by college student-athletes, research has been limited, leading to a need for more empirical data (McCray, 2015). Finally, most researchers have focused almost exclusively on men as perpetrators and women as victims. More recent research looked at the dating behaviors of both male and female student-athletes (Cantor et al., 2020), but general lack of data on this topic has negatively impacted intervention efforts as indicated by the lack of evidence-based interventions designed to promote healthy relationships among college student-athletes.

Interventions that have been implemented to combat instances of dating violence among college student-athletes are education-based, and their efficacy has not yet been evaluated. Intervention research suggests that education, while necessary, is not sufficient for positive behavioral change (DeGue et al., 2014). Taken together, education-based programs are unlikely to reduce rates of dating violence. Instead, teaching evidence-based relationship skills in conjunction with psychoeducation may elicit positive behavioral change (DeGue et al., 2014). Additionally, interventions are maximally effective when targeted to the unique strengths and challenges of the population (Lauver

et al., 2002). There is currently a lack of emphasis on strength and resilience among student-athletes as it relates to cultivating healthy relationships.

*Supporting Prevention in Relationships for Teams (SPoRT)* is an intervention developed to target the strengths and challenges of NCAA Division III student-athletes in establishing and maintaining healthy dating relationships. It is an inclusive, targeted, data- and CBT skills-driven intervention guided by the Centers for Disease Control and Prevention report to the *White House Task Force to Protect Students from Sexual Violence* (DeGue et al., 2014), which recommends that interventions for college-students be grounded in theory, include multiple sessions, and teach applicable relationship skills. The overall goal of SPoRT is to have a positive impact on dating and relationship behaviors among Division III student-athletes by reducing risk for dating violence through targeting several key mechanisms for change. The specific goals of SPoRT, as informed by previous research on dating violence among Division III college student-athletes and key mechanisms of change in dating violence prevention (Cantor et al., 2020), include educating student-athletes about healthy and unhealthy relationship behaviors, sexual risk behaviors, and substance use; teaching communication and coping skills; and harnessing the strengths of the athletics and team environment to encourage bystander behaviors.

### **Key Mechanisms for Change**

In order to facilitate healthy relationships among NCAA Division III student-athletes, interventions should include several key mechanisms evidenced to facilitate change. Such mechanisms include emotion regulation, adaptive coping strategies,

communication skills, attitudinal risk factors, bystander behaviors, and normative feedback.

### ***Emotion Regulation and Adaptive Coping Strategies***

Targeting affective attitudes through emotion regulation and adaptive coping strategies may increase positive outcomes as affective attitudes elicit behavioral change (Lawton et al., 2009). Further, emotion dysregulation is associated with maladaptive behaviors, such as alcohol-involved violence (Messman-Moore et al., 2015). One coping strategy commonly associated with emotion regulation is mindfulness. As an adaptive coping strategy, mindfulness reduces stress (Baer, 2006; Grossman et al., 2004). Specifically, among athletes, several facets of mindfulness are negatively correlated with stress, such as acting with awareness and non-judgement (Kaiseler et al., 2017). Mindfulness may also affect sexual risk behavior, as mindfulness is correlated to sexual consciousness and motivation (Lazaridou & Kalogianni, 2013).

### ***Alcohol Use***

Alcohol use is correlated with the perpetration of dating violence (Abbey & McAuslan, 2004; Kingree & Thompson, 2015, 2013, 2017; Krebs et al., 2007) among Division III student-athletes (Cantor et al., 2020; Gidycz et al., 2007; Grossbard et al., 2007) and increases instances of unprotected sex (Brown & Venable, 2007). Therefore, targeting alcohol use is likely to have a positive effect on dating and relationship behaviors. Over the last decade, mindfulness-based interventions have also been designed to treat addictive behaviors, such as alcohol and drug use (Wilson et al., 2017). Such interventions specific to addictive behaviors currently include (but are not limited to) Mindfulness-Based Relapse Prevention (Bowen et al., 2010; Witkiewitz et al., 2005) and

Mindfulness-Based Substance Abuse Treatment for Adolescents (Himmelstein et al., 2015). Specifically, awareness of and reactions to aversive cognitive, affective, or physical states (i.e., cravings) are targeted through mindfulness-based interventions (Witkiewitz et al., 2014). As such, it is reasonable to suggest that mindfulness has multiple benefits, including reducing alcohol use among college student-athletes.

### ***Communication Skills***

Another key mechanism for change includes increasing assertive communication skills. Dating partners should be taught to communicate effectively in order to establish and maintain healthy relationships. Assertive communication, which involves firm and direct verbal and non-verbal communication of one's feelings, beliefs, and desires, may improve relationship quality and result in a reduction of sexual risk behaviors.

Historically, assertive communication has been utilized in interventions to express a desire for safer sex behaviors (Allen et al., 2002; Otto-Salaj et al., 2008). Interventions including a communication component have proven efficacious, resulting in more positive communication between dating partners (Mercer Kollar et al., 2016; Owen et al., 2013) and less dating violence (Markman et al., 1993). Further, communication among college couples can increase safe sex behaviors, such as condom use (Yesmont, 1992; Zamboni et al., 2000). However, communication alone does not predict safe sex (Tulloch et al., 2004) and healthy relationship behaviors. As such, student-athletes should engage in skills-based activities on safe sex and healthy relationship behaviors in conjunction with assertive communication training.

### ***Attitudinal Risk Factors***

Attitudinal risk factors, such as hostile sexism and the endorsement of rape myths, are associated with dating violence and sexual risk behaviors. This is likely the result of sexism motivating perpetration, or the endorsement of rape myths justifying perpetration (Abbey & McAuslan, 2004; Burt, 1980). However, those attitudes are modifiable, and previous findings suggest that psychoeducation on rape myths, consent, and sexual risk reduction behaviors can reduce incidences of dating violence on college campuses (Rothman & Silverman, 2007). Further, athletes with attitudes supportive of gender-equity are less likely to report perpetrating dating violence (McCauley et al., 2013). Thus, these attitudinal risk factors are an important intervention target that can potentially cultivate environments less conducive to dating violence (Gidycz et al., 2011) and sexual risk behaviors.

### ***Bystander Behaviors***

Attitudinal risk factors may also be minimized through the introduction of bystander behaviors. Bystander interventions can increase knowledge about dating violence and simultaneously lead to decreases in attitudes condoning of violent behaviors (Palm Reed et al., 2015). The intent of bystander interventions is to improve the decision-making process, during which bystanders notice a situation, address it, assess their own skills, and choose to intervene (Orchowski et al., 2018). Among high school athletes, intention to intervene as a bystander is associated with less dating violence perpetration (McCauley et al., 2013). There is a developing literature demonstrating the success of bystander interventions on reducing attitudinal risk over standard dating violence awareness education programs among college samples (Foubert & Newberry, 2006;

Peterson et al., 2018). Across multiple studies with college students and college student-athletes, bystander interventions have had a positive effect on attitudes towards dating violence, willingness to help, and other bystander behaviors (Banyard et al., 2007; Cocker et al., 2016; Moynihan et al., 2010; Salazar et al., 2014). Often serving as leaders on campus, student-athletes are in a unique position to address dangerous situations that may result in the perpetration of dating violence or onset of sexual risk behaviors and intervene effectively.

### ***Normative Feedback***

While education is necessary for positive behavior change, other strategies are also needed. Providing normative feedback (NF) assists in decreasing sexual risk behaviors as young adults' perceptions of their peers' sexual activity—both frequency and quantity of partners—can be positively skewed. Among athletes, unhealthy sexual behaviors are overestimated, leading to a false consensus effect (Scholly et al., 2005). The delivery of team-specific data can aid in the reduction of other sexual risk behaviors, such as number of sexual partners, frequency of sexual activity, and the practice of safe sex behaviors prior to the onset of sexual activity. Normative feedback has also been shown to change perceived norms and reduce drinking behaviors among college students (Neighbors et al., 2004). Further, online interventions designed for student-athletes utilizing normative feedback increase knowledge on dating violence behaviors and rape supportive beliefs (Thompson et al., 2020). As such, interventions should prioritize data-driven discussions in addition to evidence-based skills.



## **Current Study**

The current study assessed the feasibility and acceptability of SPoRT.

Determining feasibility and acceptability answers the question *can it work?* Such an approach can be used to determine what aspects of the research methods and/or intervention protocol requires modification (Bowen et al., 2009). Specifically, an evaluation of feasibility and acceptability is required in order to determine when student-athletes would like to receive SPoRT, if student-athletes are satisfied with SPoRT, and consider it both engaging and time-appropriate. The aims of a feasibility and acceptability study, as defined by the Stage Model, include demonstrating (a) participant acceptance of the new intervention, (b) the investigators' ability to recruit from the target population, and (c) feasibility of intervention delivery (Rounsaville et al., 2001).

Feasibility addresses whether an intervention is appropriate for tests of preliminary efficacy. Suited for interventions in which previous iterations were not driven by in-depth research or knowledge of the population and have not proven successful, or when the intervention target needs unique consideration of the topic (i.e. dating violence among student-athletes), feasibility is measured by a willingness to attend intervention sessions (Bowen et al., 2009; Burhansstipanov et al., 2005). Feasibility can also be determined by gathering specific data concerning when the target population is able to or prefers to attend intervention sessions.

Acceptability evaluates if the targeted population reacts positively or negatively to the intervention. Measured by focus groups or surveys concerning perception of the intervention, focus group members are encouraged to speak to the perceived appropriateness of the intervention or rate their satisfaction with the intervention. In

addition, focus groups or surveys provide data on participants' expressed interest or intention to use the intervention.

*Hypothesis*

SPoRT differs from existing interventions aimed to reduce dating violence and sexual risk behavior as it is evidence-based and targeted to the specific needs and strengths of NCAA Division III student-athletes. Further, collaboration with student-athletes informed both SPoRT's content and delivery in order to increase feasibility. SPoRT was also developed with consideration of student-athlete's preferences, facilitating their acceptance of the intervention. As such, I predicted that NCAA Division III student-athletes would find SPoRT both feasible and acceptable.

## **Chapter 2**

### **Methodology**

#### **Phase 1: SPoRT Development**

The intervention modules included in SPoRT consist of psychoeducation and skills-based activities concerning sexism, and the acceptance of rape myth in addition to healthy relationship behaviors, alcohol use, bystander interventions, and practical relationship skills (Abbey et al., 1996; Banyard et al., 2007; DeGue et al., 2014; Fisher et al., 2008; Kelley et al., 2015; Raj et al., 2004; Shorey et al., 2015). Previous mixed-methods data collected from Division III student-athletes informed the development of SPoRT (Cantor et al., 2020).

Quantitative data was collected to measure outcomes, such as dating violence, and mechanisms of change such as sexual risk behaviors, bystander attitudes and behaviors, and coping strategies among student-athletes. These data were used to tailor the SPoRT intervention to Division III student-athletes at the target university informed the use of normative feedback. Quantitative data were collected from a sample of 350 Division III student-athletes (53.1% male, 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. For a review of the quantitative data collected, see Table 1.

**Table 1***Phase 1 Results*

| Themes                      | Description   | Qualitative Findings   | Quantitative Findings   |
|-----------------------------|---|--|---|
| Behavioral Domains          | Healthy and unhealthy behaviors relating to dating, sex, and relationships  | <ul style="list-style-type: none"> <li>• Sexual assault</li> <li>• Dating violence</li> <li>• Alcohol use</li> <li>• Social activities</li> <li>• Relationship skills</li> <li>• Intercourse</li> <li>• Sexism</li> <li>• Healthy and unhealthy relationships</li> <li>• Bystander behaviors</li> <li>• Social network</li> <li>• Coping</li> <li>• Sexual risk behaviors</li> </ul> | <ul style="list-style-type: none"> <li>• 56% experienced DV</li> <li>• 57% (<i>N</i> = 197) perpetrated DV</li> <li>• 17% (<i>N</i> = 58) did not obtain consent before sexual contact</li> </ul>   |
| Risk and Protective Factors | Various aspects of lifestyle specific to Rowan student-athletes that differentiates them from their non-athlete peers | <ul style="list-style-type: none"> <li>• Team culture</li> <li>• In season</li> <li>• Out of season</li> <li>• Specific sport</li> <li>• Team strengths</li> <li>• Team weaknesses</li> <li>• Coaches</li> <li>• Academic year</li> <li>• Athletes vs. non-athletes</li> </ul>   | <ul style="list-style-type: none"> <li>• 46% (<i>N</i> = 160) didn't use a condom</li> <li>• 28% (<i>N</i> = 95) would not use a condom</li> <li>• 79% (<i>N</i> = 271) never HIV tested</li> <li>• 72% (<i>N</i> = 248) never tested for STDs</li> <li>• 62% (<i>N</i> = 215) hazardous alcohol use</li> </ul> |

| Themes                   | Description  | Qualitative Findings   | Quantitative Findings |
|--------------------------|--|--|-----------------------|
| Theory-Based             | Potential intervention elements suggested by theoretical prevention models | <ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Skills</li> <li>• Modeling</li> <li>• Reinforcement</li> <li>• Expectations</li> <li>• Self-efficacy</li> <li>• Bystander behaviors</li> <li>• Bystander attitudes</li> <li>• Bystander efficacy</li> <li>• Subjective norms</li> <li>• Attitudes</li> <li>• Intentions</li> <li>• Perceived behavioral control</li> <li>• Pluralistic ignorance</li> <li>• False consensus</li> <li>• Impersonal sex</li> <li>• Hostile masculinity</li> <li>• Sexual aggression</li> </ul> |                       |
| Intervention Preferences | Preferences concerning intervention groups and delivery                    | <ul style="list-style-type: none"> <li>• Scheduling</li> <li>• Facilitator</li> <li>• Small groups</li> <li>• Divided by gender</li> <li>• Number of sessions</li> <li>• Structure</li> </ul>  |                       |

*Note.* Quantitative data was only collected for behavioral domains and risk and protective factors.

Qualitative data was collected via focus groups to inform specific components of intervention delivery, such as when during the athletic season the intervention should take place, facilitator preferences, and size of intervention groups. Analysis of this data was guided by a consensual qualitative research (CQR) approach. Core ideas of these focus groups included behavioral domains such as healthy and unhealthy behaviors related to dating, sex, and relationships; theoretical domains such as social cognitive theory, bystander approaches, and the social norms approach; risk and protective factors like team culture; and intervention preferences which included student-athletes' thoughts on intervention timing and group composition. For a complete summary of core ideas, see Table 1.

The focus groups identified notable characteristics and strengths of student-athletes that may make them particularly receptive to SPoRT. For example, student-athletes discussed behaviors that varied by sport season. Student-athletes reported engaging in frequent alcohol use and casual sex out of season; but in season they reported prioritizing school and athletics and adhering to a high moral standard, including sobriety. In terms of intervention delivery, student-athletes noted several preferences. These included a same-sex facilitator of similar age to the participants and delivering SPoRT outside of a team's athletic season. Both the qualitative and quantitative findings from the intervention development phase were used to inform the final SPoRT intervention manual used in this feasibility and acceptability study.

### ***SPoRT Content***

The session topics of SPoRT, each of which are designed to take one hour and 15 minutes, are as follows: (1) Taking Care of Yourself and Your Team, (2) Healthy Relationships, (3) Sexual Violence, and (4) Sexual Risk. Each session was rehearsed with research assistants (RA) acting as participants to confirm the timing for each module within the session. Overall, the specific goal of SPoRT is to educate student-athletes about healthy relationships and reduce rates of dating violence while utilizing an inclusive, trauma-focused, and CBT skills-based approach. SPoRT focuses specifically on 1) identifying team goals, teaching emotion regulation and adaptive coping skills such as mindfulness; 2) reviewing unhealthy and alternatively, healthy relationship behaviors in addition to the cycle of violence and assertive communication skills; 3) discussing sexual violence and how to obtain consent, addressing the impact of rape myth acceptance and sexist beliefs, and harnessing the strengths of the athletes and team environment to encourage bystander behavior and healthy social norms; and 4) introducing safe sex behaviors such as condom use, getting tested for sexually transmitted diseases, and educating on the impact of substance use when engaging in sexual activity. See Table 2 for an outline of the content areas of each intervention module.

**Table 2***SPoRT Intervention Modules*

| Session   | Module Title                          | Key Mechanisms of Change   | Content   |
|-----------|---------------------------------------|--|---|
| Session 1 | Taking Care of Yourself and Your Team | Emotion Regulation and Adaptive Coping Strategies                        | <ul style="list-style-type: none"> <li>• Overview of team data and set team goals</li> <li>• How teammates can take care of one another</li> <li>• <b>Emotion regulation</b></li> <li>• Coping and how substances influence coping</li> <li>• Coping cards activity</li> <li>• <b>Mindfulness</b></li> <li>• <b>Mindfulness activity</b></li> </ul>   |
| Session 2 | Healthy Relationships                 | <ul style="list-style-type: none"> <li>• Communication Skills</li> </ul> | <ul style="list-style-type: none"> <li>• Skills practice - mindfulness</li> <li>• Healthy and unhealthy relationships</li> <li>• <b>Sexual violence within dating relationships</b></li> <li>• <b>Sexual violence within dating relationships activity</b></li> <li>• Cycle of violence activity</li> <li>• Safety cards activity</li> <li>• <b>Communication skills</b></li> <li>• <b>Communication skills activity</b></li> </ul> |



| Session   | Module Title    | Key Mechanisms of Change  | Content   |
|-----------|-----------------|---|---|
| Session 3 | Sexual Violence | <ul style="list-style-type: none"> <li>• Attitudinal Risk Factors</li> <li>• Bystander Behaviors</li> </ul> | <ul style="list-style-type: none"> <li>• Skills practice – communication</li> <li>• Sexual violence</li> <li>• Sexual violence activity</li> <li>• Sexism and rape myths</li> <li>• <b>Consent</b></li> <li>• <b>Did they get consent activity</b></li> <li>• Bystander interventions and identifying barriers</li> </ul>   |
| Session 4 | Sexual Risk     | <ul style="list-style-type: none"> <li>• Sexual Risk Behaviors</li> <li>• Alcohol and Drug Use</li> </ul>   | <ul style="list-style-type: none"> <li>• Skills practice – bystander</li> <li>• <b>Sexual risk</b></li> <li>• Sexual risk activity</li> <li>• <b>Condom use</b></li> <li>• <b>Condom activity</b></li> <li>• Getting tested and talking about getting tested</li> <li>• Alcohol use</li> <li>• Alcohol use activity</li> <li>• Review team goals and wrap-up</li> </ul> |

*Note.* Content in bold was presented in the Phase 2 focus groups.

**Content Delivery.** SPoRT utilizes student team leaders identified in consultation with team coaches. These student team leaders assist in SPoRT’s delivery and serve as co-facilitators. Student team leaders vary by team, accommodating student-athlete’s preference for a same-sex facilitator. Student team leaders are identified through

discussions with coaches and the assistant athletic director. Team leaders, while commonly identified as team captains, do not have to be a team captain to be identified as a SPoRT co-facilitator. Team leaders who serve as co-facilitators are trained by project staff prior to administering SPoRT to their peers.

Evidence-based techniques facilitate those discussions and skills necessary to impact key mechanisms of change. Motivational interviewing (Miller & Rollnick, 2012), a therapeutic technique effective in reducing heavy drinking among college student-athletes-athletes (Cimini et al., 2015), is implemented in the delivery of team specific data to build motivation for change while cognitive behavioral techniques (Butler et al., 2006) assist in the teaching and subsequent reinforcement of skills. Additionally, mindfulness-based relaxation strategies are introduced to assist in targeting multiple key mechanisms for change by improving emotion regulation, reducing stress, increasing sexual awareness, and reducing rates of alcohol and drug use. Normative feedback addresses team-specific social norms concerning sexual risk behaviors and is given after baseline survey data is collected from each individual athletic team concerning dating, relationship, and sexual behaviors.

## **Phase 2: Feasibility and Acceptability**

Following intervention generation, the content and delivery of the intervention undergoes refinement, modification, and adaptation in addition to pilot testing (Onken et al., 2014). As such, both phases 1 and 2 of this study represent Stage 1 of the NIH Stage Model for Behavioral Intervention Development (Onken et al., 2014). Stage 1 includes modification to improve both the training materials and implementation of the new or revised intervention (Rounsaville et al., 2001). By adhering to the stage model of

intervention development, we recognize that the scientific study of behavioral therapies neither begins nor ends with randomized control trials (RCTs). Instead, development begins with manual development and feasibility testing.

### ***Participants***

Participants included intercollegiate student-athletes enrolled in a public NCAA Division III university in the northeastern U.S. with an undergraduate student population of approximately 15,000 people. The final sample consisted of 32 student-athletes: 18 females and 12 males. Student-athletes were identified by their sport and subsequently invited to participate in the focus groups during the Fall 2020 semester. All intercollegiate student-athletes over the age of 18 were eligible for participation.

### ***Procedure***

This study was approved by Rowan Universities Institutional Review Board. During the Summer 2020 and Fall 2020 semesters, student-athletes were randomly identified from team rosters and recruited via email. Focus groups were held virtually via Webex video conference, due to the ongoing COVID-19 pandemic, and separated by gender, with male (N=12) and female (N=18) student-athletes. A master's level trained mental health clinician facilitated each focus group. Groups were recorded and student-athletes were prompted to not use any identifying information once the recording device was turned on. Any identifying information was removed during the transcription phase. Participants were compensated with \$20. A waiver for informed consent was approved by the university's Institutional Review Board. However, most student-athletes completed informed consent and an audio recording consent prior to participation.

During the focus groups, the facilitator introduced each of SPoRT's four sessions and provided an example of the intervention techniques to facilitate experiences. When reviewing the first session, *Taking Care of Yourself and Your Team*, student-athletes discussed emotion regulation strategies and were taught mindfulness-based relaxation strategies through in-vivo practice and encouraged to download a U.S. Veteran's Affairs-sponsored mindfulness phone application. For the second session, *Healthy Relationships*, student-athletes learned the definition of dating violence, subsequently engaged in a dating violence activity, and learned assertive communication skills. When reviewing the third session, *Sexual Violence*, student-athletes discussed consent and watched a popular video explaining consent through sport metaphors. For the fourth session, *Sexual Risk*, student-athletes learned about sexual risk behaviors, reviewed a condom race activity, the impact of alcohol-use on sexual risk behaviors, and discussed a sexual risk behaviors handout.

Following this presentation on some of the content, activities, and handouts included in SPoRT, student-athletes engaged in a semi-structured, guided discussion concerning their opinions on the acceptability and feasibility of the materials that were presented (Debnam & Kumodzi, 2019). The focus group guide contained questions concerning (a) participant's overall thoughts towards SPoRT, specifically what they liked and disliked; (b) preferences toward and appropriateness of interactive activities; (c) perception of the purpose of SPoRT and the ability to identify overarching domains and core ideas throughout intervention delivery; (d) specific skills embedded within the intervention; (e) what additional content should be included or subsequently, excluded from SPoRT; (f) acceptability of the discussions concerning difficult topics such as

dating violence; and (g) when in their season student-athletes would like to receive SPoRT in addition to preferred length of the sessions (over the course of either two or four weeks; during the day or in the evening). Participants were not asked about their personal experiences with dating violence, but rather were asked to review the content of SPoRT and provide their feedback and recommendations for modifications. For example, participants were asked “do you find SPoRT to be an acceptable way to teach student-athletes about healthy relationships?” “what else should be included?” and “did anything sound repetitive?” Follow-up probing questions were used to elicit complete, detailed responses. Following the guided discussion, student-athletes completed a brief questionnaire using Qualtrics survey software.

### ***Quantitative Approach***

**Measures.** The feasibility and acceptability questionnaire contained 13 items. The items included were informed from a previous study examining the feasibility and acceptability of a dating violence and sexual risk intervention (Rizzo, 2009). The first item concerns student-athlete’s willingness to discuss the topics presented in SPoRT, with student-athletes required to indicate whether they are willing to discuss these topics or not. Participants were then asked to describe their reasoning as to why they would or would not participate in SPoRT.

Student-athletes were then presented with seven Likert scale items asking about the acceptability of discussing their experiences or their teammates’ experiences with dating violence, safe sex behaviors such as condom use and discussing STIs, consent, dating relationships, and sexual encounters. Student-athletes were asked to indicate if it is very easy (1), easy (2), neutral (3), hard (4), or very hard (5) to address these topics. Two

additional open-ended items queried whether there are any topics included in SPoRT that the athletes would like to see removed, and if there were any topics athletes would like to see added.

Finally, student-athletes were asked their preferences in terms of SPoRT's delivery (i.e., four weekday afternoons or evenings for one hour and 15 minutes or alternatively, two weekday afternoons or evenings for 2 hours and 30 minutes), gift card preference as compensation for engaging in a future open pilot trial, and preference for activities that could make SPoRT more engaging.

***Client Satisfaction Questionnaire.*** The Client Satisfaction Questionnaire (CSQ; Larsen, Attkisson, Hargraves, and Nguyen, 1979) is an eight item self-report measure of participant satisfaction. Designed to evaluate human service programs, the CSQ allows participants the opportunity to evaluate the services provided to them. The language of certain items of the CSQ have been adapted to reflect the current study (i.e., replacing program and service with intervention). Each item contains four answer options, ranging in degree of satisfaction with the service or intervention received. For example, some answer options range from “almost all of my needs have been met” to “none of my needs have been met.” The CSQ has strong internal consistency, with a Cronbach's alpha of .92 (Larsen et al., 1979). For the current study, the CSQ demonstrated strong internal consistency, with Cronbach's alpha of .86.

### ***Qualitative Approach***

Focus group data were transcribed via otter.ai and transferred into word processing documents. A research assistant reviewed these transcripts for fidelity, comparing them with the original focus group recordings. All identifying information

was removed during this process. Coding was guided by a consensual qualitative research (CQR) approach, which allows for data to be collected through open-ended questions and consists of several coders throughout the analysis phase in order to foster multiple perspectives before a consensus is reached concerning the meaning of the data (Hill et al., 2005). Key components of CQR include the following: (1) data is gathered using open-ended questions, (2) relies on words to describe a phenomena over numbers, (3) a small number of cases are extensively studied, (4) the context of the whole case (or transcript) informs specific parts of the experience studied, (5) the coding process is inductive as conclusions are informed from the data, (6) codes are the result of consensus among the research team, (7) one or two auditors check consensus, (8) the research team continuously goes back to the raw data to inform any changes to the analysis (Hill et al., 1997). The research team, comprised of an auditor and two undergraduate research assistants as coders, created a coding manual based on preliminary analysis of the transcripts and memos. Of note, coding focused on the primary constructs of interest, feasibility and acceptability. As such, while the NIH Stage Model for Behavioral Intervention Development framework guided the focus group agenda, an iterative process consistent with CQR guided data analysis. Research assistants entered transcript codes into spreadsheets. The coding manual was organized into domains, core ideas, categories, and sub-categories. This methodology is consistent with the three general steps of CQR, which are (1) divide data into domains, (2) construct core ideas within each domain, and (3) cross analyze the data to develop categories consistent with the core ideas within domains (Hill et al., 1997). The auditor reconciled disagreements across research

assistants, and cross checked the research assistants coding with the focus group transcripts.



## **Chapter 3**

### **Results**

#### **Recruitment**

Of the 422 student-athletes invited to participate in the study, 71 responded. Of those who responded, 52 expressed interest in participating in this study, 10 stated that they were not interested in participating, and 9 were lost to follow-up after requesting to learn more. An additional 22 were lost to follow-up after either scheduling attendance in a focus group and failing to appear or expressing interest and failing to sign-up for an available focus group. In total, 30 student-athletes participated in the focus groups. Of the 30 focus group participants, 12 identified as male and 18 identified as female.

#### **Quantitative Data**

Of the 30 focus group participants, 26 participants completed the Client Satisfaction Questionnaire and additional feasibility and acceptability items. Participants were encouraged to complete the CSQ given their knowledge of SPoRT following the overview of sessions and presentation on some of the content, activities, and handouts included in SPoRT. Given the small size of the dataset, listwise deletion accounted for the two missing items. An overview of these data can be found in Table 3.

**Table 3***Overview of Client Satisfaction Questionnaire (CSQ)*

| Item  | Excellent<br>(4)<br>% (N)                            | Good<br>(3)<br>% (N)                           | Fair<br>(2)<br>% (N)                                 | Poor<br>(1)<br>% (N)                           | <i>M (SD)</i> |
|---|--|--|--|--|---------------|
| How would you rate the quality of the intervention you reviewed?<br>(N=25)                        | 63.0 (17)  | 29.6 (8)                                       | 0.0 (0)  | 0.0 (0)  | 3.68 (.48)    |
|   | Yes, definitely<br>(4)<br>% (N)                      | Yes, generally<br>(3)<br>% (N)                 | No, not really<br>(2)<br>% (N)                       | Definitely not<br>(1)<br>% (N)                 | <i>M (SD)</i> |
| Did you get the kind of intervention you wanted?<br>(N=26)  | 40.7 (11)  | 55.6 (15)                                      | 0.0 (0)  | 0.0 (0)  | 3.42 (.50)    |
|   | Almost all of my needs have been met<br>(4)<br>% (N) | Most of my needs have been met<br>(3)<br>% (N) | Only a few of my needs have been met<br>(2)<br>% (N) | None of my needs have been met<br>(1)<br>% (N) | <i>M (SD)</i> |
| To what extent has our intervention met your needs?<br>(N=26)                                     | 55.6 (15)  | 40.7 (11)                                      | 0.0 (0)  | 0.0 (0)  | 3.48 (.50)    |
|   | Yes, definitely<br>(4)<br>% (N)                      | Yes, I think so<br>(3)<br>% (N)                | No, I don't think so<br>(2)<br>% (N)                 | No, definitely not<br>(1)<br>% (N)             | <i>M (SD)</i> |
| If a friend were in need of similar help, would you recommend our intervention to him/her? (N=26) | 63.0 (17)  | 33.0 (9)                                       | 0.0 (0)  | 0.0 (0)  | 3.65 (.49)    |

| Item  | Very satisfied<br>(4)<br>% (N)              | Mostly satisfied<br>(3)<br>% (N)        | Indifferent or mildly dissatisfied<br>(2)<br>% (N) | Quite dissatisfied<br>(1)<br>% (N)                 | <i>M (SD)</i> |
|---|---|---|--|--|---------------|
| How satisfied are you with the amount of help you received?<br>(N=26)                                   | 63.0 (17)                                   | 29.6 (8)                                | 3.7 (1)  | 0.0 (0)  | 3.62 (.57)    |
|   | Yes, it helped a great deal<br>(4)<br>% (N) | Yes, it helped somewhat<br>(3)<br>% (N) | No, it didn't really help<br>(2)<br>% (N)          | No, it seemed to make things worse<br>(1)<br>% (N) | <i>M (SD)</i> |
| Has the intervention you reviewed helped you to deal more effectively with your problems?<br>(N=26)     | 29.6 (8)                                    | 55.6 (15)                               | 11.1 (3)   | 3.7 (1)  | 3.19 (.63)    |
|   | Very satisfied<br>(4)<br>% (N)              | Mostly satisfied<br>(3)<br>% (N)        | Indifferent or mildly dissatisfied<br>(2)<br>% (N) | Quite dissatisfied<br>(1)<br>% (N)                 | <i>M (SD)</i> |
| In the overall, general sense, how satisfied are you with the intervention you have reviewed?<br>(N=26) | 51.9 (14)                                   | 44.4 (12)                               | 0.0 (0)  | 0.0 (0)  | 3.54 (.51)    |
|   | Yes, definitely<br>(4)<br>% (N)             | Yes, I think so<br>(3)<br>% (N)         | No, I don't think so<br>(2)<br>% (N)               | No, definitely not<br>(1)<br>% (N)                 | <i>M (SD)</i> |
| If you were to seek help again, would you come back to engage in this intervention?<br>(N=26)           | 51.9 (14)                                   | 40.7 (11)                               | 3.7 (1)  | 0.0 (0)  | 3.50 (.58)    |

Participants expressed general satisfaction with SPoRT, with an average total score of 28 ( $N = 25$ ,  $SD=3$ ) out of 32 on the CSQ, with higher scores expressing greater satisfaction. Of note, scores of three or above reflect a positive evaluation, while scores of two or below reflect a negative evaluation. For example, answer options can include: 4 = very satisfied, 3 = mostly satisfied, 2 = indifferent or mildly dissatisfied, and 1 = quite dissatisfied. All eight items received mean scores of three or above, reflecting general satisfaction with SPoRT. Three items received scores of two or below, reflecting indifference or mild dissatisfaction. However, mean scores were still above 3. These items included how satisfied are you with the amount of help you received, if the intervention you reviewed helped you to deal more effectively with your problems, and if you were to seek help again, would you come back to engage in this intervention.

Results detailing the degree of comfort discussing the topics included in SPoRT can be found in Table 4.

**Table 4**

*Ability to Discuss Difficult Topics*

| Topic                              | Very Easy<br>(1) | Easy<br>(2)    | Neutral<br>(3) | Hard<br>(4)    | Very<br>Hard<br>(5) | <i>M (SD)</i> |
|------------------------------------|------------------|----------------|----------------|----------------|---------------------|---------------|
|                                    | % ( <i>N</i> )   | % ( <i>N</i> ) | % ( <i>N</i> ) | % ( <i>N</i> ) | % ( <i>N</i> )      |               |
| Dating Violence<br>( <i>N</i> =26) | 10.3 (3)         | 34.5 (10)      | 27.6 (8)       | 17.2 (5)       | 0.0 (0)             | 2.58<br>(.95) |
| Sexual Assault<br>( <i>N</i> =26)  | 6.9 (2)          | 17.2 (5)       | 31.0 (9)       | 34.5 (10)      | 0.0 (0)             | 3.04<br>(.96) |
| Consent<br>( <i>N</i> =26)         | 20.7 (6)         | 55.2 (16)      | 6.9 (2)        | 6.9 (2)        | 0.0 (0)             | 2.00<br>(.80) |

| Topic                                      | Very Easy<br>(1) | Easy<br>(2)    | Neutral<br>(3) | Hard<br>(4)    | Very<br>Hard<br>(5) | <i>M (SD)</i>  |
|--|------------------|----------------|----------------|----------------|---------------------|----------------|
|  | % ( <i>N</i> )   | % ( <i>N</i> ) | % ( <i>N</i> ) | % ( <i>N</i> ) | % ( <i>N</i> )      |                |
| STIs<br>( <i>N</i> =25)                    | 17.2 (5)         | 27.6 (8)       | 31.0 (9)       | 6.4 (2)        | 3.4 (1)             | 2.44<br>(1.04) |
| Dating<br>Relationships<br>( <i>N</i> =26) | 27.6 (8)         | 31.0 (9)       | 20.7 (6)       | 6.9 (2)        | 3.4 (1)             | 2.19<br>(1.10) |
| Sexual<br>Encounters<br>( <i>N</i> =26)    | 10.3 (3)         | 37.9 (11)      | 31.0 (9)       | 6.9 (2)        | 3.4 (1)             | 2.50<br>(.95)  |

In terms of intervention delivery, the majority (62%, *N*=18) of participants noted a preference for receiving SPoRT across four weeks, with four one hour and fifteen-minute sessions occurring in the evenings. The majority of students (55%, *N*=16) also indicated a preference for engaging in SPoRT during their freshman year. When asked about preferences towards the format of the activities embedded within SPoRT, 76% (*N*=22) of participants identified a preference for games over videos (27.6%, *N*=8), role-play activities (31%, *N*=9), or audio recordings (3%, *N*=10).

### **Qualitative Data**

Following a CQR approach, domains and associated core ideas, categories, and sub-categories were developed and organized into a coding manual which can be found in full in Table 5. Frequencies were not included as percentages, as CQR encourages utilizing labels to describe frequency. These labels include general, typical, and variant. General reflects a core idea, category, or sub-category included in all or all but one of the focus groups. Typical reflects a core idea, category, or sub-category included in more than half of the focus groups but less than all but one of the focus groups. Variant reflects

a core idea, category, or sub-category included in at least two of the focus groups to the cutoff for typical. The label rare is used when a code idea, category, or sub-category is only included in one focus group.

**Table 5**

*Domains and Associated Core Ideas, Categories, and Sub-Categories from Focus Groups*

| Domain      | Core Idea  | Category   | Sub-category   |
|-------------|--|--|--|
| Feasibility | <ul style="list-style-type: none"> <li>Intervention length (General)</li> <li>Intervention timing (General)</li> </ul> | <ul style="list-style-type: none"> <li>Length of sessions (Typical)</li> <li>Amount of sessions (Typical)</li> <li>When in the year (General)</li> <li>Time of day (Typical)</li> <li>Day of week (Typical)</li> <li>Individual Schedules (Typical)</li> </ul> | <ul style="list-style-type: none"> <li>Keeping everyone's attention (Typical)</li> <li>Module length, activities and discussions (Typical)</li> <li>Pre-season (General)</li> <li>Camp (Rare)</li> <li>In season (Typical)</li> <li>Out of season (Typical)</li> <li>Morning, afternoon, evening (Typical)</li> <li>Weekday, weekends (Typical)</li> </ul> |

| Domain        | Core Idea   | Category  | Sub-category   |
|---------------|---|---|--|
| Acceptability | <ul style="list-style-type: none"> <li>Intervention group size (Typical)</li> </ul> | <ul style="list-style-type: none"> <li>Small group (Typical)</li> </ul>   | <ul style="list-style-type: none"> <li>Accessibility (Typical)</li> <li>Comfortability (Typical)</li> </ul>  |
|               | <ul style="list-style-type: none"> <li>Group dynamics (Typical)</li> </ul>          | <ul style="list-style-type: none"> <li>Gender (Typical)</li> <li>Age and academic year (Typical)</li> <li>Facilitators (Variant)</li> <li>Interaction styles (Typical)</li> </ul>   | <ul style="list-style-type: none"> <li>Cliques (Variant)</li> <li>Taking it seriously (Variant)</li> <li>Planting seeds (Typical)</li> <li>Senior team leaders (Rare)</li> </ul> |
|               | <ul style="list-style-type: none"> <li>Intervention content (General)</li> </ul>    | <ul style="list-style-type: none"> <li>Relatability (General)</li> <li>Activities (General)</li> <li>Interactive modules (Typical)</li> <li>Discussions (Typical)</li> <li>Gender-inclusive (Rare)</li> <li>Depth (Variant)</li> <li>Healthy relationships (Typical)</li> <li>Hook-up culture (Rare)</li> <li>Emotion regulation (Typical)</li> </ul> | <ul style="list-style-type: none"> <li>To students (Typical)</li> <li>To student-athletes (Typical)</li> </ul>   |

| Domain | Core Idea  | Category   | Sub-category |
|--------|--|--|--------------|
|        | <ul style="list-style-type: none"> <li>Retention (General)</li> <li>Content to keep (General)</li> <li>Suggestions (General)</li> <li>Modifications (Typical)</li> </ul> | <ul style="list-style-type: none"> <li>Holding onto information (General)</li> <li>Applying information (General)</li> </ul> |              |

***Feasibility***

Core ideas concerning the feasibility of SPoRT included intervention length, intervention timing, and intervention group size. Within intervention length, length of sessions and amount of sessions were included as categories, with attention and module length as sub-categories. Within intervention timing, categories included when in the year, time of day, day of the week, and individual schedules. Sub-categories for when in the year included pre-season or camp, in-season, or out of season; sub-categories for time of day included mornings, afternoons, or evenings; and sub-categories for day of the week included weekdays or weekends. Within intervention group size, categories included small groups. Sub-categories for small groups included accessibility and comfortability. Those categories and sub-categories are described below, with examples.



**Intervention Length.** Student-athletes noted that they found the intervention length, including length of sessions and amount of sessions, not only feasible, but a strength of SPoRT. Given the amount of content included and amount of time allotted between sessions (six days, one session a week), four one hour and fifteen-minute sessions were deemed appropriate and according to one male student-athlete “very digestible.” Similarly, female student-athletes commented on the benefits of both the amount of and length of sessions:

I think it is also the fact that it's over multiple days it's not like the same time all at once is great because I think it's creating a long-term narrative versus just I am here to sit here for 3 hours and have to just pay attention and then I leave.

Further, student-athletes also acknowledged that this structure allows for students to remain engaged in the content. Such a format also increases comfort with disclosure. For example, a male student-athlete noted the following:

Okay, so I think just being there four days, one day a week, I think it would build a bond between the team, especially with the same, the same people within the group.

When asked about the time allotted for activities and discussions, student-athletes responded positively. Two female student-athlete stated:

I liked them, I felt like they were not over strenuous or invasive or overly time consuming. It really drove the points.

Yeah, the 10 minutes and the 15 is a good length because it's not so long that you zone out, but it was not so short that it was like in and out.

**Intervention Timing.** When presented options for the timing of the intervention, student-athletes expressed a preference for either pre-season or during the beginning of the athletic season. For example, a male student-athlete expressed the following:

Definitely preseason. When you are getting acclimated. If it is at a time when you are getting reacclimated, if something like this comes along, it can be very beneficial.

Participants also noted time constraints related to off-campus athletic competitions. In addition, they highlighted the need to consider freshmen, by making sure they receive the information included in SPoRT before becoming accustomed to the college atmosphere. Another male student-athlete stated:

I also think preseason for my group just because that's when all the freshmen start to come in and you got to like, I guess, bring the message out early before seasons start so that it's there.

Other preferences included engaging in SPoRT in the evenings during the week, as there are fewer classes in the evening, and the weekends are often reserved for competitions and other commitments. A female student-athlete noted her preference for the evening: “probably the evening because, like, a student-athlete schedule is packed.”

Some student-athletes recommended replacing a practice session with SPoRT, as doing so would strengthen motivation to participate in SPoRT. One male student-athlete described:

I think if you can get into, like ending practice early and having a meeting people will be more inclined to pay attention, because I know whenever we have

meetings after practice and we have just work our asses off and have work to do or meetings for club no one really wants to go into something they just see as mandatory session.

Across focus groups, student-athletes shared a preference for replacing or augmenting practice time with SPoRT due to their busy schedules.

**Intervention Group Size.** Smaller group sizes of up to eight to ten student-athletes provided student-athletes with an increased sense of comfort when discussing difficult topics, such as STIs.

It's very small and since we are doing it with the same group each week, I feel like it'd be more comfortable environment to speak in.

Not only does a small group size foster a safe environment, but it contributes to an active learning environment where student-athletes can share their thoughts and experiences.

I just like the smaller better because it's more in depth and I think creates a better environment and a better, also, speaking environment and trust within people as opposed to that one it's like here's something we have to do and we're just going to get it over with.

Taken together, small group sizes are a strength of SPoRT and identified as the preferred format across focus groups.

### ***Acceptability***

Core ideas related to the acceptability of SPoRT were group dynamics, intervention content, retention of intervention content, content to keep, suggested content, and content requiring modification. Categories embedded within group dynamics

included gender, age and academic year, facilitators, and interaction styles. Sub-categories included cliques, taking the intervention seriously, planting seeds, and utilizing senior team leaders. Within intervention content, categories included: relatability, activities, interactive modules, discussion-based modules, gender-inclusive content, depth of content, healthy relationships, hook-up culture, and emotion regulation. Sub-categories of relatability specifically included tailing to students and to student-athletes. Finally, categories of retention of intervention content included holding onto information and applying the information. Those categories and sub-categories are described below, with examples of each.

**Group Dynamics.** Group dynamics were most prominently discussed in terms of age and academic year, in addition to interaction styles. Student-athletes noted a preference for diversity among SPoRT group members as it pertains to academic year in order to assist those younger team members, particularly freshmen, feel comfortable with their fellow team members. One female student-athletes explained:

Maybe breaking senior cliques and freshman cliques and mixing them grade wise will help because people who are more mature about handling and opening up a little more than maybe like a freshman who's maybe a little more immature.

Other group dynamics included interaction styles, which speaks to how group members feel most comfortable interacting with one another. For example, participants acknowledged that some group members may prefer interactive content and competition-based activities, while others may prefer watching videos and listening to discussions. As such, one male student-athlete suggested the following:

One idea for it maybe is have one, at the beginning, people might not be as comfortable with the other people there. So I mean a little bit less still interactive, but like a little bit less person to person until they get more comfortable. And later on, you could do ones that are more interactive with more of the people once they are more comfortable.

Student-athletes also described strategies that could help improve engagement in the group and session material. One such strategy includes involving a student team-leader as a co-facilitator, which participants found appealing. One male student-athlete explained several benefits for including student team leader as a co-facilitator:

I think having a team leader saying that guys let's take this seriously will help to reinforce that because I think if it was just someone in an outside source trying to facilitate this it would not be taken seriously.

**Intervention Content.** This category and its related sub-categories refer to student-athlete's expressed preference for specific modules and the content embedded within those modules. For example, content perceived favorably by student-athletes was relevant to student-athletes and their non-athlete counterparts. Other such preferences included interactive content (i.e., active discussions and competition-based activities), in depth discussions, and information that is gender-inclusive in its presentation. For example, a male student-athlete spoke specifically to the activities included within SPoRT:

I like the activities. They were interactive. And that's one thing I feel like with an activity we have to make it interactive. The less we have people pitch in the less they are gonna pay attention.

I think a lot of athletes learn from hands-on doing things. If you are using athletes, these are people who use their hands use their eye-hand coordination. They learn by doing most of the time.

This is in contrast to other interventions, which focus on lecture-based learning. The interactivity of SPoRT appeared appealing to student-athletes, as it increases participant's attention, and possibly engagement in the session material.

Consistent across focus groups, student-athletes discussed their enjoyment of the mindfulness exercise included in SPoRT. They also highlighted the benefits of the content on emotion regulation. A male student-athlete stated that:

My personal favorite is just the breathing and emotional exercises. Sometimes when I am anxious it's something I forget to do. I forget to stop and decompress. So, I just like taking a step back.

Female student-athletes agreed, acknowledging the following:

I really like how the program started off, like when we talked about emotional management and detaching yourself from emotion and knowing that you are not your emotions

But, then the first one talked about mindfulness and more of your own emotions and regulating your emotions and that was not something I quite expected to be in it but I think it really important and is not talked about enough

Other student-athletes identified the benefits of including additional content on hook-up culture and casual sexual relationships. A female student-athlete said:

I think maybe there should be a small section about hookup culture. Especially, college students see that a lot and like they might not know how to feel with it or go into it or feel pressured to go into something they are not comfortable with.

But I think hookup culture is a big thing with college students.

As such, student-athletes spoke both of the content they identified as crucial to the goal of SPoRT— to teach student-athletes about healthy relationships—and content that is not yet included in SPoRT that may assist student-athletes in establishing and maintaining healthy relationships.

**Retention.** Student-athletes consistently noted the benefits of receiving and reviewing information primed for retention and able to be applied in everyday situations. For example, a male student-athlete described SPoRT as something “I wanted to pay attention because I felt it would be very useful for me to like, understand and know more about it.” Another benefit of SPoRT—the amount and length of sessions across four weeks—includes reinforcing session content between and during sessions. Student-athletes perceived this as beneficial for retention. This was compounded by the order of the session material, as noted by a female student-athlete: “I feel like the way you chose the order is like the best way like learn the information.”

**Content to Keep.** Student-athletes identified several positive features of the SPoRT intervention content, including learning about and engaging in a mindfulness exercise, interactive and competition-based activities, a variety of activity formats, and consistent check-ins and group discussions. Further, student-athletes specifically compared the content and delivery of SPoRT to the content and delivery of other NCAA sanctioned interventions as described below:

...this kind of stuff it's usually like, an hour-long meeting of just somebody like talking at you, and I feel like this can be an awesome way to like break it up, get involved and interact like not just sit down and stare at a PowerPoint and listen the whole time.

**Suggestions.** Some participants expressed interest in including additional information in SPoRT not already embedded within the modules. One such topic discussed frequently across focus groups was the casual hook-up culture of college. Other participants discussed creating multiple activities for one topic in an effort to increase engagement in the session material.

I just think it should be something where it's individualized... because you know as people, we are very ... some people lose track and stuff like that.

As such, any changes or additions to the modules were coded as suggestions and reflect modifications that can be made to improve SPoRT.

**Modifications.** Content that student-athletes identified as removable was identified as content subject to modification. For example, a female student-athlete discussed removing take home activities designed to reinforce session content. She



stated: “Honestly, I don't really like that part that much. It feels more like a class and a chore than a training.” Other modifications student-athletes discussed were regarding specific activities such as the consent and condom use activities in SPoRT. In discussing the condom use activity, a male student-athlete specified the following:

The concept of having a relay race is cool in the aspect that it's like everybody working together and trying to figure things like that and maybe there's a learning term for it but, tying back into what I was saying, like, that aspect of having a relay race might make it more of a joke than usual sexual interventions...I don't know I feel like the idea of the relay race will make it too informal if that make sense. Again, I would not know unless it started.

This student-athlete acknowledged that more interactive activities may be viewed as less serious than some of the other activities that focus exclusively on reinforcing SPoRT's content without an interactive component. However, there was no consensus on material that should be removed across focus groups. Rather, student-athletes acknowledged their personal preference.

## **Chapter 4**

### **Discussion**

Developed in collaboration with Division III student-athletes, SPoRT represents an inclusive, targeted, data- and CBT skills-driven intervention. SPoRT was designed to suit student-athletes' needs and preferences. As such, student-athletes expressed satisfaction with SPoRT's content in addition to the delivery of that content. This includes the activities and other modules within SPoRT, the number of sessions, the length of those sessions, and session group sizes.

Quantitative and qualitative data analysis revealed that student-athletes found SPoRT to be a feasible and acceptable way to promote healthy relationships among student-athletes. Quantitative results identified student-athlete's comfort with discussing difficult topics included within SPoRT, such as dating violence, safe sex, and consent. These data also identified student-athletes' willingness to participate in SPoRT and their preference for intervention delivery in the evenings, across four weeks, with four one hour and fifteen-minute sessions. Qualitative results revealed specific strengths of SPoRT, such as its appropriateness and relevance to student-athletes, interactive modules, order in which content is delivered, the variety of content (i.e., healthy relationship and safe sex behaviors), use of emotion regulation and mindfulness-based coping strategies, small group sizes, and senior team leaders as co-facilitators. As described, a student team-leader as a co-facilitator enforces the seriousness of the content. Not only would this co-facilitator share responsibility for delivering portions of the intervention, but they serve as a reminder that SPoRT addresses difficult subjects within a safe and welcoming

space. This is of particular significance, as increasing the participants' willingness to pay attention to and discuss the material may correspond to how they perceive that material.

These results likely reflect the development of SPoRT as a collaboration between researchers and student-athletes, as described in Phase 1. While these data continue to contribute to our understanding of our target population, they also reflect some necessary changes to SPoRT. These changes including allowing flexibility in the activities included within the session modules and the addition of content that speaks to casual relationships or hook-ups. This can be done through adding alternative activities based on athletes' engagement in SPoRT and embedding content that describes student-athlete hook-up culture.

Making the proposed changes identified across focus groups can increase student-athletes' satisfaction with SPoRT and improve outcomes. For example, including alternative activities allows for our facilitators to utilize those activities best suited to the group. Hands-on or physically oriented learners can engage in more active activities, while verbal or visual learners can take part in other activities that speak to both their learning style and strengths. This is consistent with previous literature stating student groups vary in learning style (Felder & Brent, 2005; Graf et al., 2007). Further, hook-up culture has been established as an important topic to include within SPoRT. As such, by including discussions concerning risk factors associated hook-up culture, we will increased the relevance and relatability of SPoRT. For example, hook-up culture can be used to describe sexual risk behaviors and the subsequent importance of practicing safe sex strategies in an attempt to reduce risk for STIs and unintended pregnancy.

Limitations of this study include how the structure and content of SPoRT was presented to student-athletes. Rather than engage participants in the full SPoRT in full intervention, participants received an overview of SPoRT while engaging in select discussions and activities. As such, these data do not reflect student-athletes' perception of the full intervention. While this was done intentionally given certain constraints as the result of COVID-19, it is possible that intervention trial results may differ based on student-athletes' ability to engage in SPoRT as intended, in four one hour and fifteen-minute sessions across four weeks.

Future directions should include analyzing the preliminary efficacy of SPoRT following an open pilot trial of the full SPoRT intervention. This is consistent with the NIH Stage Model for Behavioral Intervention Development (Onken et al., 2014). Identifying preliminary efficacy through an open pilot trial is included within Stage 1 and answers the question *does it work?* Following completion of an open pilot trial, Stage II consists of randomized clinical trials to evaluate the efficacy of a manualized and pilot-tested intervention (Rounsaville et al., 2001). More than one RCT is often included within Stage II, as Stage III involves generalizability to a larger sample and implementation concerns, in addition to cost effectiveness and marketing issues (Rounsaville et al., 2001).

Other future directions involve identifying the generalizability of SPoRT. While SPoRT was designed to target the needs and behaviors of Division III student-athletes, future studies can assess the generalizability of SPoRT to other NCAA divisions. Identifying specific differences between Division I, Division II, and Division III student-athletes can inform changes needed to modify SPoRT to target either NCAA Division I,

II, or III student-athletes at a variety of Universities. As such, it is our future goal to understand the how behaviors, needs, and preferences differ across Division I, Division II, and Division III student-athletes. Ultimately, it is my hope that SPoRT can meet the needs of student-athletes across divisions, therefore having a positive impact on healthy relationships among all NCAA student-athletes.

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## Appendix

### Feasibility and Acceptability Handout

We want to create an intervention that teaches healthy relationship skills by focusing on particular risk factors for sexual violence and sexual risk behaviors. Our goal is to speak to student-athlete's strengths in order to make this an effective intervention that could have a positive impact on the community.

**1. Would you come to a group that discussed topics like those presented in SPoRT?**

Please circle response    Yes            No

**Why or why not?**

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**2. How hard would it be to talk about violence in dating relationships in a group with your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**3. How hard would it be to talk about sexual violence in a group of your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**4. How hard would it be to talk about safe sex in a group of your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**5. How hard would it be to talk about consent in a group of your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**6. How hard would it be to talk about sexually transmitted infections (STIs) in a group of your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**7. How hard would it be to talk about your dating relationships in a group of your fellow teammates?**

Very Easy            Easy            Neutral            Hard            Very Hard

**8. How hard would it be to talk about your sexual encounters in a group of your fellow teammates?**

Very Easy      Easy      Neutral      Hard      Very Hard

**9. Are there any topics too hard to talk about?**

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**10. Are there any other topics you would like to see included?**

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**11. Which of the following would you rather attend?**

**Please circle the best option.**

Four weekday afternoons for 1 hour and 15 minutes each, over 4 weeks

Four weekday evenings for 1 hour and 15 minutes each, over 4 weeks

Two weekday afternoons for 2 hours and 30 minutes each, over 2 weeks

Two weekday evenings for 2 hours and 30 minutes each, over 2 weeks

Other: \_\_\_\_\_

**12. If you could have a \$200 in gift cards what store would you choose?**

VISA Amazon Apple Best Buy Target Netflix Fandango Wawa Starbucks Einstein's

Other: \_\_\_\_\_

**13. What kinds of activities would help make SPoRT more engaging?**

Games      Videos      Acting out scenes      Audio Recordings

Other: \_\_\_\_\_