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**FACTORS AFFECTING SEXUAL INTIMACY IN YOUNG ADULTS IN THE
UNITED STATES**

Master thesis

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SUMMARY

Applied Public Health

FACTORS AFFECTING SEXUAL INTIMACY IN YOUNG ADULTS IN THE UNITED STATES

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Aim: To investigate factors affecting sexual intimacy in young adults in the United States

Objectives: 1) to explore sexual intimacy, quality of life, adverse childhood experiences, and sexual function in young adults; 2) to evaluate the relationship between quality of life and sexual intimacy; 3) to evaluate the relationship between adverse childhood experiences and sexual intimacy, 4) to evaluate the relationship between sexual function and sexual intimacy, 5) to evaluate the interconnected relationships between quality of life, adverse childhood experiences and sexual function.

Methods: A cross-sectional study was carried out using an online questionnaire. Participants were asked questions concerning sexual intimacy, intimate partner violence, quality of life, adverse childhood experiences, and sexual function. For statistical analysis, linear regression, binary regression, and chi square analysis were used.

Results: The participants (n=161) were aged between 18-35. There was a significant, inverse relationship between sexual intimacy and IPV. In the total sample, there is a relationship between QoL and sexual intimacy (p=0.012). There was a relationship between ACEs and sexual intimacy and ACEs and IPV victimization (p=0.020). There was a relationship between sexual intimacy and sexual function. There was a relationship between QoL and ACEs. There was a relationship between QoL and sexual function. There was no relationship between ACEs and sexual function in the sample. There were significant differences between men and women in the sample. Both men and women reported high rates of Physical and Emotional IPV, with females reporting high rates of Sexual IPV than females (p=0.011). Women were more likely to have lower sexual intimacy scores (p=0.006) and more likely to be sexually compliant than men (p<0.001). Females were more likely to report poor wellbeing than males (p=0.003). Females reported higher ACEs than males(p=0.007). In the female sample there was a significant relationship between sexual intimacy and QoL (p=0.047). This relationship was not observed in the male sample. Both males (p=0.017) and females(p<0.001) showed a relationship between sexual intimacy and sexual function.

Conclusions: Many factors are related to sexual intimacy, including quality of life, adverse childhood experiences and sexual function. The factors seem to impact women more than men. The interconnected nature of the variables are important account for when looking to implement interventions.

Keywords: sexual intimacy, intimate partner violence, adverse childhood experiences, sexual function, quality of life

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LIST OF ABBREVIATIONS

ACEs – Adverse Childhood Experiences
BFSI – Brief Sexual Function Inventory
CDC – Centers for Disease Control
CM – childhood maltreatment
CSA – Childhood Sexual Abuse
ED – erectile dysfunction
FMVP – Female-to-Male Partner Violence
FSD – Female Sexual Dysfunction
FSFI – Female Sexual Function Index
HIV – human immunodeficiency virus
HRQoL – Health-related Quality of life
IPV – intimate partner violence
MFPV – Male-to-Female Partner Violence
PTSD – Post-Traumatic Stress Disorder
PTSS – Post-Traumatic Stress Symptoms
QoL – Quality of Life
SA – Sexual Abuse
STI – Sexually transmitted infection.
US – United States of America

SCIENTIFIC TERMINOLOGY

Alpha-amylase – a salivary enzyme that has been said to indicate stress-reactive bodily changes

Dose-response relationship – in the study of adverse childhood experiences, this term refers to the fact the higher the number of ACEs increases the likely a person is to have poor health outcomes later in life.

Intimate Partner Violence – any behavior that cause physical, psychological, or sexual harm that one intimate partner inflicts on the other. The perpetrator may be a current or former spouse or partner in an intimate relationship.

Oxytocin – a hormone that triggers feelings of love and protection

Salivary cortisol – a physiological measure of stress levels

Sexual intimacy – the aspect of sexual relationships that relates to trust, vulnerability and mutuality with an intimate partner

Sexual confidence – relates to a person's confidence with their own body, sexual preferences and the idea that you deserve pleasure during sexual encounters.

Sexual compliance – the act of consenting to sex when it is not actually desired

Sexually transmitted infection – The most common STIs are chlamydia, genital herpes, gonorrhea, human papillomavirus, pubic lice, syphilis, and trichomoniasis

INTRODUCTION

Researched problem

Sex and interpersonal relationships are a key contributor to quality of life (QoL) and individual well-being. Sex and relationships have been shown to have physiological and psychological health benefits [1–4]. Though sex is now less of a taboo topic and is generally viewed as a positive contributor to QoL, it is important to assess healthy interpersonal contact. Unequal sexual relationships, where one partner is complying to the other's requests regardless of their own wishes, have been shown to increase stress levels [5]. This behavior is common in young adults [6]. This highlights the importance of mutuality, comfort, and closeness during sexual encounters, which is also known as sexual intimacy.

A crucial issue to address when assessing sexual intimacy is intimate partner violence (IPV). IPV can be viewed as the inverse of a healthy sexual intimate relationship, because it increases rates of mental and physical health issues, such as PTSD, depression, asthma, cardiovascular diseases [7]. IPV is extremely common worldwide and in the US. 1 in 4 women and 1 in 10 men experience physical or sexual IPV or stalking by an intimate partner [8]. Some studies have shown as high as 66% of young women and adolescents experience IPV [9]. With such a high prevalence of these potentially life-altering relationships, it is important to address the risk factors for IPV and low sexual intimacy.

Adverse childhood experiences (ACEs) have been shown to have many negative effects on physical and psychological health later in life. ACEs have been shown to increase both IPV victimization and perpetration. Studies have shown that childhood maltreatment impacts a person's ability to form intimate attachments later in life [10,11]. Sexual function plays an important role in sexual satisfaction, body image, QoL, and relationships [12,13]. Sexual dysfunction is common, even in young adults[14,15].

This study sought to analyze the interconnected relationships between sexual intimacy, IPV, QoL, sexual function and ACEs in young adults in the United States.

Relevance of work

Sexual intimacy is a key factor in overall quality of life and individual health, making sexual intimacy an important focus in public health research. IPV and ACEs are major public health concerns due to their connection with other physical and psychological health conditions. Targeting the risk and protective factors for IPV will allow for the implementation of interventions to promote healthy sexual

relationships. Treating toxic stress related to ACEs can help prevent the long-term physical and social affects to promote a healthy life for children who have unfortunately experienced these adverse events.

Scientific novelty

The study used original and standardized questionnaires to assess the connection between sexual intimacy, QoL, sexual function and ACEs. The study found a connection between ACEs and sexual intimacy and QoL, which shows an inverse dose-response relationship between ACEs and sexual intimacy, and ACEs and QoL.

Practical significance

The study found that sexual intimacy increases as QoL increases, solidifying that sexual intimacy is a key factor in individual wellbeing. Contrarily, IPV victims reported lower QoL scores. Additionally, ACEs and sexual dysfunction have shown to negatively impact sexual intimacy. This data can be used as a rationale for creating ACE intervention plans and treatment to both foster positive sexual intimacy and prevent IPV in early adulthood. This data can also be used as a rationale for the implementation of sexual health checks in primary care, to encourage providers to address sexual function in young adults as a part of their practice.

Author's contribution

The author developed new questions to measure sexual intimacy, received the permission of Bioethics Committee to perform the study, organized and advertised the study on the internet, entered the data to a computer database, performed the statistical analysis, and summarized the data in the master thesis.

AIM AND OBJECTIVE OF THE WORK

AIM: To investigate factors affecting sexual intimacy in young adults in the United States

OBJECTIVES:

1. To explore sexual intimacy, quality of life, adverse childhood experiences, and sexual function in young adults.
2. To evaluate the relationship between quality of life and sexual intimacy.
3. To evaluate the relationship between adverse childhood experiences and sexual intimacy.
4. To evaluate the relationship between sexual function and sexual intimacy.
5. To evaluate the interconnected relationships between quality of life, adverse childhood experiences and sexual function.

1. REVIEW OF LITERATURE

1.1 Importance of Sexual Intimacy and Prevalence and Effects of IPV

Sex has been linked with various health benefits. A study monitoring blood pressure showed that high intimacy ratings was linked to reduction in blood pressure, while high-hostility ratings increased blood pressure [2]. Increased ejaculations have beneficial function in the etiology of prostate cancer [1]. A study on older adults monitored salivary cortisol levels and daily experiences and feelings. The study showed that prior day feelings of loneliness, sadness, lack of control and threat were associated with higher cortisol levels, inducing stress [3]. Similarly, a study conducted on couples showed reduced salivary cortisol levels when there were positive couple interactions [16]. Another study investigating stress saw that when an intimate touch intervention was implemented in married couples, the intervention group had significantly increased oxytocin and reduced alpha amylase, providing further evidence that physical intimacy can reduce stress levels [17]. Individuals in committed relationships reported a reduction in somatic symptoms in the days following physical intimacy, providing evidence for the health benefits of intimacy and sex [4]. A study conducted on young adults to explore the association between relationship status and a variety of factors such as sense of autonomy, personal growth, purpose in life scales, level of self-acceptance, found a relationship between well-being and having an intimate partner [18].

An open-ended survey conducted in the US, showed that health, romantic partnership, career and friends were areas that some participants found meaning in. The participants who found meaning in all four areas reported significantly higher life satisfactions. One in five participants reported that their romantic partner affects their sense of meaning and satisfaction. These participants rated their life satisfaction 9% higher than those who did not mention a partner or spouse [19]. A study examined the discrepancies between individuals' actual experiences of sexual closeness and their ideal sexual closeness in a diverse sample. The researchers defined sexual closeness as "the degree to which people imagine the interconnectedness between themselves and their sexual partners." They measured sexual closeness as a combination of affective, physical and cognitive elements which relate to how sexually interconnected an individual feels to a partner. The study found that increases in sexual closeness discrepancies predicted decreases in sexual satisfaction and orgasm frequencies, while decreases in the sexual closeness discrepancies improved sexual wellbeing. Higher levels of sexual closeness discrepancies were associated with lower levels of sexual satisfaction and orgasm frequency. Sexual

closeness contributed to relational closeness, which relates to the basic human need to feel connected to and understood by others [20]. Relational closeness has been linked to higher ratings of intimacy, commitment and relationship satisfaction [20–22]. In contrast, women who reported a history of IPV, reported lower QoL scores in all domains assessed—physical health, social relationship, environment, and psychological health—than non-abused women[23]. So though in previously mentioned studies, relationships can help increase quality of life and reduce somatic symptoms, unhealthy or abusive relationships can have the opposite effect. For this reason, it is important to analyze the relationship between QoL, sexual intimacy, and IPV.

Sexual compliance was defined as the willingness to engage in sex that is not desired. One study focused on sexual compliance in young adults in committed relationships. The study sought to explore characteristics associated with the occasions of sexual compliance in 63 young adults ages 18 to 24 years old who were in romantic relationships. The participants kept diaries and participated in in-depth interviews. 17% of their sexual activity was rated as sexually compliant. When partaking in sexual compliance, participants rated their sex as less enjoyable and more unexpected. During the interviews, there was a common theme, reported by 75% of participants, was one of implicit contracts. The idea behind this theme is that one should maintain sexual contact with their partner even if they occasionally do not want to partake in the sexual activity. Feelings of guilt also perpetuated the obligatory feeling leading to sexual compliance (33% of participants). The reasons for reporting low desire were as followed: feeling tired (58%); stressed (42%); or angry (17%). The participants were not explicitly asked about feelings of pressure in cases of sexual compliance, but nearly half of participants mentioned that in the past, their partner pressured them, either in the form of begging, whining or trying to make the participant feel guilty [6]. Another study including university students in romantic relationships explored sexual compliance and cortisol levels. Salivary cortisol was used as an indicator of stress and other potentially negative health outcomes. The study found that participants who reported low sex drive, but high sexual frequency (were sexually compliant) had higher levels of salivary cortisol compared to individuals with matched sexual frequency and desire (control group). In contrast, participants who had less sex than they desired (were sexually restrained) had no observable differences in salivary cortisol levels compared to individuals with matched sexual frequency and desire (control group) [5]. Though individuals in relationships tend to be depicted as having higher rates of intimacy and individuals that have more frequent sex are seen as having improved health, these studies highlight that sexual frequency should be assessed in akin to sexual desire, because sexual compliance may lead to negative psychological and physical health effects.

It is necessary to promote healthy relationships because of the burden on IPV on young individuals. The CDC states, “IPV is a significant public health issue that has many individual and societal costs.” In the US, 1 in 4 women and nearly one in 10 men have experienced physical violence, sexual violence, and/or stalking by an intimate partner. Additionally, over 43 million women and 38 million men have experienced psychological attacks from an intimate partner. 1 in 5 homicide victims are killed by a current or former intimate partner in the US. More than 50% of female homicide victims are killed by a current or former intimate partner [8].

A study was conducted in nine countries to determine the prevalence of IPV and its associated factors. Young women and adolescents were at greater risk of experiencing IPV. The results shows that IPV prevalence was between 19 and 66% in women aged 15 to 24. Most sites reported above 50%. The factors that were significantly associated with IPV across most sites included partner’s heavy drinking, witnessing violence against the mother, women’s experience of unwanted first sex, frequent quarrels and partner’s controlling behavior. This study shows that females during adolescence and early adulthood are at greater risk of IPV, and the importance of laying a foundation for healthy and stable relationships for improved health and quality of life is important to address earlier in life [9]. The healthcare system plays an integral role in educating patients and preventing IPV. IPV is associated with poor reproductive and sexual health. This includes STIs, HIV, and unintended pregnancy. The underlying factors contributing to these poor health outcomes include partner’s refusal to wear a condom, other forms of reproductive coercion or contraception sabotage, and forced or coerced sex. Further, women who are victims of IPV are at increased risk of injury due to physical abuse, chronic conditions (e.g., asthma, diabetes, cardiovascular conditions, stroke, joint disease, chronic pain), mental health conditions (depression, anxiety and PTSD, eating disorders, suicidal behavior), substance misuse (tobacco addiction, alcohol misuse, prescription and opioid misuse), UTIs, other reproductive health issues (menstrual disorders, pelvic pain) and more [7]. Respectively, a systematic review of 28 countries, with eight studies from the US, showed that women who experience IPV had significantly higher prevalence of HIV [24].

Women were recruited from a domestic violence shelter, a domestic violence support organization and an obstetrics and gynecology clinic in Philadelphia. Questionnaires were administered to assess condom-use intentions, actual condom-use behaviors, sexual partner risk factors, IPV, sexual relationship power and perceptions of monogamy. 62% of participants reported using condoms less than they would like to. There were significant differences in condom use between women with high versus low sexual relationship power. Women who reported low sexual power, meaning their partner dominated

their relationship, were at much greater risk of inconsistent condom use and using condoms less than they intended. Women who reported being in a monogamous relationship also had significantly less condom use than those who did not. Most of these relationships were with partners at high-risk for HIV, further increasing the women's risk for acquiring HIV [25]. This study reinforces that power dynamics play a role in creating unhealthy relationships, as these women felt as they could not express their sexual preferences to their partner. Almost 2.9 million US women experienced rape-related pregnancy in their lifetime. 77.3% of rape victims reported a current or former intimate partner as their perpetrator. 26.2% of the intimate partner rape victims reported rape-related pregnancy. This is significantly higher than pregnancy by rape by an acquaintance (5.2%) or stranger (6.9%). Additionally, women who were raped and became pregnant by intimate partners were more likely to experience reproductive coercion compared to women who were raped by an intimate partner but did not become pregnant. This article states that it is the first report of rape-related pregnancy in two decades [26]. The high incidence of intimate partner rape, intimate partner rape-related pregnancy and reproductive coercion further show a need for prevention of IPV.

Prevention of IPV is multifaceted and must include focus on social norms and education of youth, as IPV is prevalent in teenagers. Traditional masculinity ideology suggests that men should only express emotions of anger to appear tough or stoic, or they are considered weak or feminine. This ideology shields them from developing intimate and emotional connections with their female partners. Men who value traditional masculinity ideology were more likely to be sexist and to score high on domestic violence myths acceptance scale (DVMAS), which includes measures of common misconceptions concerning domestic violence including victim-blaming, minimization of IPV offenses, exoneration of male perpetrators, and beliefs that female victims of domestic violence do not need the support given to them by society. In previous studies, male perpetrators of IPV were more likely to score high on the DVMAS. In reality, these myths about IPV support and protect perpetrators, making it more difficult for women to come forward. Traditional masculinity ideology and the sexism that corresponds with it, elevate women as "good" or "moral," so when they do not fit in to the stereotypical view of how women should act, such as acting "immoral" or "manipulative," they become devalued and an object of aggression. These ideas are consistent with the myths about IPV that sometimes it is acceptable to "discipline" women. Relevantly, there was a significant relationship between relationship dominance (where men believe it is important to maintain power over their partner) and likelihood to excuse or minimize IPV [27]. According to this study, gender roles that seek to place women in a submissive role and men in a dominant role are partially to blame for the high prevalence of IPV. This study is consistent with the

previously mentioned study that states some women stay in abusive relationships because they feel they have low power compared to their dominant partner, putting them at risk for various physical and mental health consequences that accompany victimization [25].

Many women report negative reactions during IPV disclosure which enhances negative outcomes post-victimization. A literature analysis of childhood sexual assault (CSA), sexual assault (SA) and IPV, showed that negative reactions, such as victim-blaming, during both formal (to authorities, e.g., police) and informal (to friends or family members) disclosures were significantly linked to onset of PTSD, depression and somatic symptoms, and increase in shame and self-blame. IPV victims reported feeling shame and self-blame and feeling unable to speak out over anticipated negative stigma. [28]. For religious women, self-blame was amplified by feeling they were to blame for not living up to the expectation of being the ideal wife, while their abusers were also using the biblical idea of a submissive wife as a means to control them [28,29]. IPV victims reported negative reactions, especially in the court system where they felt like they were being blamed for their abuse. In IPV victims, negative reactions were also associated with decreased QoL [28]. The negative reactions experienced by victims of IPV could be compared to the sexist norms surrounding sexual assault. A study assessing the role of sexism and rape myth beliefs lead to victim-blaming and exonerating perpetrators. Rape myths are prejudicial, false, or stereotyped beliefs about rape and rapists that are persistently used to deny or justify sexual violence against women. Accordingly, rape myths are used to define “real rape” and diminish sex violence accusations. Rape myth stems from the sexist ideology that women are to be submissive and sexually restrained. Typically rape myths are used to justify rape in settings where the victim is dressed provocatively, there is alcohol or substance use involved, or the victim’s previous sexual behavior is deemed reckless or even too casual. High rape myth believers typically agree that victims deserve to be assaulted for not adequately protecting themselves or modifying their behavior to avoid being assaulted [30]. Similar to the study analyzing domestic violence myths, rape myths are based on sexist ideology, and focus on victim-blaming, and favor the perpetrator of abuse, while shaming women for being victimized [27,30]. A longitudinal experimental comprehensive sexuality education intervention was implemented to classes of teenagers at a high school in Mexico. The sexuality education focused on assessing the gender and social norms previously mentioned in order to educate students on the harmful effects they can have on relationships. In addition to education on social norms, they focused on educating students on harmfulness of jealousy and possessiveness, the importance of communication in romantic relationships and important aspects of sexual and reproductive health. The students were given questionnaires concerning these issues before and after the intervention, and there was a significant shift

in positive responses, compared to the group that did not receive the education intervention. In addition to changes in responses in their questionnaire, a focus group discussion after the conclusion of the intervention showed that students were spreading awareness to other teenagers about harmful ideology and behavior, such as encouraging male peers to speak positively about their female peers, and discouraging jealous behavior and warning their friends of negative consequences when a partner is acting in a jealous or possessive way [31]. This study shows that gender and societal norms are an important focus for IPV intervention in young adults and adolescents.

Most research involving IPV victimization is focused on women, as severe MFPV is more prevalent. However, men are not immune to IPV, though there are some differences between types of and motives for IPV incidents. Women and men perpetrate equivalent amount of psychological and physical aggression. However, men perpetrate sexual abuse, coercive control and stalking more frequently than women and women are more frequently injured during IPV incidents. Men's physical violence is more likely to be motivated by control motives, while women's violence is more likely than men's violence to be motivated by self-defense and fear [32]. It is possible that IPV against men is underreported because they do not become injured, or their injuries are less severe after acts of physical aggression against them. Nonetheless, whatever the motives are for IPV, they are damaging, and the root causes must be discovered in order to prevent them and provide protection for all victims: male, female, and nonbinary.

In adjunct to the major health concerns for victims of IPV, victims often experience issues with future relationship formation. Many IPV survivors experience betrayal trauma. This betrayal trauma affects their ability to form new intimate attachments. A study used semi-structured interviews with women who were survivors of IPV. There were common themes on reported barriers to establishing new intimate relationship after their experiences with IPV. These themes were (1) vulnerability/fear, (2) relationship expectations, (3) shame/low self-esteem, and (4) communication issues. Some women reported having sex but refusing to get emotionally attached and others reported not dating at all after their IPV experiences. These themes are associated with the betrayal trauma theory, which states that "survivors must reconcile the inconsistencies between what should be in relationships to what actually occurs based on their experiences." Mostly, that relationships should be safe to express vulnerability, but these women and other IPV survivors did not get to experience due to their abusers' actions [33]. Preventing IPV is extremely important in terms of physical and mental safety, well-being, and overall quality of life. In order to prevent IPV, we must target and prevent factors that promote IPV, while also promoting factors that influence healthy intimate relationships.

1.2 QoL as it relates to Sexual Intimacy

As published in the Public Health Reports, the official journal of the Office of the U.S. Surgeon General and the U.S. Public Health Service, measuring QoL is extremely important to public health surveillance. High QoL has been linked with disease prevention. In contrast, low QoL is an indicator of chronic disease and mortality. QoL surveillance will help monitor progression of the CDC goal of enhancing HRQoL [34]. HRQoL seeks to examine the health aspects of QoL, and assesses the impact of disease and treatment on daily function and disability [35]. A systemic review of QoL studies showed that there are many different measures of QoL that researchers use, and though many are standardized questionnaires, they vary greatly in QoL focuses. Despite the lack of uniform measures, QoL is frequently studied and QoL is becoming an increasingly important measure when assessing treatment and health outcomes. The US published more papers assessing QoL than any other country, with most assessing patients with specific diseases, rather than assessing QoL in community samples [35]. A systematic review and meta-analysis assessed mortality as it related to quality of life in the general population. The review showed that higher HRQoL was associated with higher physical function, physical component score and mental component score, providing evidence that QoL and HRQoL are correlated with lower mortality risk [36]. Many studies likely focus on QoL and HRQoL in older adults, because they are more at risk for chronic conditions that seem to be affected by QoL. Most studies addressing QoL in young adults, are focused on adults with particular diseases or ailments, such as cancer, type I diabetes, and bleeding disorders [37–39]. One study found that self-rated health was the greatest predictor of mortality in young adults [40].

The physical, emotional, psychological, and social features of sex influence many aspects of life. These aspects make sex a key contributor to QoL. Many factors affect sexual health such as sexual function, cultural factors, mental health and body image, age and gender differences. Women are more likely to be negatively impacted by external influences. Whereas the mental and physical QoL of men were negatively impacted by erectile dysfunction, premature ejaculation, and hypogonadism [41]. US adults reported a high importance of sexual health to quality of life [42]. Men with sexual dysfunction caused by antipsychotic treatment reported a significantly lower QoL [43]. A study of university students showed there were associations between quality of life and attitudes toward sex and experience of sexual activities. High levels of sexual interaction were associated with high satisfaction levels with respect to emotional well-being and intimacy [44].

1.3 ACEs and Sexual Intimacy

ACEs have been shown to greatly impact individuals later in life. Early exposure to adverse experiences have shown to mediate biological changes in children that may affect them into adulthood [45]. The widely accepted pathway deals with the concept of “toxic stress.” Toxic stress occurs when children have prolonged activation of the stress response system, that causes disruption to brain development and other organ systems. These early architectural changes have been linked to stress-related diseases later in life [45]. ACEs have been linked to increased incidence of depression, anxiety, suicide, PTSD, unintended pregnancy, pregnancy complications, fetal death, HIV and other STIs, cancer, diabetes, substance abuse and more [46]. ACEs are widespread. 3/5 of adults surveyed across the United States had at least one ACE, while more than 15% reported 4 or more ACEs [47]. Girls have been shown to experience more numerous and more variable types of ACEs, putting females more at risk for ACE-related issues later in life [48].

Many researchers have studied how ACEs impact IPV and will be discussed in this section. To my knowledge, no study has specifically explored the relationship of intimacy and ACEs. There have been various studies assessing childhood maltreatment (CM) and intimacy. A study of 174 college students (aged 17-33; mean age 19.9) in heterosexual relationships examined the effects of CM on psychological and relationship functioning. The participants were divided by gender and by childhood maltreatment history. The categories of childhood maltreatment that were measured were physical neglect, emotional neglect, physical abuse, emotional abuse, and sexual abuse. These categories are all categories used in the ACEs questionnaire. The study found that females who experienced CM reported more mental health difficulties than the no-CM females in the study. Additionally, females with CM history had higher scores on measures of poor relationship functioning, fear of intimacy, and negative reactions to sex. It is hypothesized that the psychological distress that results from CM mediated relationship dysfunction. There were no observed differences in males in the CM and no-CM groups. They researchers hypothesized that the lack of differences between males could be because males in the study reported fewer types of abuse and less severe abuse than the females in the study [10]. A study performed by Weilenmann, et al., that assessed the experimental induction of emotional and sexual intimacy compared the differences of intimacy induction between participants with and without history of CM. Participants were 18-30 years old (mean age: 23). The categories of CM that were measured were physical neglect, emotional neglect, physical abuse, emotional abuse, and sexual abuse. The study used a questionnaire to assess emotional and physical intimacy before and after the experimental induction, as well as using

physiological measures to assess intimacy while the pairs were partaking in the experimental induction. The physiological measures taken were heart rate, high frequency heart rate variability (HFHRV) and skin conductance level (SCL). HFHRV is a measure of parasympathetic nervous system activation. SCL is a measure of sympathetic nervous system activation. There was no difference in heart rate, HFHRV or SCL throughout the experiment. However, in all stages of the experiment, participants in the CM group had significantly lower HFHRV, which is an indicator of low parasympathetic activity—the part of the nervous system responsible for rest and relaxation [11]. This is consistent with other studies that assess the differences in parasympathetic activity between post-trauma participants and participants experiencing no trauma [49–51]. In addition to the physiological difference, participants with no-CM history reported significantly increased sexual intimacy than participants with childhood maltreatment history. This study indicates that individuals with history of childhood trauma have lower sexual and emotional intimacy scores, as well as more difficulty forming intimate attachments [11]. The effect of childhood maltreatment and ACEs on intimacy needs to be further explored to understand the impact they may have on individuals later in life.

Having more than 4 ACEs has shown to increase odds of IPV and sexual assault victimization by 7.5, and increase odds of violence perpetration by 8.1 [45]. A study recruited women aged 18-58 who were experiencing intimate partner violence. Participants completed face-to-face interviews. During these interviews, participants were asked to answer questions regarding ACEs. These indicators included witnessing maternal and paternal IPV victimization, paternal IPV perpetration, and childhood physical, sexual and emotional abuse, and physical and emotional neglect. To assess outcomes, participants were asked about their sexual risk behaviors (e.g., unprotected sex with a partner living with HIV or a partner with history of intravenous drug use, unprotected sex with multiple sexual partners, etc.), depressive symptoms, posttraumatic stress symptoms, physical IPV victimization severity, psychological IPV victimization severity and sexual IPV victimization severity. The participants were divided into three profiles based off numbers of ACEs: Low, Moderate, and High ACEs profile. Women with higher severities of ACEs had worse mental and sexual health and more severe IPV victimization [52]. In a cross-sectional study, 1861 couples were recruited from 50 cities in California. The couples were measured on their rates of ACEs, male-to-female partner violence (MFPV) and female-to-male partner violence (FMVP), frequency of intoxication, depression, anxiety and impulsivity. Male and female partners had direct association between depression, anxiety, and impulsivity and ACEs. Males' anxiety and impulsivity and females' depression were associated with MFVP. Males' depression and frequency of intoxication and females' depressions were associated with FMVP. With this data, significant indirect

associations were made between MFPV and male ACEs through depression, FMPV and male ACEs through anxiety and impulsivity, and MFPV and FMVP and female ACEs through depression. This study concluded that ACEs, in part, influence IPV through psychological characteristics [53]. Childhood physical or sexual abuse or growing up with a battered mother increased risk of IPV victimization or perpetration two-fold. Experience of childhood sexual and physical abuse and witnessing domestic violence toward their mother increased risk of IPV 3.5-fold for women and 3.8-fold for men. This shows a strong relationship between domestic violence ACEs and IPV perpetration and victimization [54]. Women who were victims of childhood betrayal trauma (were sexually abused by a close relative) that later experienced IPV were more likely to report self-blame for the intimate partner abuse incident. Additionally, participants with a more severe intimate partner abuse incident were more likely to express self-blame. This study shows that women who were exposed to CSA report higher levels of self-blame following an IPV incident. It is theorized that victims of CSA, especially perpetrated by a close relative self-blame in order to deflect blame from their abuser in order to maintain attachment with them, especially when their abuser is their caregiver and maintaining an attachment is necessary for their survival. However, it appears this adaptive self-blame may also be utilized by women later in life when they become victims of IPV[55]. This data depicts the importance of preventing or treating childhood traumas in an act to promote healthier intimate relationships and prevent self-blame and shame in instances where an individual is being abused.

1.4 Sexual Function and Sexual Intimacy

Sexual dysfunction can lead to relationship tension and inequitable sexual interactions between partners [56]. Sexual function is multifaceted and affected by various physiological and psychological components. Sexual dysfunction and its effect on sexual intimacy and on QoL has been well studied in mid-late populations, but research for young adults is far less numerous. One study showed that one in five young women have sexual distress, measured by desire, arousal, orgasmic function, responsiveness, and sexual self-image [14]. A systematic review from 41 countries found that 41% of reproductive age women were impacted by sexual dysfunction. The study found the risk factors of FSD were poor physical health, poor mental health, stress, abortion, genitourinary problems, female genital mutilation, relationship dissatisfaction, sexual abuse, and being religious. Protective factors included older age at marriage, exercising, daily affection, intimate communication, having a positive body image, and sex education [57]. Research on premenopausal women and sexual function is scarce, unless specific

conditions are being researched, such as diabetes, pregnancy, thyroid disease, and eating disorders. A study examining the effect of diabetes on sexual function in young women (22-30 years old) showed significant relationship between FSD compared to healthy participants [58]. A study with a similar design examined the relationship between sexual function and autoimmune thyroid disease in young women (20-45), which also showed significantly lower FSFI scores and higher incidents of FSD in diseased women compared to healthy women [59]. A study analyzing sexual function during pregnancy showed that FSD was very common throughout pregnancy, which rates of FSD being 36.3% in the first trimester, 36.8% in the second trimester, and 57.0% in the third trimester [60]. Another study examined how eating disorders were related to sexual function, sexual distress and sexual insecurities in undergraduate women (mean age: 20.59). The study showed that eating disorders, sexual insecurity and sexual distress are strongly associated, while eating disorders and sexual function are not. The mean FSFI score was 24.67 ± 3.71 in the entire sample, which is below the cutoff (26.55) for FSD, meaning at least half of the young women (n=487) in the sample had clinical indication of FSD [61]. A study examining female orgasm and overall sexual function in women in the US showed that 53 out of 142 participants (18-39 years old) had a FSFI score < 26.55 , meaning 36.55% had clinical indication of for FSD [62]. To further emphasize that FSD is common in young women, when looking at the healthy control groups for the previously mentioned studies, the rates of FSD were 13% and 27.1% [58,59]. Because of the prevalence of FSD, in both healthy and diseased women, it is important to analyze the effects of sexual function on sexual intimacy and QoL.

A study included a sample of 32(ages 23 to 58) women who had sought medical treatment for various sexual problems, including the inability to orgasm, decreased sexual desire, and sexual difficulties. 23 of these participants had a primary concern of vulvar pain during intercourse or loss of sexual desire. The participants had 60–90-minute semi-structured interviews that explore description of sexual problems and experience/length of the problems, whether they felt like the sexual problem affected their lives, relations and sense of self, whether the problem interfered with their sex life and how they worked around the issue, and treatment experience with their issues. From the interview main themes were identified: avoidance of sex and intimacy, engaging in intercourse and active planning and mental preparation for intercourse. Almost all women who participated in the interview reported that they would avoid situation they perceived could result in sexual contact between themselves and their partners, and purposely avoided situations of intimacy. Participants felt like they had to negotiate sexual relationships and plan intercourse, and would only do it for their partners' pleasure [13]. This indicates women with FSD are at high risk of sexual compliance and being in inequitable sexual relationships.

Men and women in excellent health reported higher sexual satisfaction than participants in poor or fair health. Young women with hypertension reported significantly lower sexual satisfaction. Young men with depression or anxiety reported significantly lower sexual satisfaction [42]. It is estimated that as many as 30% of young men are suffering from ED and is becoming increasingly more common [15]. Decreased testosterone leads to various physiological symptoms in men. Among these symptoms is decreased libido and increased sexual dysfunction. These impairments to one's sex life are linked to decreased QoL [63]. Men with organic impotence (hormone issues or other biological issues) and psychogenic impotence (no apparent biological reason for impotence) both reported the level of satisfaction with sex life was significantly lower than a nonimpotent man. Men with psychogenic impotence reported being less satisfied with their partner and experienced more relationship tension than individuals with organic impotence [12]. These results suggest that sexual dysfunction can have negative implications on intimate partnerships. These studies indicate that sexual function plays a major role in quality of life and intimacy.

In summary, the literature review showed that sexual intimacy has been shown to be impacted by QoL, ACEs and sexual function, and there is a relationship between IPV victimization, QoL and ACEs. It is important to note that these variables are multifaceted and interconnected. Our study is aimed at evaluating these variables independently and jointly, to understand how these factors influence one another, and more importantly, their relationship with sexual intimacy.

2. RESEARCH METHODOLOGY

2.1 Study design and sample

A cross-sectional study was carried out using an online questionnaire. The questionnaire was shared on various websites, including Instagram, Facebook groups, and Reddit (subreddit: r/sex). Participants were asked to complete the survey if they were 18-35 years old and had been sexually active within the past month. 226 individuals completed the questionnaire. 161 participants were from, and/or are currently living in the United States. These 161 participants were the individuals included in the analysis. In total, 116 (72%) women and 45 men (38%) participated in the study.

2.2 Research Instruments and variables

The questionnaire designed for data collection consisted of 4 standardized questionnaires and 16 original questions (Annex 1). Females were asked to answer 87 questions, and males were asked to answer 77 questions which include:

- Sociodemographic characteristics
- WHO-5 Well-Being Index to measure QoL
- Adverse Childhood Experiences International Questionnaire (ACE-IQ)
- Measurements of sexual intimacy
- IPV Victimization History
- Female Sexual Function Index
- Brief Sexual Function Inventory (for male participants)

All of the questions used in the analysis were single response, close-ended questions, with the exception of 3.1 (asking about sexual preferences) and 3.11 (asking about partnership type), which had an “other” option where participants could explain their preferences/relationship, 3.10 (asking for reasons for sexual compliance), which was an open-ended question where participants could describe in their own words their reasons for continuing, and 3.8(IPV type), which was a close-ended question where participants could select multiple types of IPV victimization.

In order to assess sexual intimacy, 5 questions were used to create an interval variable, called “Sexual Intimacy Score” with scores ranging for 1-13. The questions used to create this variable are as followed:

- Sexual confidence: 3.2 Do you feel confident in your sexuality
 - Yes (2 points)
 - No (0 points)
 - Maybe (1 point)
- Sexual Compliance: 3.9 Have you ever changed your mind during sexual intercourse or foreplay but did not tell your partner and proceeded anyways?
 - Yes (0 points)
 - No (2 points)
 - Maybe (1 point)
- Quality of Sex: 3.12 How would you rate your quality of sex?
 - Very unsatisfied (1 point)
 - Unsatisfied (2 point)
 - Neutral (3 points)
 - Satisfied (4 points)
 - Very satisfied (5 points)
- Sharing sexual expectations and desires: 3.13 Do you/did you feel comfortable sharing sexual expectations/desires with your partner?
 - Yes (2 points)
 - Sometimes (1 point)
 - Not really (0 points)
- Sharing dislikes: 3.14 Did you feel comfortable telling your partner things you dislike during sexual intercourse?
 - Yes (2 points)
 - Sometimes (1 point)
 - Not really (0 points)

In addition to creating an interval variable for sexual intimacy, a categorical variable was also computed to additional analyses. This variable, grouping into high and low used a cut off of 9 based off

distribution scores within the sample. A sexual intimacy score of 1-9 were classified in the low intimacy group, while a score of 10-13 were classified in the high intimacy group.

IPV was used as a separate, inverse measure of sexual intimacy. IPV responses were calculated as a binary measure, 1= “Yes” and 2= “No”, whether a participant indicated any history of IPV. IPV was also categorized by type: Sexual, Emotional, Physical. Sexual IPV, Emotional IPV, and Physical IPV were also binary, where 1= “Yes” and 2= “No.”

QoL scores were calculated using the scoring guide for the WHO-5 Well-Being Index, with both the raw maximum score of 25 in most analyses, and the percentage score (maximum 100) in a single analysis. FSFI scores were calculated using the scoring guide. BSFI scores were calculated using the scoring guide (Annex 2).

ACEs scores consist of scores from 0-13, based off of 13 categories: 1. physical abuse, 2. emotional abuse, 3. contact sexual abuse, 4. alcohol and/or drug abuser in the household, 5. incarcerated household member, 6. someone chronically depressed, mentally ill, institutionalized or suicidal, 7. household member being treated violently, 8. having one or no parents, parental separation or divorce, 9. emotional neglect, 10. physical neglect, 11. bullying, 12. community violence, and 13. collective violence. ACEs binary score and ACEs frequency score were both analyzed using the ACEs-IQ scoring guide. The binary model assesses if a participant has ever experienced an adverse experience in one of the ACEs categories. While the frequency model only allots a point (indicating an ACE) if the participant reported frequently experiencing the following categories: physical abuse, emotional abuse, witnessing household member being treated violently, emotional neglect, physical neglect, bullying and community violence (Annex 2).

2.3 Statistical Analysis

Data analysis was performed using the statistical package IBM SPSS Statistic 20.

Objective 1: The categorical variables were presented as percentages and compared using the chi-square test to compare responses between males and females for each response within the sexual intimacy questions and for IPV victimization. Binary logistic regression was used to assess the relationship between IPV and sexual intimacy binary measure. Difference between genders in quality of life cut off

were measured using the chi-square test. ACEs binary and frequency score were compared by gender using the nonparametric Mann-Whitney test

Objective 2: To analyze the relationship between QoL and high and low Sexual Intimacy, QoL and IPV victimization, general and by each type, binary logistic regression was used. The analysis was conducted on the total sample and by gender. To further explore the relationship between QoL and sexual intimacy, a linear regression model was used, with sexual intimacy score(dependent) and QoL percentage score (independent). This analysis was used on the total sample and by gender.

Objective 3: Linear regression model was used to analyze the relationship between ACEs (binary and frequency models) and Sexual Intimacy Scores. Binary logistical regression was used to analyze the relationship between ACEs (binary and frequency models) and Sexual Intimacy categories, general IPV, Sexual IPV, Emotional IPV, and Physical IPV in the total sample and by gender. ACEs categories were then analyzed in the sample to see if specific categories had a significant relationship to sexual intimacy, sexual compliance and IPV, using binary logistic regression.

Objective 4: Binary logistic regression was used to analyze the relationship between FSFI scores and Sexual intimacy categories, BSFI scores and Sexual intimacy categories, FSFI and sexual compliance, and BSFI and sexual compliance. Linear regression was used to analyze the relationship between BSFI and quality of sex rating and FSFI and quality of sex rating.

Objective 5: Linear regression was used to analyze the relationship between QoL and ACEs, and QoL and sexual function, and ACEs and sexual function.

2.4 Research Ethics

The study was approved by the Bioethics Centre of Lithuanian University of Health Sciences on 2021-06-02 (Annex 3). When inviting participants to respond to the questionnaire, clear labels were given addressing the sensitive nature of some of the questions. The trigger warnings included were “Domestic Violence,” “Sexual Abuse” and “Sexual Assault.” The data was stored in a password protected file.

3.RESULTS

3.1 Participants Demographics

161 individuals reported being from the United States and completed the survey. These 161 were the individuals included in the analysis. The average age of respondents was 25 ± 4.41 . 116 (72%) respondents were female, and 46 (28%) were male. 1 of the participants reported being transgender and was included in the analysis as a female because the participant answered the FSFI.

Table 3.1.1. Sociodemographic characteristics of the study population (%) and p-value as they relate to sexual intimacy scores.

Variable	Characteristics	Frequency (n=161)	Males (n=45)	Females (n=116)	p-value
Age	18-35	100			0.441
Civil Status	Married	29.19	26.09	30.17	0.085
	Living as a couple	18.01	32.61	12.07	
	Divorced/Separated	2.48	0	3.45	
	Single	44.72	34.78	48.38	
	Widowed	0.62	0	0.86	
	Other/Did not respond	4.97	4.35	5.17	
Employment	Employed	55.90	77.78	47.41	0.591
	Non-paid	0.62	0	0.86	
	Student	32.30	20	37.07	
	Homemaker	6.83	0	9.48	
	Unemployed	3.73	0	5.17	
	Did not answer	0.62	2.22	0	
Education	High School completed	34.16	24.44	37.93	0.717
	College/University completed	49.69	57.78	46.55	
	Postgraduate completed	14.91	15.56	14.66	
	Did not respond	1.24	2.22	0.86	
Race/ethnicity	Asian or Pacific Islander	3.73	2.22	4.31	0.024*
	Black or African American	4.97	6.67	4.31	
	Hispanic or Latino	8.07	6.67	8.62	
	Native American or Alaskan Native	0			
	White or Caucasian	78.26	80	77.59	
	Multiracial or Biracial	4.97	4.44	5.17	

3.2 Exploration of sexual intimacy, intimate partner violence, perceived quality of life, adverse childhood experiences and sexual function in young adults

3.2.1 Sexual Intimacy

The sexual demographics of the sample widely varied, however the majority of the sample reported being heterosexual, and their most recent sexual partner being a person they are in a committed relationship with (Table 3.2.1.1). Participants with who reported their most recent partner as a spouse (marriage), a committed monogamous partner, or friend with benefits had significantly higher mean ranks than participants who reported polyamorous/open partnerships, domestic partnerships, or a partner from a one-night stand/hookup. The average number of sexual partners was 8 ± 12 (median = 4) (Fig. 3.2.1.1).

Table 3.2.1.1. Sexual demographics of the sample with p-value as it relates to sexual intimacy scores.

Variable	Characteristic	Frequency	Percent	Males	Females	p-value
Sexual Preferences	Heterosexual	113	70.19	77.78	67.24	0.765
	Homosexual	4	2.48	0	2.48	
	Bisexual	36	22.36	17.78	24.14	
	Other	8	4.97	4.44	5.17	
Partnership Type (most recent)	M	2	4.44			0.049*
	Committed (monogamous) relationship	88	54.66	62.22	51.72	
	Open relationship	9	5.59	4.44	6.03	
	Friends with benefits	15	9.32	11.11	8.62	
	Marriage	37	22.98	15.56	22.98	
	Domestic partnership	4	2.48	4.44	1.72	
Hookup/one-nightstand	8	4.97	2.22	6.03		

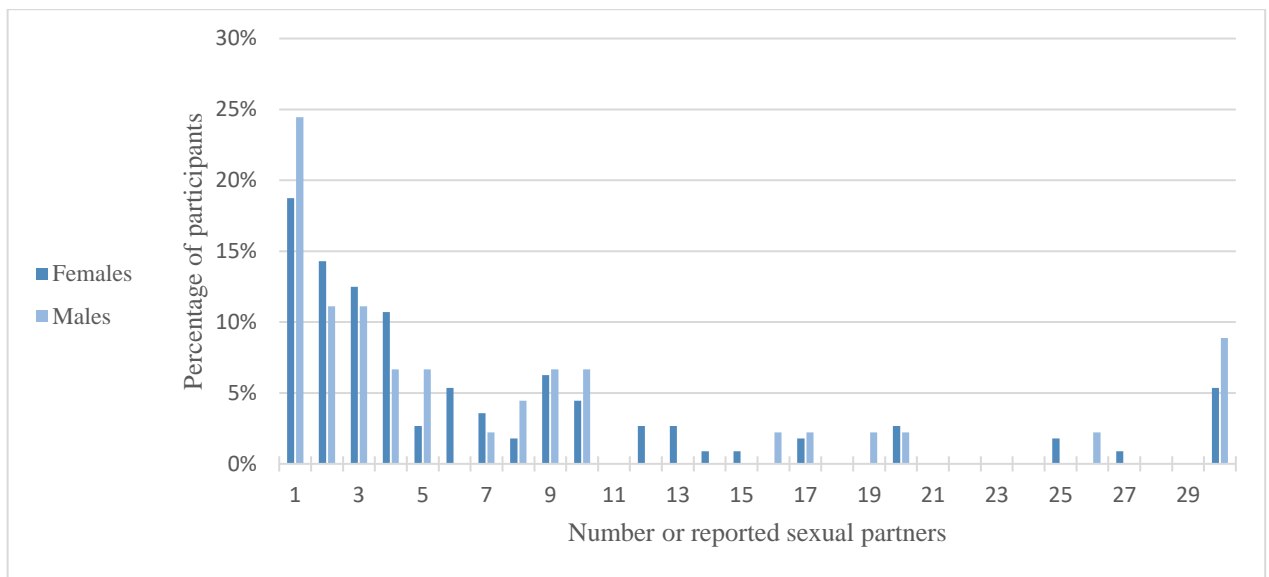


Fig. 3.2.1.1. Number of sexual partners. The last bars indicate 30 or more partners (range 30-89).

The relationship between number of sexual partners and sexual intimacy was not significant ($p=0.452$).

Sexual Intimacy Scores

The average score for the sample was 10 ± 2.38 , and 10.89 ± 1.92 and 9.80 ± 2.48 for males and females, respectively. Using the interval variable for sexual intimacy, there was a significant difference between males and female scores, with males having a higher mean rank ($p=0.006$). Using the categorical measure of sexual intimacy, 32% of participants were in the low intimacy group and 68% were in the high intimacy group. For males, 24% were in the low intimacy group and 76% were in the high intimacy group. For females, 34% were in the low intimacy group and 66% were in the high intimacy group. Using the categorical measure of sexual intimacy, there was not a significant difference between males and females ($p=0.22$).

Sexual Confidence

In response to question 3.2, “Do you feel confident in your sexuality?,” 80% ($n=129$) participants reported “Yes,” 14% ($n=22$) reported “Maybe,” and 6% ($n=10$) reported “No.” When examined by gender, 77% of females ($n=89$) reported “Yes,” 15% ($n=18$) reported “Maybe,” and 8% ($n=9$) reported “No.” 89% of males ($n=40$) reported “Yes,” 9% ($n=4$) reported “Maybe,” and 2% ($n=1$) reported “No.” There was no significant differences between male and female participant responses.

Sexual Compliance

When measuring sexual compliance using question 3.9, “Have you ever changed your mind during sexual intercourse or foreplay but did not tell your partner and proceeded anyways?,” two participants did not answer the question. Of the 159 participants to answer the question, 50% (n=80) answered “Yes”. 15% (n=7) of male participants answered “Yes” and 61.7% (n=71) of women answered “Yes”. There was a significant difference between rates of sexual compliance in males and females ($X^2=30.33$, $p<0.001$). Of the 7 men, the reasons for continuing were avoiding conflict (n=1), not wanting to disappoint their partner (n=5), and because they thought it would make them less of a man if they stopped (n=1). None of the men reported fear as a reason. Of the female participants who reported “Yes,” four participants did not report or gave unclear answers why they chose to continue. The reasons given for continuing were fear, not wanting to upset or disappoint their partner, obligation or feeling that it was too late, prioritizing their partner’s pleasure, feeling too vulnerable to stop, wanting to avoid conflict (not mentioning fear), and are either unsure of the reason or did not want to explain to their partner. Of the participants who mentioned fear, some included additional information about rape flashbacks, fearing rape would occur if they voiced that they wanted to stop, and generally being afraid of how their partner would react (Fig. 3.2.1.2).

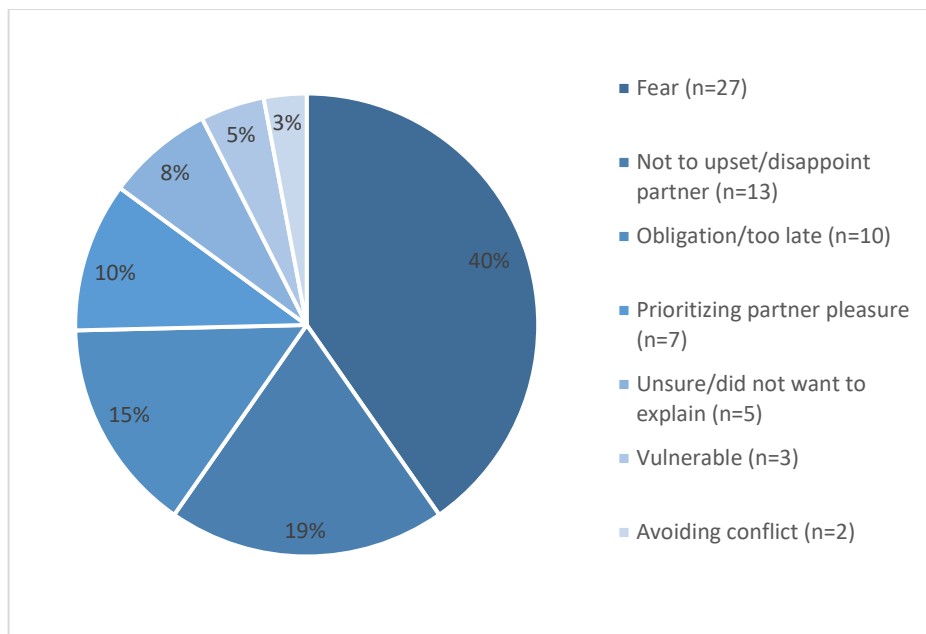


Fig. 3.2.1.2. Percentage of female reports of reasons for sexual compliance. (The percentage of participants who were sexually compliant is given within the chart, while the number of participants who reported the reasons is given in the legend).

Quality of Sex

When asked, “How would you rate your quality of sex?” the majority of participants reported being “Satisfied” or “Very satisfied.” The responses can be found in Table 3.2.2. There was no significant difference between male and female responses.

Table 3.2.2. Quality of Sex. The responses by total sample and divided by gender

Characteristic	N	Percent	Males	Percent male	females	Percent female
Very Satisfied	77	47.83	18	40	59	50.86
Satisfied	45	27.95	12	26.67	33	28.45
Neutral	28	22.36	10	22.22	18	15.25
Unsatisfied	8	4.97	5	11.11	3	2.58
Very Unsatisfied	3	1.86	0	0	3	2.58

Sharing expectations

The majority of participants reported that they felt comfortable sharing sexual expectations or desires with their partner (Fig. 3.2.1.3). There was no significant difference between male and female responses.

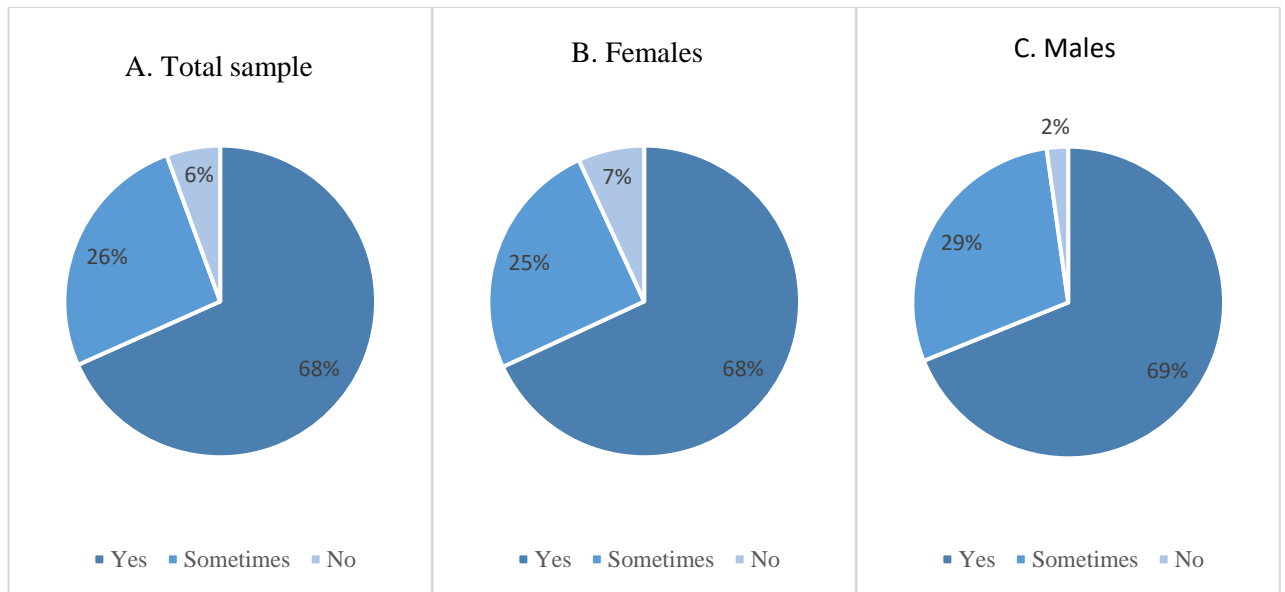


Fig. 3.2.1.3. Responses to comfort with sharing sexual desires/expectations with their partner. A. Responses of total sample, B. Responses of females, C. Responses of males.

Sharing Dislikes

The majority of participants reported that they felt comfortable sharing sexual dislikes with their partner (Fig. 3.2.1.4). There was no significant difference between male and female responses.

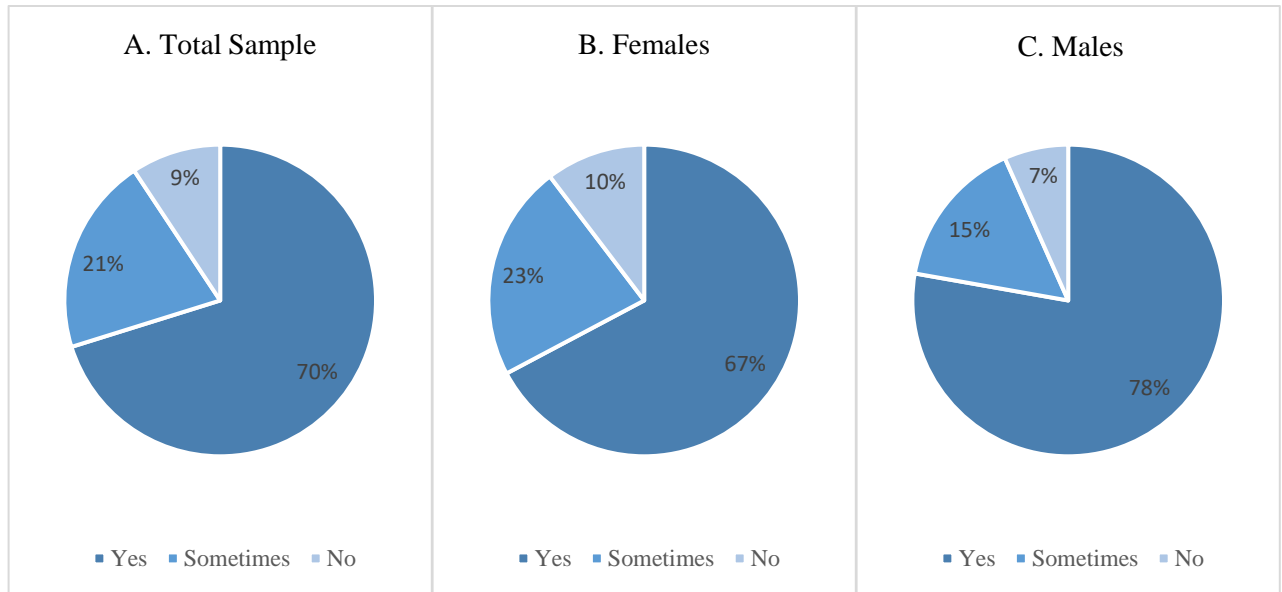


Fig. 3.2.1.4. Responses to comfort with sharing sexual dislikes with partner. A. Responses of total sample, B. Responses of females, C. Responses of males.

Intimate Partner Violence

48% (n=77) of the whole sample reported as being current or previous victim of IPV. Of the participants who reported IPV, many reported being victims of multiple types of IPV. 36 participants reported being victims of Sexual IPV, 70 participants reported being victims of Emotional IPV, and 16 reported being victims of Physical IPV. 38% (n=17) of male participants reported being victims of IPV; 4 reported sexual IPV, 17 reported Emotional IPV, and 6 reported Physical IPV. Of the female participants, 52% (n=60) reported being victims of IPV; 32 participants reported Sexual IPV, 53 participants reported Emotional IPV, and 10 participants reported Physical IPV. When comparing rates of IPV between male and female respondents, only Sexual IPV was significantly different between the groups (p=0.011). When comparing rates of IPV between male and female respondents, only Sexual IPV was significantly different between the groups (p=0.011).

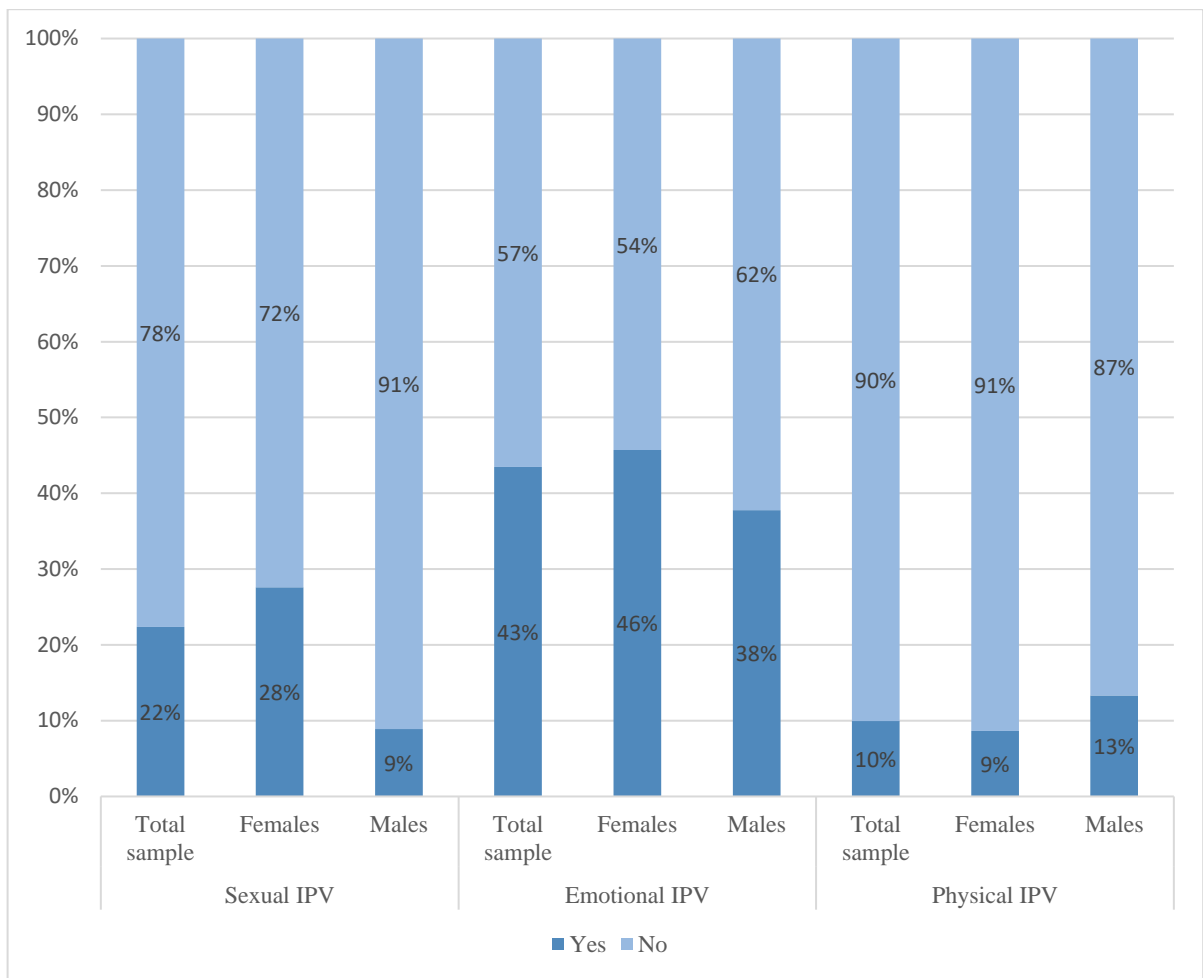


Fig. 3.2.1.5. IPV Prevalence by type in the total sample and in males and females.

This data shows a high rate of IPV in both men and women, with women having even higher rates of sexual IPV.

The relationship between Sexual Intimacy and Intimate Partner Violence

When analyzing IPV as an inverse measure of sexual function, it is important to analyze the relationship between the two. 62.7% of participants who reported low sexual intimacy also reported IPV, while 40.9% of participants who reported high sexual intimacy also reported IPV ($p=0.010$). When separated by gender, history of IPV was not significantly related to sexual intimacy in men. In women, there was a strong relationship between history of IPV and sexual intimacy ($OR=3.208$, 95% CI [1.42, 7.25], $p=0.005$) ($\chi^2=8.167$, $p=0.004$). 35.3% of participants who reported low sexual intimacy reported Sexual IPV, while 16.4% of participants who reported high sexual intimacy also reported sexual IPV

($p=0.007$). When separated by gender, history of sexual IPV was not significantly related to sexual intimacy in men. In women, there was a significant relationship between history of sexual IPV and sexual intimacy ($OR=2.50$, 95% CI [1.08, 5.79], $p=0.032$) ($\chi^2=4.710$, $p=0.030$). 54.9% of participants who reported low sexual intimacy also reported Emotional IPV, while 38.2% of participants who reported high sexual intimacy also reported emotional IPV ($p=0.046$). When separated by gender, history of emotional IPV was not significantly related to sexual intimacy in men. In women, there was a relationship between history of emotional IPV and sexual intimacy ($OR=2.43$, 95% CI [1.11, 5.32], $p=0.026$) ($\chi^2=5.039$, $p=0.025$). There was no significant difference between physical IPV groups and sexual intimacy, in the total sample or when separated by gender. This analysis shows that there was a significant inverse relationship between IPV and sexual intimacy, which validates the following analysis comparing each variable with both sexual intimacy and IPV.

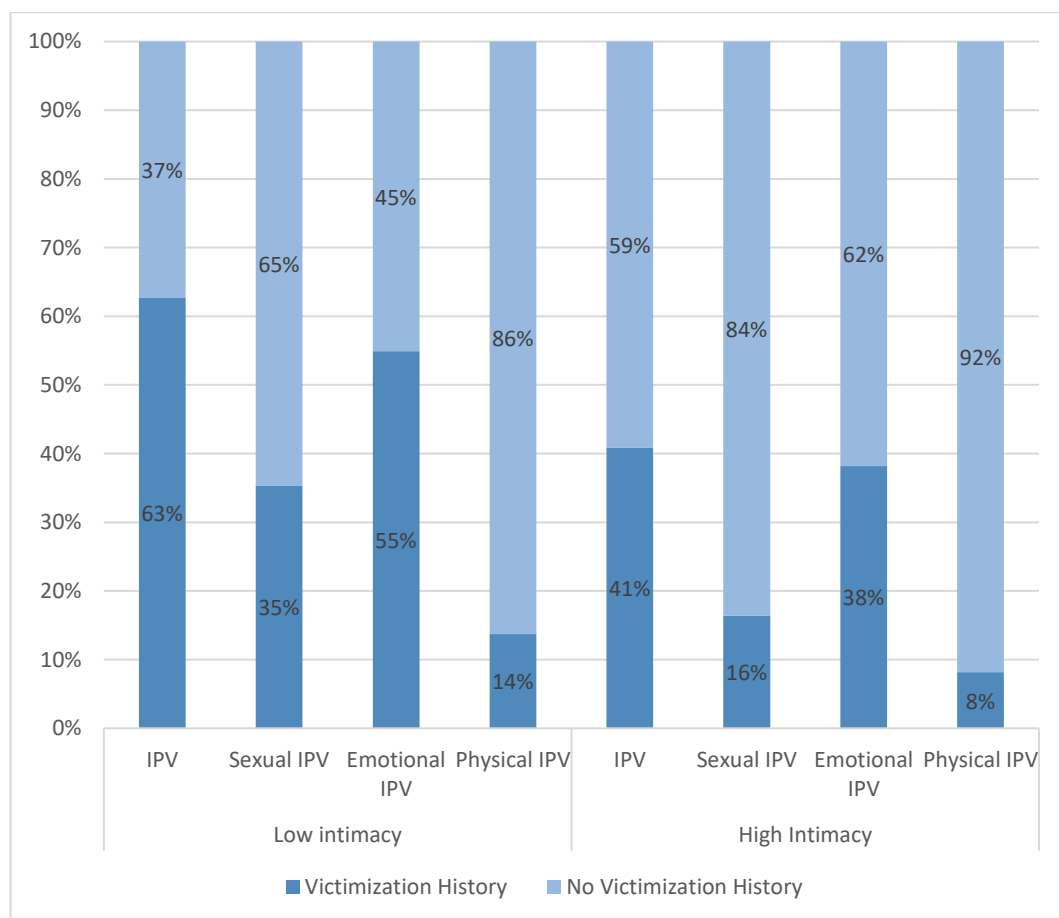


Fig. 3.2.2.2. Sexual intimacy groups in the total sample and their rates of IPV.

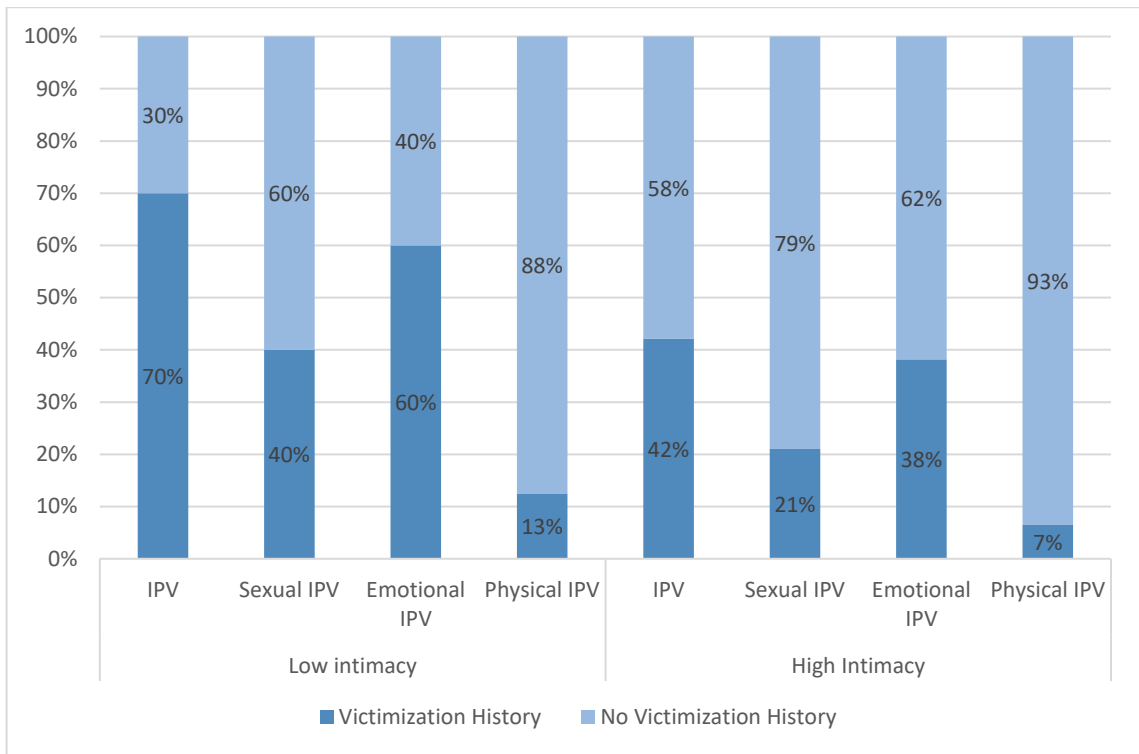


Fig. 3.2.2.3. Sexual intimacy groups in the female sample and their rates of IPV.

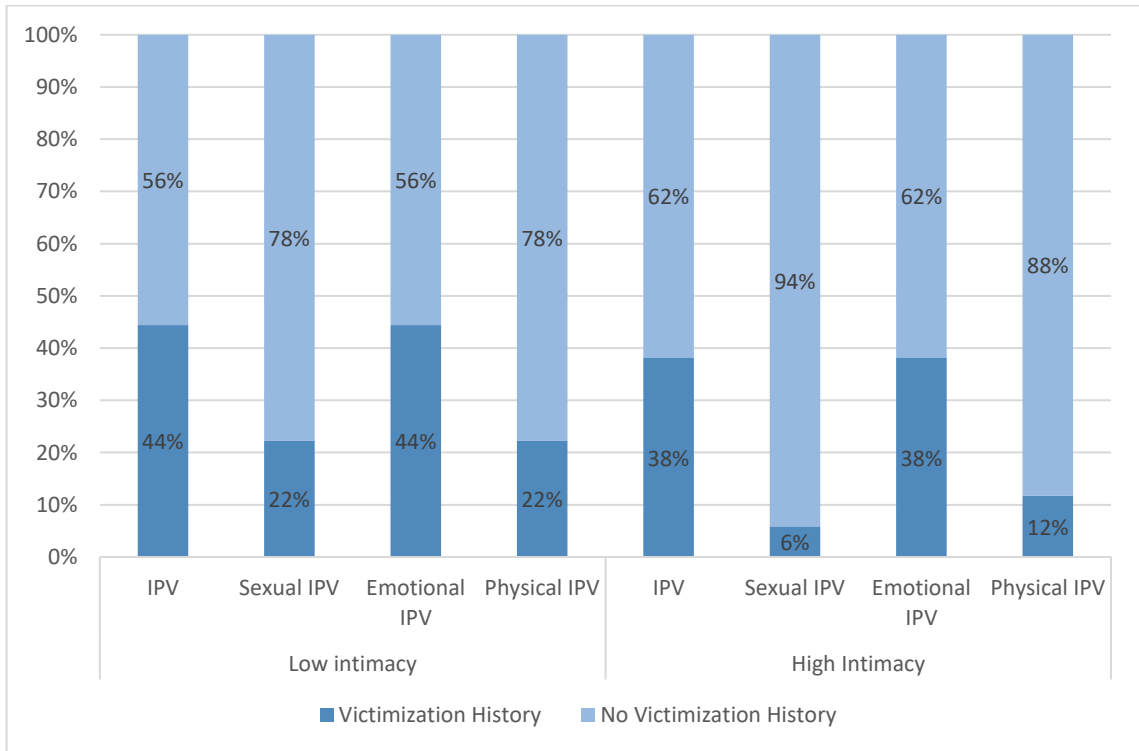


Fig. 3.2.2.4. Sexual intimacy groups in the male sample and their rates of IPV.

3.2.2 Perceived Quality of Life

The average QoL score was 13.37 ± 5.07 for the total sample. When divided by sex, the average QoL was 15.36 ± 5.33 for males and 12.70 ± 4.65 for females. The differences between male and female QoL total scores were statistically significant ($p=0.003$).

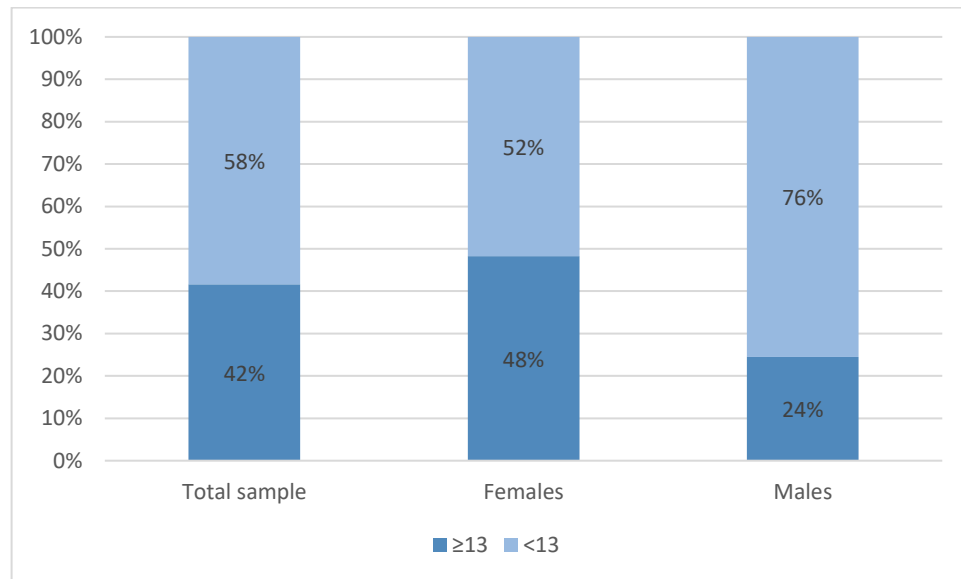


Fig. 3.2.2.1. Percentage of participants that fell below the cutoff, indicating poor-wellbeing and possible depression.

Using the recommended cutoff of 13 to measure poor wellbeing and to indicate possible major depression, 41.61% ($n=67$) participants fell below the cutoff. Of the male participants, 24.44% ($n=11$) fell below the cutoff. 48.28% ($n=56$) of female participants fell below the cutoff. The difference between genders using this cutoff was significant ($X^2=7.579$, $p=0.006$).

3.2.3. Adverse Childhood Experiences

The average ACEs score in the binary model was 5.81 ± 2.90 . 74.5% of participants reported 4 or more ACEs. 26% of participants reported 8 or more ACEs in the binary version of the ACEs questionnaire. The average ACEs score for males was 4.76 ± 2.73 . The average ACEs score for females was 6.22 ± 2.87 . The difference in reported ACEs was statistically significant between male and females ($p=0.004$). The difference of categories between males and females in the binary model can be observed in Fig. 3.2.3.1.

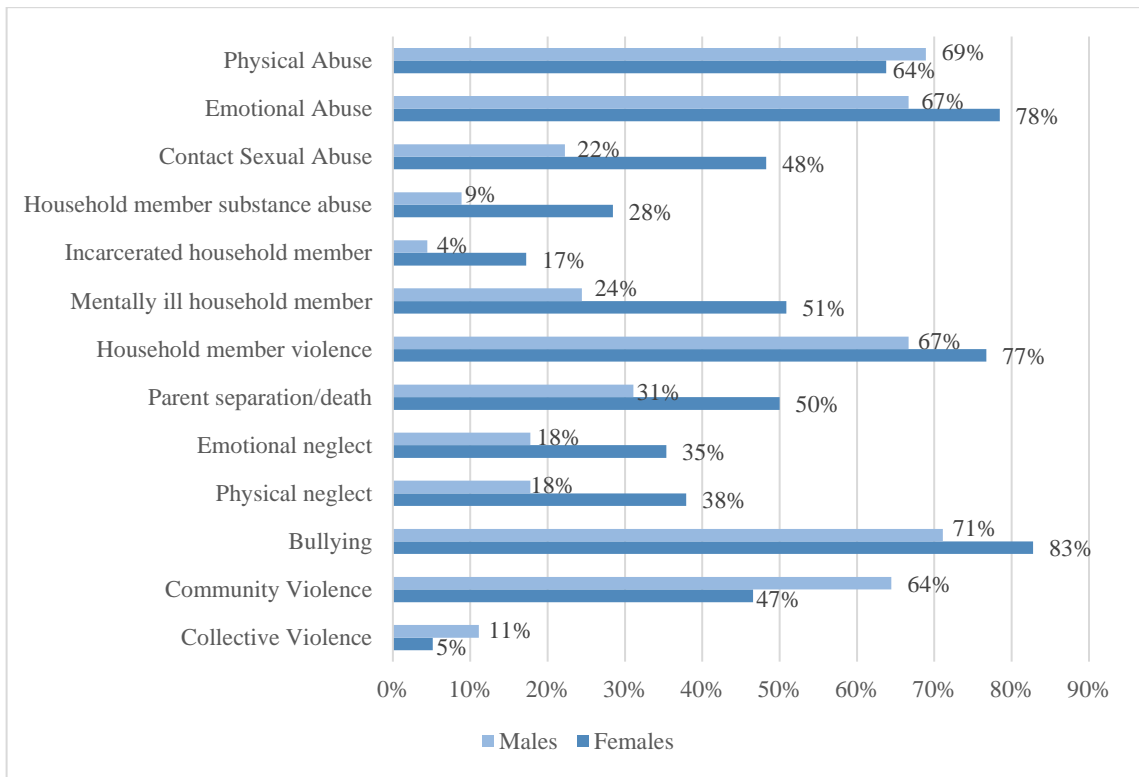


Fig. 3.2.3.1. The percentage of reported ACEs using the binary model in male and females.

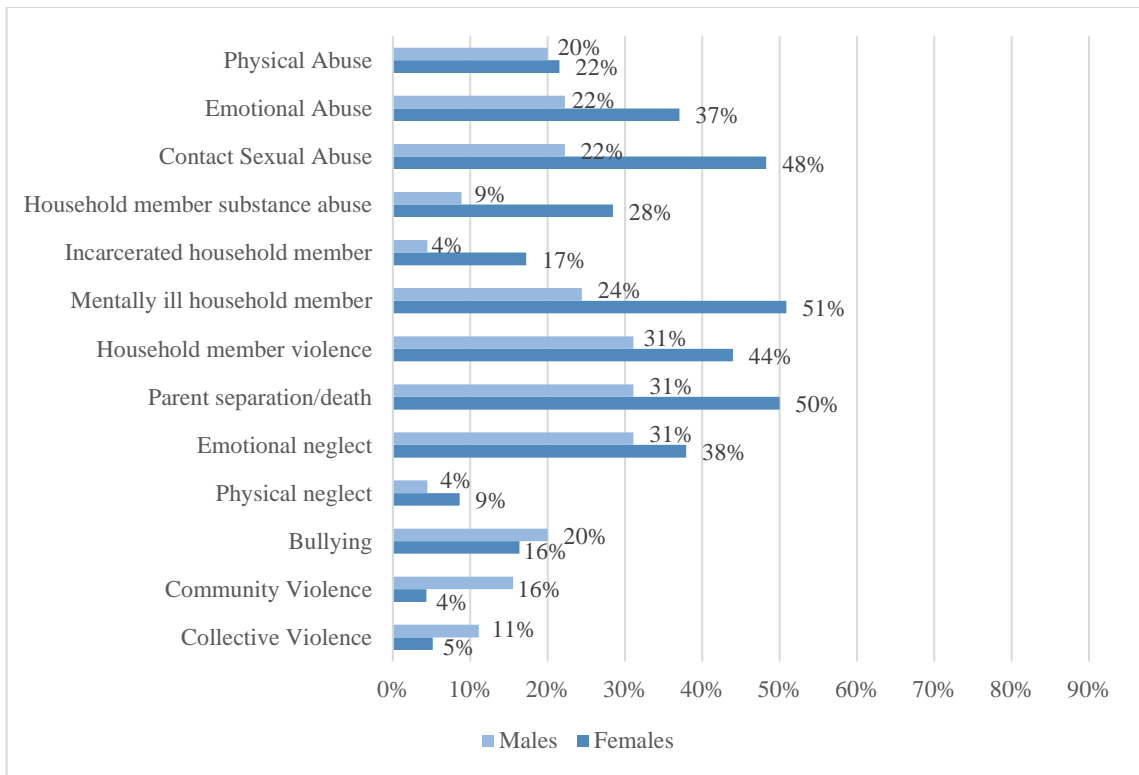


Fig. 3.2.3.2. The percentage of reported ACEs using the frequency model in male and females.

In the frequency model, the average ACEs score was 3.35 ± 2.85 . 42.2% of participants reported 4 or more ACEs and 10.5% reported 8 or more ACEs. The average score for males was 2.47 ± 2.56 . The average score for females was 3.70 ± 2.87 . There was a significant difference between male and females ($p=0.007$). The difference of categories between male and female in the frequency model can be observed in Fig. 3.2.3.2.

The most common ACEs in the binomial version were Bullying, Emotional Abuse, witnessing household violence, and physical abuse. In the frequency version, the most common ACEs were separation/divorce/death of parent(s), having a mentally or terminally ill household member, contact sexual abuse, and witnessing household violence (Fig. 3.2.3.2).

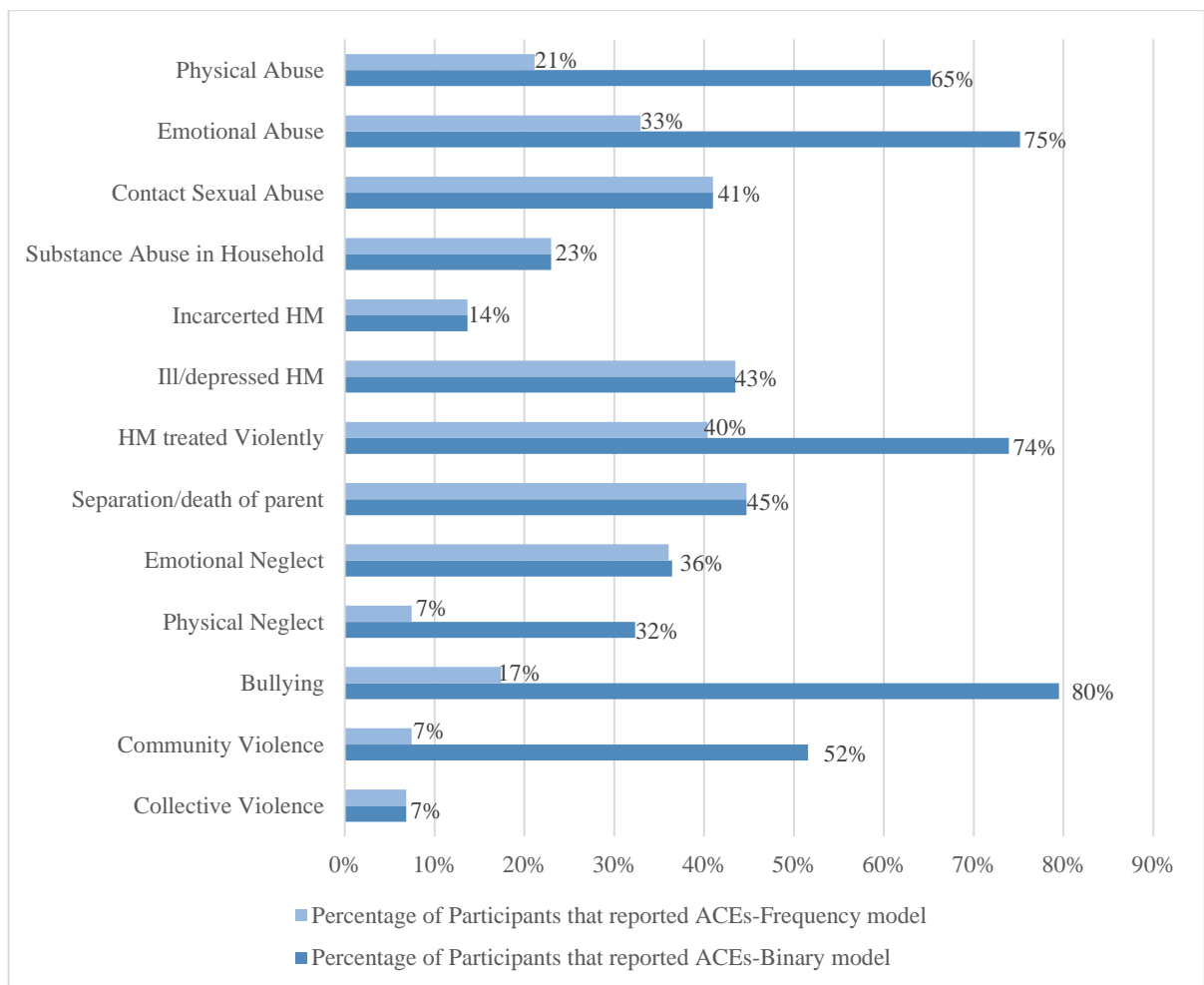


Fig. 3.2.3.3. Percentage of participants with ACEs, in both the binary and frequency model in the total sample.

3.2.4 Sexual Function

The average FSFI score was 24.94 ± 8.73 . FSFI total score was further examined by using the FSD cutoff of 26.55. 42% (n=48) of female participants had clinical presentation of FSD according to this cutoff. FSFI categories were also examined. The highest possible score for each category is 6. The average scores were 4.02 ± 1.09 for Desire, 4.22 ± 1.79 for Arousal, 4.35 ± 1.97 for Lubrication, 3.72 ± 1.96 for Orgasm, 4.37 ± 1.57 for Satisfaction and 4.25 ± 2.17 for Pain. The distribution of participant answers on each category can be observed in Fig 3.2.4.1.

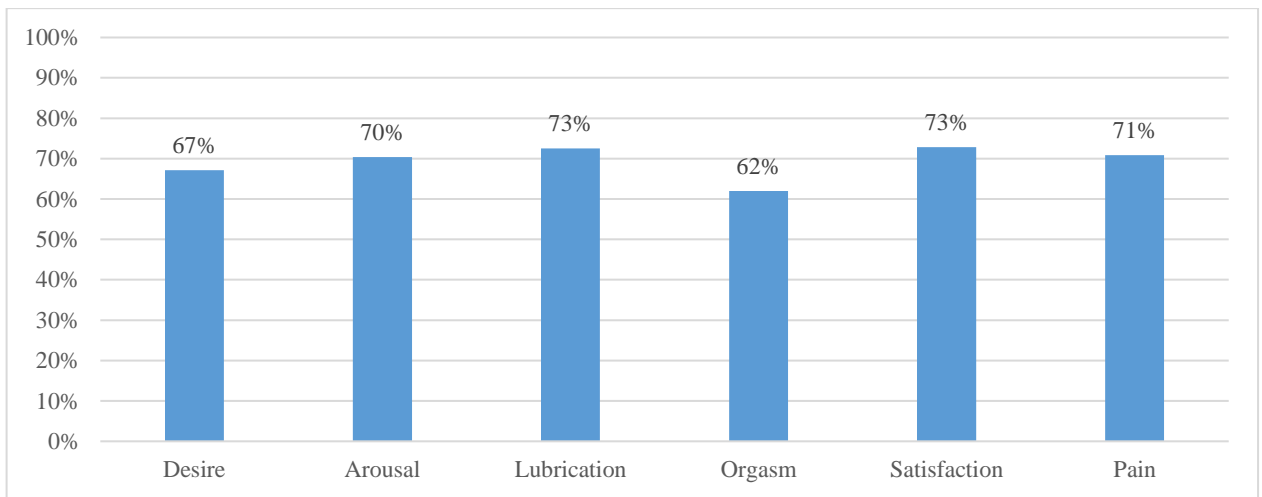


Fig. 3.2.4.1. Average FSFI category scores by percentage of highest possible score. For FSFI, the maximum score for each category is 6.

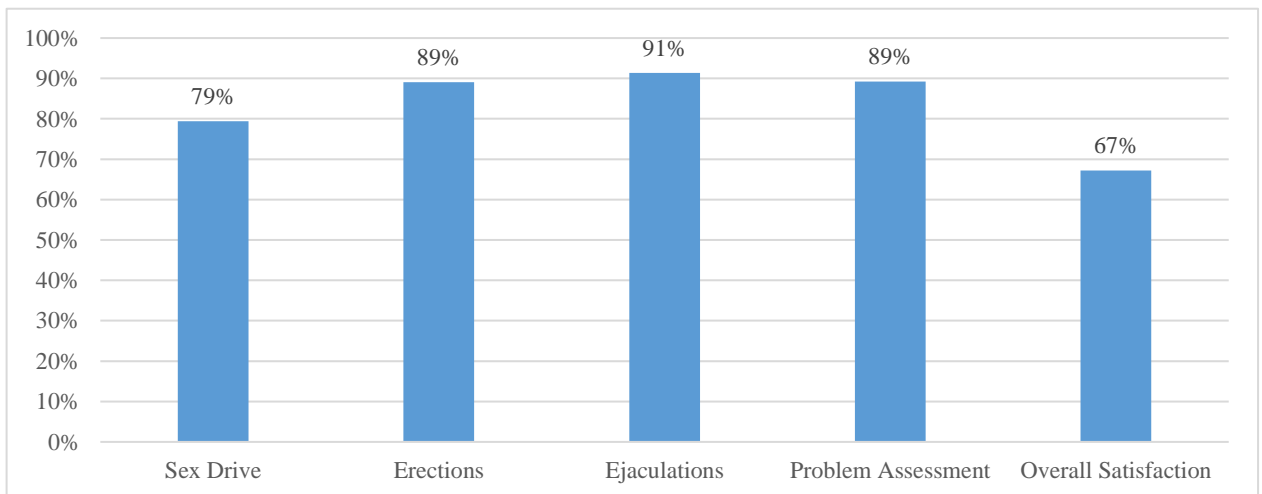


Fig. 3.2.4.2. Average FSFI and BSFI category scores by percentage of highest possible score Each BSFI has a different possible maximum score from 4-12, this figure shows the average BSFI by percentage of maximum score.

The average BSFI total score was 37.81 ± 5.42 . BSFI sections were also examined. The average scores were 6.36 ± 1.57 for Sex Drive (8 point max), 10.69 ± 1.99 for Erections (12 point max), 7.31 ± 1.06 for Ejaculations (8 point max), 10.71 ± 2.13 for Problem Assessment (12 point max), and 2.69 ± 1.27 for Overall Satisfaction (4 point max). Average BSFI scores can be observed in Fig. 3.2.4.2. The differences between males and females cannot be analyzed for sexual function due to the anatomical differences.

3.3 Relationship between QoL and Sexual Intimacy

There is a significant relationship between QoL and sexual intimacy. There is a statistically significant linear relationship between QoL percentage score and sexual intimacy scores ($B=2.64$, $p < 0.001$). Using the poor wellbeing cutoff, 52.9% of participant who reported poor wellbeing, also reported low sexual intimacy, while 36.4% of participants that reported high sexual intimacy reported poor wellbeing ($p=0.047$). QoL is significantly related to IPV in women. This relationship is not observed in men.

Table 3.3.1. Statistical results of binary analysis of QoL against each of the following variables, within the total sample and separate by gender.

Variable	Total sample (n=161)		p	OR ^a	95% CI
	Males (n=45)	Female (n=116)			
Sexual Intimacy	Total		0.012*	1.091	1.02, 1.17
	M		0.366	1.060	0.935, 0.12
	F		0.031*	1.10	1.01, 1.19
IPV	Total		0.006*	1.10	1.03, 1.17
	M		0.190	1.08	0.96, 1.22
	F		0.037*	1.09	1.01, 1.19
Sexual IPV	Total		0.136	1.06	0.98, 1.14
	M		0.311	1.10	0.92, 1.30
	F		0.570	1.03	0.94, 1.12
Emotional IPV	Total		0.020*	1.08	1.01, 1.15
	M		0.190	1.08	0.96, 1.22
	F		0.079	1.07	0.99, 1.16
Physical IPV	Total		0.682	1.02	0.92, 1.13
	M		0.555	1.05	0.90, 1.22
	F		0.731	1.02	0.90, 1.17

a. The reference category is high sexual intimacy, or no IPV victimization.

3.4 Relationship between ACEs and Sexual Intimacy

There was a significant linear relationship between ACEs binary score and Sexual intimacy score (B= -0.154, p=0.018) and a significant linear relationship between ACEs frequency score and sexual intimacy score (B= -0.154, p=0.020).

There was a significant relationship between IPV and ACEs binary score and ACEs frequency score. There was a significant relationship between sexual compliance and ACEs binary model and between sexual compliance and ACEs frequency score (Table 3.4.1 and Table 3.4.2). There was no relationship between ACEs and quality of sex ratings.

Table 3.4.1. Statistical results of binary regression of ACEs binary scores against each of the following variables, within the total sample and separate by gender.

Variable	Total sample (n=161)		P	OR ^a	95% CI
	Males (n=45)	Female (n=116)			
Sexual Intimacy	Total		0.733	0.980	0.87, 1.10
	M		0.731	0.957	0.75, 1.23
	F		0.912	1.01	0.88, 1.15
IPV	Total		<0.001*	0.808	0.72, 0.91
	M		0.095	0.818	0.65, 1.04
	F		0.004*	0.82	0.710, 0.94
Sexual IPV	Total		0.013*	0.843	0.74, 0.96
	M		0.703	0.931	0.645, 1.34
	F		0.044*	0.86	0.74, 1.0
Emotional IPV	Total		0.006*	0.854	0.76, 0.96
	M		0.095	0.818	0.65, 0.10
	F		0.042*	0.87	0.76, 1.0
Physical IPV	Total		0.124	0.868	0.72, 1.04
	M		0.940	0.988	0.72, 1.35
	F		0.035*	0.76	0.592, 0.98

a. The reference category is high sexual intimacy, or no IPV victimization.

Table 3.4.2. Statistical results of binary analysis of ACEs frequency scores against each of the following variables, within the total sample and separate by gender.

Variable	Total sample (n=161)		P	OR ^a	95% CI
	Males (n=45)	Female (n=116)			
Sexual Intimacy	Total		0.478	0.96	0.86, 0.11
	M		0.805	0.97	0.75, 1.25
	F		0.678	0.97	0.85, 1.11
IPV	Total		<0.001*	0.80	0.71, 0.90
	M		0.295	0.89	0.70, 1.11
	F		<0.001*	0.778	0.67, 0.90
Sexual IPV	Total		<0.001*	0.79	0.69, 0.90
	M		0.536	0.90	0.63, 1.27
	F		0.002*	0.784	0.67, 0.91
Emotional IPV	Total		0.018*	0.87	0.78, 0.98
	M		0.295	0.89	0.70, 1.11
	F		0.046*	0.873	0.765, 1
Physical IPV	Total		0.498	0.94	0.79, 1.12
	M		0.894	1.02	0.73, 1.43
	F		0.251	0.88	0.71, 1.1

a. The reference category is high sexual intimacy , or no IPV victimization

When analyzing individual ACEs categories, participants who reported frequent physical abuse were at four times increased odds of low sexual intimacy by in the total sample. In males, no category was significantly related to sexual intimacy. In females, physical abuse decreased odds of low sexual intimacy.

Table 3.4.3. The relationships between sexual intimacy binary score and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR ^a	95% CI	p-value
Total Sample			
Physical Abuse	0.31	0.12, 0.81	0.017*
Emotional Abuse	1.49	0.50, 4.43	0.476
Contact Sexual Abuse	0.85	0.37, 1.95	0.694
Household member substance abuse	2.27	0.57, 9.07	0.248
Incarcerated household member	1.26	0.39, 4.05	0.700
Mentally ill household member	0.88	0.31, 2.47	0.801
Household member violence	0.75	0.24, 2.32	0.620

Parent separation/death	1.16	0.48, 2.80	0.743
Emotional neglect	0.28	0.05, 1.57	0.147
Physical neglect	1.21	0.37, 3.86	0.755
Bullying	1.04	0.36, 2.96	0.950
Community Violence	1.31	0.57, 3.02	0.527
Collective Violence	0.72	0.12, 4.46	0.726
Frequent Physical Abuse	4.07	1.10, 15.04	0.035*
Frequent Emotional Abuse	1.03	0.22, 4.77	0.973
Frequent Household member violence	0.48	0.13, 1.83	0.283
Frequent emotional neglect	3.37	0.65, 17.41	0.147
Frequent physical neglect	1.47	0.28, 7.85	0.650
Frequent bullying	0.39	0.11, 1.39	0.147
Frequent community violence	0.89	0.15, 5.42	0.902

Males

Physical Abuse	0.00	0.00, -	0.994
Emotional Abuse	0.00	0.00, -	0.998
Contact Sexual Abuse	0.00	0.00, -	0.993
Household member substance abuse	0.00	0.00, -	1.000
Mentally ill household member	0.00	0.00, -	1.000
Household member violence	0.362	0.00, -	1.000
Bullying	0.00	0.00, -	0.996
Collective Violence	0.09	0.00, -	1.000
Frequent Emotional Abuse	0.00	0.00, -	0.997
Frequent bullying	0.85	0.00, -	1.000
Frequent community violence	0.00	0.00, -	1.000

Females

Physical Abuse	0.11	0.03, 0.46	0.003*
Emotional Abuse	2.09	0.44, 9.96	0.355
Contact Sexual Abuse	0.93	0.33, 2.56	0.882
Household member substance abuse	4.34	0.87, 21.60	0.073
Incarcerated household member	0.88	0.20, 3.78	0.859
Mentally ill household member	1.01	0.29, 3.50	0.986
Household member violence	0.84	0.19, 3.74	0.820
Parent separation/death	0.92	0.30, 2.78	0.883
Emotional neglect	3.78	0.20, 71.02	0.374

Physical neglect	1.05	0.23, 4.81	0.951
Bullying	0.83	0.20, 3.37	0.792
Community Violence	1.22	0.42, 3.52	0.718
Collective Violence	1.39	0.09, 21.24	0.815
Frequent Physical Abuse	8.23	1.69, 40.03	0.009*
Frequent Emotional Abuse	3.72	0.55, 25.35	0.180
Frequent Household member violence	0.24	0.04, 1.41	0.113
Frequent emotional neglect	0.11	0.00, 2.45	0.162
Frequent physical neglect	1.97	0.28, 13.98	0.498
Frequent bullying	0.37	0.06, 2.22	0.275
Frequent community violence	0.75	0.05, 12.41	0.842

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

Participants who reported childhood emotional abuse were at three times greater odds of reporting IPV, and participants who reported childhood sexual abuse were at two times greater odds of reporting IPV. By gender, history of frequent bullying significantly increased odds of IPV in males. In females, frequent physical abuse increased odds of IPV by six times (Table 3.4.4). Contact SA and having a mentally ill house hold member increase odds of sexual IPV in total sample, both at three times greater odds. There was no significant relationship in males between ACEs categories and sexual IPV. In females, having a mentally ill household member were at four times increased odds of sexual IPV victimization (Table 3.4.5). Childhood emotional abuse increased odds of emotional IPV by three times. By gender: bullying had a significant relationship with emotional IPV in males. In females, history of emotional abuse increased odds of emotional IPV by nearly eight times (Table 3.4.6). Childhood physical abuse increased odds of physical IPV by twelve times in the total sample. History of emotional neglect showed decreased odds of physical IPV victimization. No category was significant when analyzing ACEs categories and physical IPV by gender (Table 3.4.7).

Table 3.4.4. The relationships between IPV and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR^a	95% CI	p-value
Total Sample			
Physical Abuse	0.88	0.36, 2.16	0.785
Emotional Abuse	3.08	1.07, 8.82	0.036*
Contact Sexual Abuse	2.33	1.05, 5.17	0.037*
Household member substance abuse	1.15	0.34, 3.94	0.822
Incarcerated household member	0.94	0.30, 2.96	0.919
Mentally ill household member	2.69	1.04, 6.99	0.042
Household member violence	1.03	0.35, 3.02	0.958
Parent separation/death	1.41	0.62, 3.21	0.414
Emotional neglect	0.44	0.08, 2.48	0.350
Physical neglect	0.81	0.28, 2.38	0.707
Bullying	0.69	0.25, 1.91	0.478
Community Violence	1.15	0.52, 2.54	0.738
Collective Violence	0.68	0.13, 3.45	0.638
Frequent Physical Abuse	2.87	0.81, 10.10	0.101
Frequent Emotional Abuse	0.96	0.24, 3.86	0.952
Frequent Household member violence	0.30	0.08, 1.10	0.068
Frequent emotional neglect	1.85	0.37, 9.31	0.455
Frequent physical neglect	4.19	0.57, 30.63	0.158
Frequent bullying	2.09	0.73, 6.04	0.171
Frequent community violence	1.68	0.35, 8.01	0.517
Males			
Physical Abuse	22.16	0.54, 910.03	0.102
Emotional Abuse	0.78	0.03, 19.19	0.881
Contact Sexual Abuse	1.58	0.08, 31.43	0.765
Household member substance abuse	0.00	0.00, -	1.000
Mentally ill household member	18.90	0.05, 7518.90	0.336
Household member violence	59.69	0.23, 15433.45	0.149
Parent separation/death	0.18	0.00, 9.13	0.395
Emotional neglect	0.02	0.00, 31.35	0.307
Physical neglect	0.08	0.00, 5.82	0.248

Bullying	0.01	0.00, 1.98	0.086
Community Violence	13.95	0.50, 386.41	0.120
Collective Violence	0.00	0.00, -	0.999
Frequent Physical Abuse	0.00	0.00, -	1.000
Frequent Household member violence	0.00	0.00, 1.09	0.053
Frequent emotional neglect	2.00	0.05, 84.82	0.717
Frequent bullying	4399.92	1.09, 17822716	0.048*
Frequent community violence	4.30	0.02, 1007.86	0.600

Females

Physical Abuse	0.57	0.17, 1.85	0.348
Emotional Abuse	3.66	0.80, 16.70	0.094
Contact Sexual Abuse	2.53	0.95, 6.72	0.063
Household member substance abuse	1.30	0.32, 5.34	0.717
Incarcerated household member	0.86	0.22, 3.34	0.825
Mentally ill household member	2.75	0.87, 8.68	0.085
Household member violence	0.67	0.16, 2.85	0.583
Parent separation/death	2.00	0.72, 5.53	0.183
Emotional neglect	0.00	0.00, -	0.999
Physical neglect	0.72	0.19, 2.81	0.642
Bullying	0.65	0.18, 2.41	0.522
Community Violence	1.14	0.41, 3.14	0.799
Collective Violence	2.78	0.13, 58.28	0.510
Frequent Physical Abuse	6.00	1.26, 28.64	0.025*
Frequent Emotional Abuse	0.97	0.18, 5.32	0.969
Frequent Household member violence	0.45	0.09, 2.26	0.335
Frequent physical neglect	3.15	0.32, 30.82	0.324
Frequent bullying	1.37	0.33, 5.70	0.665
Frequent community violence	2.51	0.14, 44.25	0.529

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

Table 3.4.5. The relationships between Sexual IPV and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR^a	95% CI	p-value
Total Sample			
Physical Abuse	1.54	0.41, 5.79	0.522
Emotional Abuse	0.67	0.17, 2.70	0.572
Contact Sexual Abuse	3.27	1.26, 8.48	0.015*
Household member substance abuse	0.39	0.09, 1.64	0.199
Incarcerated household member	3.55	0.98, 12.94	0.055
Mentally ill household member	3.32	1.01, 10.90	0.048*
Household member violence	0.45	0.10, 2.02	0.296
Parent separation/death	0.75	0.26, 2.16	0.598
Emotional neglect	0.33	0.05, 2.20	0.251
Physical neglect	0.57	0.15, 2.20	0.413
Bullying	0.80	0.21, 2.98	0.738
Community Violence	0.71	0.26, 1.98	0.517
Collective Violence	1.07	0.15, 7.80	0.947
Frequent Physical Abuse	2.63	0.69, 9.97	0.156
Frequent Emotional Abuse	0.69	0.13, 3.62	0.662
Frequent Household member violence	2.45	0.50, 12.09	0.271
Frequent emotional neglect	3.62	0.61, 21.55	0.157
Frequent physical neglect	4.28	0.60, 30.48	0.146
Frequent bullying	1.09	0.30, 4.01	0.895
Frequent community violence	0.10	0.00, 2.85	0.179
Males			
Physical Abuse	0.52	0.00, -	1.000
Emotional Abuse	0.01	0.00, -	1.000
Contact Sexual Abuse	7402.35	0.00, -	1.000
Household member substance abuse	0.00	0.00, -	0.999
Mentally ill household member	0.00	0.00, -	1.000
Emotional neglect	0.00	0.00, -	1.000
Physical neglect	0.00	0.00, -	0.999
Bullying	0.01	0.00, -	1.000
Community Violence	0.00	0.00, -	0.999

Frequent Physical Abuse	0.00	0.00, -	1.000
Frequent emotional neglect	1068.20	0.00, -	1.000
Frequent community violence	0.00	0.00, -	1.000

Females

Physical Abuse	0.89	0.18, 4.46	0.886
Emotional Abuse	0.71	0.12, 4.11	0.702
Contact Sexual Abuse	2.75	0.91, 8.32	0.072
Household member substance abuse	0.55	0.12, 2.57	0.448
Incarcerated household member	2.02	0.45, 9.14	0.359
Mentally ill household member	4.83	1.28, 18.27	0.020*
Household member violence	0.30	0.05, 1.66	0.166
Parent separation/death	0.59	0.18, 2.01	0.402
Emotional neglect	0.96	0.03, 32.13	0.984
Physical neglect	0.40	0.08, 1.95	0.256
Bullying	0.79	0.15, 4.03	0.773
Community Violence	0.98	0.31, 3.09	0.972
Collective Violence	0.61	0.05, 8.00	0.703
Frequent Physical Abuse	3.92	0.89, 17.26	0.071
Frequent Emotional Abuse	1.74	0.26, 11.81	0.569
Frequent Household member violence	1.44	0.22, 9.30	0.698
Frequent emotional neglect	1.18	0.03, 48.88	0.929
Frequent physical neglect	5.47	0.68, 43.87	0.110
Frequent bullying	1.55	0.33, 7.39	0.580
Frequent community violence	0.24	0.00, 11.59	0.468

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

Table 3.4.6. The relationships between Emotional IPV and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR^a	95% CI	p-value
Total Sample			
Physical Abuse	0.82	0.34, 2.00	0.662
Emotional Abuse	3.62	1.22, 10.71	0.020*
Contact Sexual Abuse	2.03	0.93, 4.43	0.074
Household member substance abuse	1.56	0.47, 5.18	0.466
Incarcerated household member	0.65	0.22, 1.95	0.439
Mentally ill household member	2.33	0.90, 5.99	0.080
Household member violence	1.13	0.38, 3.35	0.827
Parent separation/death	1.14	0.50, 2.57	0.757
Emotional neglect	0.75	0.14, 3.94	0.733
Physical neglect	1.08	0.38, 3.05	0.881
Bullying	0.58	0.21, 1.60	0.291
Community Violence	1.45	0.66, 3.18	0.352
Collective Violence	0.44	0.09, 2.20	0.320
Frequent Physical Abuse	1.73	0.54, 5.57	0.359
Frequent Emotional Abuse	1.14	0.30, 4.35	0.851
Frequent Household member violence	0.29	0.08, 1.00	0.049
Frequent emotional neglect	1.11	0.22, 5.57	0.900
Frequent physical neglect	0.77	0.15, 3.95	0.755
Frequent bullying	1.62	0.59, 4.46	0.350
Frequent community violence	1.57	0.34, 7.21	0.563
Males			
Physical Abuse	22.16	0.54, 910.03	0.102
Emotional Abuse	0.78	0.03, 19.19	0.881
Contact Sexual Abuse	1.58	0.08, 31.45	0.765
Household member substance abuse	0.00	0.00, -	1.000
Mentally ill household member	18.90	0.05, 7518.90	0.336
Household member violence	59.69	0.23, 15433.45	0.149
Parent separation/death	0.18	0.00, 9.13	0.395
Emotional neglect	0.02	0.00, 31.35	0.307
Physical neglect	0.08	0.00, 5.82	0.248

Bullying	0.01	0.00, 1.98	0.086
Community Violence	13.95	0.50, 386.42	0.120
Collective Violence	0.00	0.00, -	0.999
Frequent Physical Abuse	0.00	0.00, -	1.000
Frequent Household member violence	0.00	0.00, 1.09	0.053
Frequent emotional neglect	2.00	0.05, 85.82	0.717
Frequent bullying	4399.92	1.09, 17822716	0.048*
Frequent community violence	4.30	0.02, 1007.86	0.600
Females			
Physical Abuse	0.35	0.10, 1.18	0.091
Emotional Abuse	7.98	1.54, 41.25	0.013*
Contact Sexual Abuse	2.20	0.85, 5.69	0.104
Household member substance abuse	2.25	0.59, 8.67	0.238
Incarcerated household member	0.54	0.15, 2.01	0.359
Mentally ill household member	3.15	1.00, 9.96	0.051
Household member violence	0.62	0.14, 2.70	0.519
Parent separation/death	1.43	0.53, 3.88	0.479
Emotional neglect	0.94	0.04, 19.99	0.969
Physical neglect	1.22	0.35, 4.34	0.753
Bullying	0.44	0.12, 1.63	0.219
Community Violence	1.62	0.60, 4.34	0.339
Collective Violence	0.79	0.08, 8.12	0.845
Frequent Physical Abuse	2.67	0.67, 10.64	0.163
Frequent Emotional Abuse	1.90	0.40, 9.17	0.422
Frequent Household member violence	0.29	0.06, 1.34	0.113
Frequent emotional neglect	0.50	0.02, 13.25	0.680
Frequent physical neglect	0.29	0.04, 1.93	0.203
Frequent bullying	0.78	0.19, 3.13	0.722
Frequent community violence	1.12	0.11, 11.75	0.924

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

Table 3.4.7. The relationships between Physical IPV and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR^a	95% CI	p-value
Total Sample			
Physical Abuse	12.22	1.19, 125.63	0.035*
Emotional Abuse	6.63	0.57, 77.27	0.131
Contact Sexual Abuse	1.33	0.30, 5.86	0.708
Household member substance abuse	6.35	0.57, 70.42	0.132
Incarcerated household member	4.98	0.83, 29.73	0.078
Mentally ill household member	0.41	0.05, 3.57	0.420
Household member violence	0.40	0.05, 3.57	0.397
Parent separation/death	1.17	0.22, 6.35	0.856
Emotional neglect	0.03	0.00, 0.86	0.041*
Physical neglect	0.34	0.04, 3.39	0.361
Bullying	0.80	0.12, 5.57	0.825
Community Violence	1.15	0.25, 5.22	0.853
Collective Violence	0.00	0.00, -	0.998
Frequent Physical Abuse	0.72	0.08, 6.38	0.767
Frequent Emotional Abuse	0.14	0.01, 1.80	0.132
Frequent Household member violence	2.12	0.32, 14.06	0.436
Frequent emotional neglect	7.98	0.58, 109.76	0.121
Frequent physical neglect	8.89	0.48, 163.44	0.141
Frequent bullying	0.70	0.09, 5.60	0.739
Frequent community violence	4.36	0.41, 45.98	0.220
Males			
Household member substance abuse	0.00	0.00, -	0.999
Mentally ill household member	0.00	0.00, -	0.999
Household member violence	0.00	0.00, -	1.000
Parent separation/death	25.18	0.00, -	1.000
Emotional neglect	0.00	0.00, -	0.996
Physical neglect	0.00	0.00, -	0.999
Bullying	0.00	0.00, -	0.998
Collective Violence	0.00	0.00, -	0.999
Frequent Physical Abuse	0.00	0.00, -	0.999

Frequent Household member violence	0.00	0.00, -	1.000
Frequent emotional neglect	0.00	0.00, -	0.999
Females			
Physical Abuse	5.73	0.35, 94.94	0.223
Contact Sexual Abuse	0.35	0.03, 4.63	0.426
Household member substance abuse	23.00	0.74, 716.36	0.074
Incarcerated household member	16.68	0.93, 299.35	0.056
Mentally ill household member	0.65	0.05, 8.01	0.735
Household member violence	0.53	0.02, 11.82	0.690
Parent separation/death	2.15	0.21, 21.91	0.517
Physical neglect	0.24	0.00, 12.84	0.484
Community Violence	1.02	0.11, 9.77	0.985
Collective Violence	0.00	0.00, -	0.999
Frequent Physical Abuse	0.28	0.00, 15.37	0.531
Frequent Emotional Abuse	0.03	0.00, 1.54	0.081
Frequent Household member violence	0.95	0.05, 19.05	0.975
Frequent emotional neglect	0.00	0.00, -	0.999
Frequent physical neglect	11.63	0.14, 934.47	0.273
Frequent bullying	0.35	0.01, 11.01	0.554
Frequent community violence	5.97	0.05, 692.80	0.461

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

History of emotional abuse, contact sexual abuse and having a mentally ill household member increased odds of sexual compliance in the total sample, by more than three times, four times and four times respectively. Participants who reported witnessing frequent household member violence were at decreased odds of being sexually compliant. In males, no category significantly impacted odds of sexual compliance. In females, emotional abuse, contact sexual abuse and having a mentally ill household member increased odds of being sexually compliant, by nine times, seven times, and eight times respectively. Female participants who reported parental separation or death and frequently witnessing household member violence were at decreased odds of sexual compliance (Table 3.4.8).

Table 3.4.8. The relationships between Sexual Compliance and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR^a	95% CI	p-value
Total Sample			
Physical Abuse	0.87	0.34, 2.23	0.772
Emotional Abuse	3.31	1.06, 10.33	0.039*
Contact Sexual Abuse	4.79	1.96, 11.71	0.001*
Household member substance abuse	1.52	0.38, 6.05	0.549
Incarcerated household member	1.70	0.49, 5.94	0.402
Mentally ill household member	4.17	1.45, 12.03	0.008*
Household member violence	1.46	0.47, 4.57	0.516
Parent separation/death	0.46	0.19, 1.15	0.098
Emotional neglect	1.65	0.29, 9.38	0.574
Physical neglect	2.86	0.88, 9.28	0.080
Bullying	1.20	0.40, 3.58	0.747
Community Violence	0.97	0.41, 2.28	0.948
Collective Violence	0.30	0.05, 1.87	0.197
Frequent Physical Abuse	1.68	0.43, 6.52	0.451
Frequent Emotional Abuse	0.82	0.19, 3.54	0.791
Frequent Household member violence	0.20	0.05, 0.83	0.027*
Frequent emotional neglect	0.72	0.14, 3.84	0.705
Frequent physical neglect	1.01	0.13, 7.59	0.992
Frequent bullying	0.77	0.25, 2.33	0.641
Frequent community violence	0.54	0.09, 3.11	0.491
Males			
Emotional Abuse	3.92	0.03, 458.98	0.574
Contact Sexual Abuse	15.37	0.45, 530.81	0.130
Household member substance abuse	0.00	0.00, -	0.999
Mentally ill household member	0.00	0.00, -	1.000
Household member violence	0.30	0.00, 155.50	0.707
Parent separation/death	0.00	0.00, -	0.996
Collective Violence	0.40	0.00, -	1.000
Frequent Emotional Abuse	0.00	0.00, -	1.000
Frequent emotional neglect	9.30	0.03, 3253.30	0.455

Frequent bullying	0.00	0.00, -	0.997
Frequent community violence	0.00	0.00, -	0.999
Females			
Physical Abuse	0.33	0.09, 1.22	0.097
Emotional Abuse	9.26	1.68, 50.96	0.010*
Contact Sexual Abuse	7.64	2.12, 27.49	0.002*
Household member substance abuse	1.94	0.34, 10.94	0.453
Incarcerated household member	0.66	0.13, 3.33	0.615
Mentally ill household member	8.07	1.78, 36.73	0.007*
Household member violence	2.00	0.41, 9.70	0.389
Parent separation/death	0.27	0.08, 0.90	0.034*
Emotional neglect	11.10	0.46, 266.72	0.138
Physical neglect	3.57	0.78, 16.31	0.100
Bullying	0.29	0.06, 1.41	0.125
Community Violence	1.24	0.41, 3.78	0.699
Collective Violence	0.09	0.00, 1.65	0.104
Frequent Physical Abuse	10.61	1.39, 80.74	0.023
Frequent Emotional Abuse	1.62	0.26, 10.04	0.605
Frequent Household member violence	0.07	0.01, 0.48	0.007*
Frequent emotional neglect	0.06	0.00, 1.92	0.113
Frequent physical neglect	1.45	0.11, 19.99	0.782
Frequent bullying	1.65	0.33, 8.14	0.541
Frequent community violence	4.45	0.18, 109.32	0.361

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

3.5 Relationship between Sexual Function and Sexual Intimacy

Female participants who reported low intimacy reported significantly lower FSFI scores ($OR=1.09$, 95% CI [1.04, 1.14], $p<0.001$) (Fig. 3.5.1). There was a significant relationship between sexual compliance and FSFI scores ($OR=1.06$, 95% CI [1.01, 1.12], $p=0.032$). There was a significant relationship between FSFI scores and quality of sex rating ($B=0.054$, $p<0.001$). There was a significant relationship between any IPV ($p=0.35$) and FSFI scores, with IPV victims having lower mean rank compared to no-IPV group. The sexual IPV group had lower mean rank scores for FSFI than no-sexual IPV group ($p=0.042$). FSD group were at greater odds of experiencing IPV than the no FSD group

($OR=3.00$, 95% CI [1.37, 6.42, $p=0.006$), and higher odds of experiencing of sexual IPV than no FSD group ($OR=3.00$, 95% CI [1.28, 7.03], $p=0.011$) There was no significant relationship between emotional and physical IPV and FSFI scores.

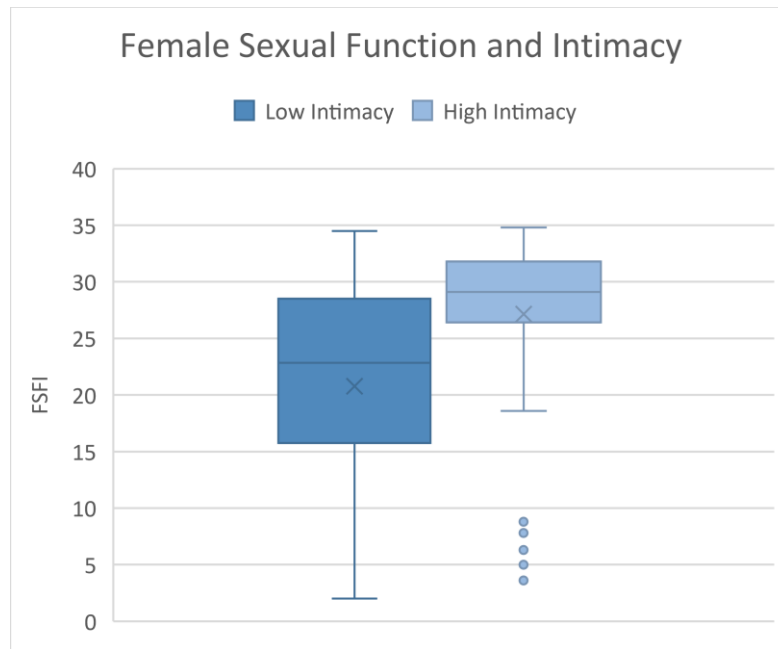


Fig. 3.5.1. FSFI and Sexual Intimacy categories.

Male participants who reported low intimacy reported significantly lower BSFI Scores ($OR=1.21$, 95% CI [1.04, 1.41], $p=0.017$). There was no relationship between BSFI scores and IPV. There was no significant relationship between BSFI scores and sexual compliance. There was a significant relationship between quality of sex and BSFI scores ($B= 0.087$, $p=0.001$). The differences between BSFI scores in the sexual intimacy categories can be seen in Fig. 3.5.2.

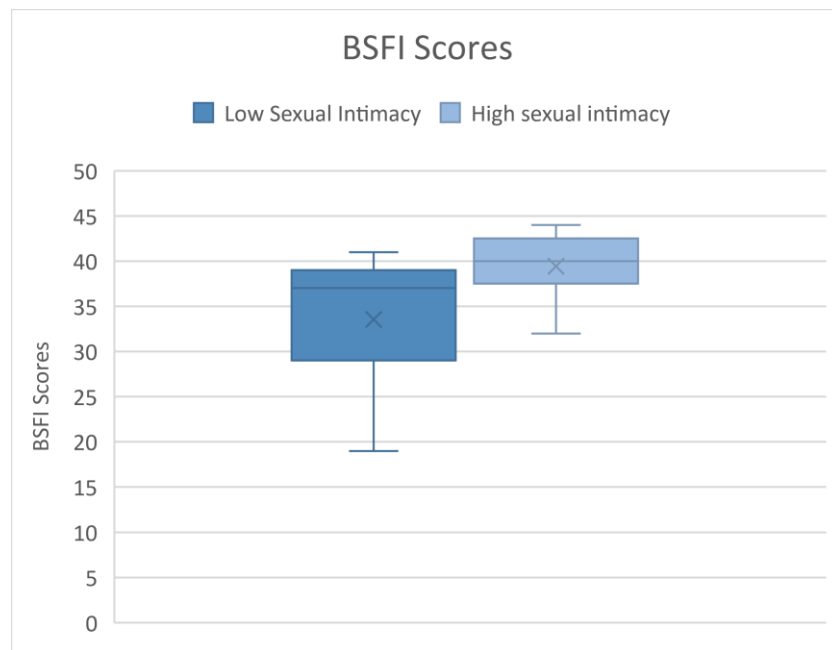


Fig. 3.5.2. BSFI Scores and Sexual Intimacy Categories.

When assessing sexual function in males and females it is impossible to make direct comparisons due to the differences in anatomy and function of sexual organs.

3.6 The interconnect relationships between Quality of Life, Adverse Childhood Experiences and Sexual Function

When comparing the total sample there was a significant relationship between ACEs binary score and QoL ($B=-1.16$, $p=0.36$) and between ACEs frequency score and QoL ($B=-1.46$, $p=0.009$). When divided by gender, there was no significant relationship found between QoL and ACEs (binary or frequency score). When divided by ACEs categories, participants who reported an incarcerated household member and those who reported community violence were at significantly decreased odds of poor wellbeing. The same results were found for females. There was no significant relationship between poor wellbeing and ACEs categories in males (Table 3.6.1.).

There was no relationship between ACEs score and sexual function. The linear relationship between BSFI and ACEs Score were insignificant; for both ACEs frequency score ($B=-0.29$, $p=0.929$) and ACEs binary score ($B=0.183$, $p=0.595$). The linear relationship between FSFI and ACEs were insignificant; for both ACEs frequency score ($B=-0.258$, $p=0.367$) and ACEs binary score ($B=-0.186$, $p=0.516$).

There was a significant relationship between QoL percentage score and FSFI scores (B=0.67, p<0.001). There was a significant relationship between QoL percentage scores and BSFI scores (B=2.014, p<0.001).

Table 3.6.1. The relationships between wellbeing and ACEs categories; results of binary logistic regression analysis.

ACEs category	OR ^a	95% CI	p-value
Total Sample			
Physical Abuse	0.69	0.25, 1.86	0.458
Emotional Abuse	0.99	0.33, 2.98	0.992
Contact Sexual Abuse	1.20	0.52, 2.77	0.673
Household member substance abuse	2.53	0.61, 10.51	0.202
Incarcerated household member	0.19	0.05, 0.78	0.021*
Mentally ill household member	1.25	0.46, 3.40	0.658
Household member violence	1.75	0.54, 5.62	0.348
Parent separation/death	1.89	0.76, 4.69	0.169
Emotional neglect	6.26	0.87, 45.00	0.068
Physical neglect	0.65	0.20, 2.15	0.480
Bullying	1.35	0.46, 3.94	0.587
Community Violence	0.17	0.06, 0.44	<0.001*
Collective Violence	3.59	0.44, 29.58	0.234
Frequent Physical Abuse	0.62	0.17, 2.31	0.476
Frequent Emotional Abuse	1.44	0.33, 6.31	0.632
Frequent Household member violence	0.80	0.21, 3.03	0.741
Frequent emotional neglect	1.34	0.22, 8.28	0.751
Frequent physical neglect	0.54	0.07, 4.02	0.544
Frequent bullying	0.45	0.13, 1.56	0.209
Frequent community violence	0.51	0.08, 3.36	0.486
Males			
Physical Abuse	0.41	0.03, 6.27	0.523
Emotional Abuse	0.31	0.02, 5.78	0.430
Contact Sexual Abuse	1.06	0.08, 14.54	0.967
Incarcerated household member	0.00	0.00, -	0.999
Household member violence	8.27	0.32, 211.28	0.201

Parent separation/death	0.94	0.05, 16.43	0.967
Physical neglect	0.78	0.00, 138.14	0.923
Bullying	0.74	0.04, 14.18	0.844
Community Violence	1.33	0.08, 21.70	0.839
Collective Violence	0.00	0.00, -	0.999
Frequent Physical Abuse	0.00	0.00, -	0.999
Frequent Household member violence	1.24	0.05, 33.43	0.897
Frequent emotional neglect	7.32	0.28, 188.49	0.230
Frequent physical neglect	0.00	0.00, -	0.999
Frequent bullying	0.50	0.01, 33.68	0.745
Frequent community violence	0.00	0.00, -	0.998

Females

Physical Abuse	0.75	0.20, 2.84	0.676
Emotional Abuse	1.16	0.23, 5.77	0.859
Contact Sexual Abuse	0.73	0.26, 2.07	0.558
Household member substance abuse	3.89	0.76, 20.01	0.104
Incarcerated household member	0.12	0.02, 0.60	0.010*
Mentally ill household member	1.06	0.31, 3.63	0.920
Household member violence	1.12	0.26, 4.80	0.883
Parent separation/death	2.83	0.89, 8.94	0.077
Emotional neglect	19.54	0.60, 638.52	0.095
Physical neglect	0.48	0.12, 1.94	0.304
Bullying	1.02	0.26, 4.02	0.974
Community Violence	0.12	0.030.39	0.001*
Collective Violence	26.82	0.06, 12415.91	0.294
Frequent Physical Abuse	1.19	0.26, 5.52	0.821
Frequent Emotional Abuse	2.68	0.44, 16.10	0.282
Frequent Household member violence	0.86	0.17, 4.47	0.859
Frequent emotional neglect	0.31	0.01, 9.86	0.504
Frequent physical neglect	0.46	0.04, 5.30	0.536
Frequent bullying	0.48	0.09, 2.46	0.378
Frequent community violence	0.41	0.02, 10.99	0.596

- a. The reference category is ACE category = 0, which means that the participants did not report an ACE in the category being analyzed.

In summary, sexual intimacy was significantly related to IPV, QoL, ACEs and sexual function in the total sample. Additionally, QoL was related to IPV, ACEs and sexual function in the total sample. There was no relationship between ACEs and sexual function. There were gender differences. Similar to the total sample, there were relationships found between sexual intimacy, IPV, QoL, ACEs and sexual function in females. In males, only sexual function and sexual intimacy, and sexual function and QoL were significantly related. QoL and ACEs were related in the total sample, but this relationship was not significant when measuring the male and females independently.

When analyzing ACEs categories, only frequent physical abuse was significantly related to sexual intimacy in the total sample and in the female sample. For males, there was no relationship between ACEs categories and sexual intimacy. Contact sexual abuse and emotional abuse increased odds of IPV in the total sample. Bullying increased odds of IPV in the male sample. Frequent physical abuse increased odds of IPV in females. Contact sexual abuse and having a mentally ill household member increased odds of sexual IPV in the total sample. Similarly, having a mentally ill household member increased odds of sexual IPV in females. No category increased odds of sexual IPV in males. Emotional abuse increased odds of emotional IPV in the total sample and in females. Bullying increased odds of emotional IPV in males. Physical abuse increased odds of physical IPV in the total sample. No relationship was found between the ACEs categories and physical IPV in males or females. Contact sexual abuse, having a mentally ill household member and emotional abuse increased odds of sexual compliance in the total sample and in females. There was no significant relationship between the ACEs categories and sexual compliance in males. There are significant differences between males and females in the sample.

4. DISCUSSION

Most participants in the sample scored fairly high with respect to sexual intimacy scores, with the average score being 10 out of 13 possible points. There was a significant difference between males and females using the interval version of the sexual intimacy score. These results are similar to a study that found that, on average, men have more positive perceptions of their own intimacy in relationships and women have a more negative perception of their own intimacy in relationships [64]. There were no gender differences on four of the five questions used to assess sexual intimacy. The gender differences between sexual compliance responses are similar to the results of previous studies, where women are more sexually compliant than men [5,6]. However, the reasons reported for sexual compliance differ from previous studies [6]. In the current study, fear was the number one reason women reported for being sexually compliant. I speculate this is because the previous study was conducted on individuals currently in a relationship, the present study asked if the participant had ever been sexually compliant. The previous study participants may not have experienced fear because they were with a known partner, or they did not want to admit their true feelings for continuing. Nonetheless, the high rates of sexual compliance, which have been shown to increase stress, are indicators of inequitable and unhealthy sexual relationships [5]. The differences in rates of sexual intimacy and sexual compliance may also be indicative of social norms and traditional masculinity ideology that suggests women should be submissive and welcome men's desires and sexual advances [30]. The differences in sexual intimacy scores and rates of sexual compliance between males and females may indicate that women may experience more of the giving side in an inequitable relationship.

There was a significant difference in sexual intimacy scores by ethnicity/race. This could be because of the sample size, and some groups have few participants. Partnership type had a significant impact on sexual intimacy score, with participants reporting their most recent sexual partner being a committed monogamous partner, a spouse or a friend with benefits having higher sexual intimacy scores than participants who reported their most recent partner was a partner from an open relationship, one-night/ hookup stand or domestic partnership. These results could be due to small sample size, but may also be related to findings from previous studies that show sexual and relational closeness are important contributors to sexual satisfaction [20–22].

There was a high prevalence of IPV, especially of the sexual and emotional types. Though these rates are high, they are consistent with previous studies that show IPV prevalence is between 19% and 66% [9]. The significantly lower rates of sexual IPV in men is consistent with previous studies that show

women are less likely to perpetrate, and more likely to experience sexual violence compared to men [32]. Women who experienced any type of IPV were more than 3 times more likely to report low sexual intimacy. Women who reported sexual IPV were 2.5 times more likely to report low sexual intimacy. Women who reported emotional IPV were nearly 2.5 times more likely to report low sexual intimacy. There was no significant relationship between IPV and sexual intimacy in men. The low scores of sexual intimacy in women with history of IPV is consistent with previous research that shows female victims of IPV reported difficulty forming new attachments [33].

As expected, there was a relationship between QoL and sexual intimacy. The results showed for every 1-point increase in sexual intimacy score, there was a two point increase in QoL percentage score. This is consistent with other studies showing that sexual intimacy plays an important role in QoL [42,44]. Female IPV victims reported lower QoL. These findings are consistent with previous studies showing that QoL is negatively impacted by IPV [28].

The average ACEs score for the sample was high. Nearly $\frac{3}{4}$ of the sample reported 4 or more ACEs. This is nearly 60% higher than the amount of ACEs reported by the CDC [47]. The higher reports of ACEs are unknown but could be due to respondent bias. Females reported more ACEs than males. The gender differences in the current sample are consistent with previous research showing that girls are exposed to more complex and varied types of childhood adversity than boys [10,48]. The average QoL score for the sample was 13.37, with more than 40% of participants scoring below the cutoff, indicating poor-wellbeing and possible depression. Females had lower QoL scores than men. A previous study found that females experience more ACEs, and therefore have more emotional health difficulties than males [48]. Though females in the current study have both higher ACEs and lower QoL, and a significant inverse relationship was found between QoL and ACEs in the total sample, when separated by gender, neither male nor female ACEs scores had a significant relationship to their QoL score. Therefore, the present study cannot conclude that it is ACEs, and not gender, that are responsible for decreased wellbeing and increased mental health concerns in female participants.

There was a significant relationship between ACEs and sexual intimacy. The present study showed a 0.15-point decrease in sexual intimacy score for every one ACE category reported. This is consistent with findings that participants with childhood maltreatment reported lower intimacy scores [11]. When analyzing the relationship between ACEs categories and sexual intimacy, frequent physical abuse increased odds of low sexual intimacy in women. However, in the male sample no sample was

significantly related to sexual intimacy. These findings are contradictory to previous studies that have found that males who experience CSA have increased relationship and sexual intimacy difficulties [65].

Females with more ACEs were at greater risk of IPV victimization. This is consistent with findings in previous literature, that women with ACEs are at greater risk for IPV victimization [45,52]. When analyzing ACEs categories, CSA and having a mentally ill household member increased odds of sexual IPV and sexual compliance in women. These findings are consistent with previous studies that found CSA in girls increase risks of IPV victimization later in life [9,54]. Additionally higher reports of sexual compliance are also indicative of low sexual relationship power, which is also consistent with the literature stating that CSA often leads to relationship difficulties later in life [10,25]. There was no relationship between male IPV victimization and ACEs. This could be because males in the sample reported lower ACEs than women. Additionally, we did not survey for IPV perpetration, a variable known to be impacted by ACEs [10]. The etiology of how ACEs impact sexual intimacy could not be determined in the present study but is possibly due to attachment difficulties that result from early adverse experiences.

FSD is common in young women. The present study showing 42% of young women in the sample scored below the cutoff for clinical indication of FSD, is consistent with a worldwide study showing 41% of young women are affected by FSD [57]. Based off of generally high BSFI, there was not much indication of sexual dysfunction in the male sample. Sexual function had a significant impact on sexual intimacy and QoL. Both males and females who reported low intimacy were at significantly increased odds of having low sexual function scores. QoL percentage score increased 0.67 for every one-point increase in FSFI score. QoL increased by 2 for every one-point increase in BSFI scores. These results indicate that both male and female sexual function impacts QoL, but sexual function may impact males' QoL at a greater magnitude.

Both men and women who reported low sexual function were at increased odds of having low sexual intimacy scores. This is consistent with previous studies that show that sexual function negatively affects relationships and intimacy [12,13]. It is important to note that that relationship dissatisfaction is a risk factor for sexual dysfunction in men and women, and as this study did not account for physiological or psychogenic explanations for sexual dysfunction, it is impossible to determine whether relationship dissatisfaction/low intimacy is prompting sexual dysfunction or if sexual dysfunction is the cause for low intimacy [12,57].

There was no relationship between male sexual function and IPV. However, females with indication of FSD were at three times greater risk of experiencing any IPV and sexual IPV than individuals with no indication of FSD. This finding is similar to previous studies showing that women who experience IPV are at increased risk of sexual dysfunction [66]. It is important to be mindful that the nature of whether FSD increases risk for IPV or IPV increases risk of FSD is unknown in the present study and needs to be further studied.

Females with lower FSFI scores more likely to be sexually compliant. This is consistent with previous findings that sexual dysfunction may lead to inequitable sexual interactions between partners, and that women suffering from sexual dysfunction had to negotiate sexual relations with their partner [13,56]. There was no significant relationship between BSFI and sexual compliance, which again could be due to the small sample size in males, or be indicative of different society pressures in men and women, addressed by Angelone et al., which states that sexist ideologies view men as the initiators of sex and women as the gatekeepers of sex, and more importantly, that men are to be dominant, while women are to be more passive during sexual encounters in order to please their partner [30]. These ideologies give a potential explanation for why women reported higher rates of sexual compliance, especially if they are struggling with FSD, which makes sex less enjoyable.

There was no significant relationship between ACEs and sexual function. This could indicate that the psychological impacts of ACEs are more important when assessing sexual intimacy and IPV. It may be speculated that the lack of a connection between ACEs and sexual function may be because the reproductive system is inactive most of childhood. The impact of ACEs on intimacy and IPV are likely significant due to the delicate nature of attachment style formation in children, especially young children. The results showing a significantly increased odds of low intimacy in children who experienced physical abuse, and women who experienced having a mentally ill household member having increased odds of IPV victimization may be indicative of this relationship between attachment trauma early in life and how it affects people into adulthood. These results are supported by previous research showing that ACEs, especially in the first two years significantly impact attachment style [45]. The lack of relationships between other ACEs categories and intimacy and IPV are consistent with previous research that shows a dose-response relationship between ACEs and ACE-related conditions [46]. This means that it isn't necessarily the type of adverse experience that matters, rather the number and complexity of adverse events. The psychosocial impacts of intimacy and potential physiological pathway of sexual dysfunction needs to be further investigated, especially with a sample with more male sexual dysfunction. This study supports the psychosocial risks of ACEs associated with intimacy, rather than a physiological pathway.

Strengths and Limitations

The study was wide scoping, allowing for analysis over various variables to analyze their connection with sexual intimacy and IPV and to one another. The study was completely anonymous, meaning participants could answer the sensitive questions without fear of judgment. A common limitation to online surveys, lack of population description, was minimized by asking sociodemographic questions at the beginning of the questionnaire.

The sample size for males was quite small. Consequently, there was limited data for males who reported sexual dysfunction. The sample reported higher rates of ACEs, which may have skewed results. The online nature of the questionnaire could result in respondent bias.

CONCLUSIONS

1. Sexual intimacy and IPV are inversely related in young adults. Only Sexual IPV is significantly higher among females. In women, there is a significant relationship between history of sexual IPV, history of emotional IPV and sexual intimacy. This relationship was not observed in males. The average QoL score was significantly higher for males than for females; the average ACEs score was significantly higher for females than for males in the sample. Clinical presentation of FSD was observed in almost half of female participants. The high rates of IPV are a public health concern and show the need for further action for IPV prevention.
2. QoL is significantly related to sexual intimacy in women, but this was not found in men in the present sample. QoL is significantly lower in women who experience IPV victimization.
3. ACEs impact sexual intimacy, seen as a dose-response relationship, whereas number of ACEs increases, sexual intimacy decreases. ACEs are a significant risk factor for IPV of all types in women.
4. Sexual Function is a key contributor to QoL, quality of sex and sexual intimacy in both men and women.
5. The variables are interconnected with one another. There was a relationship between QoL and sexual function and QoL and ACEs, showing that both ACEs and sexual function have an impact on both QoL and sexual intimacy, further showing the relationship between QoL and sexual intimacy in young adults, and how factors that impact one, like sexual function or ACEs, can have a similar effect on the other.

PRACTICAL RECOMMENDATIONS

The following recommendations are suggested:

1. Interventions to support people exposed to ACEs need to be further researched and implemented. ACEs can seriously impact an individual if not taught to cope with their toxic stress and measured aren't take to make the child feel safe and protected. Every young patient should be screened for ACEs, and if an experience is reported, the child should be treated for toxic stress. The awareness also needs to be spread to parents, pediatricians and lawmakers:
 - a. These inventions should first be implemented in areas with the highest rates of child abuse and neglect.
 - b. Children in foster care are also extremely susceptible to ACEs, and thus social services should provide toxic stress interventions to help protect these children from more adverse experiences that are accompanied by toxic stress in childhood.
2. Primary care providers (PCP) should screen for sexual dysfunction in young adults. This can be done when the participant is filling out the standard paperwork at their doctors' visits, included with medical history. The FSFI/BSFI could be used and would only require patients to answer 19 or 11 questions. The results would allow the PCP to see if there is a cause for concern to either treat the patient directly or refer them to specialists. This is a small step that could greatly impact the well-being of young patients.
3. Implementation of widespread sexuality education in order to educate teenagers on the harmful effects of gender and social roles, to be aware of abusive and/or controlling behavior, and to be empowered to standup for themselves and others when faced with harmful rhetoric or abuse/intimidation tactics. These interventions may first be implemented in the areas with the highest rates of IPV.

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ANNEXES

Annex 1: Questionnaire

Section 1: Demographics:

1. Sex (record male/female as observed)
 - a. Male
 - b. Female
2. Are you transgender?
 - a. Yes
 - b. No
3. What is your date of birth
 - a. Day [][] Month [][] Year [][][][]
 - b. Unknown
4. How old are you?
 - a. [][]
5. Which of the following best describes your race/ethnicity? (Select all that apply)
 - a. Asian or Pacific Islander
 - b. Black or African American
 - c. Hispanic or Latino
 - d. Native American or Alaskan Native
 - e. White or Caucasian
 - f. Multiracial or Biracial
 - g. A race/ethnicity not listed here: _____
 - h. Refused
6. What is the zip code of where you spent the majority of your childhood/teen years?
 - a. _____
7. What is the zip code of where you are currently living?
 - a. _____
8. What is the highest level of education you have completed?
 - a. No formal education
 - b. Less than primary school
 - c. Primary school completed
 - d. High school completed
 - e. College/University completed
 - f. Post graduate degree
 - g. Refused
9. Which of the following best describes your main work status over the last 12 months?
 - a. Government employee
 - b. Non-government employee
 - c. Self-employed
 - d. Non-paid
 - e. Student
 - f. Homemaker
 - g. Retired
 - h. Unemployed (able to work)
 - i. Unemployed (unable to work)
 - j. Refused
10. What is your civic status? (If not married, skip to the next section)
 - a. Married (Please answer the following questions)
 - b. Living as couple
 - c. Divorced or separated
 - d. Single
 - e. Widowed (Go to Q.M2)

- f. Other: _____
 - g. Refused
11. Have you ever been married?
 - a. Yes
 - b. No
 - c. Refused
 12. At what age were you first married?
 - a. [][]
 13. At the time of your first marriage did you yourself choose your husband/wife?
 - a. Yes
 - b. No
 - c. Don't Know / Not sure
 - d. Refused
 14. At the time of your first marriage if you did not choose your husband/wife yourself, did you give your consent to the choice?
 - a. Yes
 - b. No
 - c. Refused
 15. If you are a mother or father what was your age when your first child was born?
 - a. Age [][]
 - b. Not applicable
 - c. Refused

Section 2: History of Childhood. The following questions are about experiences from your childhood (before 18 years of age)

When you were growing up, during the first 18 years of your life . . .

1. Did your parents/guardians understand your problems and worries?
 - a. Always
 - b. Most of the time
 - c. Sometimes
 - d. Rarely
 - e. Never
 - f. Refused
2. Did your parents/guardians really know what you were doing with your free time when you were not at school or work?
 - a. Always
 - b. Most of the time
 - c. Sometimes
 - d. Rarely
 - e. Never
 - f. Refused
3. How often did your parents/guardians not give you enough food even when they could easily have done so?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
4. Were your parents/guardians too drunk or intoxicated by drugs to take care of you?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

5. How often did your parents/guardians not send you to school even when it was available?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

When you were growing up, during the first 18 years of your life . . .

1. Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs?
 - a. Yes
 - b. No
 - c. Refused
2. Did you live with a household member who was depressed, mentally ill or suicidal?
 - a. Yes
 - b. No
 - c. Refused
3. Did you live with a household member who was ever sent to jail or prison?
 - a. Yes
 - b. No
 - c. Refused
4. Were your parents ever separated or divorced?
 - a. Yes
 - b. No
 - c. Not applicable
 - d. Refused
5. Did your mother, father or guardian die?
 - a. Yes
 - b. No
 - c. Don't know / Not sure
 - d. Refused

These next questions are about certain things you may actually have heard or seen IN YOUR HOME.

These are things that may have been done to another household member but not necessarily to you.

When you were growing up, during the first 18 years of your life . . .

6. Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
7. Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
8. Did you see or hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never

e. Refused

These next questions are about certain things YOU may have experienced.

When you were growing up, during the first 18 years of your life . . .

1. Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
2. Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
3. Did a parent, guardian or other household member spank, slap, kick, punch or beat you up?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
4. Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
5. Did someone touch or fondle you in a sexual way when you did not want them to?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
6. Did someone make you touch their body in a sexual way when you did not want them to?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
7. Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
8. Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

These next questions are about BEING BULLIED when you were growing up. Bullying is when a young person or group of young people say or do bad and unpleasant things to another young person. It is also bullying when a young person is teased a lot in an unpleasant way or when a young person is left out of things on purpose. It is not bullying when two young people of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.

When you were growing up, during the first 18 years of your life . . .

1. How often were you bullied?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never (Go to Q 3)
 - e. Refused
2. How were you bullied most often?
 - a. I was hit, kicked, pushed, shoved around, or locked indoors
 - b. I was made fun of because of my race, nationality or colour
 - c. I was made fun of because of my religion
 - d. I was made fun of with sexual jokes, comments, or gestures
 - e. I was left out of activities on purpose or completely ignored
 - f. I was made fun of because of how my body or face looked
 - g. I was bullied in some other way
 - h. Refused

This next question is about PHYSICAL FIGHTS. A physical fight occurs when two young people of about the same strength or power choose to fight each other.

When you were growing up, during the first 18 years of your life . . .

3. How often were you in a physical fight?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

These next questions are about how often, when you were a child, YOU may have seen or heard certain things in your NEIGHBOURHOOD OR COMMUNITY (not in your home or on TV, movies, or the radio).

When you were growing up, during the first 18 years of your life . . .

1. Did you see or hear someone being beaten up in real life?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
2. Did you see or hear someone being stabbed or shot in real life?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
3. Did you see or hear someone being threatened with a knife or gun in real life?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

These questions are about whether YOU did or did not experience any of the following events when you were a child. The events are all to do with collective violence, including wars, terrorism, political or ethnic conflicts, genocide, repression, disappearances, torture and organized violent crime such as banditry and gang warfare.

When you were growing up, during the first 18 years of your life . . .

1. Were you forced to go and live in another place due to any of these events?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
2. Did you experience the deliberate destruction of your home due to any of these events?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
3. Were you beaten up by soldiers, police, militia, or gangs?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused
4. Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs?
 - a. Many times
 - b. A few times
 - c. Once
 - d. Never
 - e. Refused

Section 3: Sexual History and Preferences

1. What best describes your sexual preference?
 - a. Straight or heterosexual
 - b. Homosexual
 - c. Bisexual
 - d. Other: _____
2. Do you feel confident in your sexuality?
 - a. Yes
 - b. No
 - c. Maybe
3. How many sexual partners have you had?
 - a. _____
- 4.
5. Do you feel comfortable talking to your medical provider about problems relating to sexual health? (Example: sexual function or concerns)
 - a. Yes
 - b. No
 - c. Maybe
6. Has a previous or current partner influenced your decision to seek reproductive healthcare?
 - a. Yes, they influenced me to go
 - b. Yes, they discouraged me from going
 - c. No

- d. Maybe
 - e. Other: _____
7. Has a previous or current partner influenced your decision to take birth control medication or use contraceptives (e.g. condoms)?
 - a. Yes, to seek birth control or contraceptive options
 - b. Yes, to not use birth control or contraceptives
 - c. No
 8. Have you ever been a victim of intimate partner violence or been in a relationship where you experienced emotional, physical or sexual abuse from your partner? (Select all that apply)
 - a. Yes, emotional abuse
 - b. Yes, physical abuse
 - c. Yes, sexual abuse
 - d. No
 9. Have you ever changed your mind during sexual intercourse or foreplay but did not tell your partner and proceeded anyways?
 - a. Yes
 - b. No
 10. If you answered yes to the previous explain why.
 - a. _____

The following questions relate to your current or most recent sexual partner:

1. What term best summaries the relationship with this partner?
 - a. Committed relationship (monogamous)
 - b. Open relationship (non-monogamous)
 - c. Friends with benefits
 - d. Marriage
 - e. Domestic partnership
 - f. Hookup/one-night stand
 - g. Other: _____
2. How would you rate the quality of sex?

	1	2	3	4	5	
Very Unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Satisfied

 - a.
3. Do you/did you feel comfortable sharing sexual expectations/desires with your partner?
 - a. Yes
 - b. Sometimes
 - c. Not really
4. Did you feel comfortable telling your partner things you dislike during sexual intercourse?
 - a. Yes
 - b. Sometimes
 - c. Not really

Section 4: Please answer the following questions if you identify as a woman

If you identify as a man, please skip to section 5. If you are a transgender woman who has male genitalia, please answer questions from the section you feel most comfortable with, though questions in section 5 will be more applicable for your current biological status.

1. Over the past 4 weeks, how often did you feel sexual desire or interest?
 - b. 5 = Almost always or always 4 = Most times (more than half the time)
 - c. 3 = Sometimes (about half the time)
 - d. 2 = A few times (less than half the time)
 - e. 1 = Almost never or never
2. Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?

- a. 5 = Very high
 - b. 4 = High
 - c. 3 = Moderate
 - d. 2 = Low
 - e. 1 = Very low or none at all
3. Over the past 4 weeks, how often did you feel sexually aroused (“turned on”) during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 5 = Almost always or always
 - c. 4 = Most times (more than half the time)
 - d. 3 = Sometimes (about half the time)
 - e. 2 = A few times (less than half the time)
 - f. 1 = Almost never or never
 4. Over the past 4 weeks, how would you rate your level of sexual arousal (“turn on”) during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 5 = Very high
 - c. 4 = High
 - d. 3 = Moderate
 - e. 2 = Low
 - f. 1 = Very low or none at all
 5. Over the past 4 weeks, how confident were you about becoming sexually aroused during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 5 = Very high confidence
 - c. 4 = High confidence
 - d. 3 = Moderate confidence
 - e. 2 = Low confidence
 - f. 1 = Very low or no confidence
 6. Over the past 4 weeks, how often have you been satisfied with your arousal (excitement) during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 5 = Almost always or always
 - c. 4 = Most times (more than half the time)
 - d. 3 = Sometimes (about half the time)
 - e. 2 = A few times (less than half the time)
 - f. 1 = Almost never or never
 7. Over the past 4 weeks, how often did you become lubricated (“wet”) during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 5 = Almost always or always
 - c. 4 = Most times (more than half the time)
 - d. 3 = Sometimes (about half the time)
 - e. 2 = A few times (less than half the time)
 - f. 1 = Almost never or never
 8. Over the past 4 weeks, how difficult was it to become lubricated (“wet”) during sexual activity or intercourse?
 - a. 0 = No sexual activity
 - b. 1 = Extremely difficult or impossible
 - c. 2 = Very difficult
 - d. 3 = Difficult
 - e. 4 = Slightly difficult
 - f. 5 = Not difficult
 9. Over the past 4 weeks, how often did you maintain your lubrication (“wetness”) until completion of sexual activity or intercourse?

- a. 0 = No sexual activity
 - b. 5 = Almost always or always 4 = Most times (more than half the time)
 - c. 3 = Sometimes (about half the time)
 - d. 2 = A few times (less than half the time)
 - e. 1 = Almost never or never
10. Over the past 4 weeks, how difficult was it to maintain your lubrication (“wetness”) until completion of sexual activity or intercourse?
- a. 0 = No sexual activity
 - b. 1 = Extremely difficult or impossible
 - c. 2 = Very difficult
 - d. 3 = Difficult
 - e. 4 = Slightly difficult
 - f. 5 = Not difficult
11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you reach orgasm (climax)?
- a. 0 = No sexual activity
 - b. 5 = Almost always or always 4 = Most times (more than half the time)
 - c. 3 = Sometimes (about half the time)
 - d. 2 = A few times (less than half the time)
 - e. 1 = Almost never or never
12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax)?
- a. 0 = No sexual activity
 - b. 1 = Extremely difficult or impossible
 - c. 2 = Very difficult
 - d. 3 = Difficult
 - e. 4 = Slightly difficult
 - f. 5 = Not difficult
13. Over the past 4 weeks, how satisfied were you with your ability to reach orgasm (climax) during sexual activity or intercourse?
- a. 0 = No sexual activity
 - b. 5 = Very satisfied 4
 - c. 4 = Moderately satisfied
 - d. 3 = About equally satisfied and dissatisfied
 - e. 2 = Moderately dissatisfied
 - f. 1 = Very dissatisfied
14. Over the past 4 weeks, how satisfied have you been with the amount of emotional closeness during sexual activity between you and your partner?
- a. 0 = No sexual activity
 - b. 5 = Very satisfied
 - c. 4 = Moderately satisfied
 - d. 3 = About equally satisfied and dissatisfied
 - e. 2 = Moderately dissatisfied
 - f. 1 = Very dissatisfied
15. Over the past 4 weeks, how satisfied have you been with your sexual relationship with your partner?
- a. 5 = Very satisfied
 - b. 4 = Moderately satisfied
 - c. 3 = About equally satisfied and dissatisfied
 - d. 2 = Moderately dissatisfied
 - e. 1 = Very dissatisfied
16. Over the past 4 weeks, how satisfied have you been with your overall sexual life?
- a. 5 = Very satisfied

- b. 4 = Moderately satisfied
 - c. 3 = About equally satisfied and dissatisfied
 - d. 2 = Moderately dissatisfied
 - e. 1 = Very dissatisfied
17. Over the past 4 weeks, how often did you experience discomfort or pain during vaginal penetration?
- a. 0 = Did not attempt intercourse
 - b. 1 = Almost always or always 2 = Most times (more than half the time)
 - c. 3 = Sometimes (about half the time)
 - d. 4 = A few times (less than half the time)
 - e. 5 = Almost never or never
18. Over the past 4 weeks, how often did you experience discomfort or pain following vaginal penetration?
- a. 0 = Did not attempt intercourse
 - b. 1 = Almost always or always 2 = Most times (more than half the time)
 - c. 3 = Sometimes (about half the time)
 - d. 4 = A few times (less than half the time)
 - e. 5 = Almost never or never
19. Over the past 4 weeks, how would you rate your level (degree) of discomfort or pain during or following vaginal penetration
- a. 0 = Did not attempt intercourse
 - b. 1 = Very high
 - c. 2 = High
 - d. 3 = Moderate
 - e. 4 = Low
 - f. 5 = Very low or none at all
20. Do you visit a gynecologist regularly? (at least once a year)
- a. Yes
 - b. No
 - c. Other: _____
21. Do you currently take birth control medication
- a. Yes, hormonal IUD (Brand names: Mirena, Kyleena, Liletta, or Skyla)
 - b. Yes, copper IUD (Paragard)
 - c. Yes, daily birth control pills
 - d. Yes, Depo-Provera (depo shot)
 - e. Yes, Nexplanon (small birth control implant in the arm)
 - f. No
22. When you have concerns regarding your sexual health how long does it take you to seek assistance from a medical professional?
- a. 1-2 days
 - b. 3-6 days
 - c. 1-2 weeks
 - d. 3-4 weeks
 - e. 1 or more months
 - f. I do not feel comfortable speaking about these issues with a healthcare provider
 - g. I have never been concerned about my sexual health
 - h. Other: _____

Section 5: If you indicated that you are a man, please answer the questions in this section.

If you are a woman and answered questions in part 4, please skip to section 5.

1. During the past 30 days, on how many days have you felt sexual drive?
 - a. 0 = None
 - b. 1 = Only a few
 - c. 2 = Some
 - d. 3 = Most

- e. 4 = Almost every day
2. During the past 30 days, how would you rate your level of sexual drive?
 - a. 0 = None at all
 - b. 1 = Low
 - c. 2 = Medium
 - d. 3 = Medium-high
 - e. 4 = High
 3. Over the past 30 days, how often have you had partial or full sexual erections when you were sexually stimulated in any way?
 - a. 0 = Not at all
 - b. 1 = A few times
 - c. 2 = Fairly often
 - d. 3 = Usually
 - e. 4 = Always
 4. Over the past 30 days, when you had erections, how often were they firm enough to have sexual intercourse?
 - a. 0 = Not at all
 - b. 1 = A few times
 - c. 2 = Fairly often
 - d. 3 = Usually
 - e. 4 = Always
 5. How much difficulty did you have getting an erection during the past 30 days?
 - a. 0 = No erections
 - b. 1 = A lot of difficulty
 - c. 2 = Some difficulty
 - d. 3 = Little difficulty
 - e. 4 = No difficulty
 6. In the past 30 days, how much difficulty have you had ejaculating when you have been sexually stimulated?
 - a. 0 = No sexual stimulation
 - b. 1 = A lot of difficulty
 - c. 2 = Some difficulty
 - d. 3 = Little difficulty
 - e. 4 = No difficulty
 7. In the past 30 days, how much did you consider the amount of semen you ejaculate to be a problem for you?
 - a. 0 = Did not climax
 - b. 1 = Big problem
 - c. 2 = Medium problem
 - d. 3 = Small problem
 - e. 4 = No problem
 8. In the past 30 days, to what extent have you considered a lack of sexual drive to be a problem?
 - a. 0 = Big
 - b. 1 = Medium
 - c. 2 = Small
 - d. 3 = Very small
 - e. 4 = No problem
 9. In the past 30 days, to what extent have you considered your ability to get and keep erection to be a problem?
 - a. 0 = Big
 - b. 1 = Medium
 - c. 2 = Small

- d. 3 = Very small
 - e. 4 = No problem
10. In the past 30 days, to what extent have you considered your ejaculation to be a problem?
- a. 0 = Big
 - b. 1 = Medium
 - c. 2 = Small
 - d. 3 = Very small
 - e. 4 = No problem
11. Overall, during the past 30 days, how satisfied have you been with your sex life?
- a. 0 = Very dissatisfied
 - b. 1 = Mostly dissatisfied
 - c. 2 = Neutral or mixed
 - d. 3 = Mostly satisfied
 - e. 4 = Very satisfied
12. When you have concerns regarding your sexual health how long does it take you to seek assistance from a medical professional?
- a. 1-2 days
 - b. 3-6 days
 - c. 1-2 weeks
 - d. 3-4 weeks
 - e. 1 or more months
 - f. I do not feel comfortable speaking about these issues with a healthcare provider
 - g. I have never been concerned about my sexual health
 - h. Other: _____

Section 6: Relating to mood: Answer the following questions regarding how you have felt for the last two weeks.

WHO-5 Well-being Index

Please respond to each item by marking <u>one box per row</u> , regarding how you felt in the last two weeks.		All of the time	Most of the time	More than half the time	Less than half the time	Some of the time	At no time
WHO 1	I have felt cheerful in good spirits.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
WHO 2	I have felt calm and relaxed.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
WHO 3	I have felt active and vigorous.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
WHO 4	I woke up feeling fresh and rested.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
WHO 5	My daily life has been filled with things that interest me.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

Annex 2: Standardized Questionnaire Scoring Guides

2.1 WHO (Five) Well-Being Index



Psychiatric Research Unit
WHO Collaborating Centre in Mental Health

WHO (Five) Well-Being Index (1998 version)

Please indicate for each of the five statements which is closest to how you have been feeling over the last two weeks. Notice that higher numbers mean better well-being.

Example: If you have felt cheerful and in good spirits more than half of the time during the last two weeks, put a tick in the box with the number 3 in the upper right corner.

<i>Over the last two weeks:</i>	All the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	At no time
1. I have felt cheerful and in good spirits	5	4	3	2	1	0
2. I have felt calm and relaxed	5	4	3	2	1	0
3. I have felt active and vigorous	5	4	3	2	1	0
4. I woke up feeling fresh and rested	5	4	3	2	1	0
5. My daily life has been filled with things that interest me	5	4	3	2	1	0

Scoring:

The raw score is calculated by totaling the figures of the five answers. The raw score ranges from 0 to 25, 0 representing worst possible and 25 representing best possible quality of life.

To obtain a percentage score ranging from 0 to 100, the raw score is multiplied by 4. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life.

Interpretation:

It is recommended to administer the Major Depression (ICD-10) Inventory if the raw score is below 13 or if the patient has answered 0 to 1 to any of the five items. A score below 13 indicates poor wellbeing and is an indication for testing for depression under ICD-10.

Monitoring change:

In order to monitor possible changes in wellbeing, the percentage score is used. A 10% difference indicates a significant change (ref. John Ware, 1995).

2.2 ACE-IQ Scoring Guide

Adverse Childhood Experiences International Questionnaire (ACE-IQ) Guidance for Analysing ACE-IQ

Context The ACE-IQ is designed to be integrated within broader health surveys to allow analysis of associations between adverse childhood experiences and subsequent health outcomes and health risk behaviours. This means that there are some key aspects of its design which need to be understood so that it is applied properly, and so that the data generated is useful.

Coding **Question codes**
As a standalone questionnaire the question numbers run from Q0 - Q8. However, as these questions will most often be integrated into other surveys we have coded them into six groups (C, M, P, F, A, V) to allow cross-referencing for researchers. Hence, whatever numbers are given to the questions when included within your own survey, please keep the letter codes present as well so that it's possible to easily refer between questionnaires.

Question codes:

Core questions: C

Marriage questions: M

Parents/guardian questions: P

Family questions: F

Abuse questions: A

Violence questions: V

Response codes

A numerical code has been ascribed to each possible response for a question.

This number has been placed within square brackets [] and is there to allow the data to be entered and more easily processed within a spreadsheet for data analysis.

Note: in all cases, [66] is the code for "not applicable"; [77] is the code for "don't know/not sure" and [88] is the code for "refused".

Analysis As the development of the ACE-IQ is at the pilot stage, we would like to adopt two methods of analysis to allow us to ascertain the most appropriate approach to determine an accurate overall ACE score for a participant. The first we'll call the binary version, the second the frequency version. In both cases the questions from the ACE-IQ about childhood experience have been sorted into 13 categories: emotional abuse; physical abuse; sexual abuse; violence against household members; living with household members who were substance abusers; living with household members who were mentally ill or suicidal; living with household members who were imprisoned; one or no parents, parental separation or divorce; emotional neglect; physical neglect; bullying; community violence; collective violence.

To calculate the ACE score using the binary version, check the participant's answers against Table 1 in "Calculating the ACE score from the ACE-IQ" (see below). If the participant answered in the affirmative (whether with once, a few times, or many times)

then that counts as a yes, and so that response should be circled, and a 1 placed in the final column. Once completed you will get an answer from 0 to 13. This is the ACE (binary) score for that individual.

To calculate the ACE score using the frequency version check the participant's answers against Table 2 in "Calculating the ACE score from the ACE-IQ" (see below). This time, only circle yes if the participant's answers **exactly match** the written question in the table (you'll note that for some questions only certain frequencies are included). As before, once completed you will get an answer from 0 to 13. This is the ACE (frequency) score for that individual.

Once you've calculated the two ACE scores, you can then look at the relationship between the ACE scores and the health outcome or health risk behaviour you're interested in by plotting a dose-response curve, or rather exposure (ACE score) - behaviour/health outcome curve. One important area to examine at this pilot stage is whether a relationship is seen between (binary) ACE score and health outcome/behavior or whether a relationship is only seen between ACE score and health outcome/behavior when the *frequency* ACE score is used (it is this latter phenomenon which is seen in the original ACE studies).

If you look at the Centre for Disease Control (CDC) website for the ACE study, you can see the different ways that the data generated can be analysed. Not only can you generate the dose-response curves discussed above, but you can also generate data on demographics and prevalence within certain populations from the ACE-IQ responses. See <http://www.cdc.gov/ace/data.htm>

Further details of health outcomes and behaviours which have been analysed to determine their relationship with exposure to ACEs can be found here: <http://www.cdc.gov/ace/outcomes.htm>

Calculating the ACE score from the ACE-IQ

Table 1: Calculating the ACE score from the ACE-IQ - BINARY VERSION

All questions are yes/no - if the participant entered **yes** for any of the categories, mark a 1 in the response column

Category	Q	Written question	Response
Physical abuse	A3 A4	Did a parent, guardian or other household member spank, slap, kick, punch or beat you up? OR Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc? Yes No	
Emotional abuse	A1 A2	Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you? OR Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house? Yes No	
Contact sexual abuse	A5 A6 A7 A8	Did someone touch or fondle you in a sexual way when you did not want them to? OR Did someone make you touch their body in a sexual way when you did not want them to? OR Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to? OR Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to? Yes No	
Alcohol and/or drug abuser in the household	F1	Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs? Yes No	
Incarcerated household member	F3	Did you live with a household member who was ever sent to jail or prison? Yes No	
Someone chronically depressed, mentally ill, institutionalized or suicidal	F2	Did you live with a household member who was depressed, mentally ill or suicidal? Yes No	
Mother Household member treated violently	F6 F7 F8	Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated? OR Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up? OR Did you see or hear a parent or household member in your home being	

		hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.? Yes No	
One or no parents, parental separation or divorce	F4 F5	Were your parents ever separated or divorced? OR Did your mother, father or guardian die? Yes No	
Emotional neglect	P1 P2	Did your parents/guardians understand your problems and worries? OR Did your parents/guardians really know what you were doing with your free time when you were not at school or work? Yes No* * Note: for this question, it's the "no" answer which scores a "1".	
Physical neglect	P3 P4 P5	Did your parents/guardians not give you enough food even when they could easily have done so? OR Were your parents/guardians too drunk or intoxicated by drugs to take care of you? OR Did your parents/guardians not send you to school even when it was available? Yes No	
Bullying	V1	Were you bullied? Yes No	
Community violence	V4 V5 V6	Did you see or hear someone being beaten up in real life? OR Did you see or hear someone being stabbed or shot in real life? OR Did you see or hear someone being threatened with a knife or gun in real life? Yes No	
Collective violence	V7 V8 V9 V10	Were you forced to go and live in another place due to any of these events? OR Did you experience the deliberate destruction of your home due to any of these events? OR Were you beaten up by soldiers, police, militia, or gangs? OR Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs? Yes No	

Table 2: Calculating the ACE score from the ACE-IQ - FREQUENCY VERSION

All questions are yes/no - if the participant entered **yes** for any of the categories, mark a 1 in the response column

Category	Q	Written question	Response
Physical abuse	A3 A4	Did a parent, guardian or other household member spank, slap, kick, punch or beat you up many times ? OR Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc many times ? Yes No	
Emotional abuse	A1 A2	Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you many times ? OR Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house many times ? Yes No	
Contact sexual abuse	A5 A6 A7 A8	Did someone ever touch or fondle you in a sexual way when you did not want them to? OR Did someone ever make you touch their body in a sexual way when you did not want them to? OR Did someone ever attempt oral, anal, or vaginal intercourse with you when you did not want them to? OR Did someone ever actually have oral, anal, or vaginal intercourse with you when you did not want them to? Yes No	
Alcohol and/or drug abuser in the household	F1	Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs? Yes No	
Incarcerated household member	F3	Did you live with a household member who was ever sent to jail or prison? Yes No	
Someone chronically depressed, mentally ill, institutionalized or suicidal	F2	Did you live with a household member who was depressed, mentally ill or suicidal? Yes No	
Mother Household member treated violently	F6 F7 F8	Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated many times ? OR Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up a few times or many times ? OR Did you see or hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife,	

		whip etc. a few times or many times? Yes No	
One or no parents, parental separation or divorce	F4 F5	Were your parents ever separated or divorced? OR Did your mother, father or guardian die? Yes No	
Emotional neglect	P1 P2	Did your parents/guardians rarely or never understand your problems and worries? OR Did your parents/guardians rarely or never really know what you were doing with your free time when you were not at school or work? Yes No	
Physical neglect	P3 P4 P5	Did your parents/guardians not give you enough food many times even when they could easily have done so? OR Were your parents/guardians many times too drunk or intoxicated by drugs to take care of you? OR Did your parents/guardians not send you to school many times even when it was available? Yes No	
Bullying	V1	Were you bullied many times? Yes No	
Community violence	V4 V5 V6	Did you see or hear someone being beaten up in real life many times? OR Did you see or hear someone being stabbed or shot in real life many times? OR Did you see or hear someone being threatened with a knife or gun in real life many times? Yes No	
Collective violence	V7 V8 V9 V10	Were you ever forced to go and live in another place due to any of these events? OR Did you ever experience the deliberate destruction of your home due to any of these events? OR Were you ever beaten up by soldiers, police, militia, or gangs? OR Was a family member or friend ever killed or beaten up by soldiers, police, militia, or gangs? Yes No	

2.3 BFSI Scoring Guide

A BRIEF SEXUAL FUNCTION INVENTORY

SEXUAL DRIVE - Lets define sexual drive as a feeling that may include wanting to have a sexual experience (masturbation or intercourse) thinking about having sex or feeling frustrated due to lack of sex.

1.) During the past 30 days, on how many days have you felt sexual drive?

No Days Everyday	Only A Few Days	Some Days	Most Days	Almost
1	2	3	4	5

2.) During the past 30 days, how would you rate your level of sexual drive?

Not At All	Low	Medium	Medium High	High
0	1	2	3	4

ERECTIONS

3.) Over the past 30 days, how often have you had partial or full sexual erections when you were sexually stimulated in any way?

Not At All	A Few Times	Fairly Often	Usually	Always
0	1	2	3	4

4.) Over the past 30 days, how often have you had erections; how often were they firm enough to have sexual intercourse?

Not At All	A Few Times	Fairly Often	Usually	Always
0	1	2	3	4

5.) How much difficulty did you have getting an erection during the last 30 days?

No Erections At All	A Lot	Some	Little	No Difficulty
0	1	2	3	4

EJACULATION

6.) Over the past 30 days how much difficulty have you had in ejaculating when you have been sexually stimulated?

Have Not Had Sexual Stimulation In The Past Month	A Lot	Some	Little	No Difficulty
0	1	2	3	4

7.) In the past 30 days, how much did you consider the amount of semen you ejaculate?

Did Not Climax	Big Problem	Medium Problem	Small Problem	No Problem
0	1	2	3	4

PROBLEM ASSESMENT

8.) In the past 30 days, to what extent have you considered a lack of sex drive to be a problem?

Big Problem	Medium Problem	Small Problem	Very Small Problem	No Problem
0	1	2	3	4

9.) In the past 30 days, to what extent have you considered your ability to get and keep an erection a problem?

Big Problem	Medium Problem	Small Problem	Very Small Problem	No Problem
0	1	2	3	4

10.) In the past 30 days, to what extent have you considered your ejaculation to be a problem?

Big Problem	Medium Problem	Small Problem	Very Small Problem	No Problem
0	1	2	3	4

OVERALL SATISFACTION

11.) Overall during the past 30 days, how satisfied have you been with your sex life?

Very Dissatisfied	Mostly Dissatisfied	Neutral Or Mixed	Mostly Satisfied	Very Satisfied
0	1	2	3	4

2.4 FSFI Scoring Guide

Appendix 2. Female Sexual Function Index Domain Scores and Full Scale Score

The individual domain scores and full scale (overall) score of the FSFI can be derived from the computational formula outlined in the table below. For individual domain scores, add the scores of the individual items that comprise the domain and multiply the sum by the domain factor (see below). Add the six domain scores to obtain the full scale score. It should be noted that within the individual domains, a domain score of zero indicates that the subject reported having no sexual activity during the past month. Subject scores can be entered in the right hand column.

Domain	Questions	Score Range	Factor	Minimum Score	Maximum Score	Score
Desire	1, 2	1 – 5	0.6	1.2	6.0	
Arousal	3, 4, 5, 6	0 – 5	0.3	0	6.0	
Lubrication	7, 8, 9, 10	0 – 5	0.3	0	6.0	
Orgasm	11, 12, 13	0 – 5	0.4	0	6.0	
Satisfaction	14, 15, 16	0 (or 1) – 5	0.4	0.8	6.0	
Pain	17, 18, 19	0 – 5	0.4	0	6.0	
Full Scale Score Range				2.0	36.0	

FSFI Questionnaire. Available at:

www.fsf-questionnaire.com/FSFI%20Scoring%20Appendix.pdf. Retrieved December 19, 2011. Reproduced with permission from the publisher (Taylor & Francis Ltd, <http://www.tandf.co.uk/journals>). Also published in Reed SD, Guthrie KA, Joffe H, Shifren JL, Seguin RA, and Freeman EW. Sexual function in nondepressed women using escitalopram for vasomotor symptoms: a randomized controlled trial. *Obstet Gynecol* 2012;119:527–38.

Annex 3: Bioethics Approval



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Medicinos akademijos (MA)
Antrosios pakopos studijų programa –
Taikomoji visuomenės sveikata (studijos
užsienio kalba)
I k. magistrantui White Renee
Darbo vadovė lekt. Lolita Šileikienė
LSMU Profilaktinės medicinos katedra

2021.06.02

Nr. BEC-TVS(M)-163

DĖL PRITARIMO TYRIMUI

LSMU Bioetikos centras, įvertinęs White Renee pateiktus dokumentus, magistranto tiriamajam darbui tema „Factors affecting perceived quality of sexual intimacy in young adults“ pritaria*.

dr. Eimantas Peičius

* Pastaba: šis pritarimas neatleidžia tiriamąjį mokslinį darbą vykdančių asmenų nuo prievolės laikytis Bendrojo duomenų apsaugos reglamento nuostatų ir nuo atsakomybės gauti nacionalinio arba regioninio bioetikos komiteto leidimą, jei toks leidimas būtinas pagal LR Biomedicininį tyrimų etikos įstatyme numatytus reikalavimus.