

Intimate Partner Violence among Female Students at a
Rural University in Limpopo Province, South Africa:
A Mixed Methods Study with Intervention Implications

by

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Thesis submitted in partial fulfillment of
the requirements for the degree of
Master of Science in the Duke Global Health Institute
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ABSTRACT

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Abstract

Background: Limpopo Province has the highest rates of intimate partner violence (IPV) in South Africa, with data suggesting that over half of women experience IPV in their lifetimes. However, data among young, university-attending women in this province is lacking. This study aimed to estimate the prevalence of IPV victimization among university women and examine factors associated with IPV history. The study also aimed to explore how university women recognize IPV, suggest ways victims seek help, and identify a victim's coping strategies using qualitative methods.

Methods: This study utilized a mixed methods approach and was conducted at the University of Venda (UNIVEN), a rural-based university in Vhembe district. Convenience sampling was used to recruit female participants who were currently enrolled at the university, aged 18 to 31 years, and currently in a relationship or in a relationship within the past year. 113 females were enrolled in the study. After obtaining written informed consent, we conducted a self-administered cross-sectional survey. IPV was measured using the Revised Conflict Tactics Scale (CTS2), which assessed for both past year and lifetime IPV experiences. To explore the association between IPV and other factors, other measures included an alcohol use screening tool (AUDIT-C) and a measure assessing attitudes toward gender roles. Descriptive statistics and Fisher's exact tests were performed to assess the relationship between potential risk factors and IPV.

Logistic regression analyses examined the associations between exposure variables and lifetime IPV victimization. Short explanatory model interviews (SEMI) examining women's perceptions of IPV-related issues using a custom vignette were administered directly following the survey. The interviews were recorded and later analyzed using thematic analysis.

Results: 92.23% of participants reported being victims of any form of IPV in their lifetime. Psychological aggression (82.52%) was the most prevalent type of lifetime violence, followed by sexual coercion (73.79%), physical assault (37.86%), and injury (15.53%). The joint frequency distribution of IPV victimization by subscale reveals that 9.71% of participants reported being victims of all four forms of IPV at least once in their lifetime, while most respondents reported experiencing two types of IPV (35.9%).

Compared to having no sexual partners in the past year, having two or more sexual partners was significantly associated with higher odds of being a lifetime victim of sexual coercion ($p = 0.031$; OR: 4.41; 95% CI 1.14 - 17.02). Study findings support an increased odds of lifetime IPV ($p = 0.030$; OR: 7.04; 95% CI 1.21 - 40.97) and physical assault ($p = 0.010$; OR: 3.77; 95% CI 1.37 - 10.40) for participants who personally knew an IPV victim at UNIVEN compared to women who did not personally know a victim.

Participants who disagreed or strongly disagreed that IPV should be viewed as a crime were 11.37 times more likely to be victims of lifetime sexual coercion than those who agreed ($p = 0.027$; OR: 11.37; 95% CI 1.32 - 97.82). The SEMI revealed most women

recognized IPV in the vignette, and the recommended help-seeking behaviors included seeking informal and formal help, leaving the relationship, and changing behavior.

Conclusions: IPV prevalence among the study sample was reported nearly universally.

Number of sexual partners, personally knowing a victim of IPV at the university, and attitudes toward gender roles were significantly associated with having a history of IPV.

University commitment and multi-sectoral collaboration at all levels are critical for the provision of resources, services, and violence prevention efforts. Future research is needed to inform evidence-based interventions that will reduce victimization by addressing risk factors, under-reporting, and barriers to seeking help.

Dedication

I proudly dedicate my thesis to those who have remained steadfast in my corner: my Heavenly Father, my loving parents, family, friends, and colleagues. Thank you for encouraging me when I felt discouraged, for affirming the great potential in me every time I fell down, for reminding me of my purpose in pursuing my Master's degree, and for making sure I kept an eternal perspective and remembered the Truth. This is for you.

I especially want to thank those who brought my research proposal to life—the women at UNIVEN who opened their arms and their hearts to my research team and me. I admire your pure honesty, vulnerability, and openness in participating in this research. I value your rawness and humility as you shared the beauty and the flaws of your country, your culture, and even yourselves. Violence doesn't stop at victimhood. You are survivors. Thank you for this reminder; your strength will continue to propel and inspire me daily.

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1. Introduction

Intimate partner violence (IPV) is one of the most common forms of violence against women around the world, occurring across religion, cultural background, and socioeconomic class. While IPV can affect both men and women, its global burden results primarily from perpetration by male intimate partners on female victims. The World Health Organization (WHO) defines IPV as physical, sexual and emotional abuse, and controlling behaviors by an intimate partner. According to WHO (2012), physical violence includes slapping, hitting, kicking and beating; sexual violence can be characterized by forced sexual intercourse and other forms of sexual coercion; emotional or psychological abuse involves insults, belittling, constant humiliation, intimidation, and threats; and controlling behavior includes isolating a person from family and friends, monitoring their movements, and restricting access to financial resources, employment, education, or medical care. This study will investigate the prevalence of such forms of IPV among a university population and explore perceptions, attitudes, and potential drivers of IPV.

1.1 IPV as a global issue

IPV is a world-wide global health challenge. WHO's "Multi-country study on women's health and domestic violence against women," conducted among more than 24,000 women in 10 countries, found that 13-61% of women reported experiencing physical violence by a partner in their lifetime (Garcia-Moreno et al., 2005). Along with

physical effects, IPV can affect the victim's mental, psychological, behavioral, sexual, and reproductive health. Such violence has direct health consequences and increases the risk of compromised health in the future. Short and long-term health implications of IPV include disability, HIV/AIDS, unwanted pregnancy, infertility, emotional distress, alcohol and drug abuse, unsafe sexual behavior, and death (AIDS-related mortality, maternal mortality, homicide, and suicide). Thus, a history of experiencing IPV is a risk factor for various diseases, conditions, and adverse health outcomes (Krug et al., 2002).

A more recent analysis conducted by WHO (2013) with the London School of Hygiene and Tropical Medicine and the Medical Research Council found that physical and/or sexual IPV affects 30% of all women worldwide. More specifically, the WHO African region exceeds this global average, with 36.6% of women reporting physical and/or sexual IPV victimization. In Sub-Saharan Africa, studies have identified not only effects at the individual level, but also societal implications of IPV. Injuries result in incurred costs to the family, community, employers, and the national economy. In addition to its human costs, violence places an enormous economic burden on societies in terms of lost productivity and increased use of social services (WHO, 2002). This vicious cycle impedes gender equality, which is vital to the development of any country. According to Jewkes et al. (1999), disparities in gender roles further perpetuate violence against women and thus, hinders country growth and development.

1.2 IPV in South Africa

In 2000, interpersonal violence was the second highest leading risk factor for loss of disability-adjusted life years (DALYs) in South Africa (Schneider et al., 2007), which decreased in 2010 to the third leading cause of DALYs according to the Global Burden of Disease Study (Lozano et al., 2010). Abrahams et al. (2009) found that 50.3% of female homicide victims in South Africa were killed by their intimate partners. This IPV mortality rate of 8.8 per 100,000 is 2.5 times higher than the highest comparable rate in any other country. More recent data suggests that IPV accounts for 62.4% of the overall violence burden on women in South Africa (Joyner & Mash, 2012).

The 2016 South Africa Demographic and Health Survey (SADHS) reports that among women 18 years and older, 21% of ever-partnered women reported having experienced physical violence by a partner in their lifetime, and 8% reported experiencing physical violence in the past 12 months. When exploring prevalence of sexual violence among this population, 6% of ever-partnered women reported having experienced sexual violence by a partner in their lifetime, and 2% in the past 12 months (SADHS, 2016). Furthermore, 27.5% of men participating in the South African Health and Stress Study reported using physical violence against their current or most recent marriage or cohabiting partner (Gupta et al, 2008).

In South Africa, studies have found that IPV perpetration by a male partner is a risk factor for HIV infection and alcohol consumption. Dunkle et al. (2004) found that women with violent or controlling male partners are at increased risk of HIV infection, and Jewkes et al. (2002) found that abused women were much more likely to drink alcohol. These figures and known risks highlight the need to understand and address IPV in South Africa.

1.2.1 Risk factors of IPV in South Africa

It is important to consider South Africa's historical and cultural contexts when investigating IPV. A contextual understanding can shed light on the potential risk factors of IPV victimization and perpetuation. As cited by the United Nations Children's Fund (UNICEF, 2014), several studies have attempted to identify the root causes of IPV in South Africa, which include the following:

1) *Social and cultural factors*: The patriarchal culture expects women to be submissive to their husbands while men are entitled as the decision-makers to control women. Traditional gender roles in communities involve women staying at home to raise the family and men going to work to provide for the family financially.

2) *Historical factors*: The country's history of apartheid has led to individuals and communities internalizing the brutality experienced during this era, which has affected their interpersonal and romantic relationships.

3) *Economic factors*: Apartheid worsened the socioeconomic conditions of men and women. Women were and continue to be heavily dependent on their partners for livelihood, which makes it difficult to leave abusive relationships. This economic burden intensified relationship and household stressors, increasing the likelihood of violence.

4) *Popular culture, advertising and the media*: These mediums reinforce gender roles and stereotypes in society.

5) *“Conspiracy of silence”*: Women and children are discouraged by those around them from reporting violence. Some who do report violence get a cold response from the criminal justice system.

Considering the broader context in which IPV in South Africa occurs is critical to understanding the current situation of IPV in this region and the most effective way to address the issue.

1.3 IPV in Limpopo province, South Africa

There has been limited provincial data on IPV prevalence in South Africa until 1998 when the Medical Research Council conducted the *Three Provinces Study* in Mpumalanga, Eastern Cape, and Limpopo provinces to explore gender-based violence (GBV) prevalence. Findings from this study show that 4.5% of women experienced partner physical violence in the past year (Jewkes et al., 1999). However, this study did not capture a community with a representative sample of women and men in the more

rural province of Limpopo. Gender Links, a South African non-governmental organization (NGO), sought to fill this gap and conducted a representative study providing prevalence data on women in Limpopo and comparative data in the form of reports on perpetration by men. Researchers conducted a cross-sectional household survey of women and men using random sampling of 80 wards in the province. Participants had to be 18 years or older and had to reside in the sampled household. Machisa & Chipatiso (2013) found that Limpopo has the highest rates of IPV compared to other provinces in the nation. Figure 1 (below) illustrates that more than three quarters of women interviewed reported some form of GBV at least once in their lifetime and almost half of men interviewed reported ever perpetrating GBV in their lifetime. This GBV measure includes any form of violence within an intimate partner relationship and sexual violence outside IPV.

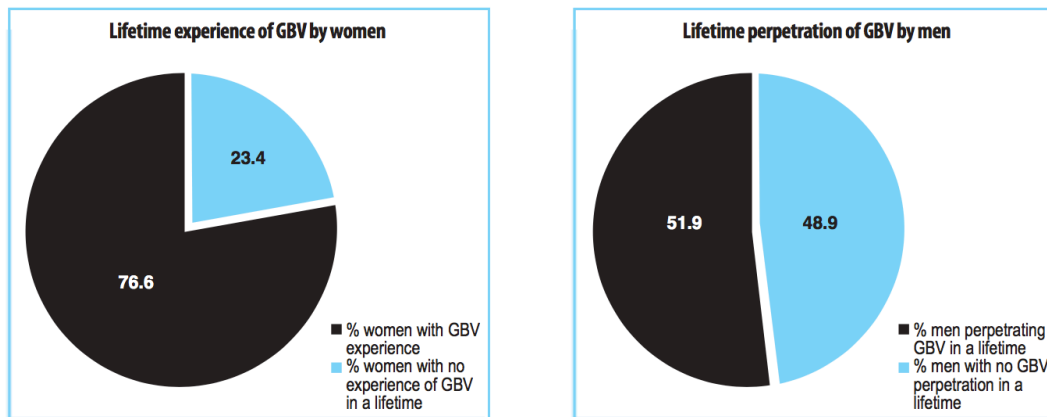


Figure 1: Lifetime experience and perpetration of GBV in Limpopo province.
Adapted from Gender Links (2013).

Findings also identify the most predominant form of GBV experienced by women and perpetrated by men in Limpopo province occurs within intimate partnerships. Nearly 51% of women reported having experienced some form of IPV in their lifetime, and nearly 44% of men admitted to perpetrating some form of IPV at least once in their lifetime, representing averages higher than national data. Figure 2 (below) displays overall IPV lifetime victimization and perpetration as well as different forms of lifetime IPV victimization and perpetration as reported by the participants in the Gender Links study (Machisa & Chipatiso, 2013).

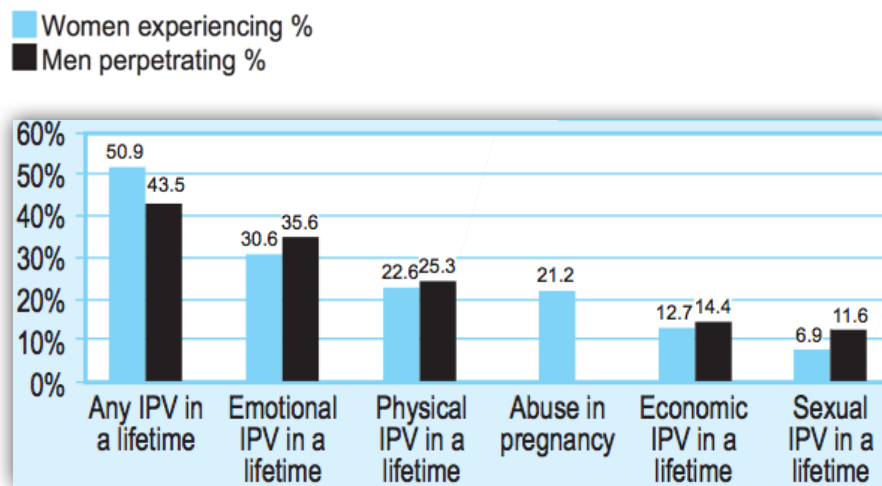


Figure 2: Forms of IPV experience and perpetration in a lifetime in Limpopo province. Adapted from Gender Links (2013).

Research also show disproportionate rates of IPV experience by age. The risk for IPV among women is greatest between the ages of 18-24 years (Black et al., 2010).

According to Decker (2010), an average of 29% of young women ages 20-24 in East and

Southern African regions reported lifetime physical or sexual IPV. Swart (2002) found that 42% of females aged 13-23 years residing in South Africa reported lifetime physical dating violence. In Limpopo province, men in the 18-29 age category comprise 51.7% of IPV perpetrators across all age categories (Machisa & Chipatiso, 2013).

In addition to data at the global, national, and provincial level, Limpopo province's district data reveals the pervasiveness of violence at the local level. While the annual report by the Limpopo Provincial Department of Social Development (2012) does not include data on IPV, it does include data on domestic violence. The highest prevalence of domestic violence in South Africa was within the Vhembe district, with 2,553 cases in the first quarter of 2012-2013. Other research has sought to explore interpersonal violence in Vhembe district, including IPV among HIV-infected pregnant woman and other at risk populations (Matseke et al., 2016; Peltzer & Pengpid, 2013), risk for depression among IPV victims (Madu & Ramashia, 2010), IPV's mental health consequences (Peltzer et al., 2013), drivers of sexual violence (Akinsola & Ramakuela, 2009), and qualitative studies conducted in a local hospital's trauma unit exploring indicators of physical violence (Madzimbale & Khoza, 2010). Although these studies have broadly explored IPV in Vhembe district, data is lacking on IPV among the at-risk population of women ages 18-24. The university setting in Vhembe district provides an ideal setting to capture this data and address this literature gap. Therefore, the purpose

of this study was to address this critical literature gap and investigate the prevalence and perception of IPV among university women in Vhembe district.

1.4 Scope of the research

This study explored IPV victimization among university women in Vhembe district attending the University of Venda (UNIVEN) in the city of Thohoyandou in Limpopo province, South Africa. Rather than only estimating physical and sexual violence, this study investigated the prevalence of all forms of IPV among this population and sought to determine how university women perceive IPV.

There are three primary reasons for investigating prevalence and perception of IPV among this population. First, how women perceive IPV and what help-seeking behaviors they recommend for victims disclose their most-likely response in high-risk, dangerous situations and their potential barriers to seeking help. Second, knowing the prevalence of IPV among university-aged women at UNIVEN will increase awareness and lead to targeted recommendations for preventing and eliminating IPV. Lastly, identifying determinants and factors that play a role in the perpetration of IPV, such as sociodemographic characteristics, alcohol use, and gender roles, will enable specification of prevention tools to address risks, such as targeted education, effective communication, and awareness campaigns. Overall, the findings of this study will contribute new knowledge to the field of IPV research about a constellation of risk

factors related to IPV in Vhembe District, South Africa. The results will help to establish a broader evidence base for the prevention and treatment of abuse and improve outcomes for survivors of IPV in South Africa (Bender, 2016).

1.5 Theoretical framework

This proposed study is based on three theoretical frameworks: 1) Kleinman's Explanatory Model, 2) The Social-Ecological Model, and 3) Grounded Theory. The explanatory model drove the qualitative aspect of the study through Short Explanatory Model Interviews (SEMI), which sought to explore and explain IPV in the context of the participants' social and cultural backgrounds (Lloyd et al., 1998). Researchers have used the social-ecological framework to further understand IPV because it explores the relationship between individual and contextual factors, and it considers violence as the product of multiple levels of influence on behaviors (CDC, 2005). Violence is a result of a complex interaction between the individual, their relationships, and social, cultural, and environmental factors. Using the ecological framework facilitated a more thorough understanding of the complexity of violence, its indicators, determinants, consequences, and best approaches for IPV prevention (Krug et al., 2002). Grounded Theory, developed by Glaser and Strauss (1967), was used as the dominant paradigm for data analysis and will be further discussed in the analysis section.

1.6 Study aims and hypotheses

There are three aims that drove this research investigation. The quantitative aims have corresponding hypotheses.

1) *Estimate* lifetime prevalence of IPV victimization among UNIVEN women by IPV category (psychological, physical, and sexual) using quantitative methods.

The hypothesis for this aim is that more than 30% of UNIVEN women will have experienced some form of IPV in their lifetime.

2) *Examine* the association between IPV prevalence and other factors such as sociodemographic characteristics, alcohol use, and gender roles using quantitative methods. The hypothesis for the second aim is that IPV victimization will be closely related to sociodemographic factors, alcohol use, and gender roles.

3) *Qualitatively explore* how university women perceive and identify IPV, explain potential coping strategies, and identify help-seeking behaviors.

1.7 Research context

This fieldwork research project was conducted to fulfill my graduate degree requirements for Duke Kunshan University and Duke University, but was also made possible through external funding and partnership. In 2017, I was selected to participate in the University of Virginia's (UVa) Minority Health and Health Disparities

International Research Training (MHIRT) program entitled, *UVa MHIRT: Training Future Leaders to Address Global Rural Health Disparities* (Grant Number: T37 MD008659). MHIRT is funded by the National Institutes of Health (NIH). I served as the Graduate Assistant for the South Africa site and mentored a cohort of undergraduate MHIRT scholars. This program required scholars to participate in an “Orientation Week” hosted at UVa, followed by 8 weeks at the South Africa site, and finally an “Analysis Week” at UVa to conclude the program. To meet Duke’s degree requirements of 10 weeks in the field, I traveled to South Africa for 2 weeks before the Orientation Week at UVa. Please see Appendix A for a complete timeline of my fieldwork experience.

I had the unique opportunity to collaborate closely with UVa’s Dr. Karen Ingersoll, one of the site supervisors and primary investigators. As part of this joint project, the research team conducted Ingersoll’s approved research project (referred to as “Study 1” in the consent form; Appendix C) and we also recruited participants for my thesis research (“Study 2”). The studies coincided nicely with each other and had similar topics and aims. UVa has a longstanding 15-year partnership with UNIVEN, which facilitated our entry into this community and made this research possible. This collaboration was essential in gaining access and establishing connections at UNIVEN. These connections enabled us to obtain the necessary resources to conduct research with this community, including local partners and research space.

We had a dynamic and diverse research team that consisted of one MHIRT undergraduate scholar, five undergraduate nursing students enrolled at UNIVEN, one student enrolled in UNIVEN's graduate school, and four students enrolled at the University of Virginia (two undergraduate students, one medical student, and one graduate student). We had a total of 12 investigators on the research team, two being male and 10 being female.

2. Methods

2.1 Methods overview

This study is a cross-sectional study design that employed a mixed methods approach through face-to-face, self-administered surveys and semi-structured, short explanatory model interviews (SEMI) to elicit explanatory models. A mixed methods approach effectively explored the multifaceted and complex nature of IPV both qualitatively and quantitatively. The SEMI used a contextual lens that considered individual perception and recognition of IPV to collect qualitative data. The surveys examined IPV prevalence and its contributing factors for quantitative data collection. These methods elicited sequential forms of data collection, addressed the overall research aims with multiple, complementary phases, and provided more evidence than would only using one approach.

2.2 Setting

This study was conducted in the rural town of Thohoyandou, which is in the northernmost part of South Africa near the neighboring countries of Zimbabwe and Mozambique (Figure 3).



Figure 3: Map of Thohoyandou in Limpopo Province, South Africa

Thohoyandou is the administrative center of Thulamela Local Municipality in Vhembe District (Figure 4).



Figure 4: Map of Thohoyandou in Thulamela Local Municipality, Vhembe District

According to the most recently updated Census data from 2011, Thohoyandou has an area of 46.62 km² and has a population of 69,453 residents and 17,345 households.

The population is 95.47% Black African, 4.09% Indian or Asian, and 0.16% White. There are 11 official languages of South Africa, which does not include local or tribal dialects. In Thohoyandou, the primary language is Tshivenda (84.74%), followed by Xitsonga (2.61%). UNIVEN, which is a South African Comprehensive rural-based university, makes up 2.47 km² of the entire area of Thohoyandou, and has a total enrollment of 13,497 students (2014), 55.3% being female and 44.7% being male.

2.3 Participants

The target population for this study were female students at UNIVEN who fulfilled the following eligibility criteria: 1) Female gender, 2) Between the ages of 18 and 31 years old, 3) Enrolled as a student at UNIVEN at the time of the interview, and 4) Currently in a relationship or has been in a relationship within the past 12 months.

The targeted sample size for this study was 100 female students and was determined by $n = p(1-p)/(s.e.)^2$. We hypothesized that more than 30% of women will have experienced IPV in their lifetime. We wanted to achieve a specific standard error of 0.05 for the prevalence of IPV and estimate the true proportion, p , to an accuracy of no worse than 0.05, or 5 percentage points. Thus, the required sample size was calculated by $n = 0.3(1-0.3) / (0.05)^2$, equaling ≥ 84 participants. We rounded to 100 study participants to ensure an adequate sample size if some surveys were unusable.

Although English is generally not the student's home language, all students at UNIVEN speak English, which is the university's language of instruction. Therefore, all study recruitment and data collection were conducted in English.

Our research team used convenience and snowball sampling as the primary sampling methods. We posted flyers in English to promote the study around campus in areas such as on-campus residence halls, classrooms, hallways, the cafeteria, and other public posting spaces. The flyer advertised a study on "Alcohol, sex and relationships" and requested that those interested in the study contact the researcher phone number provided and/or walk into our on-campus venue where we conducted interviews Monday through Friday during the hours of 10:00 am – 5:00 pm (Figure 5).



Figure 5: Participant Recruitment Flyer

We also recruited female participants by approaching women who were walking around campus, sitting down at picnic tables and benches, or those in the cafeteria. Additionally, we went door-to-door at both the on-campus and off-campus residence halls to recruit research study participants. When approaching female students, we started with an introduction, asked if they were busy, and then proceeded to tell them about the study and ask if they were interested in participating. It was important for us to know the participant's first name during this interaction to create a personable, welcoming, and comfortable environment. However, the participants' names were not recorded, written down, or attached to the participants' data.

We employed snowball sampling by advising participants they could refer others to participate in the study if they chose to do so. Participants also used their social networks to refer the researcher to other women who could participate in the study. While we employed three methods of participant recruitment, approaching female students was our most successful recruitment method, and most female participants were enrolled in the study using this strategy.

2.4 Procedures

To facilitate our work on campus, it was critical to build rapport with the community first. This was done by connecting with our local partners, attending culturally relevant events, assisting at a school fair, sitting in on a nursing school lecture

with are local partners, joining a meeting for Mandela Day volunteer efforts, and even partaking in tennis practice. These efforts helped mitigate feelings of division and being outsiders, and disseminated a message of genuine interest in their community. Thus, our research efforts on campus were universally accepted, and we received no opposition when recruiting students for study enrollment.

If the participant agreed to participate in the study, we relocated to a private space to ensure the participant's privacy and confidentiality. These locations included private residence rooms, picnic tables, benches outside of the library, and empty classrooms. After finding an appropriate location, we made sure the female student was eligible to participate by asking them three screening questions—1) What is your age?, 2) Are you currently enrolled as a student at UNIVEN?, and 3) Are you currently in a relationship or have you been in a relationship in the past 12 months? Refer to Appendix B for the screening tool. The screening process was performed prior to administering the informed consent and confirming the participant's enrollment in the study. If interested participants did not meet the inclusion criteria, we thanked them for their time and interest, and did not continue with any further study procedures. We proceeded to the informed consent process with those who met the inclusion criteria.

During the informed consent process, we explained to the participant what a consent form is and how it will thoroughly explain to them the purpose of the study,

what will be expected of them, the time required, any possible risks or benefits resulting from the study, a confidentiality claim and agreement, information on the freedom to withdraw from the study at any time as they please, that there would be no compensation for their participation, and the contact information of the primary investigators and the University of Virginia (UVa) Institutional Review Board (IRB). Please refer to Appendix C for the consent form and Appendix D for the interviewer script for the informed consent process.

After providing the participant with a hard copy of the consent form, we asked them to read through the form on their own and made sure they were aware that the researcher was there to answer any questions if necessary. After the participant finished reading the form, we reiterated the most important aspects of the consent form and asked the participant what questions they had. If they had no further questions, we asked them to sign the form, verifying they understood all the information in the consent form and agreed to participate in the study. The subjects were not fully enrolled in the study until they voluntarily agreed to participate and understood the entirety of the study, including risks and benefits, their right to their privacy and confidentiality, and the nature of the data collection.

Data collection was only conducted by trained and IRB approved research assistants and team members. The local partnership was facilitated by Dr. Mary

Maluleke of UNIVEN's School of Nursing and a total of 11 student researchers, as previously described. Due to the multi-faceted, complex, and sensitive nature of this study, it was imperative that all researchers were appropriately trained in ethical conduct and data collection before the onset of the research. A thorough training for survey data collection, especially regarding the specific data collection tools and measures, was administered before the data collection phase.

The security and confidentiality of the participants and their data were of utmost importance due to the sensitive nature of the research. To protect anonymity, we assigned each participant a unique study participant number. While the consent forms required the participant's signature, their signatures were not linked to the participant's study number. We carefully stored the consent forms in a safe place separately from the women's data so there was no potential association between participant names and their data. Because there was no need for follow-up after the single interview session, there was no need to collect indirect or direct forms of identifiable information. Therefore, all surveys and interview data remained anonymous and was referenced to via the study participant number.

By nature of a mixed methods study, data collection was two-fold and was conducted using two instruments. Originally, the survey was designed to be paper-based. However, for ease and efficiency, our team submitted a protocol amendment to

the IRB before departing to the field requesting the addition of electronic data collection. Upon approval of this IRB modification, we purchased three iPads for research-only use. The quantitative portion of the study was conducted using an iPad with access to the offline version of the constructed Qualtrics study survey. The researcher made sure the participant felt familiar with the iPad and helped facilitate the start of the survey. The researcher was present the entirety of the self-administered survey to answer any questions and make sure the participant felt comfortable.

The qualitative portion was conducted using a short interviewer guide printed on a piece of paper (Appendix E), a participant handout, and an audio recorder. The interview was conducted immediately after the iPad survey was completed, and it was only after participant permission that the audio recorder was turned on and used for recording. When the audio recorder started recording, the interviewer stated the date, that it was the SEMI portion of the study, and the same study participant number recorded on the iPad survey. We asked participants to read the vignette to themselves and then the researcher read it out loud for reiteration. Following the story, we asked the participant a series of structured and semi-structured questions. The recorded material from these sessions were destroyed by the PI after transcribing, coding, and saving as an encrypted computerized file.

The data collection did not require the presence of an interpreter. The survey and interview were conducted by one or two researchers depending on the demand of researchers and their availability. The research components were completed in a single setting by one participant at a time, and completion of data collection with one participant lasted anywhere from 45-60 minutes. Upon completion of the interview, regardless of verbally reported victimization, the researcher provided the participant with a 3.5 x 2-inch card containing a list of resources, as seen in Figure 6. The card contained information for the on-campus clinic and Thohoyandou Victim Empowerment Programme (TVEP), an off-campus local NGO that offers prevention, empowerment, and support services to the Vhembe District.

Resources	Off Campus
<p data-bbox="695 1213 837 1243">On Campus</p> <p data-bbox="630 1255 902 1318">UNIVEN Health Clinic Hours: M-F: 0800-16h45 Contact No: 015 962 9152 / 9157</p> <p data-bbox="639 1331 893 1381">Location: behind the new student administration building</p>	<p data-bbox="971 1150 1172 1201">Thohoyandou Women's Empowerment Group</p> <p data-bbox="964 1213 1182 1285">Contact No: 015 963 1222 Email: info@tvep.org.za Website: http://tvep.org.za</p> <p data-bbox="948 1323 1201 1373">Location: House No.2, Old Embassy Buildings, Sibasa, 0970</p>

Figure 6: Participant Resource Card

The participants were not compensated for their participation because we wanted to remain sensitive to the research setting at UNIVEN. Historically, compensation is not typically given to research participants when research is conducted

by our UNIVEN colleagues. While we did not compensate participants for their participation, we provided free snacks to every participant regardless of their completion of the study, such as a bag of potato chips and a juice box. All data was securely stored on encrypted devices, and the only researchers who had access to the data records were Taylor Allen, Karen Ingersoll Ph.D., and the research assistants assigned to the project. All study procedures were approved by the International Review Boards (IRB) at Duke Kunshan University and the University of Virginia, and the ethical review board at the University of Venda.

2.5 Measures

All measures were developed based on the notion established by the social-ecological framework; IPV is an outcome catalyzed by the interaction of and exposure to many factors at different levels. These levels include individual, relationship, community, and society. Upon arrival to the field and during our team training, the U.S. investigators reviewed the study's measures and tools with our South African UNIVEN partners, which yielded valuable information and modifications for the most appropriate, safe, and culturally relevant data collection methods and measures. The measures were tailored to most effectively address the target population. This included changing the vocabulary to match what is more commonly used among this population (e.g. "university" rather than "college"), simplifying phrases that were too complex (e.g.

changing “What is your family structure?” to “Who did you grow up with?”), solidifying country-specific characteristics (e.g. the 11 official languages and the nine tribes as answer choices), and modifying the SEMI’s vignette.

2.5.1 Sociodemographic characteristics

To capture aim 2, the sociodemographic questionnaire gathered information to capture the levels of the socio-ecological model. At the individual level, questions were asked regarding personal history and behavioral factors that may make participants more vulnerable to IPV victimization. For example, we asked for the participant’s country of origin, ethnicity, tribe, year in school, employment status, and number of children. Along with the participant’s basic demographic characteristics, the sociodemographic questionnaire captured family history, which included items such as exposure to violence or IPV during childhood. These questions were “Violence can be described as any controlling behaviors and/or physical, psychological, and/or sexual abuse. Were you exposed to any form of violence during your childhood?” and “Intimate partner violence (IPV) is defined as physical, sexual and emotional abuse, and controlling behaviors by an intimate partner. Were you exposed to IPV during childhood?” Answer choices included “Yes, this happened to me,” “Yes, I saw this happen to someone else,” “Maybe,” “No, this did not happen to me,” and “No, I did not

see this happen to someone else.” We also asked participants if they themselves have experienced IPV in order to capture a self-reported measure of IPV victimization.

The relationship level was addressed by asking participants about their primary caretaker growing up, relationship status, and number of sexual partners currently and in the past year. The community contexts in which these relationships occur, namely the university environment, also influence IPV and participants were asked about how many IPV victims they personally knew at UNIVEN. Please refer to Appendix F for the sociodemographic questionnaire.

2.5.2 Alcohol use

The second section of the self-administered survey consisted of an alcohol use screening tool. The alcohol use questions were adopted from the Alcohol Use Disorders Identification Test for Consumption (AUDIT-C), a 3-item alcohol screen that can help identify persons who are hazardous drinkers or have active alcohol use disorders (Bush et al., 1998). The AUDIT-C consists of questions about frequency of drinking, quantity consumed at a typical occasion, and frequency of heavy episodic drinking. Questions in the AUDIT-C include, "How often do you have a drink containing alcohol?", "How many standard drinks containing alcohol do you have on a typical day?", and "How often do you have six or more drinks on one occasion?" Please refer to Appendix G for the AUDIT-C alcohol screening tool.

2.5.3 Attitudes toward gender roles

The third section of the iPad survey focused on attitudes toward gender roles. Societal factors are those which aggravate the occurrence of IPV in society, which were explored by asking participants their attitudes toward gender roles and social and cultural norms. The measure used for gender role attitudes consisted of 23 items asking participants to rate on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree) their personal perceptions of the statements based on their individual and societal contexts. This item was originally adopted from Jiao et al. (2016), who assessed the impact of attitudes toward gender roles and violence among college students in China, Hong Kong, and Taiwan. The measure used in Jiao et al.'s study consisted of three variables that were derived from the summation of like items. While this scale had an acceptable Cronbach's alpha of 0.65, it was not entirely generalizable to the South African context. Thus, the scale used in this study was tailored via the knowledge, input, and collaboration of our local partners.

The adapted version of Jiao et al.'s (2016) gender roles scale designed for this study appropriately captured participants' attitudes toward gender roles, violence, and relationships in their cultural and societal contexts. The Cronbach's alpha was computed to examine the reliability of the gender roles scale, which yielded an alpha of 0.67. This

suggests an acceptable internal consistency, meaning that it is more likely that the 23 items of the gender roles scale measured the same underlying concept.

Five scales plus the four additional stand-alone items were constructed from the 23 statements to indicate participants' gender role attitudes. The nine categories are as follows: 1) male dominance, 2) gender equality, 3) female-victim blaming, 4) non-traditional relationships, 5) fidelity, 6) "IPV should be viewed as a crime," 7) "The man should be the head of the household," 8) "A child should not expect to have a close relationship with their father," and 9) "For women, finding a man is more of a priority than receiving an education." The items were randomized and the scales were not specified or made clear to the respondent.

The first scale, male dominance, was derived from the summation of seven items, such as "Sons in a family should be encouraged more than daughters to go to university," "It is not proper for a woman to initiate sex," and "The man should be the one to make the decision about having an abortion." The second scale, gender equality, was captured through three items and included statements such as "Discrimination against women is no longer a problem in South Africa" and "Society has reached the point where women and men have equal opportunities." The third scale, female victim-blaming, consisted of three items such as "Society would assume that it is the woman's fault if she is raped" and "A woman should blame herself if she is raped." The fourth

scale captures perceptions of non-traditional relationships and is made up of four items. These include “It is acceptable for a man to have multiple sex partners” and “It’s okay for a woman to have a relationship with a married man if she wants financial support.” The last scale is fidelity, and consists of two questions: “Women should be faithful” and “Men should be faithful.” The four additional statements which coincide with the South African context but do not specifically fit into one of the five scales were also included, such as asking participants whether they agreed that “IPV should be viewed as a crime.” Please refer to Appendix H for the 23 gender role statements.

2.5.4 Prevalence of intimate partner violence

The Revised Conflict Tactics Scale (CTS2) (Straus et al., 1996) was used to address aim 1. The CTS2 is a revised version of the CTS1 and is a 78-item self-report questionnaire assessing the amount of negotiation, psychological aggression, physical assault, sexual coercion, and injury that occurs between partners, as reported by the participant. Participants are asked to rate on an 8-point scale (0 = never, 1 = once, 2 = twice, 3 = 3-5 times, 4 = 6-10 times, 5 = 11-20 times, 6 = more than 20 times, and 7 = Not in the past year, but this happened before) the number of times a conflict tactic was used by both the participant and his/her partner. Thus, 39 items address the participant’s use of conflict tactics, and 39 questions ask the participant to report on their partner’s use of conflict tactics.

This data captures both occurrence of IPV in the past year (= 1-6) and at any point in the respondent's lifetime (= 1-7). For lifetime prevalence, participants responded based on IPV perpetration by any partner in the participant's lifetime. To measure past year IPV prevalence, we asked participants to respond to the items as they applied to their most serious relationship in the past 12 months. This was done to consistently identify past year IPV prevalence as it related to one partner, because it is possible that participants have a primary partner while also having a casual relationship(s).

According to Iverson et al. (2013), Straus et al. (1996), Straus (2007), and Straus et al. (2009), the CTS2 has well-established psychometric properties, including good reliability and good construct, convergence, discriminant, and factorial validity. The CTS2 scale has coefficients as high or higher than the CTS1. According to Straus et al. (1996), the internal consistencies of the subscales range from 0.79 – 0.95. The Cronbach's alpha was also computed to determine the internal consistency of the CTS2 used with this study's sample, which yielded an alpha of 0.96. The internal consistencies of the subscales ranged from 0.71-0.92, which are as follows: negotiation (alpha = 0.79), psychological aggression (alpha = 0.81), physical assault (alpha = 0.92), sexual coercion (alpha = 0.71), and injury (alpha = 0.90). The internal reliability of the CTS2 in this study is strong, as expected with a standardized and widely-used scale.

Each item corresponds to one of the five conflict tactics and is categorized as either a minor act or a severe act in response to conflict. Example items as they are categorized include physical assault (e.g. punching, choking, and grabbing), psychological aggression (e.g. giving belittling names, shouting, and yelling), negotiation (e.g. working out a problem and suggesting a compromise to a disagreement), injury (e.g. being hit on the head and needing medical attention because of a fight), and sexual coercion (e.g. forcing sexual intercourse). Please refer to Appendix I for the complete CTS2 quantitative measure.

2.5.5 The Short Explanatory Model Interview

To address aim 3, the Short Explanatory Model Interview (SEMI) was employed. Kleinman's original concepts, which examined health and sickness from an anthropological perspective, formed the basis of the semi-structured interview (Kleinman, 1980). The SEMI interview is typically divided into five sections to cover the subject's personal background, nature of presenting the problem, help-seeking behavior, interaction with physician/traditional healer, and beliefs related to mental illness. This study used a revised version of the SEMI as a tool to explore how UNIVEN women perceive IPV and address potential coping strategies and help-seeking behaviors. This was accomplished by focusing on two of the seven questions generally elicited by the SEMI, which follows the elicitation of a vignette (Lloyd et al., 1998).

The SEMI language is simple, does not include any medical or technical words or phrases, and allows interviewers from any background to be readily trained in its use. Data from the instrument can be analyzed using both qualitative and quantitative approaches. The participants are encouraged to talk openly about their attitudes regarding the topic with the aim of exploring their conceptual framework and their relationship to the current situation and cultural background. The strength of the SEMI is that it can be used in a semi-structured way to identify causal and other health beliefs, which can then be categorized for use in large-scale survey work. It allows discussion of the patient's perceptions, as well as explores different ways of explaining distress by using vignette material (Bhui & Bhugra, 2002). The vignette is used to describe the problems faced by individuals with certain illnesses or disorders. For this study, the vignette described a relationship where IPV is present (Figure 7).

Vignette

Mpho is a 22 year old student in her fourth year at university. Six months ago, she began dating Ndamu. In the beginning, things were going well and they believed they had found each other's soulmate. Mpho even noticed that he would wait for her outside her class. Mpho grew a little concerned when Ndamu refused to use a condom, but she loved him. Now when Ndamu comes over to Mpho's room, he yells at her, calls her names, and tells her she is worthless. Ndamu starts drinking heavily, and when he is intoxicated, he shoves Mpho to the ground and beats her. Ndamu threatens to leave the relationship if Mpho hangs out with her friends. Mpho feels stressed and alone and stays in bed rather than attending class. As a result, Mpho doesn't qualify for her first semester examination.

Figure 7: SEMI Vignette Participant Handout

Our UNIVEN partners were critical in guiding the modification of the study measures and adapting them to be culturally relevant. This included collaborative crafting of the SEMI vignette based on partner knowledge. The case was adjusted by giving the male and female characters common South African names (i.e. Mpho and Ndamu) and by basing the story on common experiences of UNIVEN students.

The vignette was used to start a conversation between the interviewer and the participant. There was a total of 12 questions asked to each participant during the SEMI. The questions which address aim 3 ask the participant her perception of the vignette and what her recommendations are for the characters' coping strategies and help-seeking behaviors. These questions are:

- 1) If you had to name the problem, what would it be?
- 2) What should Mpho (the female character) do?
- 3) What should Ndamu (the male character) do?

These targeted questions are followed by a series of probing questions, such as "How common is this experience here?" and "What role does UNIVEN and the larger Venda community play in preventing problems like these?" Such questions intended to explore IPV in the participant's personal and local context, identify potential strategies for combatting IPV, and in some cases, evoke the participant to share her own personal experiences with IPV. The full SEMI interview guide can be found in Appendix E.

2.6 Analysis

The data obtained from the self-administered Qualtrics survey represent the quantitative data. This includes sociodemographic characteristics, questions related to alcohol use, attitudes toward gender roles, and the CTS2 tool. The sociodemographic characteristics, alcohol use, and gender roles items represent the independent variables. While the CTS2 data measures IPV prevalence in the past 12 months and IPV prevalence at any point in the participant's lifetime, lifetime prevalence is the primary dependent variable as it relates back to the central aim and hypothesis of the study.

Depending on Wi-Fi connectivity, the interviewer uploaded the survey from its offline version when the participant completed the survey and returned the iPad to the interviewer. If Wi-Fi was unavailable, all pending surveys remaining at the end of the work day were uploaded onto the online portal. The number of uploaded surveys were closely monitored and cross-checked with the number of surveys conducted by all research assistants. After reaching the target sample size of 100, our team interviewed 13 more women to compensate for any incomplete or missing data. Once we interviewed 113 women, we exported all survey data from the online Qualtrics tool to an encrypted computer as an xls. file.

We checked the Excel spreadsheet for missing data and misinterpreted data. We identified nine incomplete surveys, two participants that did not have audio-recorded

SEMI on-file, and one participant that clearly misinterpreted a question, totaling 12 participants with incomplete data. The nine incomplete surveys and one survey with misinterpreted data were omitted during quantitative analysis, but were included in the qualitative analysis since their SEMIs were unaffected. The one participant lacking the SEMI was not included in the qualitative analysis, and the one participant without an audio-recorded SEMI was included by using the in-depth field notes recorded by the investigator during the interview. Within Excel, we also verified that the coding and data was accurately represented for the CTS2. We then imported the data into STATA version 14.2.426, assigned variable names to all 39 items, and labeled these variables. STATA was used for all quantitative analysis.

2.6.1 Data analysis for aim 1

Aim 1 was to estimate the prevalence of IPV victimization among UNIVEN women by IPV category, which was addressed by administering the CTS2. The hypothesis for this aim was that more than 30% of women have experienced some form of IPV in their lifetime. The CTS2 scale can be scored in a variety of ways and can be quite complex. For the purposes of this study and to best address aim 1, the CTS2 data was analyzed in four main ways: 1) Overall lifetime prevalence of any form of IPV, 2) Overall past year prevalence of any form of IPV, 3) Lifetime prevalence of IPV by the

five conflict tactic categories measured in the CTS2, and 4) Lifetime prevalence of IPV by severity of the four subscales of IPV.

Using STATA, each of the 78 items were assigned variable names and were grouped according to their respective subscales: physical assault (24 items), psychological aggression (16 items), negotiation (12 items), injury (12 items), and sexual coercion (14 items). After grouping the items by subscale, we separated the 39 items asking participants to report on their partner's use of a conflict tactic toward them. These items were analyzed and used to measure IPV victimization. All prevalence data was generated to reflect the past 12 months of the participant's relationship as well as lifetime prevalence of IPV perpetrated by any lifetime partner.

The first two analyses capturing prevalence of any form of IPV was determined based on whether the respondent reported occurrence of any one of the four IPV subscales: psychological aggression, physical assault, sexual coercion, and injury. While Straus et al. (1996) recommends that the prevalence variable be created for the physical and sexual violence scales, WHO (2012) includes psychological abuse as a constituent of IPV. Using the WHO inclusive definition, this study sought out to capture prevalence of any form of IPV, including psychological abuse. For these reasons, negotiation is the only subscale that is excluded from the prevalence analysis since it is a method of

conflict tactic, but not a form of IPV. Including negotiation in the analysis of IPV prevalence would skew the distribution and result in outliers.

For lifetime prevalence, women who answered 1-7 were included as victims of IPV in their lifetime (= 1), and women who answered "0" were recorded as non-victims in their lifetime (= 0). For past year prevalence, women who answered 1-6 were included as victims of IPV in the past year (= 1), and women who answered "0" and "7" were recorded as non-victims in the past year (= 0). IPV prevalence represented partner perpetration of one or more acts in the four subscales as reported by the participant.

The CTS2 data of lifetime IPV prevalence represent emotional, physical, and sexual violence. While it is important to capture these three categories, the majority of IPV data focuses only on physical and sexual abuse as a measure of IPV. To produce a figure that is comparative to existing literature, we also calculated IPV prevalence combining only physical and sexual IPV, excluding psychological aggression and injury.

The third analysis determining lifetime prevalence of IPV by the five conflict tactic categories was calculated by generating a dichotomous variable. A score of 1 was assigned if one or more of the acts in the scale occurred and 0 if none of the acts occurred, a scoring approach supported by the author of the CTS2 (Straus et al., 1996). This generated five sets of "yes"/ "no" variables representing the lifetime prevalence of IPV victimization for each of the five conflict tactics. To represent the interrelatedness of

the four forms of IPV (i.e. psychological aggression, physical assault, sexual coercion, and injury), we constructed a joint frequency distribution using STATA. This distribution shows the overlap between these variables as well as the frequency of combinations between the variables.

While overall IPV victimization data is further broken down by IPV subscale, this prevalence data is still limited because it does not provide information on severity. To examine severity, we administered a fourth analysis. We identified which items were considered “minor” acts and which were considered “severe” acts as delineated by Straus et al. (1996). The psychological aggression scale items include four minor items (e.g. “Insulted or swore at my partner”) and four severe items (e.g. “Threatened to hit or throw something at my partner”). The physical assault scale includes five minor items (e.g. “Grabbed my partner”) and seven severe items (e.g. “Burned or scalded my partner on purpose”). The sexual coercion scale includes three minor items (e.g. “Made my partner have sex without a condom”) and four severe items (e.g. “Used threats to make my partner have sex”). The injury scale includes two minor items (e.g. “Felt physical pain that still hurt the next day because of a fight with my partner”) and four severe items (e.g. “Had a broken bone from a fight with my partner”). This analysis produced percentages for IPV prevalence by subscale and severity, meaning that each subscale is further broken down by minor and severe acts.

2.6.2 Data analysis for aim 2

Aim 2 was to examine the association between IPV occurrence and other factors such as sociodemographic characteristics, alcohol use, and gender role attitudes, which represent the independent variables. The dependent variables were five dichotomous outcome measures—1) any form of IPV victimization in the respondent’s lifetime (yes = 1, no = 0) and lifetime victimization of the four IPV subscales: 2) psychological aggression (yes = 1, no = 0), 3) physical assault (yes = 1, no = 0), 4) sexual coercion (yes = 1, no = 0), and 5) injury (yes = 1, no = 0).

Descriptive statistics were first generated to show the distribution of the independent variables cross-tabulated by IPV victimization. These statistics include counts and percentages for all variables; means and standard deviations were included when necessary and when distributions were normal and not skewed. Fisher’s exact tests were used because one or more of the table’s cells had expected frequencies of five or less. These tests were run for all variables to identify possible confounders and to explore the relationships between potential risk factors of IPV (exposure variables) and prevalence of lifetime IPV and IPV subscale (outcome variables).

2.6.2.1 Analysis for sociodemographic characteristics

The data capturing sociodemographic characteristics contains both continuous and categorical variables, and some questions were open-ended rather than multiple

choice. The data was cleaned and organized to yield more uniform answers that could be categorized accordingly. Because of the diversity of the study population and thus, the diversity of the survey answers, the categorical variables were condensed when possible, and an answer choice of “other” designated for outliers. This included items asking about primary language, country of origin, tribe, field of study, cohabitation, childhood violence exposure, childhood IPV exposure, and self-reported IPV experience. To assess the relationship between any form of IPV victimization and sociodemographic characteristics, Fisher’s exact tests with associated *p*-values were run.

2.6.2.2 Analysis for alcohol use

The AUDIT-C alcohol screening tool, was scored on a scale of 0-12. Each AUDIT-C question had five answer choices: a = 0 points, b = 1 point, c = 2 points, d = 3 points, and e = 4 points. We used STATA to score the AUDIT-C and generate a score from 0-4 for each of the three questions, which were summed to equal a score between 0 and 12. Among women, a score of 3 or more out of 12 is considered a positive screen, meaning the participant has hazardous drinking behavior and may have active alcohol use disorders. If the points are all from question 1, meaning questions 2 and 3 scored “0”, it can be assumed that the patient is drinking below the recommended limits (Bush et al., 1998), which was considered during the analysis. To assess the relationship between any

form of IPV victimization and alcohol use, Fisher's exact tests with associated *p*-values were run on IPV prevalence and the AUDIT-C scores.

2.6.2.3 Analysis for attitudes toward gender roles

The gender role items captured gender-, violence-, and relationship-related attitudes. We used STATA to group the 23 items into their respective categories and generate nine new variables, which represented the four stand-alone items and the remaining items as they were associated with one of the five scales. The nine categories generated were 1) male dominance, 2) gender equality, 3) female victim-blaming, 4) non-traditional relationships, 5) fidelity, and the four stand-alone items.

We converted the 5-item Likert scale choices into numeric values of 1–5: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. We then condensed the 1-5 scoring to three values of 0-2, to represent whether the participant agrees and strongly agrees with the scale (1 = 4 & 5), felt neutral toward the gender role item (2 = 3), or disagrees and strongly disagrees with the gender role scale (0 = 1 & 2).

For example, participants who scored one for male dominance either agreed or strongly agreed with a greater support for male dominance in society. The gender equality scale measured perceived gender equality in society. The female victim-blaming scale represents participant perception that rape and violence are the victim's fault. The non-traditional relationship scale captures participant acceptability of non-

traditional relationships, such as having multiple sex partners and having a “blesser,” the South African term for sugar daddy. The fidelity scale measures support of fidelity within relationships.

For the four stand-alone gender role statements, scoring followed the methodology for the five scales. For example, the item “A child should not expect to have a close relationship with their father” measures whether the woman agrees or strongly agrees with the statement, disagrees or strongly disagrees, or is neutral. The three other stand-alone items followed a similar pattern for analysis. Counts and percentages were used to represent this data, which were closely analyzed for outliers.

To assess the relationship between any form of IPV victimization and attitudes toward gender roles (i.e. the nine variables generated), Fisher’s exact tests with associated *p*-values were run on IPV prevalence and the outcome from each gender role scale (0 = “Disagree or Strongly Disagree,” 1 = “Agree or Strongly Agree,” 2= “Neutral”).

2.6.2.4 Analysis for independent associations

Finally, logistic regression models were performed to examine the independent associations between the potential risk factors of IPV and the five dichotomous dependent variables. Based on Fisher’s exact tests between the independent variables and all forms of lifetime IPV, a preliminary significance of $p < 0.25$ was selected for inclusion of variables in the bivariate logistic regression models.

The bivariate logistic regressions explored the associations between the five dependent variables and the included independent variables, not accounting for potential confounders. This bivariate model generated crude odds ratio (cOR) and 95% confidence intervals. The output of the bivariate regressions revealed the exposure variables to include in the final multiple logistic regression models. The sociodemographic, alcohol use, and gender role variables yielding a significance level of $p < 0.25$ in the bivariate model were included in the final multiple logistic regression models as the exposure variables.

The multiple logistic regression models tested for the associations between all forms of IPV lifetime victimization and the independent variables, as identified by the corresponding bivariate models. It was important here to assess the relationship between the exposure and outcome variables without producing an overcomplicated model. Therefore, we avoided over fitting a final, adjusted model that included all variables and ran separate multiple logistic regression models for the exposure variables identified as potential risk factors by the bivariate models.

These final multiple logistic models controlled for confounding, and the inclusion of confounders in these models was based on statistical significance as identified by the Fisher's exact tests. The covariates included as potential confounders in the final multiple logistic regression models were country, academic year at UNIVEN

(undergraduate vs. graduate student), and parent education. The output of these models was adjusted odds ratios (AOR) and 95% confidence intervals (CIs). The significance level was set at $p < 0.05$. To judge the quality of the models, Hosmer-Lemeshow chi-square tests were conducted to test the models' goodness of fit. The goodness of fit tests yielded non-statistically significant results, determining that the logistic regression models fit the data well.

2.6.3 Data analysis for aim 3

The SEMI has no clear data-analysis steps or structure, other than a classification system into which responses can be mapped. This study's qualitative analysis of the SEMI relied on the answers to three of the 12 questions that best addressed aim 3. Due to the large amount of audio, the research team divided the recordings for listening, transcribing, and taking precise notes on the answers to questions 2, 4, and 5—2) If you had to name the problem, what would it be?, 4) What should Mpho do?, and 5) What should Ndamu do? Our analysis of the responses to these questions highlight participant IPV recognition and their attitudes and recommendations regarding coping strategies and help-seeking behaviors.

Once the answers were transcribed, we analyzed the data using thematic analysis. Grounded theory guided the iterative process of systematically analyzing the participants' responses to the questions posed. Our qualitative data analysis included

open coding of the responses per question, which identified key phrases or words in the transcripts and their potential meanings. Then, we exhibited axial coding to create subcategories and associate them with subthemes, which were categorized by question. Lastly, the data underwent selective coding where we integrated and refined the overarching principles by using categories and their associations with subcategories. This process established major organizing themes and relationships, and required re-evaluation of concepts, themes, and categories at varying stages in the analysis process. The use of grounded theory for the generation of these themes across the participants' data underlined crucial issues and critical concepts, which is consistent with the use of grounded theory in qualitative data collection and analysis (Lawrence & Tar, 2013).

The participant quotes provided in the results section were identified as representative quotes that captured the essence of the major themes emerging from the data. We identified quotes that best address the study aims and represent the themes. The data from the qualitative analysis was not reconciled with questionnaire data, and we did not include responses to the nine additional SEMI questions that did not directly divulge aim 3. Both analyses are outside the scope of this study and its aims. However, participant responses that capture steps to move forward and combat IPV are included in the discussion section.

3. Results

3.1 Description of sample

A total of 113 women were enrolled in this study. Data for 103 women were used for the quantitative analysis, while all 112 SEMIs conducted were used for qualitative analysis. Table 1 (below) summarizes sociodemographic characteristics of participants by lifetime prevalence of any form of IPV victimization, as well as the relationship between the two as represented by *p*-values from Fisher's exact tests.

98.06% of study participants identified as Black while 0.97% identified as Indian or Biracial. The four official race categories in South Africa are "Black," "Asian/Indian," "White," and "Coloured," which refers to a multiracial ethnicity. 92.23% of the population was from South Africa, and 7.77% of the population was from elsewhere in Africa (Zimbabwe, Nigeria or Cameroon). Among those from South Africa, more than three fourths were from Limpopo Province, the provincial site of the study, and almost half identified as Venda (47.63%). Almost 80% of the women were from rural regions, while the rest were from urban areas. A larger proportion of women from urban regions had experienced some type of IPV in their lifetime compared to women from rural areas.

More than one third (33.98%) of the women reported being raised by both their father and their mother, 30% reported being raised by a single mother, and the remaining raised by someone other than both biological parents. 15 women reported having at least one child and the average number of family members in their households

growing up was 6 family members. 35.92% of the women were graduate students and the majority were pursuing majors in the School of Health Sciences (34.95%).

There was a significant association between either living alone or not living alone and being an IPV victim ($p = 0.019$). 65% of women reported currently being in a dating relationship and roughly one-fourth of the women reported currently cohabiting or cohabiting at any point in the past 12 months (24.27%). More women reported having more than two sexual partners in the past 12 months (32.03%) than currently having more than two sexual partners (5.83%). When asked about exposure to violence and IPV during childhood, 36.89% of women said they had been exposed to or victims of violence in their childhood while 25.24% said the same about IPV. On average, participants personally knew at least two IPV victims at UNIVEN. Almost one-fourth of women reported “yes” to ever personally experiencing IPV, while 67.96% reported “no.”

Table 1: Sociodemographic characteristic by lifetime IPV victimization

Sociodemographic Variable	Percent (Frequency)	No, % (Frequency)	Yes, % (Frequency)	P-Value
Total	100% (103)	7.77% (8)	92.93% (95)	
Ethnicity				
Black	98.06% (101)	7.92% (8)	92.08% (93)	1.00
Indian	0.97% (1)	0% (0)	100.0% (1)	
Biracial	0.97% (1)	0% (0)	100.0% (1)	
Country				
South Africa	92.23% (95)	7.37% (7)	92.63% (88)	0.163 ^R
Zimbabwe	4.85% (5)	0% (0)	100.0% (5)	
Nigeria	1.94% (2)	0% (0)	100.0% (2)	
Cameroon	0.97% (1)	100.0% (1)	0% (0)	
Province				

Limpopo	78.64% (81)	8.64% (7)	91.36% (74)	0.285
Mpumalanga	12.62% (13)	0% (0)	100.0% (13)	
Gauteng	0.97% (1)	0% (0)	100.0% (1)	
Outside of South Africa	7.76% (8)	12.50% (1)	87.50% (7)	
Residence				
Urban	23.3% (24)	4.17% (1)	95.83% (23)	0.677
Rural	76.7% (79)	8.86% (7)	91.14% (72)	
Tribe				
Venda	45.63% (47)	6.38% (3)	93.62% (44)	0.787
Tsonga	18.45% (19)	10.53% (2)	89.47% (17)	
Other	35.92% (37)	8.11% (3)	91.89% (34)	
Primary Caretaker Growing Up				
Father and Mother	33.98% (35)	8.57% (3)	91.43% (32)	0.923
Mother	30.1% (31)	9.68% (3)	90.32% (28)	
Father	2.91% (3)	0% (0)	100.0% (3)	
Other	33.01% (34)	5.88% (2)	94.12% (32)	
Number of Children				
0	84.47% (87)	8.05% (7)	91.95% (80)	1.00
1	14.56% (15)	6.67% (1)	93.33% (14)	
2+	0.97% (1)	0% (0)	100.0% (1)	
Highest Level of Education Completed by Father				
≤ Secondary level education	36.89% (38)	13.16% (5)	86.84% (33)	0.612
≥ Tertiary level education	41.75% (43)	4.65% (2)	95.35% (41)	
I don't know	21.4% (22)	4.55% (1)	95.45% (21)	
Highest Level of Education Completed by Mother				
≤ Secondary level education	41.75% (10)	11.63% (5)	88.37% (38)	0.089 ^R
≥ Tertiary level education	48.54% (50)	6.0% (3)	94% (47)	
I don't know	9.71% (10)	0% (0)	100.0% (10)	
Academic Year				
Level 1	2.91% (3)	0% (0)	100% (3)	0.132 ^R
Level 2	14.56% (15)	0% (0)	100% (15)	
Level 3	30.10% (31)	3.23% (1)	96.77% (30)	
Level 4	16.50% (17)	11.76% (2)	88.24% (15)	
Graduate	35.92% (37)	13.51% (5)	86.49% (32)	
Employment Status				
Unemployed	94.17% (97)	8.25% (8)	91.75% (89)	1.00
Employed	5.83% (6)	0% (0)	100.0% (6)	

Housing Location				
On-campus UNIVEN housing	55.34% (57)	12.28% (7)	87.72% (50)	0.160 ^R
Off-campus UNIVEN housing	25.24% (26)	0% (0)	100.0% (26)	
Off-campus non-UNIVEN housing	19.42% (20)	5.0% (1)	95.0% (19)	
Living Situation				
Alone	31.07% (32)	3.12% (1)	96.88% (31)	0.019 ^{*R}
Living with someone	32.04% (71)	9.86% (7)	90.14% (64)	
Relationship Status				
Single	20.39% (21)	9.52% (2)	90.48% (19)	0.728
In a relationship	79.61% (82)	7.32% (6)	92.68% (76)	
Cohabitation				
Yes	24.27% (25)	4.0% (1)	96.0% (24)	0.676
No	75.73% (78)	8.97% (7)	91.03% (71)	
Number of Current Sexual Partners				
0	28.16% (29)	17.24% (5)	82.76% (24)	0.130 ^R
1	66.02% (68)	4.41% (3)	95.59% (65)	
2+	5.83% (6)	0% (0)	100.0% (6)	
Number of Sexual Partners in the Past 12 Months				
0	29.13% (30)	16.67% (5)	83.33% (25)	0.133 ^R
1	38.83% (40)	5.0% (2)	95.0% (38)	
2+	32.03% (33)	3.03% (1)	96.97% (32)	
Exposure to Violence in Childhood				
Yes	36.89% (38)	5.26% (2)	94.74% (36)	0.481
No	56.31% (58)	8.62% (5)	91.38% (53)	
Maybe	6.80% (7)	14.29% (1)	92.23% (6)	
Exposure to IPV in Childhood				
Yes	25.24% (26)	3.85% (1)	96.15% (25)	0.688
No	67.96% (70)	10.0% (7)	90.0% (63)	
Maybe	6.80% (7)	0% (0)	100.0% (7)	
Personally know an IPV Victim at UNIVEN				
Do not personally know	33.01% (34)	14.71% (5)	85.29% (29)	0.111 ^R
Do personally know	66.99% (69)	4.35% (3)	95.65% (66)	
Self-Reported IPV Experience				
Yes	23.30% (24)	0% (0)	100.0% (24)	0.178 ^R
I'm not sure	8.74% (9)	0% (0)	100.0% (9)	
No	67.96% (70)	11.43% (8)	88.57% (62)	

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

3.2 Prevalence of IPV

IPV prevalence among the study sample was measured using the CTS2, which generated several categories for analysis. The first set of data represents any form of IPV victimization in the respondent's lifetime and in the past year (Figure 8). 92.23% of women reported being victims of any form of IPV (psychological aggression, physical assault, sexual coercion, and/or injury) in their lifetime as perpetrated by any partner, while 90.29% of women reported being victims of any form of IPV by their primary partner in the past 12 months. As a comparative figure, lifetime prevalence of only physical and/or sexual IPV among the study sample was 78.64%.

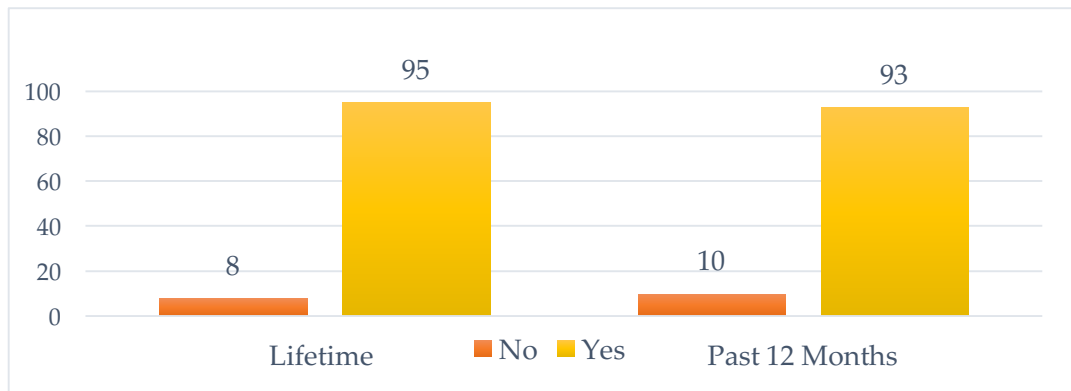


Figure 8: Frequency of any form of IPV victimization in respondent's lifetime and past 12 months

CTS2 data provided information on participant's lifetime experience of the five conflict tactics of the CTS2. In Table 2 (below), prevalence data shows that almost all female participants reported their partners negotiating with them as a means to address conflict (99.03%). The other four conflict tactics represent subscales of IPV, and are the

constituents of overall IPV victimization. The most common form of IPV victimization was psychological aggression (82.52%), followed by sexual coercion (73.79%), physical assault (37.86%), and injury (15.53%).

Table 2: Partner perpetration of conflict tactic in participant’s lifetime

Lifetime IPV Victimization (92.93%)	
Conflict Tactic (N = 103)	Percentage (Frequency)
Negotiation	99.03% (102)
Psychological Aggression	82.52% (85)
Physical Assault	37.86% (39)
Sexual Coercion	73.79% (76)
Injury	15.53% (16)

The joint frequency distribution of IPV victimization by subscale across the 103 participants is seen in Table 3 (below). This distribution reveals that while 7.77% of participants were not victimizations of any form of IPV, 9.71% of participants reported being victims of all forms of IPV at least once in their lifetime. The majority of respondents reported experiencing two types of IPV at least once in their lifetime (35.9%), followed by 26.2% reporting being victims of three forms of IPV, and 20.39% reported being a victim of one type of IPV in their lifetime. The highest frequency seen in the joint distribution is respondents who reported being victims of both psychological aggression and sexual coercion (31.07%), while only 13 participants reported being victims of psychological aggression alone (12.62%).

Table 3: Joint frequency distribution of IPV victimization by subscale

Psychological Aggression	Physical Assault	Sexual Coercion	Injury	Frequency
Y	N	Y	N	32
Y	Y	Y	N	23
Y	N	N	N	13
Y	Y	Y	Y	10
N	N	N	N	8
N	N	Y	N	8
Y	N	Y	Y	2
Y	Y	N	N	2
Y	Y	N	Y	2
N	Y	Y	N	1
N	Y	N	Y	1
Y	N	N	Y	1

N = "Not a victim."; Y = "Yes, a victim."

The last type of prevalence data collected from the CTS2 measures severity of IPV subscale by minor and severe acts among the study sample. As displayed in Table 4 (below), all forms of conflict tactic were perpetrated as minor acts more than severe acts. About half of the participants who reported minor acts of a conflict tactic were also victims of severe acts of that same conflict tactic in three of the four IPV categories (psychological aggression, physical assault, and injury). For example, 36 participants reported experiencing minor acts of physical assault, while 50% of this count (18 participants) reported severe acts of physical assault. However, this pattern was not the same for sexual coercion. Of the number of participants who reported minor acts of sexual coercion, 18% reported severe acts of sexual coercion, suggesting that sexual

coercion is being experienced more frequently as minor acts compared to the severity frequencies of the other forms of IPV.

Table 4: Lifetime IPV victimization by subscale severity

IPV Subscale (N = 103)	Percentage (Frequency)
Psychological Aggression	
Minor	81.55% (84)
Severe	37.86% (39)
Physical Assault	
Minor	36.89% (38)
Severe	17.48% (18)
Sexual Coercion	
Minor	71.84% (74)
Severe	12.62%(13)
Injury	
Minor	12.62% (13)
Severe	7.77% (8)

Table 5 (below) shows the results of the Fisher’s exact tests of sociodemographic variables by lifetime prevalence of each form of IPV. Based on this cross-tabulation, there is a significant association between relationship status and victimization of physical assault ($p = 0.017$) and injury ($p = 0.043$). Associations were also found for number of current sexual partners and being a victim of sexual coercion ($p = 0.040$) as well as personally knowing an IPV victim at UNIVEN and being a victim of physical assault ($p = 0.017$). Additionally, there were significant associations between self-reported IPV experience and victimization of three of the four forms of IPV (psychological aggression, $p = 0.010$; physical assault, $p = 0.017$; injury, $p = 0.006$).

Table 5: Sociodemographic characteristics by lifetime prevalence of IPV subscale

Sociodemographic Variable	Psychological Aggression % (n)	Physical Assault % (n)	Sexual Coercion % (n)	Injury % (n)
Total (N = 103)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Ethnicity				
<i>p-value</i>	1.00	0.616	1.00	1.00
Country				
<i>p-value</i>	0.270	0.665	0.127 ^R	0.410
Residence				
<i>p-value</i>	0.555	0.229 ^R	0.112 ^R	0.520
Academic Year				
<i>p-value</i>	0.472	0.135 ^R	0.163 ^R	0.381
Housing Location				
<i>p-value</i>	0.647	0.651	0.169 ^R	0.501
Living Situation				
<i>p-value</i>	0.386	0.692	0.314	0.794
Relationship Status				
<i>p-value</i>	1.00	0.017 ^{*R}	0.799	0.043 ^{*R}
Cohabitation				
<i>p-value</i>	0.228 ^R	0.816	0.295	0.345
Number of Sexual Partners in the Past Year				
<i>p-value</i>	0.199 ^R	0.273	0.338 ^R	0.215 ^R
Number of Current Sexual Partners				
<i>p-value</i>	0.101 ^R	0.258	0.040 ^{*R}	0.788
Exposure to Violence in Childhood				
<i>p-value</i>	0.770	0.809	0.939	0.425
Exposure to IPV in Childhood				
<i>p-value</i>	0.341	0.745	0.870	0.093 ^R
Personally know an IPV Victim at UNIVEN				
<i>p-value</i>	0.279	0.017 ^{*R}	0.347	0.253
Self-Reported IPV Experience				
<i>p-value</i>	0.010 ^{*R}	0.017 ^{*R}	0.822	0.006 ^{*R}

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

3.3 Alcohol use

Alcohol use was determined using the AUDIT-C scale. As aforementioned, participants who scored a 3 or more out of 12 were considered “hazardous drinkers” if

all 3 points did not come from question 1. As shown in Table 6 (below), the average AUDIT-C score was 1.48 out of 12. Almost half (45.63%) of participants reported being non-drinkers, while 31% reported being occasional or “non-hazardous” drinkers. 24 women (23.3%) scored a three or higher on the AUDIT-C, categorizing them as hazardous drinkers or potentially having active alcohol use disorders.

Table 6: Summary of alcohol use by AUDIT-C screening tool

AUDIT-C Score (N = 103)	
Mean	1.48
Standard Deviation	1.96
Alcohol Use	Percentage (Frequency)
Non-drinker	45.63 (47)
Non-hazardous drinker	31.07% (32)
Hazardous drinker	23.30% (24)

Table 7 (below) represents the AUDIT-C score (non-hazardous drinker vs. hazardous drinker) by lifetime and past year victimization of any form of IPV. For both lifetime and past year victimization, all participants who scored a three or higher were victims of IPV, and the rates of non-hazardous drinking behaviors were about the same for no IPV victimization in the participant’s past year (10.13%) and lifetime (12.66%).

Table 7: AUDIT-C Alcohol Screen and IPV victimization in lifetime and past year

Alcohol Use (N = 103)	No % (Frequency)	Yes % (Frequency)	P-Value
IPV Victimization in Lifetime	7.77% (8)	92.93% (95)	
Non-hazardous drinker	10.13% (8)	89.87% (71)	0.193 ^R
Hazardous drinker	0% (0)	100.0% (24)	

IPV Victimization in Past Year	9.71% (10)	90.29% (93)	
Non-hazardous drinker	12.66% (10)	87.34% (69)	0.112 ^R
Hazardous drinker	0% (0)	100.0% (24)	

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

Fisher's exact tests were run to examine alcohol use against the four forms of IPV. Psychological aggression victimization was associated with drinking behavior ($p = 0.011$) as seen in Table 8 (below).

Table 8: Alcohol use by lifetime prevalence of IPV subscale

Alcohol Use	Psychological Aggression % (n)	Physical Assault % (n)	Sexual Coercion % (n)	Injury % (n)
Total (N = 103)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Non-hazardous drinker	77.22% (61)	34.18% (27)	70.89% (56)	15.15% (12)
Hazardous drinker	100.0% (24)	50.0% (12)	83.33% (20)	16.67% (4)
<i>p-value</i>	0.011 ^{*R}	0.229 ^R	0.294	1.00

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

3.4 Attitudes toward gender roles

Participant attitudes toward gender roles were explored via 23 items ranked on a 5-point Likert scale (0 = Strongly Disagree, 5 = Strongly Agree). These 23 items were grouped into nine categories and analyzed based on whether the participant disagreed or strongly disagreed, remained neutral, or agreed or strongly agreed. All results can be found in Table 9 (below). When asked about attitudes toward male dominance, more than half (60.19%) of the women either disagreed or strongly disagreed with the perception that men are dominant in society. All women who agreed or strongly agreed

with male dominance were lifetime victims of IPV (n = 20, 100%). When asked whether the man should be the head of the household, almost half of the women strongly agreed or agreed (47.57%), while 41% disagreed or strongly disagreed. The majority of women were neutral when it came to gender equality issues (40%), with roughly 30% being on either side of neutrality. 100% of those who agreed or strongly agreed that it is a women’s fault if she is a victim of rape or violence were victims of IPV, which was statistically significant ($p = 0.020$).

Most participants disagreed or strongly disagreed with non-traditional relationships (67.96%), that a child should not expect to have a close relationship with their father (90.29%), and that finding a man is more important than receiving an education (78.64%). More than three fourths of women agreed or strongly agreed that IPV should be viewed as a crime (76.70%) and that women and men should be faithful in their romantic relationships (88.35%). Of the 21 women who disagreed or strongly disagreed that IPV should be viewed as a crime, 100% of them were IPV victims of IPV.

Table 9: Attitudes toward gender roles by lifetime IPV victimization

Gender Role Item	Percentage (Frequency)	No	Yes	P-Value
Total	100% (103)	7.77% (8)	92.93% (95)	
Male Dominance				
Agree or Strongly Agree	19.42% (20)	0% (0)	100.0% (20)	0.190 ^R
Neutral	20.39% (21)	14.29% (3)	85.71% (21)	
Disagree or Strongly Disagree	60.19% (62)	8.06% (5)	91.94% (57)	
Gender Equality				
Agree or Strongly Agree	34.95% (36)	2.78% (1)	97.22% (35)	0.406
Neutral	39.81% (41)	9.76% (4)	90.24% (37)	

Disagree or Strongly Disagree	25.24% (26)	11.54% (3)	88.46% (23)	
Victim-Blaming				
Agree or Strongly Agree	31.07% (32)	0% (0)	100.0% (32)	
Neutral	11.65% (12)	25.0% (3)	75.0% (9)	0.020* ^R
Disagree or Strongly Disagree	57.28% (59)	8.47% (5)	91.53% (54)	
Non-Traditional Relationships				
Agree or Strongly Agree	15.53% (16)	0% (0)	100.0% (16)	
Neutral	16.50% (17)	5.88% (1)	94.12% (16)	0.635
Disagree or Strongly Disagree	67.96% (70)	10.0% (7)	90.0% (63)	
Fidelity				
Agree or Strongly Agree	88.35% (91)	7.69% (7)	92.31% (84)	
Neutral	5.83% (6)	0% (0)	100.0% (6)	0.643
Disagree or Strongly Disagree	5.83% (6)	16.67% (1)	83.33% (5)	
"The man should be the head of the household."				
Agree or Strongly Agree	47.57% (49)	4.08% (2)	95.92% (47)	
Neutral	11.65% (12)	8.33% (1)	91.67% (11)	0.272
Disagree or Strongly Disagree	40.78% (42)	11.90% (5)	88.10% (37)	
"IPV should be viewed as a crime."				
Agree or Strongly Agree	76.70% (79)	10.13% (8)	89.87% (71)	
Neutral	2.91% (3)	0% (0)	100.0% (3)	0.372
Disagree or Strongly Disagree	20.39% (21)	0% (0)	100.0% (21)	
"A child should not expect to have a close relationship with their father."				
Agree or Strongly Agree	5.83% (6)	0% (0)	100.0% (6)	
Neutral	3.88% (4)	0% (0)	100.0% (4)	1.00
Disagree or Strongly Disagree	90.29% (93)	8.60% (8)	91.40% (85)	
"For women, finding a man is more of a priority than receiving an education."				
Agree or Strongly Agree	9.71% (10)	0% (0)	100.0% (10)	
Neutral	11.65% (12)	16.67% (2)	83.33% (10)	0.379
Disagree or Strongly Disagree	78.64% (81)	7.41% (6)	92.59% (75)	

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

Fisher's exact tests were run to examine the relationship between the gender role items and the four forms of IPV. Being a victim of sexual coercion was significantly associated with attitudes toward fidelity ($p = 0.031$). Whether "IPV should be viewed as a

crime” was significantly associated with both sexual coercion ($p = 0.016$) and physical assault ($p = 0.036$). A summary of these relationships can be found in Table 10 (below).

Table 10: Attitudes toward gender roles by lifetime prevalence of IPV subscale

Gender Role Item	Psychological Aggression % (n)	Physical Assault % (n)	Sexual Coercion % (n)	Injury % (n)
Total (N = 103)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Male Dominance				
<i>p-value</i>	0.131 ^R	0.452	0.635	0.549
Gender Equality				
<i>p-value</i>	0.145 ^R	0.540	0.847	0.403
Victim-Blaming				
<i>p-value</i>	0.062 ^R	0.445	0.287 ^R	0.926
Non-Traditional Relationships				
<i>p-value</i>	0.128 ^R	0.056 ^R	0.129 ^R	0.703
Fidelity				
<i>p-value</i>	0.829	1.00	0.031* ^R	0.536
“IPV should be viewed as a crime.”				
<i>p-value</i>	0.864	0.036* ^R	0.016* ^R	0.221 ^R
“The man should be the head of the household.”				
<i>p-value</i>	0.098 ^R	0.552	0.816	0.504
“A child should not expect to have a close relationship with their father.”				
<i>p-value</i>	0.645	0.387	1.00	0.463
“For women, finding a man is more of a priority than receiving an education.”				
<i>p-value</i>	1.00	0.223 ^R	0.344	0.142 ^R

*Statistically significant at $p < 0.05$; ^RTo be included in the bivariate model: $p < 0.25$

3.5 Independent associations for IPV victimization

The sociodemographic, alcohol use, and gender role variables yielding a significance level of $p < 0.25$ in the Fisher’s exact tests (as seen in Tables 1 & 5) were included in the bivariate model. The sociodemographic characteristics selected for the bivariate model were on- or off-campus housing ($p = 0.160$), living alone or not living alone ($p = 0.019$), single or in a relationship ($p = 0.017$), cohabitation ($p = 0.228$), number of

current sexual partners ($p = 0.130$), past year sexual partners ($p = 0.133$), exposure to IPV during childhood ($p = 0.0093$), personally knowing a victim of IPV ($p = 0.111$), and self-reported IPV victimization ($p = 0.178$). Other variables included in the bivariate model were alcohol use based on the AUDIT-C score ($p = 0.193$), all five gender role scales, and three of the four stand-alone items, excluding the item “A child should not expect to have a close relationship with their father” (Tables 7-10).

The results from the bivariate model with a significance of $p < 0.25$ determined the exposure variables included in the multiple logistic regression models. The variables in the final model included eight potential risk factors of IPV from the sociodemographic characteristics (living on- or off-campus, relationship status, cohabitation, number of sexual partners in the past year and currently, exposure to IPV in the participant’s childhood, knowing an IPV victim, and self-reported IPV victimhood), alcohol use, the five gender role scales, and the three stand-alone items included in the bivariate model.

The final multiple logistics regression models for the exposure variables, as summarized in Tables 11-13 (below), represent results after controlling for confounders identified by the Fisher’s exact test: country of origin ($p = 0.163$), level in school ($p = 0.132$), mother’s education ($p = 0.089$), and father’s education. Only results with significant results are displayed in the tables. Due to a high prevalence of the primary outcome measure (“yes” = 95) among the study sample, some observations predicted success perfectly, and this is represented in the table as “*dropped.*”

3.5.1 Associations between exposure variables and IPV victimization

The sociodemographic characteristics were chosen for the multiple logistic regression model based off the bivariate analysis. According to the adjusted models, significance was found between IPV victimization and the participant’s number of sexual partners in the past 12 months and whether the participant knew a victim of IPV at UNIVEN (Table 11). The odds of being a lifetime victim of sexual coercion was 4.41 times higher for women who had more than two sexual partners in the past year compared to one or less ($p = 0.031$; AOR = 4.41; 95% CI 1.14-17.02). Women who personally knew an IPV victim had a 7.04 higher odds of being a victim of any form of IPV in their lifetime ($p = 0.030$; AOR: 7.04; 95% CI 1.21 – 40.97) and a 3.77 higher odds of being a victim of physical assault ($p = 0.010$; AOR: 3.77; 95% CI 1.37 – 10.40) than participants who did not know a victim.

Table 11: Independent associations between sociodemographic characteristics and lifetime IPV victimization

Variable	Overall IPV	Psychological	Physical	Sexual	Injury
	Victimization	Aggression	Assault	Coercion	
	AOR	AOR	AOR	AOR	AOR
	(95% CI)	(95% CI)	(95% CI)	(95% CI)	(95% CI)
	<i>p-value</i>	<i>p-value</i>	<i>p-value</i>	<i>p-value</i>	<i>p-value</i>
Total (N = 103)	92.93% (95)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Number of Sexual Partners in the Past 12 Months^a					
0 ^b	1	1	1	1	1
	5.14	3.15	0.741	2.01	0.629
1	(0.815-32.46)	(0.895-11.08)	(0.263-2.08)	(0.698-5.82)	(0.159-2.49)
	0.081	0.074	0.571	0.195	0.509
2+	4.58	4.07	1.63	4.41	1.55
	(0.815-32.46)	(0.841-19.66)	(0.570-4.64)	(1.14-17.02)	(0.39-6.21)
	0.206	0.081	0.363	0.031*	0.874

Personally Know an IPV Victim at UNIVEN^a

Do not personally know ^b	1	1	1	1	1
Do personally know	7.04 (1.21-40.97) 0.030*	2.79 (0.862-9.02) 0.087	3.77 (1.37-10.40) 0.010*	2.14 (0.773-5.94) 0.143	2.53 (0.63-10.24) 0.192

a = Categorical variable; b = Referent category; *Statistically significant at $p < 0.05$

The model controlled for the following variables: country, academic year, and parent education

3.5.2 Associations between alcohol use and IPV victimization

As summarized in Table 12 (below), the multiple logistic regression analysis reveals no significant associations between any form of IPV victimization in the participant’s lifetime and alcohol use.

Table 12: Independent associations between alcohol use and lifetime IPV victimization

Alcohol Use	Overall IPV Victimization AOR (95% CI) <i>p-value</i>	Psychological Aggression AOR (95% CI) <i>p-value</i>	Physical Assault AOR (95% CI) <i>p-value</i>	Sexual Coercion AOR (95% CI) <i>p-value</i>	Injury AOR (95% CI) <i>p-value</i>
Total (N = 103)	92.93% (95)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Non-hazardous drinker ^b	1	1	1	1	1
Hazardous drinker	<i>Dropped</i>	<i>Dropped</i>	1.75 (0.675-4.52) 0.251	52.13 (0.622-7.32) 0.228	1.16 (0.319-4.22) 0.821

a = Categorical variable; b = Referent category; *Statistically significant at $p < 0.05$

Dropped = “Predicts success perfectly”

The model controlled for the following variables: country, academic year, and parent education

3.5.3 Associations between attitudes toward gender roles and IPV victimization

Table 13 (below) summarizes the multiple logistic regression performed to examine the associations between attitudes toward gender roles and lifetime IPV victimization. The adjusted analysis shows that lifetime IPV victimization is significantly associated with two of the nine categories of attitudes toward gender roles.

Participants who agreed or strongly agreed with victim-blaming items had a 6.66 higher odds of being victims of psychological aggression in their lifetime than participants who disagreed or strongly disagreed with victim-blaming ($p = 0.054$; AOR: 6.66; 95% CI 0.972-45.70). The adjusted odds ratio less than 1 for victim-blaming and psychological aggression suggests a negative relationship between the two. In other words, maintaining a neutral attitude toward victim-blaming decreases the odds of lifetime victimization of psychological aggression by 0.086; those who were neutral were 91.4% ($[1 - 0.086] \times 100$) less likely compared to participants who disagreed or strongly disagreed with victim-blaming ($p = 0.024$; AOR: 0.086; 95% CI 0.010 - 0.722).

The odds of being a lifetime victim of sexual coercion were 11.37 times more likely for participants who disagreed or strongly disagreed that IPV should be viewed as a crime ($p = 0.027$; AOR: 11.37; 95% CI 1.32-97.82). Likewise, women who disagreed or strongly disagreed with the same item were 3.8 times more likely to be lifetime victims of injury ($p = 0.055$; AOR: 3.80; 95% CI 0.97-14.89).

Table 13: Independent associations between attitudes toward gender roles and lifetime IPV victimization

Gender Role Item	Overall IPV Victimization AOR (95% CI) <i>p-value</i>	Psychological Aggression AOR (95% CI) <i>p-value</i>	Physical Assault AOR (95% CI) <i>p-value</i>	Sexual Coercion AOR (95% CI) <i>p-value</i>	Injury AOR (95% CI) <i>p-value</i>
Total (N = 103)	92.93% (95)	82.52% (85)	37.86% (39)	73.79% (76)	15.53% (16)
Victim-Blaming^a					
Agree or strongly agree	<i>Dropped</i>	6.66 (0.972-45.70) <i>0.054*</i>	1.69 (0.669-4.29) <i>0.265</i>	1.43 (0.459-4.46) <i>0.535</i>	0.812 (0.227-2.90) <i>0.749</i>
Neutral	0.000 (0.00-0.00) <i>0.000</i>	0.086 (0.010-0.722) <i>0.024*</i>	1.00 (0.251-3.98) <i>0.999</i>	0.286 (0.055-1.49) <i>0.138</i>	0.383 (0.037-3.92) <i>0.419</i>
Disagree or strongly disagree ^b	1	1	1	1	1
"IPV should be viewed as a crime."^a					
Agree or strongly agree ^b	1	1	1	1	1
Neutral	<i>Dropped</i>	<i>Dropped</i>	<i>Dropped</i>	<i>Dropped</i>	3.90 (0.31-49.67) <i>0.294</i>
Disagree or strongly disagree	<i>Omitted</i>	0.903 (0.205-3.98) <i>0.893</i>	1.55 (0.532-4.52) <i>0.421</i>	11.37 (1.32-97.82) <i>0.027*</i>	3.80 (0.97-14.89) <i>0.055*</i>

a = Categorical variable; b = Referent category; *Statistically significant at $p < 0.05$

Dropped = "Predicts success perfectly"; *Omitted* = "Collinearity present"

The model controlled for the following variables: country, academic year, and parent education

3.6 Participants' perceptions and identification of IPV

3.6.1 Description of sample

All women who completed the quantitative portion of the study were also asked to participate in the SEMI. Out of the 113 total participants, 112 SEMIS were conducted.

Similar to the 103 participants whose data was analyzed for the quantitative portion of

the study, the majority of participants are South African (92.9%), are from Limpopo Province (78.6%), and are Venda (44.6%) or Tsonga (20.5%). 56% of women reported being in a relationship, and 25% of women self-reported experiencing IPV.

To address study aim 3, the SEMI asked a series of questions to which answers were audio-recorded. For the recognition of IPV, a total of 179 responses to question 2 were analyzed, and for coping strategies and help-seeking behaviors, a total of 327 responses to questions 4 and 5 were analyzed. Grounded theory guided the thematic analysis to identify major themes through establishing categorical relationships.

3.6.2 Recognition of IPV

After reading the SEMI, women were asked “If you had to name the problem, what would it be?” This question was designed to capture the participant’s recognition of IPV in the vignette. All responses were recorded and considered for analysis, including responses identifying more than one “problem.” The thematic analysis generated six major themes representing the recognizable problem in the vignette, as seen in Table 14 (below).

Table 14: Recognition of IPV

Theme (Total = 179 Responses)	Percentage (Frequency)
Abuse	45.25% (81)
Alcohol	12.85% (23)
Nature of the relationship	11.73% (21)
Controlling behaviors	7.82% (14)
Ndamu	12.85% (23)

Mpho	5.03% (9)
Other	4.47% (8)

The most frequent answer was “abuse,” with 81 responses identifying abuse as the problem. This overarching theme is composed of several subcategories that represent various types of abuse, including physical, verbal, emotional, and sexual abuse. Emotional abuse was the most common form of abuse mentioned, comprising almost one fourth of the abuse responses (23.5%). For example, one participant said, *“Mpho is being abused emotionally and physically. Mpho loves him but Ndamu is sticking around only because he wants to have sex without a condom.”*

Controlling behaviors represented 14 of the responses to this question, and 23 responses identified drinking or alcohol abuse as the problem. Another participant said, *“I think the problem here was alcohol, because Ndamu always does this when he’s drunk. According to me, alcohol brings out the violence in Ndamu. He is already violent. Alcohol isn’t the problem, but drinking too much is a problem.”*

Another overarching theme identified the nature of the relationship as the problem, which accounted for 21 of the responses. For example, participants identified a lack of respect and love between Mpho and Ndamu, that they had a dysfunctional relationship, and that a lack of trust is to blame, the latter accounting for 42.9% of the relationship problem responses.

Nine responses pointed to Mpho as a source of the problem. Participants stated that she is dependent on Ndamu, she has low self-esteem, and that she is making herself inferior to Ndamu. One participant said, *“Society teaches that women should do what men say, and Ndamu thinks that he has control over Mpho,”* and another, *“I think it would be low self-esteem for the lady. She loves the guy so much that she doesn’t realize that having sex with the guy without a condom is wrong.”*

23 responses pointed to Ndamu as being the problem. Women stated that Ndamu is not giving Mpho the appropriate attention, that Ndamu is insecure and has problems, and that he shouldn’t refuse wearing a condom when having sex with Mpho. For example, one participant said, *“Ndamu is the problem. When he’s drunk, he endangers Mpho’s life. One day when he beats her, he may do it too hard, and she may die or something.”*

3.6.3 Coping strategies and help-seeking behaviors

To identify participant recommendations regarding potential coping strategies and help-seeking behaviors in a relationship where IPV is present, we asked participants “What should Mpho do?” and “What should Ndamu do?” The themes that represent the coping strategies and help-seeking behaviors for both Mpho and Ndamu as suggested by the participants in response to questions 4 and 5 are: 1) leave the relationship, 2) seek outside help, 3) communication with the other partner, 4) introspection and self-development, and 5) behavior change.

When asking participants what Mpho should do, three major themes emerged from the 159 responses (Table 15).

Table 15: "What should Mpho do?"

Theme (Total = 159 Responses)	Percentage (Frequency)
Leave the relationship	46.54% (74)
Seek outside help	31.45% (50)
Communication	11.95% (19)
Other	10.06% (16)

74 responses suggested that Mpho should leave the relationship. Another 47 responses focused on seeking help and talking to someone, which varied between accessing formal and informal sources of help. Participants mentioned formal networks in the form of professional help, such as visiting the clinic, talking with a social worker, and seeing a counselor or psychologists. For example, a participant said, *"She should leave the relationship but if she cannot, she should seek for help—maybe a social worker. The abuse that she has endured is beyond repair. Abuse stays in the mind, and she can try to fix it but likely it is not able to be fixed. Ndamu could be financially supporting her; most females will stay if the guy gives her money. Stigma of losing someone is scary, you turn things around in your head and think that everything is your fault."*

Other participants suggested informal networks and mentioned the need for Mpho to talk to people she trusts including family members, friends, or people in the church. For example, one participant said, *"Mpho can tell her parents, but it is not simple in*

our culture to talk to the mother or father about relationships stuff. She can go to a friend or the church, someone to help her and understands about relationship stuff. She cannot go to her mother, she will not understand. It is the way. They will overreact: 'I sent you to university and you are not supposed to be dating.' Churches are a good place for women to get support."

Three responses suggested Mpho get tested for sexually transmitted diseases (STDs), including one participant who emphasized the need for Mpho to gain the confidence to leave and get tested. She said, *"She needs confidence to know what she wants in life. She's not confident with her own self. I would tell her to man up. I would tell her to go seek help and get tested for diseases, and I would support her along the way."* Nine of the "seek help" responses recommended that Mpho help Ndamu access services such as counseling and also getting tested for STDs.

19 responses emphasized communication. Participants suggested Mpho talk with Ndamu about the issues in their relationship and justify her decision about not having unprotected sex. "Other" responses included five responses expressing Mpho report Ndamu to the police and nine responses reflecting the need for Mpho to raise her self-esteem and her confidence. One participant said, *"I think she should just face her fears; losing someone is not the end of the world. She should leave him. There's nothing I can't stand more than a drunkard; you don't know what he might do next. The moment she goes back to him is the moment you are giving him the power to see that you are nothing without him."*

Six themes emerged from the qualitative data when asking the participants what Ndamu should do (Table 16).

Table 16: "What should Ndamu do?"

Theme (Total = 168 Responses)	Percentage (Frequency)
Seek outside help	34.52% (58)
Introspection	17.26% (29)
Behavior change	15.48% (26)
Modify drinking habits	15.48% (26)
Communication	7.14% (12)
Leave the relationship	4.76% (8)
Other	5.36% (9)

58 of the responses proposed that Ndamu get help and/or talk with someone. 72.4% of these 58 responses suggested Ndamu seek professional help. One participant said, *"He needs help when it comes to alcohol. He needs help so that he can stop drinking. Actually, when he is drunk, I do not think that he can control himself. I think that he is one of those people that tries to hide his problems with alcohol. He needs counseling to tell him that he doesn't need to control women and force them to have sex."*

Twelve responses indicated Ndamu's need to communicate with Mpho while eight responses suggested Ndamu leave the relationship or let Mpho go. 29 responses represented introspection and highlighted Ndamu's need to understand what he is doing is wrong, to work on himself, to address his insecurities, to act like a man, to respect's Mpho's decision to want to use a condom, and to understand what it means to

respect a woman. This is captured by one participant's response who said, *"Ndamu is messed up. Guys talk, guys do things, and for a guy, it's normal to have multiple girlfriends and stuff. So, I think the guy need to find himself. He should get to know that the life that he's living is not the right life. He needs to realize that hurting other people is not nice."*

The last theme representing coping strategies and help-seeking behaviors was behavior change on Ndamu's behalf. Behavior change suggestions represented 52 responses and included treating Mpho better, picking up new hobbies, starting to use a condom, stopping the abuse, and ridding his life of bad influences such as his friends. 50% of these responses emphasized Ndamu's drinking problem and suggested that he either decrease his alcohol intake or stop drinking alcohol all together. For example, a participant said, *"For starters, he should quit drinking. Cause now, the alcohol, in a way it shows that he's depressed. Because for men, it's easier to mask their depression with alcohol and sex. So, he should start with stopping with the alcohol, and then talk to someone who will help him deal with his insecurities. And he should separate himself from his friends first."*

4. Discussion

This cross-sectional mixed methods study conducted in Limpopo, Province, South Africa found a universally high rate of lifetime prevalence of IPV among the sample of female students at UNIVEN. The study assessed the associations between risk factors and lifetime IPV prevalence, and it explored participants' perceptions and recognition of IPV. The findings emphasize the need to adopt a multidimensional approach to combat IPV via evidence-based interventions ranging from the personal to the national level.

IPV victimization among the female participants was a prevalent problem and manifested as psychological aggression, physical assault, sexual coercion, and injury. 92.23% of participants reported being victims of any form of IPV in their lifetime. The results show that psychological aggression (82.52%) was the most prevalent type of lifetime violence, followed by sexual coercion (73.79%), physical assault (37.86%), and injury (15.53%).

The joint frequency distribution highlights the importance of not excluding emotional violence from IPV data but instead, exploring the interconnectedness between emotional violence and sexual violence. The highest joint frequency of victimization was for participants who reported both psychological aggression and sexual coercion (31.07%). This reveals that it is less common for psychological aggression to be the only form of violence in an intimate partnership where violence is present (12.62%). All forms

of IPV were most frequently perpetrated as minor acts by the participant's partner. The study hypothesis is supported by the findings; the rate of 92.23% lifetime IPV prevalence among the study sample is more than triple the hypothesized prevalence of >30%.

Study findings also support statistically significant associations between lifetime IPV victimization and the participant's number of sexual partners in the past 12 months and participants personally knowing an IPV victim at UNIVEN. There were statistically significant associations between forms of IPV victimization in the participant's lifetime and attitudes toward gender roles, namely, victim-blaming and "IPV should be viewed as a crime." The adjusted model for alcohol use expressed no statistical significance between being hazardous drinking and any form of lifetime victimization. These results partially support the study's second hypothesis, which postulated that IPV victimization is closely related to sociodemographic characteristics, alcohol use, and attitudes toward gender roles.

Finally, SEMI data reveal themes related to IPV recognition and suggested help-seeking behaviors and coping strategies. The six major themes representing the participant's identification of the problem were abuse, alcohol, the nature of the relationship, controlling behaviors, Mpho, and Ndamu. 45% of the responses identified some type of abuse as the major problem in the vignette, while other participants blamed Mpho as the victim, substance abuse, and/or Ndamu himself. Recommended help-seeking behaviors and coping strategies were represented by five themes: leave the

relationship, seek outside help, communicate with the other partner, introspection and self-development, and behavior change. 33% of responses identified the need to seek help from friends, family, a trusted source, or a professional. When asked what Mpho should do, more participants suggested she leave the relationship (47%) and seek help (31.4%), while the majority of participants said Ndamu should seek outside help (34.5%), change his behavior (31%), or work on himself via introspection (17.3%). Participants found communication equally important for both Mpho (12%) and Ndamu (7%).

After excluding psychological aggression and injury to generate prevalence data comparable to existing literature, this study's prevalence of physical and/or sexual lifetime IPV was 78.64%. This is 2.6 times higher than the global prevalence, which found 30% of all women worldwide experience physical and/or sexual IPV in their lifetime (WHO, 2013). This comparison suggests that the target population at UNIVEN is experiencing IPV at incomparable rates.

The physical and sexual violence rates among this study population also exceed the national averages described by the 2016 SADHS, which reported 21% and 6%, respectively. Furthermore, Machisa & Chipatiso's (2013) findings on IPV prevalence in Limpopo province represent lower rates than my present study. Locally, there is no current research capturing a similar population in Vhembe district in a university setting to compare with my research findings. However, the high rates identified by this study

indicate the need for a deeper investigation into why women at UNIVEN are reporting and experiencing such violence.

According to the current literature and my study findings, IPV victimization percentages among this study sample are exponentially greater than national and global rates. While comparable data among South African university females is lacking, which makes this study the first of its kind to be conducted, these high percentages of IPV victimization can be explained by the nature of the target population. The female students interviewed at UNIVEN were extremely open and willing to participate in the research. During the SEMI, for example, participants would disclose personal accounts of IPV victimization. This may differ from conducting research outside of a university setting where topics of sex, relationships, and violence are considered taboo and therefore, less likely to be discussed and reported. Furthermore, university students are particularly more vulnerable to IPV because many are entering their first serious relationship during their time at university. This new-found autonomy from parental authority, exploration of sexual intimacy, and health-risk behaviors often shape the continuum of violence within intimate partnerships (Kaukinen, 2014). We also know that IPV greatly contributes to the prevailing violence burden on women in South Africa (Joyner & Mash, 2012). Lastly, the disparity in prevalence rates could be a result of the sensitivity of the data collection methods and the differences in reporting methods across IPV research, which highlights the potential for instrument bias.

Under-reporting of IPV is a common barrier for IPV researchers. If women feel the risk of vulnerability, it is possible they will not reveal potentially damaging information regarding experiences of violence (Jewkes et al., 2000). While the CTS2 captured IPV victimization reliably, we also asked participants to self-report their experience of IPV in their lifetime. When asking participants if they have ever personally experienced IPV, we also provided a definition of IPV to mitigate any confusion on the term. 23% of participants reported “yes,” 68% said “no,” and 9% reported “I’m not sure.” The self-reported indicator of IPV victimization was four times lower than IPV victimization as measured by the CTS2, highlighting the limitation of using solely a self-report measure as an indicator of IPV prevalence.

Under-reporting, as illustrated by the discrepancy between these two outcomes, is a concern in research on violence against women, and can lead to the damaging conclusion that abuse isn’t a problem among the target population, that police and healthcare facilities do not have the resources to support victims and survivors, and more specifically, the assumed “hands-off” approach of law enforcement officers (Jewkes et., 2000). Not only is under-reporting an issue in research, but it introduces issues in the victim’s well-being. In the Gender Links study conducted by Machisa & Chipatiso (2013), under-reporting is noted as a serious issue as they found the majority of women did not report experienced GBV to the police or health care facilities. The

SEMI responses highlight Ndamu's controlling behaviors and according to WHO (2013), these behaviors can lead to a lack of autonomy in the victim's health-seeking behaviors.

Along with fear of vulnerability and lack of autonomy, under-reporting can be caused by a myriad of reasons, which is captured in this study's SEMI data. 81 out of 179 responses recognized "abuse" as the overarching problem in the vignette, yet only five responses suggested Mpho report Ndamu to the police and 17 responses suggested Mpho get professional help. This can be explained by women's fear of being alone, unloved, or even killed, which is supported by study findings. For example, one participant said, *"Ndamu is controlling and abusing Mpho, and Mpho is afraid to lose Ndamu. She's scared to leave because she needs a sense of belonging and to be loved and cared for."* This statement also aligns with current literature that suggests women are reluctant to disclose abuse because of feelings of self-blame, shame, loyalty to the perpetrator, or fear. Additionally, women in various cultures are taught to accept abuse as a sign of the partner's love for them, making them less likely to self-identify as being a victim of violence (Heise et al., 1994; Koss, 1993; Mullen et al., 1988).

This idea of social acceptability of violence relates to the gender roles measure administered in this study. While exploring attitudes toward gender roles was the main aim of this measure, many items also captured views on social and cultural norms. The two categories that were significantly associated with IPV victimization were victim-blaming and "IPV should be viewed as a crime." These items represent ideas more on

societal norms and how to deal with the incidence of violence. Agreeing or strongly agreeing with victim-blaming was associated with increased likelihood of psychological aggression victimization, while agreeing or strongly agreeing that IPV should be viewed as a crime is protective against sexual coercion and injury. These findings are consistent with other studies, which found that women who resort to self-blame oftentimes justify or rationalize their partner's abuse and assume responsibility to fix the problem (Harber, 2015). Furthermore, social acceptability and normalization of IPV in South Africa may lead a woman to believe IPV should not be criminalized and thus, she allows herself to be subject to her partner's abuse, including sexual violence by her partner (Jewkes et al., 2002; Jewkes et al, 2005). A study by Ilika (2005) in Nigeria found that some married women believe that beating and forced sex affecting their overall health are normal in marriage, and they did not support reporting such cases to the police or divorcing the man. This aligns with the personal victimization experiences expressed by one participant in the current study who said, *"I couldn't stand up to him [when he forced me to have sexual intercourse], cause I thought if I stand up to him, maybe he would leave me and go with someone else, and I would be alone. And I didn't want to be alone."*

SEMI responses also suggest Mpho's low self-esteem, weakness, and dependence on Ndamu were the causes of the Ndamu's violence and controlling behaviors. Additionally, the participants empathically suggesting Mpho leave the relationship is a coping strategy that may lead to Mpho's isolation and lack of reporting. One participant

said, *“I don’t think she will leave the relationship because she loves Ndamu too much. I don’t think she will report him, because she is just alone.”*

A victim’s decision to seek help in the face of violence is heavily influenced by their individual, familial, economic, and cultural influences (Liang et al., 2005). IPV victims are oftentimes reluctant to access their existing support networks, both formal and informal. Reluctance to help-seeking behaviors was displayed by SEMI responses highlighting the lack of familial support Mpho would receive. Social support was also captured in the sociodemographic questionnaire item “How many people at UNIVEN do you personally know who have experienced some form of intimate partner violence? If you are unsure, please give your best estimate.” The research found that women knew anywhere from 0 to 15 IPV victims at UNIVEN, and participants discussed in the SEMI how IPV is a widespread phenomenon at UNIVEN. However, the resulting positive association between knowing a victim and being a victim of overall lifetime IPV and physical assault is surprising. These findings suggest both the existence of an informal network of victims and the potential normalization of IPV on the university campus. These peer relationships can lead to the victim accepting violence in her relationship as she witnesses other friends and peers enduring a similar situation. In some cases, having a social network is not a protective factor against IPV. Goodman et al. (2005) found that 25% of research participants who experienced the most severe forms of violence were not able to lower their likelihood of ongoing violence despite having social support.

Financial dependence of young women on their partners is another barrier to reporting violence and a reason women may experience ongoing violence. Many women have no choice but to stay in an abusive relationship due to their reliance on her partner to provide financially (Aizer, 2010; Dhungel et al., 2017). This is supported by this study's findings where one participant said, *"Ndamu could be financially supporting her. Most females will stay if the guy gives her money."*

Like economic dependency, peer pressure to be in a relationship is common, which can increase one's likelihood of being a victim of some form of IPV (Wagman et al., 2009). This can be described by the pressure of friends to be in a relationship, and thus, increase one's likelihood of being a victim of IPV. For instance, one participant said, *"Everyone is out looking for a partner, and if you don't have a partner, you feel left out. Mpho feels like she has to fit in and act strong for the sake of what other people might say."*

Pressure also exists within partner intimacy; sexual coercion is sexual intercourse resulting from verbal and emotional pressure. This study found that 74% of women reported being victims of sexual coercion. Research conducted in a South African township by Wood & Jewkes (2009) found that female refusal to submit to sexual demands was interpreted by men as a sign that women had other sexual partners and were "worn out." This literature compliments this study's results showing a strong association between participant's experience of sexual coercion and having two or more sexual partners in the last 12 months. While this result does not distinguish between

having multiple sex partners at one time or having a single sex partner more than once in the past year, this is an important association to be explored.

The lack of a significant association between alcohol use and lifetime IPV victimization was surprising, for current literature supports a relationship between alcohol consumption and IPV victimization. According to Weiser et al. (2006) and their study in Botswana, the disinhibition associated with alcohol can result in diminished ability to avoid violence. Furthermore, alcohol has been reported to be associated with having multiple sexual partners, an issue that may result in disagreement and violence. Research conducted in Vhembe district suggests having a partner with problem drinking is a strong determinant of physical IPV (Peltzer & Pengpid, 2013). According to Hove et al. (2010), IPV perpetrators are five times more likely than nonperpetrators to consume alcohol. A study in Uganda found that women whose partners often got drunk were six times more likely to report physical IPV compared to those whose partners did not consume alcohol (Tumwesigye et al., 2012). Jewkes et al. (2002) cites that men are more likely to act violently when drunk because they do not feel they will be held accountable for their behavior. Thus, alcohol abuse by one's partner can lead the perpetrator to aggression and extreme violence, placing the female partner at increased risk of victimization and abuse. This literature suggests that asking the participant about their partner's behavior, including alcohol use, could have yielded more accurate results when investigating an association between alcohol use and IPV victimization.

Based on this literature, both victim and perpetrator alcohol consumption are correlates of IPV experience.

While there was a lack of statistical significance, the hypothesis that alcohol is a risk factor for IPV victimization and perpetration is supported by the SEMI. Participants' responses to the questions "If you had to name the problem, what would it be?" and "What should Ndamu do?" represented 23 responses that identified alcohol as the problem and 26 responses that suggested Ndamu change his drinking behavior. For example, one participant said, *"I also think that [the problem] is alcohol abuse, because he is not able to control himself and it is turning into physical abuse. When he is drunk, he is unable to control himself. I also think that Mpho has the option to leave the relationship, but she is probably scared for her life."* It is important to consider the 100% rate of IPV victimization among 100% of the hazardous drinkers, and while there is a lack of significance between this exposure and IPV, the current literature and the qualitative findings support further exploration that addresses this relationship among this population.

4.1 Implications for policy and practice

This study provided evidence that IPV is normative among women ages 18-31 attending UNIVEN, with multiple factors contributing to the experience of IPV. The results establish a broader evidence base for the need of IPV prevention at all levels. Primary prevention will control exposure to known risk factors and provide education and awareness on gender-based violence. Secondary prevention must involve treatment

for victims of IPV and be dedicated to improving outcomes for survivors of IPV in Vhembe district.

While many efforts currently address IPV at the international, national, provincial, and local level, IPV remains a perpetuated issue. No sector, department, or organization has the singular ability to address the challenge of IPV. Therefore, South African governmental departments, civil society organizations, and university governing structures should act collectively.

4.1.2 Recommendations for university action

A student's primary community of influence while enrolled at their university is their campus, and without backing by the university, IPV prevention efforts will not have the necessary effect. The university plays a central role in the cultural norms that perpetuate violence and assault on campus, and thus, the university governing body must be a guiding structure in addressing IPV.

Administrative acceptance that IPV is in fact a prevailing issue among the student population is imperative to generate political will and support at the macro-level. UNIVEN administration should be educated on IPV, how to reduce victim-blaming attitudes, and how to offer the support and services needed to students who disclose IPV. It is also critical to address social and cultural norms that permeate the older generation of administration and create a generational divide. Many participants reported not feeling comfortable speaking with campus counselors, psychologists,

faculty, and clinic staff due to the stigma surrounding dating while at UNIVEN and being an IPV victim. A safe environment needs to be provided to encourage reporting and appropriate action needs to be taken in response to victim's help-seeking behaviors. A study conducted by Branch et al. (2011) explored participant recommendations for university administration response to victim disclosure, including familiarizing yourself with campus and community resources, listening, having appropriate training for responding to victims, and initiating proper referral. Such interventions can also be shown effective among UNIVEN administration in serving the student body.

Along with UNIVEN administration, faculty, and staff playing a critical role in addressing this prevailing issue, security guards at UNIVEN are instrumental in first response to violence. There could be extensive training implemented for the guards about the role they play in responding to violence in the residence halls and elsewhere on campus. "Hotspots," or unsafe areas such as the entrance gate at the back of campus, should be identified to increase monitoring and surveillance.

Structurally, there are not enough residence halls to accommodate UNIVEN students. Because of the housing shortage, many partners have no option but to cohabit. Study participants deemed this as a risk factor for IPV, and UNIVEN should address this issue by providing more university housing. Additionally, there is a student bar on campus that provides all students a place to purchase and consume alcohol. Alcohol use is a known risk factor of IPV and measures should be taken to reduce alcohol abuse by

not only modifying regulations and policies regarding the student bar, but also through educating students about safe alcohol use and brief alcohol intervention.

Administration should strongly invest in UNIVEN's current peer education programs. Student outreach programming can provide comprehensive resources and health education for primary prevention with the necessary resources and support. Program topics could include safe drinking strategies, female empowerment, contraceptive use, safe sex practices, STDs, including HIV/AIDS, anti-violence, and managing stress. Peer groups are also essential in secondary prevention to provide a platform for victims to support one other.

We must not exclude men from these services and the discussion surrounding IPV. We should be dedicated to understanding men's risk of IPV victimization and the critical role they play in addressing and combating IPV. When asked what can be done at UNIVEN to prevent problems such as IPV, one participant said, *"We need more education, more programs, wherein we focus not necessarily on men, or on women, but we focus on equality. We talk about equality; we empower men, we empower women... more programs wherein [men and women] are offered that platform to raise their issues and they are listened to."*

These UNIVEN-specific recommendations can be enhanced and supported by evidence-based interventions implemented on university campuses around the world. The global community has a lot to learn from each other when addressing IPV, and the following interventions can be piloted on UNIVEN's campus to establish effective,

culturally-sensitive, and targeted IPV intervention strategies. Based on this study's findings, the approaches that may be most suitable to the UNIVEN setting are 1) the *Red Flag Campaign* (2007), a social marketing, public awareness campaign that encourages friends to be active bystanders and provide healthy responses to abusive statements; 2) the *Green Dot Campaign*, which is a community-level approach to violence prevention that bolsters the power of peer and cultural influence shown to reduce violent victimization among students (Coker et al., 2015); 3) the *Men Stopping Violence* curriculum-based program containing three modules on GBV and the role men play in taking action to stop sexual violence and traditions of abuse (Douglas et al., 2008); and 4) the *Know More Say More* social norms campaign, meant to encourage survivors and bystanders to speak up and educate the community about the reproductive health consequences of violence and sexual coercion.

Because sexual violence was found to be the second-most experienced type of IPV among the study population (74%), specific approaches developed to address risk for sexual violence at UNIVEN are necessary. For example, *Coaching Boys to Men* (Miller et al., 2012) is based on social norms theory and utilizes sports coaches to engage male athletes in 11 structured discussions throughout the sports season. Sessions include topics on dating violence, respectful relationships, gender equity, positive and non-violent forms of masculinity, and bystander intervention. This program showed positive effects on decreasing dating violence perpetration (Miller et al., 2012). This intervention

could be piloted at UNIVEN by engaging the rugby team in similar program activities. *Coaching Boys to Men* and the other programs listed are promising approaches to addressing all forms of interpersonal violence among the UNIVEN population and the surrounding community.

4.1.2 Recommendations for multi-sectoral collaboration

University efforts addressing IPV must be supported by the larger community and governmental structures, as emphasized by the social-ecological model. To effectively address IPV in this region, multi-sectoral coordination is recommended between NGOs, the Limpopo Department of Health (LDOH), the Limpopo Department of Social Development (LDSD), and the Limpopo Division of the South African Police Service (SAPS). These stakeholders must elicit integrative approaches that are targeted, efficient, and measurable to appropriately address the IPV burden.

Firstly, efforts should be made to mend the relationship between UNIVEN and TVEP, an NGO based in Thohoyandou that provides resources and services for victims. This collaboration is essential in breaking the silence among the university community and raising awareness from the inside. TVEP can gain insight into this important at-risk group, and thus, broaden their coverage. Strengthening their relationship with UNIVEN can expand TVEP's community engagement through more liaisons and student leader representatives for outreach and programming in surrounding communities and students' home villages.

While UNIVEN is situated in the rural town of Thohoyandou in northern Limpopo province, it attracts students from neighboring villages, cities, provinces, and countries. Affecting change at the provincial level will impact communities that are raising and sending at-risk young women to university. According to Sabol et al. (2004), violence prevention programs should be structured in ways that contribute to building the communities' capacity to prevent violence. This is accomplished by creating social environments intolerant toward IPV, making it difficult for perpetrators to perpetrate violence, and less difficult for IPV victims to report it and seek help (Antai, 2011).

Recommendations for policy change and action to cultivate this type of environment include the Limpopo Department of Health (LDOH) strengthening health systems to respond to IPV. Currently, there is a lack of data and information regarding LDOH's commitment to the health of IPV victims, and the burden of IPV victimhood falls on the Limpopo Department of Social Development (LDSD). Efforts need to combine the efforts of both divisions to provide comprehensive services and support. IPV needs to be recognized as not only a social justice issue, but also a public health issue. It is imperative that medical professionals, both at the UNIVEN clinic and locally, are appropriately trained to ask about violence, recognize violence victimhood, manage victims clinically, and then offer victims referral to a dedicated IPV service (Rees et al., 2014). Health professionals should know how to recognize cues in women who are IPV victims and provide victim-friendly services to IPV victims, especially mental health

services. Primary healthcare clinics and the campus clinic should provide these services through individual counseling, psycho-social services, and support groups for victims (Johnson & Zlontnick, 2009; Sax, 2012). Mental health services should not be limited to primary healthcare clinics but should be allocated to local shelters and NGOs, such as TVEP, to ensure necessary treatment, rehabilitation, and recovery. It should be mandatory to include the health sector in the violence against women referral system.

We recommend that the LDSO consider prioritizing IPV and increase funding allocation to victim empowerment program (VEP) structures, NGOs, and shelters. The LDSO should commit to strengthening partnerships with such organizations, including those targeting men and boys for prevention and rehabilitation, faith-based organizations, traditional leadership and healers, as well as the business sector. The LDSO should collaborate with LDOH's Integrated School Health Program (ISHP) to provide education regarding positive gender attitudes, social, and cultural norms. This information will complement the already established health program and is essential in reaching youth who are at risk of being victims and/or perpetrators of IPV. A similar effort was carried out in Ethiopia where a community-based project worked with young men to promote gender-equitable norms and reductions of IPV (Pulerwitz et al., 2015).

Other challenges include a lack of dedication and efficiency by key players in the criminal justice system, such as the South African Police Services (SAPS). This is illustrated in survivors' personal stories who detail negative experiences with the police,

thus preventing women from seeking legal help (Machisa & Chipatiso, 2013). In addition, gaps exist in the implementation of the Domestic Violence Act (DVA) and the Sexual Offenses Act (SOA) by SAPS due to inadequate resource allocation. The SAPS should be encouraged to effectively implement the DOA, be provided more resources to fulfill the necessary procedures stipulated by violence, and be closely evaluated through a monitoring and surveillance system.

There needs to be increased collaboration with SAPS, LDOH, and LDSO to reinforce the importance of sensitivity and appropriate response to IPV victims and reporting. This can be implemented via a police training facilitated by departmental representatives. Behavioral research should precede this training to explore perpetual gaps in the police force surrounding victim response and appropriately penalizing the perpetrators. Thus, the training can focus on behavioral change intervention for police members at all hierarchical levels. This will not only improve IPV victim under-reporting, but will increase the overall skills and services of law enforcement officials. Through the provision of professional and accessible services, victims are less likely to be reoccurring victims and more likely to benefit from rehabilitation and support services.

Dissemination of these policy changes and available resources are just as important as their implementation. Many research participants voiced their lack of knowledge about on and off-campus resources for victims of violence. There is a need for awareness campaigns and advertisement of the services provided at multiple levels.

This can help mitigate barriers to seeking help and encourage victims to find their voice in reporting violence and seeking justice.

Through constant engagement of the key stakeholders mentioned, we can effect change through shifting mental models formed by societal constructs. We need to continue to challenge the confines of gender disparities and other factors that constrain women and perpetuate violence. Efforts must focus on continuity of care, privacy, and integration of services and policy change into routine functioning.

4.2 Implications for further research

This study suggests unprecedented rates of IPV among this population, and larger studies with a more robust sample size could further investigate prevalence and the primary drivers and causal factors of IPV. Future research should investigate the barriers to help-seeking behaviors and explore the issue of under-reporting among IPV victims at UNIVEN.

Considering that men are also victims of IPV (Hines & Saudino, 2003; Reid et al., 2008), my fieldwork research went beyond the initial proposal and upon IRB approval, interviewed 112 men using the same measures that were administered with the female participants. While analyzing and discussing these results are beyond the scope of this thesis, it is suggested that an extensive analysis is conducted to explore the full contents of the SEMIs, reconcile the quantitative and qualitative data, analyze the CTS2 data for female perpetration of IPV, and analyze the male data collected. These findings will

support the next phase of research. Future studies can focus on evidence-based intervention research, gender-comparison studies investigating IPV victimization and perpetration by males and females and exploring at what rates is IPV bidirectional, and needs assessments and analyses identifying gaps in existing anti-violence programs and IPV victim services.

Previous studies conducted in South Africa have identified the relationship between IPV and increased prevalence of HIV in women (Dunkle et al., 2004; Jewkes et al., 2010). More than 7.1 million South Africans are HIV positive (12.7%) and young women are twice as likely to contract HIV than young men. 20-25% of new HIV infections in young women can be attributed to GBV (Avert, 2015). On-campus HIV testing results have revealed that UNIVEN has the highest rates of HIV positive students compared to other universities in South Africa (UNIVEN, 2016). Furthermore, a study conducted in South Africa among HIV-infected youth found that IPV may increase risk for onward HIV transmission in perinatal HIV-infected youth (Kidman & Violari, 2017). This supports future research that aims to explore the association between these two prevailing health issues.

It is important to remember the sensitive nature of IPV research and the duty researchers have to ensure participant's privacy, confidentiality, safety, and protection of their emotional and mental well-being. Cultural sensitivity and the sociocultural context of South Africa are two important domains to consider when conducting

ethically-sound research. It is critical to review how the sociocultural context of the Venda region may impact the prevalence of violence and the under-reporting of IPV. According to Jewkes et al. (2000), violence takes on a normative nature in South Africa, and thus, researchers must remain culturally aware and be extremely sensitive to the issues being explored.

Additionally, participant recruitment should be active rather than passive. Research investigators were widely more successful in recruiting participants for this study by approaching students rather than requesting them to come to a remote study site on campus. This idea of “going to the people” served to cultivate better relationships between the investigator and the participant and helped widen our selection pool.

Dissemination of research findings is highly valuable and should target those who can mobilize change as well as address men, other key stakeholders, and family members who often play a proximal role in a victim’s experience of IPV. For example, WHO (2012) reports that unhealthy family relationships and interactions is a relationship risk factor for IPV victimization. Women and men who have a history of experiencing family violence are more at risk of IPV victimization and perpetration, respectively. Therefore, it is imperative that findings are disseminated appropriately to target audiences.

Similar to what was done before my team left the field, future research findings can be shared at a public forum hosted on UNIVEN’s campus open to all students,

faculty, staff, administrators, and community members. This setting is conducive to sharing data, educating the audience about IPV, cultivating community and political will, and empowering the audience to take practical steps to address the issue. Other efficient and effective mechanisms for dissemination of findings are using platforms such as the UNIVEN Facebook page, UNIVEN's website, and city meetings to facilitate more discussion and action addressing these issues.

4.3 Study strengths and limitations

While global research efforts have focused on analyzing various aspects of IPV such as prevalence, risk factors, and its implications, there is limited data focusing on IPV among university students in South Africa. This study is the first to address this gap in Vhembe district and begin to answer questions about the experiences of IPV among this specific population. Thus, study findings provide very specific and targeted approaches and solutions to addressing IPV victimization.

The mixed methods approach is a strength of the study design. The qualitative data collected through the administration of the SEMIs complements the exploration of the exposure variables and their association with IPV victimization. Within the mixed methods study design, we also recorded self-reported IPV data, measured IPV prevalence using the CTS2, and captured personal narratives about IPV victimization. This is unique in that it shows the distinction between one's personal experience of violence and how that story is shared and reported.

A study strength is the process of data collection and lack of participant resistance. Considering the sensitivity of the topic explored, it is encouraging to know the willingness of the population to participate and shed light on this issue. Additionally, the anonymous electronic data collection helped facilitate self-reported experiences of and exposure to violence. Therefore, this study can be replicated based off the study environment we cultivated and maintained.

Although this study was effective, culturally acceptable and feasible, it has limitations that must be considered when evaluating study findings. These include the small sample size, which is a threat to external validity, and the cross-sectional nature of the study, making it impossible to determine causal relationships between IPV and the exposure variables. Furthermore, selection bias may be present since upon arrival to the fieldsite, UNIVEN students were on break for their winter holiday. Thus, the students we interviewed during the first 2 weeks of data collection were graduate students (36%) until the rest of the student body returned for the start of the semester.

Study measures also introduce limitations. For example, while age was used in the study screening tool, the participant's age was not recorded in the sociodemographic questionnaire. Therefore, there was no determination of IPV prevalence across age groups. However, this can be reconciled by the fact that among this population, academic year is more closely associated with society's view of age, maturity, and life experience. Additionally, there may have been recall bias because of the retrospective

nature of some items, such childhood exposure to violence and the CTS2. Recall bias may also affect the participant's ability to provide an exact count of an experienced conflict tactic, which is why answer choices are represented in ranges. Participants may have been reluctant to answer questions truthfully and thus, under-reporting bias of violence could have resulted from social desirability bias.

Participants were asked to answer CTS2 items as they applied to their most serious relationship within the past 12 months. While this does not affect lifetime prevalence since this data includes any partner in the participant's lifetime, past year IPV victimization could have been under-reported since it only measured IPV perpetration by a single partner rather than other casual relationships. Furthermore, because of the dichotomous nature of the CTS2 scoring, all victims were lumped into either a "Yes" or "No" category regardless of severity or number of times, limiting investigators from identifying the most at-risk population based on the prevalence data.

Despite the ubiquity of the CTS2 and its use cross-culturally among university students to measure violence in dating relationships (Straus, 2004), the CTS2 has been widely criticized and may introduce instrument bias. There is ambiguity surrounding analysis of CTS2 prevalence data, because the CTS2 is multifaceted and can be interpreted in a variety of ways. Therefore, the analytic approach is left up to the investigator depending on the research aims and study purpose. For this study, the prevalence of IPV (1 = "Yes") was so high that in some instances, zero participants

would be represented in the “No” cell. Therefore, while performing the regression analyses, there were instances when STATA would drop observations because they “predicted success perfectly.” Because the data was not distributed widely enough between victims and non-victims, the analyses predicted that many of the independent variables are great predictors of the dependent variable. Approaches to mitigate this statistical limitation are redefining the outcome variable (e.g. IPV prevalence based on severity) or enrolling a larger sample size.

Other criticisms of the CTS2 focus on the scale’s validity and the interpretability of prevalence data. Critics argue that the lack of context in the assessment of IPV challenges its validity (Dobash & Dobash, 2004; Kimmel, 2002; Wooding et al., 2013). Archer (2000) argues that the CTS2 consistently identifies high rates of self-reported IPV perpetration by women. A mixed methods study conducted by Lehrner & Allen (2014) identified ways the CTS2 may be vulnerable to overestimating frequency and severity of IPV by failing to distinguish mock violence from meaningful violence. Researchers also found that due to the length of the CTS2, participants drifted away from the instructional frame of the measure. Lehrner & Allen (2014) argue the CTS2 may fail to document rates of over-reporting among participants, which supports future research on the validity of the CTS2 with men, women, and more diverse samples. Continued use of the CTS2 in future research would ensure consistency across IPV prevention literature and strengthen related findings (Petering et al., 2013).

5. Conclusion

This study is the first to quantitatively and qualitatively investigate IPV among the university population in Vhembe district, which found high percentages of IPV victimization among the study sample. This data offers an explanatory model of the influence of individual, community, and social factors on IPV victimization and captures women's narratives of violence. Study findings emphasize opportunities to mitigate under-reporting, address the barriers to seeking help, and respond to the participant's urgency in addressing this issue. We must not neglect the complex and multifaceted web of risk factors, exposures, and drivers that perpetuate IPV in this region. Results highlight the need for multi-sectoral collaboration, dedication to policy change, evidence-based interventions, and implementing sustainable structures for ongoing support of this university community. Further research with culturally-sensitive measures is needed, which can focus on exploring the motivations of IPV, the impact it has on both males and females, and the most effective means to eradicate violence.

Appendix A. Timeline

Month	1 - 2	3	4	5	6	7	8	9	10
Date	Nov. - Dec. 2016	Jan. 2017	Feb. 2017	Mar. 2017	Apr. 2017	May 2017	June 2017	July 2017	Aug. 2017
Collaboration with UVa & UNIVEN partners									
Submit fieldwork proposal draft (Nov. 18)									
Begin IRB protocol for UVa									
Submit final research proposal w/ budget & final development of study instruments (March 17)									
Submit to UVa IRB (April 12) & receive approval (May 1); submit IRB to UNIVEN (May 2); sign IAA between UVa + DKU (May 17)									
Leave for South Africa and arrive to the field (May 4)									
Initiate in-person communication and meetings w/partners at UNIVEN (May 4-May 18)									
Depart for UVa for MHIRT Orientation Week (May 25-June 2)									
Depart for South Africa and arrive in Thohoyandou with the rest of the research team (June 7)									
Research team training (June 9 – June 15)									
Receive local IRB approval (June 13)									
Participant recruitment at UNIVEN (June 20) & first day of interviewing (June 21)									
Data collection (June 21 – July 20)									
Prepare for final research presentation (July 27) at UNIVEN (July 24 - 26)									
Depart for UVa for MHIRT Analysis week (July 28 – August 5)									

Appendix B: Screening Tool

Q1.1 If you are viewing this, you should be a student interviewer planning to begin Study 2_Taylor.

You will read the screening questions aloud to the prospective study participant. If the study participant is then eligible for participation, you will continue with the informed consent process and the rest of the study.

Q1.2 What is your age? (in years)

- 17 years and under
- 18-31 years
- 32 years and older

Q1.3 Are you currently enrolled as a student at UNIVEN?

- Yes
- No

Q1.4 Are you currently in a relationship or have you been in a relationship in the past 12 months? (Relationship can refer to seeing someone but not exclusively, dating, engaged, a marital and/or cohabiting relationship)

- Yes
- No

Appendix C: Consent Form

Participant's Name _____

INTERNATIONAL RESEARCH CONSENT FORM --CONSENT TO PARTICIPATE IN A RESEARCH STUDY--

What is this study about?

Doctors at the University of Virginia in the United States and their colleagues at the University of Venda are trying to learn more about how alcohol use, sexual behaviors, and violent behaviors may be related among university students in the province of Limpopo. This is called a research study. This is not a medical study. The IRB is a special committee at the University of Virginia that reviews all studies involving human participants and is similar to the UNIVEN Ethical Review Board.

Your participation in this research study is voluntary. However, you will not be allowed to participate in this research if you do not sign this form.

The reason to do this research study is to understand how students experience different risks, and how they may be prevented. You are being asked to be in this study, because you are a University of Venda student, or can serve as a key informant due to your knowledge of university student culture.

The researchers in charge of this study are Dr. Karen Ingersoll of the University of Virginia and Dr. Mary Maluleke of the University of Venda.

This study will take place at UNIVEN and each part will last for one visit.

Up to 400 people total will be in this study at UNIVEN. You can participate in one or more parts of the study. The parts are: Key Informant interviews, Focus groups, Individual Interviews, or Individually-Administered Surveys or Questionnaires:

Up to 20 people will participate in audiotaped Study 1 Key Informant Interviews that will last 45-60 minutes.

Up to 40 will participate in audiotaped Study 1 Focus Groups that will last 70-90 minutes.

Up to 100 will participate in audiotaped Study 1 Individual Interviews that will last up to 2 hours.

Up to 40 will pilot Study 1 Individually Administered Surveys which will last about 30 minutes.

Up to 200 will answer Study 2 Questionnaires and participate in an audiotaped discussion which could take about 45-60 minutes.

What will happen during the study?

If you agree to participate, you will sign this consent form before any study related procedures take place. Before you can start in the study, you will verify that you are a University of Venda student or a key informant with knowledge about university

student culture and that you are able to provide informed consent. Informed consent will ensure you are fully informed of the nature of your participation and that you agree to participate based on your understanding of this study.

STUDY PROCEDURES

During this study, you may be asked to answer questions during focus groups, individual interviews, or while completing questionnaires. These ask about:

1. Your romantic or sexual relationships
2. Your experiences drinking alcohol
3. Your perceptions of peers' alcohol use
4. Your experiences with sex, birth control methods, and pregnancy
5. Your experiences of intimate partner violence or other violent or traumatic experiences
6. Your perceptions of peer relationships that may include physical or psychological harm or abuse
7. How you are feeling
8. Your lifestyle and habits
9. Your perception or information about any of the above as a key informant

A study team member will inform you about which part of the study is being offered to you today. You may be invited to participate in one or more parts of the study.

- **Study 1:** *For Men and Women. You may participate in one or more of the following activities:*

Study 1 Key Informant Interviews: You will be asked to provide information about university student behaviors based on your observations. These may include your views on university students' drinking, sexual, relationship, lifestyle, and health habits, including experiences of violence or trauma.

Study 1 Individual Interviews: You will be asked about your own experiences with drinking, sexual, relationship, lifestyle, and health habits, including experiences of violence or trauma.

Study 1 Focus Groups: A focus group is a form of research in which a small group of people that are asked about their opinions, beliefs, and attitudes towards an idea or a service. During a focus group, a research team member leads participants through an open discussion. During the discussion, the researcher either takes notes or records the ideas from the group. During the focus group meeting, the researcher will ask questions about your experiences and thoughts. The discussion will take about 70-90 minutes to complete. The topic of the focus groups will be your experiences and your observations

about others' experiences with drinking, sexual, relationship, lifestyle, and health habits, including experiences of violence or trauma.

Study 1 Questionnaires: You will be asked to complete a questionnaire about drinking, sexual behavior, contraception, and health risks. These questionnaires may be on paper, or may be completed on an iPad in an offline version. There will also be audio recording during the interview and discussion sections of the study.

➤ **Study 2 (Women and Men)**:

If you participate in Study 2, you will complete an individual interview guided by an interviewer, along with several questionnaires about who you are, your history of relationships, your experiences with violence (if any), your perceptions about gender roles in your culture, your experiences with substance use, and your perspective on these topics. These questionnaires may be on paper, or may be completed on an iPad in an offline version. There will also be audio recording during the discussion sections of the study.

Could the research hurt me? Sometimes things happen to people in research studies that may hurt them or make them feel bad. These are called risks.

Risks and side effects related to the study: There is the potential loss of confidentiality (the risk that someone might see your private information) associated with this research study. It would be rare for a breach of confidentiality to occur. Measures to protect your privacy will be used.

During the focus group, others in the focus group will hear your responses. If you are part of a focus group, please respect your peers by not talking about the study outside of the focus group.

You may become emotionally upset during the interview. Additionally, you may experience minor embarrassment when talking about personal issues. If you are hurt by being in this study in a way that is not described in this document, the research team might not be able to pay for your treatment/care to treat the injury. We also have no plans to pay you for lost wages, disability, or discomfort. You should discuss this important issue with the researcher before you sign this document. You may have reactions that we do not expect or know to watch for now. Call the study leader, Ms. Taylor Allen, at 27 79 249 5601 if you have any symptoms or problems related to your participation in this study.

Could the research help me?

People also might have good things happen to them because they are in research studies. These are called benefits. There are no anticipated direct benefits to you for

being in this study. The benefits of this research to your community might be to identify risks that could be prevented, which could lead to future prevention projects and inform intervention efforts. The researcher will inform you of any relevant information, such as a list of local resources that may be helpful to you.

How will my privacy be protected?

Study records that identify you will be kept confidential as required by United States privacy regulations. You agree to allow Drs. Ingersoll and Maluleke and their staff (researchers associated with their staffs and the University of Virginia) to use and disclose health information about you to conduct this study only to other study team members. These individuals, or the University of Virginia on their behalf, may also release your study records, the consent form associated with this study, this authorization and the information about you created by this study to the NIH or their designates for the purposes of monitoring the quality of the study. Other persons who may have access to your records include groups such as data and safety monitoring boards which oversee the safety of a study including accrediting agencies, South Africa and United States federal, state and local agencies having oversight over this research, for example, the United States Department of Health and Human Services (DHHS).

If you sign this form, you have given us permission to release information to these other people. There is no expiration date to this permission. If you decided to withdraw your permission and end this agreement to release the information collected about you, please contact:

Co-investigator: Dr. Mary Maluleke

Email: mary.maluleke@univen.ac.za

Physical address: Caravan 2, Caravan Park, University Street, Thohoyandou, 0945

Telephone: 27 15 962 8717

Dr. Maluleke will help you document in writing your decision to withdraw this permission. Please note that any information already obtained will continue to be used.

Because of the need to release information to these parties, absolute confidentiality cannot be guaranteed. There is potential that information released to the NIH or governmental agencies may be released again and would no longer be protected by privacy laws.

Will I be compensated for my participation?

You will not be compensated.

Do I have to participate?

You do not have to be in either of these studies if you do not want to. This means your participation is voluntary. It is up to you to decide whether or not being in the study is

in your best interest. You can also stop participating in one or both of the studies at any time. Any information gathered about you before you decide to stop the study will continue to be used. If you decide to stop, no one will be angry or upset with you. No one will treat you differently if you decide not to participate.

If I don't want to participate, what other choices do I have?

The only alternative is to not participate in this study.

Who can I contact with questions about my rights as a research subject?

University of Virginia Institutional Review Board for Health Sciences Research
PO Box 800483
Charlottesville, Virginia 22908 USA
001 (434) 924-2620
irbhsr@virginia.edu

Co-investigator: **Dr. Mary Maluleke**

Email: mary.maluleke@univen.ac.za

Physical address: Caravan 2, Caravan Park, University Street, Thohoyandou, 0945

Telephone: 27 15 962 8717

Who can I contact with questions about this study?

Principal Investigator: **Dr. Karen Ingersoll**

- Email: kareningersoll@virginia.edu
- Physical Address: 560 Ray C. Hunt Drive, Suite 3147
- Charlottesville, Virginia, 22903, USA
- Telephone: 001 (434) 982-5960

Or the local study leader: **Ms. Taylor Allen** | Local telephone: 27 79 249 5601

Signatures

Please ask as many questions as you need to make sure you understand the study before you sign this form.

PARTICIPANT'S NAME
(SIGNATURE)

PARTICIPANT'S NAME
(PRINT)

DATE

PERSON OBTAINING CONSENT
(SIGNATURE)

PERSON OBTAINING CONSENT
(PRINT)

DATE

Appendix D: Interviewer Consent Form Script

Q2.1 Please provide the study participant with an informed consent and continue with the consenting process.

Hi! My name is _____ and I'll be here with you during the study today.
(*Shake their hand*).

So right now, we are going to go through the consent form for this study. Informed consent is the process of me explaining the study to you and you fully understanding what you'll be doing, what your risks and benefits are, and your privacy throughout the study.

I'm going to ask you to go through this form on your own now. Feel free to ask me any questions while you're skimming. When you're done, I'm going to explain the most important aspects of the form. (*Now allow a few minutes for participant to read through form, answer questions as necessary*).

For Study 2, describe the following:

- ✓ Study 2 involves discussion of demographic information, relationship patterns and violence and will include a survey and discussion at the end.
- ✓ We anticipate you being here for 45-60 minutes.

Studies will be administered on an iPad and will also involve some open discussion.

Some portions of the study include audio recording. All this means is that we will record your voice to listen to later for data collection. This will not affect your privacy at all and you will be kept anonymous. All audio recordings will be erased after transcription.

As for the risks and benefits, there are no immediate benefits. Because this is sensitive material, the only potential risk to you might occur if you become emotionally upset. As for benefits, there is no compensation for participation, but this data may benefit your community as a whole.

As a reminder, your information is confidential. There is nothing to identify you personally in this study and you are kept completely anonymous.

Appendix E: SEMI Interviewer Guide

[Interviewer has tape recorder in hand. Press “record.”]

Interviewer (Recite the following into the recorder): Today’s date is _____. This is Study 2 and the part of the study that is being recorded is the SEMI discussion. The number of people that are in this session is one. The study participant number is:_____.

Interviewer: As you read in the consent form, there will be an audio recorded portion of this study. We have now reached this portion. Please verbally state to the interviewer now that you are comfortable proceeding with being audio recorded.

[After the study participant has verbally stated they are okay with being audio recorded, continue with the SEMI.]

Interviewer: We will now read a short scenario. Following the scenario, I will ask you a series of questions. We really value your insight, but please only reply as you feel comfortable.

[Hand study participant laminated paper with vignette.]

Interviewer: Please take a few moments to look over the scenario.

[After a few moments...]

Interviewer: Now I will read the scenario out loud. Please follow along with me.

SEMI Vignette

Mpho is a 22 year old student in her fourth year at university. Six months ago, she began dating Ndamu. In the beginning, things were going well and they believed they had found each other’s soulmate. Mpho even noticed that he would wait for her outside her class. Mpho grew a little concerned when Ndamu refused to use a condom, but she loved him. Now when Ndamu comes over to Mpho’s room, he yells at her, calls her names, and tells her she is worthless. Ndamu starts drinking heavily, and when he is intoxicated, he shoves Mpho to the ground and beats her. Ndamu threatens to leave the relationship if Mpho hangs out with her friends. Mpho feels stressed and alone and stays in bed rather than attending class. As a result, Mpho doesn’t qualify for her first semester examination.

Interviewer questions:

1. What is your perception of this situation?
2. If you had to name the problem, what would it be?
3. What do you think is causing the problem?
4. What should Mpho do?
5. What should Ndamu do?

Probing questions:

1. What do you think will happen?
2. How common is this experience here?
 - a. If respondents reflect on their experiences at UNIVEN, ask about these experiences in their communities.
3. Why is this still happening? What's not working? What is perpetuating the issue?
4. What is not being done?
5. What should others do?
6. What role does UNIVEN and the larger Venda community play in preventing problems like these? What can they do?
7. What other thoughts do you have about this scenario and what we have talked about?

Notes and things to keep in mind:

- If respondent herself is a victim of IPV or any other form of violence or abuse, and this information is disclosed to you, you *can* ask the study participant the following questions:
 1. Have you told anyone else about this?
 2. Have resources to give to the respondents.
- If necessary, provide suggestions to the study participant about how they might describe their experiences in this study to classmates and others who have not participated in the study.

B8. Short Explanatory Model Interview (SEMI) Vignette

Mpho is a 22 year old student in her fourth year at university. Six months ago, she began dating Ndamu. In the beginning, things were going well and they believed they had found each other's soulmate. Mpho even noticed that he would wait for her outside her class. Mpho grew a little concerned when Ndamu refused to use a condom, but she loved him. Now when Ndamu comes over to Mpho's room, he yells at her, calls her names, and tells her she is worthless. Ndamu starts drinking heavily, and when he is intoxicated, he shoves Mpho to the ground and beats her. Ndamu threatens to leave the relationship if Mpho hangs out with her friends. Mpho feels stressed and alone and stays in bed rather than attending class. As a result, Mpho doesn't qualify for her first semester examination.

Appendix F: Sociodemographic Questionnaire

Q3.1 You will now begin the survey portion of the study.

Q184 Please specify your race (Select all that apply)

- Black
- White
- Coloured
- Indian
- Other (Please specify) _____

Q3.2 What is your sex/gender?

- Female
- Male
- Transgender

Q3.3 If you selected transgender in the previous question, please indicate which of the following applies

- Male to female
- Female to male

Q3.4 What is your sexual orientation?

- Straight
- Lesbian
- Gay

Bisexual

Other (Please specify) _____

Rather not say

Q3.5 What country are you from?

Q3.6 What province are you from?

Q3.7 What district are you from?

Q3.8 What municipality are you from?

Q3.9 What is the name of your hometown? (Please specify city, town or village name)

Q3.10 Did you grow in a rural or urban area?

Rural

Urban

Q3.11 What tribe are you from?

Ndebele

Bapedi

Basotho

Swati

Tsonga

Tswana

Venda

- Xhosa
- Zulu
- Other _____

Q3.13 What language(s) do you speak? (Select all that apply)

- Afrikaans
- English
- isiNdebele
- Sepedi
- Sesotho
- isiSwati
- Xitsonga
- Setswana
- Tshivenda
- isiXhosa
- isiZulu
- Other _____

Q3.12 What is your home language? (Select one)

- Afrikaans
- English

- isiNdebele
- Sepedi
- Sesotho
- isiSwati
- Xitsonga
- Setswana
- Tshivenda
- isiXhosa
- isiZulu
- Other _____

Q3.14 How many family members did you grow up with in your household, including yourself? (Please respond numerically)

Q3.15 Who raised you? (Select all that apply)

- Father
- Mother
- Step father
- Step mother
- Other family member (Please specify)

Legal guardian (Please specify)

Other _____

Q3.16 How many children do you have?

- 0
- 1
- 2
- 3
- 4
- 5+

Q183 What is the highest level of education your father has completed?

- No primary level education
- Some primary level education
- Completed primary level education
- Some secondary level education
- Completed secondary level education
- Some tertiary level education
- Tertiary level graduate
- Post-graduate or professional degree
- I don't know

Q182 What is the highest level of education your mother has completed?

- No primary level education
- Some primary level education
- Completed primary level education
- Some secondary level education
- Completed secondary level education
- Some tertiary level education
- Tertiary level graduate
- Post-graduate or professional degree
- I don't know

Q3.19 What is your current level of study at UNIVEN?

- Level 1
- Level 2
- Level 3
- Level 4
- Post-graduate
- Other (Please specify) _____

Q3.20 What school does your major fall under?

- School of Law

- School of Agriculture
- School of Education
- School of Environmental Science
- School of Health Sciences
- School of Human and Social Sciences
- School of Mathematical and Natural Sciences
- School of Management Sciences

Q3.21 What is your field of study? If in foundation phase, designate your intended field of study.

Q3.22 How many times have you gone to a clinic, nurse or sought healthcare services within the past 12 months? (Please respond numerically)

Q3.23 What is your current employment status? (Select all that apply)

- Unemployed
- Employed part-time
- Employed full-time
- Volunteer
- Other (Please specify)

Q3.24 What is your current living situation?

- On-campus UNIVEN housing
- Off-campus UNIVEN housing

Off-campus non-UNIVEN housing

Q3.25 In your current living situation...(Select all that apply)

I am living alone

I am living with a university-assigned roommate

I am living with my boyfriend/girlfriend

I am living with a squatter(s)

I am a squatter

I am living with my family

Q3.26 What is your current relationship status? (Select all that apply)

Single

Seeing someone but not exclusively

Seeing someone on the side

Dating

Dating a married man

Engaged

Married

Divorced

Widowed

Other (Please specify)

Q3.27 How many of the people you are currently seeing fall into each category? (Please respond numerically)

Seeing someone but not exclusively _____

Seeing someone on the side _____

Dating _____

Dating a married man _____

Engaged _____

Married _____

Divorced _____

Widowed _____

Other (Please specify)

Q3.28 If you are currently in a relationship, how long have you been in the relationship? (Please respond numerically and in reference to your most serious relationship)

Years _____

Months _____

Weeks _____

Days _____

Q3.29 Are you currently living with or have you lived with a partner within the last 12 months?

Yes

No

Q3.30 How many sexual partners do you currently have? (Please respond numerically)

Q3.31 Not including your current sexual partner(s), how many sexual partners have you had within the last 12 months? If you are unsure, please give your best estimate. (Please respond numerically)

Q3.32 Violence can be described as any controlling behaviors and/or physical, psychological and/or sexual abuse. Were you exposed to any form of violence during your childhood? (Select all that apply)

Yes, this happened to me.

Yes, I saw this happen to someone else.

Maybe

No, this did not happen to me.

No, I did not see this happen to someone else.

Q3.34 Intimate partner violence (IPV) is defined as physical, sexual and emotional abuse, and controlling behaviors by an intimate partner. Were you exposed to IPV during childhood?

Yes, this happened to me.

Yes, I saw this happen to someone else.

Maybe

No, this did not happen to me.

No, I did not see this happen to someone else.

Q3.35 How many people at UNIVEN do you personally know who have experienced some form of intimate partner violence? If you are unsure, please give your best estimate. (Please respond numerically)

Q3.36 Have you yourself experienced intimate partner violence?

Yes












I'm not sure.

No

Prefer not to answer.

Q3.37 Please click the next arrow to continue with the survey.

Appendix G: AUDIT-C

BEER			WINE			SPIRITS				
Estimated alcohol content: 5%		7%	12%	17%	24%	40%	50%			
~341 mL		~285 mL	~142 mL	~85 mL	~60 mL	~43 mL	~30			
										
Regular beer		Malt liquor beer	Regular wine	Fortified wine	Cordial liqueur	80 proof spirits		100 proof spirits		
How many standard drinks?		1	1	1	1	1	1	1		

Q4.2 The graphic above calculates what a standard drink is across different alcoholic beverages. As you answer the following questions, please use the above definition of a standard drink.

Q4.3 How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2-4 times a month
- 2-3 times a week
- 4 or more times a week

Q4.4 How many standard drinks containing alcohol do you have on a typical day?

- 0
- 1 or 2
- 3 or 4

- 5 or 6
- 7 to 9
- 10 or more

Q4.5 How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

Q4.6 Please click the next arrow to continue with the survey.

Appendix H: Gender Role Items

Q5.1 Please indicate how strongly you disagree or agree with each statement.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
"Sons in a family should be encouraged more than daughters to go to university."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"There are many jobs in which men should be given preference over women."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"A child should not expect to have a close relationship with their father."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"A woman should not expect to go to the same places or have the same freedom as men."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Discrimination against women is no longer a problem in South Africa."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

"Society has reached the point where women and men have equal opportunities."

"It is difficult to understand why women are concerned about women's rights."

"Intimate partner violence should be viewed as a crime."

"For women, finding a man is more of a priority than receiving an education."

"The man should be the head of the household."

"If a man initiates sex, women should say yes regardless of personal desire."

"It is not proper for a woman to initiate sex."

"Society would assume that it is the woman's fault if she is raped."

"A woman should blame herself if she is raped."

"A woman should blame herself if the man is violent with her."

"The man in a relationship should control the woman."

"The man should be the one to make the decision about having an abortion."

"It is acceptable for a woman to have multiple sexual partners."

"It is acceptable for a man to have multiple sexual partners."

"Women should be faithful."

"Men should be faithful."

"It's okay for a woman to have a relationship with a married man if she doesn't want commitment."

"It's okay for a woman to have a relationship with a married man if she wants financial support."

Q5.2 Please click the next arrow to continue with the survey.

Appendix I: The Revised Conflict Tactics Scale (CTS2)

Q6.1 No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have disagreements or fights. This could happen because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences.

Please select how many times you did each of these things in the past 12 months, and how many times your partner did them to you.

Please answer the following questions as they apply to your most serious relationship from the past 12 months.

Q6.2 I showed my partner I cared even though we disagreed.

0 1 2 3-5 6-10 11-20 >20

Not in the past year, but this happened before.

Q6.3 My partner showed care for me even though we disagreed.

0 1 2 3-5 6-10 11-20 >20

Not in the past year, but this happened before.

Q6.4 I explained my side of a disagreement to my partner.

0 1 2 3-5 6-10 11-20 >20

Not in the past year, but this happened before.

Q6.5 My partner explained his or her side of a disagreement to me.

0 1 2 3-5 6-10 11-20 >20

Not in the past year, but this happened before.

Q6.6 I insulted or swore at my partner.

0 1 2 3-5 6-10 11-20 >20

Not in the past year, but this happened before.

Q6.7 My partner did this to me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.8 I threw something at my partner that could hurt.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.9 My partner did this to me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.10 I twisted my partner's arm or hair.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.11 My partner did this to me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.12 I had a sprain, bruise or small cut because of a fight with my partner.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.13 My partner had a sprain, bruise or small cut because of a fight with me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.

Q6.14 I showed respect for my partner's feelings about an issue.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.15 My partner showed respect for my feelings about an issue.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.16 I made my partner have sex without a condom.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.17 My partner did this to me.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.18 I pushed or shoved my partner.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.19 My partner did this to me.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.20 I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	

Q6.21 My partner did this to me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.22 I used a knife or gun on my partner.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.23 My partner did this to me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.24 I passed out from being hit on the head by my partner in a fight.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.25 My partner passed out from being hit on the head in a fight with me.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.26 I called my partner fat or ugly.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
Q6.27 My partner called me fat or ugly.	0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.

Q6.28 I punched or hit my partner with something that could hurt.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.29 My partner did this to me.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.30 I destroyed something belonging to my partner.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.31 My partner did this to me.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.32 I went to a clinic, nurse or sought healthcare services because of a fight with my partner.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.33 My partner went to a clinic, nurse or sought healthcare services because of a fight with me.							Not in the past year, but this happened before.
0	1	2	3-5	6-10	11-20	>20	
Q6.34 I choked my partner.							

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.35 My partner did this to me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.36 I shouted or yelled at my partner.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.37 My partner did this to me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.38 I slammed my partner against a wall.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.39 My partner did this to me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.40 I said I was sure we could work out a problem.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.41 My partner was sure we could work it out.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.42 I needed to go to a clinic, nurse or healthcare service because of a fight with my partner, but I didn't.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.43 My partner needed to go to a clinic, nurse or healthcare service because of a fight with me, but didn't.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.44 I beat up my partner.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.45 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.46 I grabbed my partner.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.47 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.48 I used force (like hitting, holding down, or using a weapon) to make my partner have sex.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.49 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.50 I stomped out of the room or house or yard during a disagreement.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.51 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.52 I insisted on sex when my partner did not want to (but did not use physical force).

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.53 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.54 I slapped my partner.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.55 My partner did this to me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.56 I had a broken bone from a fight with my partner.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.57 My partner had a broken bone from a fight with me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.58 I used threats to make my partner have oral or anal sex.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.59 My partner did this to me.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.60 I suggested a compromise to a disagreement.

0 1 2 3-5 6-10 11-20 >20 Not in the past year, but this happened before.

Q6.61 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.62 I burned or scalded my partner on purpose.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.63 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.64 I insisted my partner have oral or anal sex (but did not use physical force).

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
---	---	---	-----	------	-------	-----	---

Q6.65 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.66 I accused my partner of being a lousy lover.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.67 My partner accused me of this.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.68 I did something to spite my partner.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.69 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.70 I threatened to hit or throw something at my partner.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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Q6.71 My partner did this to me.

0	1	2	3-5	6-10	11-20	>20	Not in the past year, but this happened before.
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