Rejection Sensitivity as a Mediator of Comprehensive Sexuality Education and Intimate Partner Violence

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Abstract

Intimate Partner Violence (IPV) is a widespread problem that often begins in adolescence and can cause severe struggles for both perpetrators and victims. IPV can be mitigated, however, through some preventative factors, such as education and understanding of IPV (Center for Disease Control [CDC], 2024). One potential preventative factor of IPV is comprehensive sexuality education (CSE), a curriculum that includes the most important aspects of sexual and relational situations that individuals experience during a lifetime (Miedema et al., 2020). This study explores CSE as a potential protective factor against IPV through the mediating role of rejection sensitivity (RS). Following the development and testing of a measure of CSE, a cross-sectional survey was conducted with 340 U.S. participants, aged 18–25, who had been in a romantic relationship lasting at least two months. Participants reported on CSE discussion topics they recall from their schooling, current RS levels, and experiences with IPV perpetration and victimization. Mediation analyses using R Studio revealed that experience with CSE was significantly associated with lower levels of IPV perpetration and victimization through reduced RS. Significant indirect effects were found across multiple IPV outcomes, including both perpetration and victimization of psychological aggression and victimization of sexual coercion. These effects were strongest for the CSE subscale emphasizing power dynamics. The findings suggest that CSE may reduce IPV risk by targeting underlying psychological vulnerabilities like RS.

Keywords: intimate partner violence, rejection sensitivity, comprehensive sexuality education

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One in three people in the United States have experienced contact sexual violence, physical violence, and/or stalking (Smith et al., 2018), and almost half (47%) have been the recipient of psychological violence, such as coercive behavior, from an intimate partner at some point during their lifetime (Smith et al., 2017). These behaviors are examples of intimate partner violence (IPV), defined by the U.S. Centers for Disease Control as "physical violence, sexual violence, stalking, and psychological aggression (including coercive tactics) by a current or former intimate partner (i.e., spouse, boyfriend/girlfriend, dating partner, or ongoing sexual partner)" (Breiding et al., 2015). Cupach and Spitzberg (2011) consider any behavior intended to inflict harm on someone in an ongoing close relationship with the perpetrator to be IPV, with IPV being part of the "dark side" of interpersonal communicating and relating.

IPV experiences are most common during adolescence or early adulthood and are widespread throughout the U.S. According to the National Intimate Partner and Sexual Violence Survey, a nationally representative survey of American adults, 71% of female victims and 55.8% of male victims experienced their first form of IPV before the age of 25 (Smith et al., 2018). Across age groups, individuals 16-24 years old have the highest rates of IPV victimization with about 20% of U.S. American college students report experiencing some form of IPV during their life (National Coalition Against Domestic Violence, 2015). Moreover, more than one in four women (28.3%) and one in five men (21.6%) reported perpetrating physical violence in an intimate relationship at some point in their life (Desmarais, 2012).

As IPV is so prevalent in the U.S., particularly for young adults, and its effects so detrimental, it is critical to understand the risk factors for both its victims and the perpetrators.

Risk factors are defined as any aspect of personal behavior, lifestyle, environmental exposure, or inherited characteristics that are known to be associated with a certain condition (National Institute of Health, 1988). Through reducing risk factors, we can reduce instances of IPV. Victimization-specific risk factors include being female, economically disadvantaged, and having severe mental illness (Dillow, 2023). Risk factors for perpetration include low self-esteem, heavy alcohol and drug use, antisocial personality traits, poor behavioral control and impulsiveness, hostility towards women, and belief in strict gender roles such as male dominance and aggression in relationships (CDC, 2024). There are also community and societal risk factors including emphasis on traditional gender norms and inequality, income inequality, communities with limited educational and economic opportunities, and weak community or societal norms against IPV (CDC, 2024).

One primary risk factor of both victimization and perpetration of IPV is a high level of rejection sensitivity (RS). RS refers to how strongly a person reacts to acts of rejection, including the dismissal or refusal of ideas, people, or offers (Inman & London, 2021). Individuals with high RS levels may be at greater risk of being a victim of IPV, as they are more likely to accept disagreeable, hostile, or aggressive behavior to prevent rejection (Inman & London, 2021), and/or they are more likely to perceive their partner's dismissal as unacceptable and lash out on their partner violently. As a risk factor for both victimization and perpetration, lowering levels of RS could therefore have a significant impact of the prevalence of IPV.

Downey and Feldman's (1996) rejection sensitivity model explain that levels of RS are shaped by experiences during childhood, but further research shows that RS levels can change throughout an individual's life (Kang, 2006). Importantly, research suggests that demonstrating or teaching about positive relationships at a young age may lessen certain risk factors (Bradford

et al., 2014; Velez, 2020). One proposed way to do so is through comprehensive sexuality education (CSE; Miedema et al., 2020). This form of education has the potential to decrease levels of RS, as CSE covers topics related to rejection and how to cope with it. As such, CSE has the potential to decrease risk for IPV by lowering levels of RS.

Research that endeavors to assess the role of CSE on IPV reduction is hampered, however, as there are no measures that capture what aspects of CSE education young people have been taught in school and/or what, if anything, they remember discussing in their classes. To help with this limitation, in this thesis I develop such a measure and use it in a model that incorporates RS as a mediator in explaining the connection between SCE and IPV. To build the case for this study, I discuss further what RS is and how it develops throughout adolescence and changes over a lifetime. I explain the impact that RS can have on romantic relationships and how high RS levels are a significant risk factor for the receipt and perpetration of IPV. I overview the risks of perpetration and victimization of IPV, explaining the impact and protective or preventative factors. I then discuss CSE more fully, delineate the current limitations on CSE within the U.S. sexuality education system, and discuss the Netherlands' work to incorporate CSE into their school system, as the differences between these two countries suggests the possible impact of CSE. I outline the four themes of CSE and how these could connect to RS. I then present a study to explore whether RS mediates the relationship between CSE and IPV.

Rejection Sensitivity

The Rejection Sensitivity Model

Rejection sensitivity (RS) is "the disposition to anxiously expect, readily perceive, and intensely react to rejection" (Romero-Canyas et al., 2010, p.119) and involves how anxious individuals are about a situation and their expectations of how the situation will go, which leads

to how they ultimately react. RS has three main components: “hypervigilance to rejection cues, an inability to differentiate between rejection cues and social cues, and the implementation of defensive mechanisms to tackle rejection cues” (Mishra & Allen, 2023, para. 2). The combination of these factors leads to strong emotional reactions to perceived or actual rejection, as individuals with high levels of RS decode messages with hypervigilance causing cues to be unjustifiably perceived as rejection scenarios. Once this occurs, those with high RS are more likely to encode messages with great defensiveness, aggression, or high emotion (Mishra & Allen, 2023).

Downey and Feldman (1996) created the RS model with the intent of understanding why certain individuals are more susceptible to having maladaptive responses to rejection experiences. Their model aims to be widely applicable, capturing both childhood experiences and the development of RS as well as how high levels of RS influence current intimate relationships. Downey and Feldman conceptualized RS as a cognitive-affective processing disposition, explaining that such patterns of information processing (including communication encoding and decoding) could influence behavior in different situations. Their model establishes how “early rejection experiences shape (a) the expectations, values and concerns, interpretative biases, and self-regulatory strategies that underline particular interpersonal contexts and (b) the dynamic relations among these cognitive-affective variables and interpersonal behavior” (Downey & Feldman, 1996, p. 1328). A key factor of this model is the implication that RS can begin in early childhood and develop throughout a lifetime.

Rejection Sensitivity and Maturation of the Adolescent Brain

Emerging adults with early rejection experiences tend to have high levels of RS, which causes higher levels of emotional arousal. Strong emotional arousal prevents high RS individuals

from engaging in controlled cognitive processing, leading to aggressive behaviors (Choi & Lim, 2023; Jouriles et al., 2012). When examining functional magnetic resonance imaging (fMRI) results, Kross et al. (2007) found that prefrontal structures in the brain are activated in low RS individuals to regulate distress associated with viewing rejection-related images. The researchers noted that low RS individuals' scans showed significantly more activity in their left inferior and right dorsal frontal regions of their brain. This activation of the prefrontal cortex suggests there is critical thought and decision-making that occurs when viewing rejection-based stimuli. Conversely, high RS patients' scans showed little to no activation of these areas (Kross et al., 2007).

The prefrontal cortex is one of the last brain regions to reach maturation, with brain development usually completing around 25 years. Adolescence is also when the frontal lobes develop problem solving, judgment, impulse control, and social and sexual behaviors (Arain et al., 2013). This development of the adolescent brain may play a key factor in how individuals grow to have different levels of RS. As adolescence is a critical time in RS development as well as frontal lobe development, it suggests that this would be ideal time to intersect with new learning for how to manage rejection such as presented in CSE curricula.

Downey and Feldman's (1996) rejection sensitivity model attributes rejection sensitivity to childhood experiences. Their model explains that, if a child's needs are repeatedly rejected by their caregivers, the child will also expect significant others to reject them later in life. Empirical evidence supports this connection between childhood attachment styles and RS by exploring how parental rejection increases susceptibility to RS (Ibrahim et al., 2015; Khaleque et al., 2019). Additionally, early attachment to parents influences romantic relational aggression both directly and indirectly through rejection sensitivity. Individuals with parents who were inconsistent or

indifferent in their parenting may worry that their romantic relationships would be unstable as well and therefore anticipate rejection from their partners. To manage their anxiety, people with high RS are more likely to use relational aggression (Choi & Lim, 2023).

Rejection Sensitivity and Relationships

Although RS may develop originally due to parental rejection or childhood experiences, the rejection sensitivity model also accounts for behaviors due to adult circumstances (Downey & Feldman, 1996). The model explains that people who are in a relationship and expect rejection from their partner are more likely to "perceive intentional rejection in their partner's insensitive or ambiguous behaviors,...feel insecure and unhappy about their relationship," and react to their partner's perceived rejection with hostility, controlling behavior, jealousy, or decreased levels of support (Downey & Feldman, 1996, p. 1328).

Decoders with high levels of RS often interpret messages as more rejection-based than intended by encoders, which can lead to harmful behaviors and negative relationship outcomes. Specifically, relational closeness, romantic expression, and perceived partner satisfaction all have significant negative associations with rejection sensitivity (Mishra & Allen, 2023). Downey and Feldman (1996) found that, in a sample of college students, those with high RS levels were more likely to attribute harmful intent to their new romantic partner's insensitive behavior than did students with lower RS levels. Downey and colleges (1998) also researched whether people's anxious expectations of rejection towards their romantic partners predict breakup. Their study involved a daily diary of dating couples and one-year follow up interviews and determined that higher RS levels predicted relationship breakup. Even when controlling for participants' partners' RS levels, commitment, and relational satisfaction, the research team found that high RS levels still predicted a breakup.

Relationships may also change the levels of RS an individual experiences. There is evidence that high relationship satisfaction is associated with significant reductions in RS, whereas lower relationship satisfaction overtime may lead to an increase in RS (Kang, 2006). Moreover, Kang found that RS decreased for individuals who were in satisfying relationships regardless of how long the relationship was. Overall, Kang's study provided preliminary evidence that relationship satisfaction could reduce RS and that more satisfactory relationships over time could lower RS levels in general.

Importantly, individuals with high RS levels could have a high-risk factor of being a victim or perpetrator of IPV (Inman & London, 2021). When studying Australian young adults in romantic relationships, Edwards and Barber (2010) found that individuals with high RS were less likely to use a condom, despite preferring more frequent condom use, if they believed their partner did not want to use one. Their study supported the larger model of RS, which describes that an individual is more likely to conform to the perceived wishes of their partner if they have higher levels of RS (Edwards & Barber, 2010). Individuals with high RS are also more likely to stay with their partner regardless of social perception.

When investigating RS as a moderator between perceptions of (dis)approval from an individual's social network about their relationship and their relationship commitment, Besikci et al. (2016) found that those who had lower levels of RS also had lower levels of commitment when they perceived less approval for their relationship. Conversely, individuals with high RS showed greater levels of relational commitment when they perceived less approval from their social network (Besikci et al., 2016). Overall, high RS individuals tend to stay with their partners out of fear of rejection despite how they perceive their partner or how their partner acts.

High RS levels can also elicit aggressive behavior and have been associated with violence in intimate relationships. Ayduk and colleagues (1999) found that, in a laboratory setting, even after reading about their date's dislike of spicy foods, participants with higher levels of RS gave a potential date who had rejected them previously in the study more hot sauce than did low RS participants. The hot sauce acted as a measure for aggression, showing a causal link between aggressive behavior and RS. In experimental priming studies with female samples, the same research showed that high RS participants were able to pronounce hostility related words faster after being primed with rejection related terms, compared to neutral or negative primes. These priming effects were not found in individuals with low RS levels (Ayduk et al., 1999). As such, if there is an increase in aggressive or hostile behavior because of higher levels of RS, one is at a higher risk of perpetration for IPV.

Intimate Partner Violence

Risks of Perpetration and Victimization of Intimate Partner Violence

Bandura's (1978) social learning theory supports the idea of intergenerational transmission of IPV. This theory describes that children learn how to behave by modeling the behavior from the people around them. Boys who see their fathers abuse their mothers are more likely to perpetrate IPV against their own partners in the future. Conversely, girls who witness the same behavior are more likely to be victimized in their future relationships (Murrell et al., 2007). Furthermore, women who witnessed any IPV threats or interparental physical violence during childhood were at increased risk of nonreciprocal, male-against-female IPV. Women who have witnessed any type of childhood family violence, including child abuse, were also more than 1.5 times more likely to engage in reciprocal IPV (McKenney et al., 2009).

Adverse childhood experiences (ACEs) involving conflict have also been likely to increase the intensity of conflict to higher levels of abuse (MacIntosh, 2019). Building off former research, Baller and Lewis (2021) connected ACEs to perception of communication skills in intimate relationships and subscales of IPV. They found that the more ACEs one experienced, the more likely they were to have poor perception of communication skills in adult intimate relationships. They also found that women with more ACEs reported less satisfaction with communication quality and increased perpetration and victimization of sexual coercion from their intimate partners (Baller & Lewis, 2021). In sum, IPV can have extreme health and economic impacts on victims, particularly once already a witness to past IPV. This research also emphasizes the importance of demonstrating or teaching about positive relationships at a young age.

Impact and Protective Factors of IPV

Survivors of IPV can have physical and mental health consequences such as posttraumatic stress, physical injury, or unintended pregnancy. Negative health conditions have also been linked to IPV including high blood pressure, chronic pain, poor physical and mental health, and difficulty sleeping (Gilbert et al., 2022). Female penetrative sexual victimization and male stalking victimization, specifically, are associated with the most negative health conditions (Gilbert et al., 2022). Victims can also experience employment outcomes, like leaving a job to avoid a violent partner or due to poor health, and increased mortality rates (Jordan et al., 2014). Undergraduate students who have been assaulted also tend to have lower average grades than do their peers. This can make it more challenging for them to get employment, housing, and scholarships (Jordan et al., 2014).

Protective factors against IPV include having strong social support networks, living in communities with safe, stable housing, access to medical and mental health care services, and seeing and having positive relationships with other people (CDC, 2024). As RS is a risk factor for IPV, limiting levels of RS through community intervention could be highly beneficial. One potential way to reduce RS is through relationship education, such as CSE. Much of the risk and protective factors of IPV coincide with the values and education of the community that an individual is raised in This is critical to understand as the U.S. is very divided in terms of how communities view education and specific values that could influence IPV risk. One example of this is what adolescents are taught in their sexual education.

Comprehensive Sexuality Education

Defining CSE: The Four Themes

Comprehensive Sexuality Education (CSE) is a broad term and is not well defined. To help with this, Miedema and colleagues (2020) studied what "comprehensive" means regarding sexuality education. The researchers used frequently cited guidelines from UNESCO, UNIFPA, IPPF, and the Sexuality Information and Education Council of the United States (SIECUS) to determine four categories or main themes for defining CSE:

- *Sexual reproductive health-related concerns and practices*: This theme includes understanding sexual and reproductive health. Teachings on this theme can range from teenage pregnancy to HIV/AIDS and other sexually transmitted infections. It is critical to note that this category is more than just disease or dysfunction but, rather, extends to encompass a wider breadth of well-being in relation to sexuality (Miedema et al., 2020).
- *Gender equality and power relations:* This theme involves discussion of social norms about gender and how such norms influence people as well as how power can impact

decision making and control of one's body. Topics in this theme could include workplace harassment or equal pay. Another key concept in this section would be understanding gender through three main topics: "the social construction of gender and gender norms," "gender quality, stereotypes and bias," and "gender-based violence" (UNESCO, 2018).

- *Young people's rights, participation, and agency*: This theme centers on building life skills related to being informed of one's sexuality, health, and rights. It stresses that everyone is entitled to make their own choices and has a responsibility to respect others' rights and choices. Such responsibilities and choices may include topics such as access to sexual health resources and medically accurate information (Miedema et. al, 2020).
- *Positive sexualities and respectful relationships*: This theme includes discussion of sexual pleasure, healthy relationships, and respect for gender identity, race, ability levels and sexual orientations. The intention of this theme is to guide young people to build healthy relationships with others regardless of their ability, race, or gender identity (Miedema et. al, 2020).

Miedema et al. acknowledge that there is a lot of "gray area" surrounding the categories and the topics within them but propose an ideal classroom situation that includes aspects from all four themes. Ideally, CSE fosters an understanding of power dynamics, positive relations, respect, rights, and responsibilities, all of which can have positive implications for decreasing rejection sensitivity.

"Love Talks" and Developing CSE Curricula

Aspects of CSE have been adapted in some other countries for decades. In 1984, for example, the Austrian government asked the Austrian Institute for Family Studies (ÖIF) to conduct a preliminary study to identify areas of sexuality education in that needed improvement.

From that study, Cizek and Schattovits developed a CSE model called "Love Talks," which relies on members of the school community (teachers, parents, students) coming together to create a CSE curriculum that works for their specific school district (cited in Miller & Cizek, 2006). Part of what makes the Love Talks program so unique is that, rather than assuming the problem of sex education is the lack of knowledge, the curriculum assumes it is a problem of communication (Wilgen & Kapella, 2007). This model therefore focuses on communication and relationship building, with the curriculum being built on a "foundation of communication and respect" (Wilgen & Kapella, 2007, p. 22). Ultimately, the Love Talk model aims to create active participants in comprehensive sexuality education and is instrumental in gaining community support for CSE.

As sexuality education can be taboo, many parents want a say in what their children learn. Few public-school districts in the U.S. require CSE, nor do they integrate parents into the curriculum-planning process, however (Wilgen & Kapella, 2007). At the same time, the rates of parents discussing sexually transmitted diseases and birth control (both important topics in sexuality education) with their children decreased by almost half in 2002 as compared to 1995 for female adolescents (Robert & Sonenstein, 2009). If parents have fewer conversations related to sexuality education, it arguably increases the need for CSE in schools.

The Current U.S. Sexuality Education System

The U.S. sexuality education system is not federally mandated, meaning that state legislatures decide what restrictions and requirements, if any, create its curriculum or if "sex ed" is taught in schools at all. Within this, there is significant debate surrounding what should be taught to students about health and sexual health topics. Some states have incorporated sexuality education requirements. According to the National Conference of State Legislatures (2020), 39

states require HIV and/or sexual education to be covered in public K-12 schools (if sexuality education is taught), though only 18 of those require the information to be medically accurate. Thirty-seven states have bills that mandate abstinence from sexual activities be stressed during sexual education. Only 12 states require sexuality education that includes information on consent, and five states have laws that require CSE: California, Oregon, and Washington mandate that CSE is taught in all schools, whereas Colorado and Illinois prescribe CSE if schools decide to offer any sex education (National Conference of State Legislatures, 2020). Thus, the state a student attends for K-12 education plays a large role in the knowledge the student gains from sexuality education through school.

Some states have strong restrictions. For instance, in 2022, Florida Governor Ron DeSantis signed the law HB 1557, commonly referred to as the "Don't Say Gay" bill. This law prohibits classroom instruction regarding gender identity and sexual orientation. For example, in K-12 public schools, one's pronouns must be those they were assigned to as their sex by birth rather than how they identify. Additionally, these laws create strict guidelines and an approval system for how to discuss HIV/AIDS, its symptoms and how it develops (The Florida Senate, 2022). Including Florida, four states have laws that discriminate explicitly against members of the LGBTQ+ community.

Given the variation across states, it is critical to understand how the kind of education students receive impacts their lives, specifically their interpersonal relationships. For example, teenagers in the U.S. are far more likely to give birth than any other industrialized country in the world. Among more developed countries, Russia has the next highest teen birth rate after the U.S., but an American teen is still about 25% more likely to give birth than a teen in Russia (Kearney & Levine, 2012). States that taught CSE or covered HIV education and abstinence

along with contraception and condom use tended, however, to have the lowest teen pregnancy rates (Stanger-Hall & Hall, 2011). Conversely, states with abstinence-only sexual education laws were found to be significantly less successful in preventing and had the highest rates of teen pregnancy (Stanger-Hall & Hall, 2011). This suggests that CSE has a more positive impact while abstinence-only education is not as preventative.

Comprehensive Sexuality Education in the Netherlands

The Netherlands are considered to have one of the most successful sexuality education programs in the world where students begin CSE around four years old. The Dutch use the term "sexuality education," because students will not hear about "sex" until the school deems the age-appropriate time. Instead, the early curriculum focuses on sexual diversity and assertiveness. For example, kindergarteners are asked about the kinds of things you can do "when you love someone" (PBS Newshour, 2015). The children generate ideas such as hugging, getting married, and kissing. Then, they are shown picture books where there is hugging while the teacher explains the kids are always allowed to refuse hugs and emphasizes the importance of asking for consent.

All primary schools in the Netherlands are required by law to provide sexuality education and, whereas they have flexibility in what they teach, their goal is to help their students to develop skills to protect against sexual violence, abuse, and coercion. To help clarify what this looks like in the classroom, a video recording of Dutch 11-year-olds receiving a sexuality education lesson shows the teacher asking the class "What is really being in love? How do you feel when you really like someone" (PBS, 2015). The kids responded with a variety of comments including finding someone "nicer than just regular nice," becoming "shy," or not knowing what to say. When the students were asked if they had been in love, numerous kids raised their hands.

These ideas on how to understand love and relationships start early for Dutch children. The Dutch students were also told that sometimes dating involves breaking up with someone. They were asked "What is a good way to break up with someone?" The class proceeded to discuss respect and ways to communicate with partners in a way that is conscious of everyone's emotions (PBS, 2015). Such conversations involve talk about relationships, rejection, and ways to be respectful. Students and teachers also discuss, if violence or unwanted behavior does occur, how the students can mitigate the negative impacts and prevent it from happening again.

Comparing the Netherlands to the U.S.

Students in the Netherlands are encouraged to learn and practice good relational communication skills far earlier than students typically are in the U.S. Whereas CSE in the Netherlands starts early, most sexual education in the U.S. occurs in high school. Importantly, however, when interpersonal violence data from both countries are compared, the Netherlands are consistently lower. Just over 47% of women who have been with a partner in the U.S. have experienced sexual violence, physical violence, or stalking victimization by an intimate partner (The National Intimate Partner and Sexual Violence Survey, 2016) in contrast to 33% of women in the Netherlands (Eurostat, 2022). Additionally, 17% of women in the Netherlands report experiencing coercive control, entrapment, and/or psychological violence by a partner sometime in their lifetime in comparison to 46.2% in the U.S. Although claims about causality cannot be made from these statistics, CSE could be one reason there is such a difference.

A study comparing the U.S. American and Dutch female college students also found differences in overall ideas surrounding motivations and the act of sex. Brugman and colleagues (2010) surveyed 151 female students attending a U.S. university and 138 female students attending a Dutch university about their experiences with sexuality education. Thirty five percent

of the U.S. students reported having “abstinence only until marriage” enforced education, whereas only 7% of Dutch students reported that (Brugman et al., 2010).

In addition to the survey, the researchers conducted 20 interviews with female U.S. and Dutch college students, and they found differing themes related to sexual behavior, attitudes, and comfort with sexual experiences. The themes of the U.S. women related to sexual behavior included being motivated to have sex by their peers and hormones, feeling unprepared for sex, focusing on satisfying their male partner, and that he felt in charge of the interaction. Alternatively, the Dutch women said they were motivated by love and felt in control of their bodies and ready for sexual intercourse. The U.S. interviewees also felt warned against having sex, received less support from parents, felt influenced by the media, and found sex to be “dirty.” The Dutch interviewees discussed having parents as their support and educators, receiving support from doctors and teachers, having access to books at young ages and felt both them and their partner enjoyed sex and were not ashamed (Brugman et al., 2010). In both samples, the interactions they discussed were considered to be consensual, but the words and descriptions of what is usually viewed as an affectionate activity differed greatly depending on the country.

These studies emphasize the differences in ideas around sexual learning, experiences, and relationships in the U.S. and the Netherlands. As noted, sexuality education begins far earlier in the Netherlands than in the U.S., which may be why their data and overall mindset regarding sexual experiences and relationships in general are more consensual, more communicative, and include more discussion about what positive relationships look like. Moreover, many of the U.S. based interviewees reported high levels of unwanted situations in their sexual experiences whereas the Dutch responses were far more mutual and appreciated. Potentially, creating more

specific and required guidelines for CSE in the U.S. and starting this education early could reduce intimate partner violence in the U.S.

Summary and Hypothesis

Ultimately, research has shown that high levels of RS can have an impact on emotional regulation, low levels of which cause difficulties in maintaining healthy relationships. As a result, high levels of RS are a significant risk factor for IPV victimization and perpetration (Downey & Feldman, 1996; Inman & London, 2021). Adolescence is a critical period for lowering levels of RS as RS levels typically form during childhood while the prefrontal cortex is still developing. This makes adolescence an ideal time for an intervention such as CSE (Choi & Lim, 2023). Evidence suggests that CSE can reduce RS levels by promoting emotional regulation and healthier relationship dynamics (Downey et al., 1998; Kross et al., 2007). Lowering RS through CSE, in turn, can reduce the risk of IPV perpetration and victimization. These ideas are brought together in the hypothesis for this thesis: *Rejection sensitivity will act as a mediator between comprehensive sexuality education and intimate partner violence such that higher levels of CSE correlate with lower levels of RS which, in turn, predict lower levels of IPV perpetration and victimization.*

Methods

Participants

This study was approved by the University of Washington Institutional Review Board (IRB ID: STUDY0002255). I used Prolific to recruit a sample representative of the U.S. with 338 participants. Participants were required to be between 18 and 25 years old, currently in or having been in a romantic or intimate relationship for at least two months, and attended some or all of middle and high school in the U.S. Most participants self-reported having sexuality

education during both middle and high school (63.9%) with the average current age being 22.62 years (SD = 0.11, range = 18-25). Participants self-identified most often as heterosexual (71.9%), Christian (56.5%), Caucasian (53.3%), and a cisgender woman (46.4%) or man (46.2%). Participants were allowed to select more than one ethnicity and reported on other demographics, which are visible in Table 1.

Table 1

Participant Characteristics

Characteristic	Category	Frequency	Percent
Age	18	13	4.8
	19	17	5.0
	20	31	9.2
	21	34	10.1
	22	47	13.9
	23	61	18.0
	24	58	17.2
	25	77	22.8
Ethnicity	American Indian/Alaskan Native	6	1.8
	Asian	20	5.9
	Asian American	10	3.0
	Black/African American	37	10.9

	Black/African American, White	10	3.0
	Hispanic/Latinx	42	12.4
	Hispanic/Latinx, White	19	5.6
	White	180	53.3
	Other	14	4.1
Gender	Man	156	46.2
	Nonbinary	11	3.3
	Transgender Man	10	3.0
	Transgender Woman	3	.9
	Woman	157	46.4
	Other: Genderfluid	1	0.3
Sexual Orientation	Asexual	12	3.6
	Bisexual	55	16.3
	Gay	4	1.2
	Heterosexual	243	71.9
	Lesbian	8	2.4
	Pansexual	12	3.6
	Other	4	1.2
Religion	Agnosticism	52	15.4
	Atheism	29	8.6

	Christianity - Catholic	119	35.2
	Christianity - Other	72	21.3
	Hinduism	4	1.2
	Judaism	2	.6
	Muslim	6	1.8
	None	45	13.3
	Other	9	2.7
Perceived Hometown Political View	Very Conservative	79	23.4
	Slightly Conservative	108	32.0
	Slightly Liberal	89	26.3
	Very Liberal	47	13.9
	Prefer Not to Answer	15	4.4
Personal Political View	Very Conservative	60	17.8
	Slightly Conservative	85	25.1
	Slightly Liberal	91	26.9
	Very Liberal	84	24.9
	Prefer Not to Answer	18	5.3
When Participants had Sexual or Health Education	In Middle School Only	59	17.5

	In High School Only	54	16.0
	In Both Middle and High School	216	63.9
	None	9	2.7
Total		338	100

Survey Procedures

Potential participants read a brief recruitment script, including content warnings, on Prolific before being directed to Qualtrics to take the online survey. The consent form advised participants to take the survey in a private space and included potential content warnings as well as outlined privacy and confidentiality measures. Participants then took the survey, which had three parts: the Comprehensive Sexuality Education Measure (CSEM; developed for this study), the Adult Rejection Sensitivity Questionnaire (ASRQ; Downey et al., 2006), and the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996). The median time for survey completion was 15.5 minutes. After the survey, participants were given informational and support resources to mitigate any risks associated with taking the survey. Participants were redirected back to Prolific to be approved for payment. Participants received $2 if they passed the attention checks, took longer than five minutes, and passed the AI bot detection. Data collection occurred on March 13, 2025.

Measures

Comprehensive Sexuality Education Measure (CSEM)

Whereas research has been done to summarize the main themes of CSE (e.g., Miedema et al., 2020), there is currently no means to measure those themes. To increase the chance of

incorporating CSE curricula in schools, even in politically turbulent times, it is critical to understand areas that are or are not taught presently as assessed by those who would have received that coverage. A measure of CSE was therefore needed for the present study and can also be used to create opportunities for professional development of sexual education programs in the U.S., contribute to larger literature about the current state of CSE, and allow for assessment of its role in lowering the occurrence of IPV. To measure CSE in this study, a preliminary study was conducted to develop a measure based on existing literature around CSE using UNESCO (2018) guidelines and defining themes of CSE outlined by Miedema et al. (2020).

After Institutional Review Board approval (IRB ID: STUDY00022289), potential participants were recruited through university and personal connections. I provided an anonymous survey link to professors at the University of Washington who were able to share the study with their students. Moreover, I gave the link to friends at other universities who passed it to their acquaintances, and I posted it on my personal social media pages. Participants were eligible to participate if they were between 18 and 25 years old and attended some middle or high school in the U.S. where they took a health or sexual education class. This age range was selected to ensure participants have a recent memory of their education in middle and/or high school.

Through an online survey on Qualtrics, qualified participants were provided with information about the purpose of the survey, clear instructions, and the questionnaire. On average, the survey took 6.18 minutes including the screening and review questions. After filling out the survey, participants were given the option to leave an email to enter a raffle for one of two $25 gift cards. Recruitment efforts resulted in 345 potential participants, but many had to be

excluded due to not meeting survey qualifications or because they failed an attention check. The final sample consisted of 219 participants. The majority self-identified as cisgender female (73.5%), heterosexual (59.8%), and white (54.3%), with a mean age of participants 19.84 years (*SD* = 1.409; range = 18-25). Participants were able to choose more than one ethnicity, and these demographics are in Table 2.

Table 2

Participant Characteristics from the CSEM Preliminary Study

Characteristics	Category	Frequency	Percent
Age	18	39	17.8
	19	60	27.4
	20	55	25.1
	21	39	17.8
	22	19	8.7
	23	2	0.9
	24	4	1.8
	25	1	0.5
Ethnicity	Asian, Black/African American, Hispanic/Latinx, White	1	0.5
	Asian, White	5	2.3
	Black/African American	6	2.7

	Black/African American, Hispanic/Latinx	1	0.5
	Hispanic/Latinx	15	6.8
	Hispanic/Latinx, White	16	7.3
	Native Hawaiian	1	0.5
	Pacific Islander	1	0.5
	White	119	54.3
	Other	1	0.5
Gender	Male	49	22.4
	Nonbinary	6	2.7
	Prefer not to self-describe	1	0.5
	Transgender man	1	0.5
	Woman	161	73.5
Gender	Other	1	0.5
Sexual Orientation	Asexual	5	2.3
	Bisexual	49	22.4
	Gay	4	1.8
	Lesbian	14	6.4
	Pansexual	3	3
	Prefer not to say	5	2.3
	Straight	131	59.8

Total	219

I created the Comprehensive Sexuality Education Measure (CSEM) to assess what topics participants recalled being covered in their sexual or health education in middle and/or high school. To create this measure, I referenced the UNESCO "International technical guidance on sexuality education: an evidence-informed approach," which summarizes key concepts, topics, and learning objectives included in CSE curricula (UNESCO, 2018). With eight key concepts, most having three to five main topics, I created a list of 24 statements.

As the UNESCO document (2018) helped inspire Miedema and colleagues (2020), these statements align with the four defining themes of CSE as outlined by Miedema and colleagues: sexual reproductive health-related concerns and practices (e.g., "I learned about getting tested for STIs."), gender equality and power relations (e.g., "I learned about the importance of expressing personal needs and sexual limits."), young people's rights, participation, and agency (e.g., "I learned about knowing my own rights about my body."), and positive sexualities and respectful relationships (e.g., "I learned how to make informed decisions about engaging in sexual behavior."). I opted to add a 25th statement, "I learned about abstinence," as an additional measure for what topics were covered. Abstinence is not a part of CSE, however, as it does not have evidence-based efficacy (Stanger-Hall & Hall, 2011). This statement is therefore intended to be measured separately from the rest of the measure as it could provide further insight into how much abstinence is emphasized in sexual or health education settings and used for its relationship with other variables, including occurrence of IPV.

After each statement, participants were asked to rate the degree to which they remember learning about the topic. The rating included these options: "This topic was never discussed," (0)

to “I think this was mentioned, but I don’t remember it,” (1) to “Some of this topic was mentioned, but not all,” (2) to “We spent time learning about this topic” (3). Additionally, after every five statements and at the end of the questionnaire, there was a box for participants to leave comments, questions, or criticism of the statements they read. This allowed me to gain insight into the clarity of the measure as well as any suggestions or unwanted implications of specific items.

An overall CSEM score was created by adding the ratings provided for the 24 statements, not including the last statement that discusses abstinence. Higher scores indicate more topics covered in middle and/or high school curricula. The CSEM can also be used as a binary scoring system by providing this choice: “This topic was never discussed” (0) and any of the other options implying the topic was covered (1).

Once data were collected and participants who did not qualify/failed the attention checks had their responses removed, I conducted an exploratory factor analysis (EFA) in R studio. The EFA identified four main factors across the 25 statements from the measure. Only one statement (“I learned about abstinence”) had a factor loading under 0.3, meaning it did not relate strongly to one of the four groups, as expected. For the remainder, most statements had moderate to strong factor loadings, indicating they were meaningfully associated with one of the four factors. After analyzing the statements within each factor, it was evident that the factors aligned well with Miedema and colleagues’ (2020) four defined themes of CSE. For example, they discuss how CSE guidelines for “positive sexualities and respectful relationships” include “respecting others regardless of sexual orientation, gender identity, race or ability” (Miedema et al., 2020, p. 753). This was represented in multiple statements in the CSEM including topics like “stereotypes

about gender and how such stereotypes can lead to bias and inequality" (item 12), and "gender-based violence" (item 7).

After the EFA, I assessed the reliability of each factor using Cronbach's *alpha*. Factor one resulted in very good reliability with an *alpha* of .86, factor two was .83, factor three was .81, and factor four was .82. As all values were above .80, I determined that each factor measured coherent and related ideas and demonstrated strong internal consistency. Overall, the data analysis helped reflect that each of the four factors represents stable and reliable themes within the measure.

Additionally**,** with the feedback collected after sets of statements and at the end of the questionnaire, I was able to make adaptations and improvement for clarity as well as focus the survey more as a communicative measure. On some of the human rights related statements, for example, participants reported that they were unsure what the item encompassed, so I changed many of these to be more specific. I also included a more specific focus on LGBTQ+ relationships, as participants wrote that there was an underrepresentation or lack of specificity about these relationships. Finally, I changed the Likert-scale descriptions and the statements to make them centered around what was discussed in the classroom. Instead of starting each statement with "I learned," I switched it to have "We discussed…." This allows participants to be less worried about what they may or may not have learned but, rather, focus on what was communicated to them and topics that were discussed as part of their instruction.

The new scale also uses cohesive language, focusing on "discussed" rather than "mentioned" or "learning." Ultimately, these changes were meant to improve specificity, clarity and center the survey around what a participant remembers being discussed rather than what they

learned in the classroom. The original and updated versions of the CSEM can be found in Appendix A.

The CSEM uses a scale that ranges from "this topic was never discussed" (0) to "we spent time discussing this topic" (3). Participants are instructed to report based on what they remember discussing in their middle and/or high school education, specifically in the classroom. An overall CSE score is generated by adding all the scores to the 24 questions. The CSEM can also be scored by subscales by adding the associated scale statement responses. In the present study, the CSEM had an overall reliability of an *alpha* of .94. The "Positive Sexualities and Respectful Relationships" subscale had an *alpha* of .86, "Power Relations" was .82, "Sexual Reproductive Health-related Concerns and Practices" was .83, and "Young People's Rights, Participation, and Agency" was .78.

Adult Rejection Sensitivity Questionnaire (ASRQ)

Rejection sensitivity was measured through the A-RSQ (Downey et al., 2006), which contains nine potential rejection scenarios (e.g., "After a bitter argument, you call or approach your significant other because you want to make up"). After each scenario, participants rated their rejection concern on a scale of one ("very unconcerned") to six ("very concerned"): how concerned or anxious they feel ("How concerned or anxious would you be over whether your significant other would want to make up with you?). Participants then rated their expectations of acceptance ("I would expect that he/she would be at least as eager to make up as I would be") on a scale from one ("very unlikely") to six ("very likely"). Each situation was scored by multiplying the level of rejection concern (the first question) by the level of rejection expectancy (the reverse of the score for their level of acceptance expectancy). Participants' total RS score is the mean score of the nine situations, with every score being between one and 36. The reliability

(α = .70) of the A-SRQ was slightly lower than previous studies (α = .77; Romero-Canyas et al., 2010) but still acceptable.

Revised Conflict Tactics Scale (CTS2)

IPV was measured with the CTS2 (Straus et al., 1996). The CTS2 uses 78 statements to describe 39 behaviors a participant may have perpetrated ("I insulted or swore at my partner") or experienced from an intimate partner ("my partner did this to me"). As such, it offers insights about both perpetration of and victimization with IPV. I adapted the CTS2 to reflect the participants' experiences over their lifetime. I use a categorical scale from zero ("never") to six ("more than 20 times") that describes how often these events have occurred during their life. The CTS2 is scored by coding the categories, with the midpoints of the categories being coded as the score and then added for a total. For example, category three, "3-5 times in your life" was scored as a four. To improve reliability, I removed the original questions 15 and 16 from the scale, as well as the negotiation subscale, to have an overall *alpha* of .95. I then scored the CTS2 into separate assessments of perpetration (α = .90) and victimization (α = .93). Previous studies reported *alphas* ranging from .79 to .95 (Straus et al., 1996) with perpetration having an *alpha* of .88 and victimization reliable at .90 (Inman & London, 2021).

I also assessed the reliability and made categories for the measure's subscales of psychological aggression, physical assault, sexual coercion, and injury. Psychological aggression includes threatening, insulting, swearing, shouting, or doing something to purposefully emotionally harm one's partner (Straus et al., 1996). Physical assault indicates a partner physically harming another. These acts could include kicking, slapping, using a knife or gun, pushing or beating up a partner. The sexual coercion subscale covers consensual acts during sexual activity. It includes three acts of coercion (insistence, threats of force, actual force) as well

as three types of sexual acts (vaginal, anal, and oral) (Straus et al., 1996). Finally, the injury subscale is thought of as a consequence of assaults by a partner (Straus et al., 1996). It is important to note that injury is different from physical assault as it focuses on the result of a physical assault as well as the necessity of needing to see or seeing a doctor. Reliabilities of the subscales are available in Table 3.

Table 3.

Present Study Reliabilities of the Intimate Partner Violence Measure (CTS2)

Category	Subscale	Cronbach's *alpha*
Full CTS2		.95
Perpetration		.90
	Psychological Aggression	.75
	Physical Assault	.86
	Sexual Coercion	.74
	Injury	.83
Victimization		.93
	Psychological Aggression	.80
	Physical Assault	.93
	Sexual Coercion	.77
	Injury	.81

Results

Descriptive statistics for all study variables and associated subscales are presented in Table 4. On average, participants reported moderate levels of CSE ($M = 42.07$, $SD = 17.20$).

When looking at individual subscales, participants on average reported discussing topics in the Sexual and Reproductive Health-related Concerns and Practices subscale (M = 15.48, SD = 5.57) the most, and topics in the Young People's Rights, Participation, and Agency subscale the least (M = 5.75, SD = 3.37). Participants had a mean RS score of 9.50, which is similar but slightly higher than previous samples (e.g., Berenson et al., 2009; M = 8.61). On average, participants had moderate levels of rejection sensitivity. Scoring from the adapted CTS2 (Straus et al., 1996) yielded substantial variety in participant experience with IPV. Participants reported more instances of victimization (M = 40.14, SD = 67.06) than perpetration (M = 30.35, SD = 47.58). Notably, perpetration (M = 18.84, SD = 22.75) and victimization (M = 22.84, SD = 28.45) of psychological aggression was the subscale reported as the most common amongst participants.

Table 4.

Descriptive Statistics for Study Variables and Associated Subscales.

Variable	Subscale	*M*	*SD*	Min	Max
CSE	Overall	42.07	17.20	0.00	75.00
	Positive sexualities & respectful relationships	9.80	5.83	0.00	21.00
	Power relations	8.93	4.06	0.00	15.00
	Sexual and reproductive health-related concerns and practices	15.48	5.57	0.00	24.00
	Young people's rights, participation, & agency	5.75	3.37	0.00	12.00

RS		9.50	3.44	1.11	24.44
IPV	Overall	70.99	109.08	0.00	937.00
IPV Perpetration		30.35	47.58	0.00	326.00
	Psychological aggression	18.84	22.75	0.00	133.00
	Physical assault	6.45	16.95	0.00	119.00
	Sexual coercion	2.90	9.20	0.00	98.00
	Injury	2.16	9.35	0.00	80.00
IPV Victimization		40.13	67.06	0.00	642.00
	Psychological aggression	22.89	28.45	0.00	159.00
	Physical assault	9.84	28.28	0.00	290.00
	Sexual coercion	5.43	13.15	0.00	140.00
	Injury	2.48	9.03	0.00	81.00

Note. *M* = mean; *SD* = standard deviation; Min = minimum; Max = maximum.

Pearson correlations revealed several findings of interest. Whereas CSE as an overall scale did not correlate negatively with any subscale of IPV, every subscale of CSE and the overall CSE score was directly negatively correlated with RS ($r = -.25$, $p < .01$). As supported by previous research (Inman & London, 2021), RS was positively correlated with overall CTS2 score ($r = .15$, $p < .01$), perpetration ($r = .13$, $p < .05$), and victimization ($r = .15$, $p < .01$). The study also revealed that victimization and perpetration of IPV had a large positive correlation ($r = .76$, $p < .001$). More correlational analysis is available from the author.

Mediation Analysis

Prior to the mediation analysis, all variables and associated subscales were standardized (z-scored). This allowed for the interpretation of effects to be in standard deviation units to provide better comparison across scales. As hypothesized, increased CSE indirectly predicted decreased overall IPV, as well as victimization and perpetration when mediated by RS (see Table 5, and Figures 1-3). Participants who reported higher levels of CSE also reported lower levels of RS, and participants who reported lower levels of RS reported less instances of IPV in their lifetime. There was a significant negative mediated effect of CSE on IPV via RS (Average Causal Mediation Effect (ACME) = -.0.41, $p < .0001$). Additionally, there was a significant negative mediated effect of CSE on IPV perpetration (ACME = -.039, $p = .001$) and victimization (ACME = -.038, $p = .003$) through RS as a mediator. There were no significant average direct effects (ADE), nor total effect found for CSE on overall IPV, perpetration, or victimization.

Table 5.

Mediation Analysis Results for Main Models of CSE on IPV Outcomes (CTS2) as Mediated by RS

IV	DV	ACME (Indirect)	ADE (Direct)	Total Effect	Prop. Mediated
CSE	CTS score	-.041***	.033	-.007	5.53
	Perpetration	-.039**	.079	.040	-.97
	Victimization	-.038**	-.001	-0.039	.96

Note. All coefficients are standardized. IV = independent variable; DV = dependent variable; ACME = average causal mediation effect; ADE = average direct effect; Prop. Mediated = proportion mediated. *** = p > .001, **= p > .01, *= p > .05.

Figure 1.

Mediation Model of CSE on IPV outcomes (Overall CTS2 score)

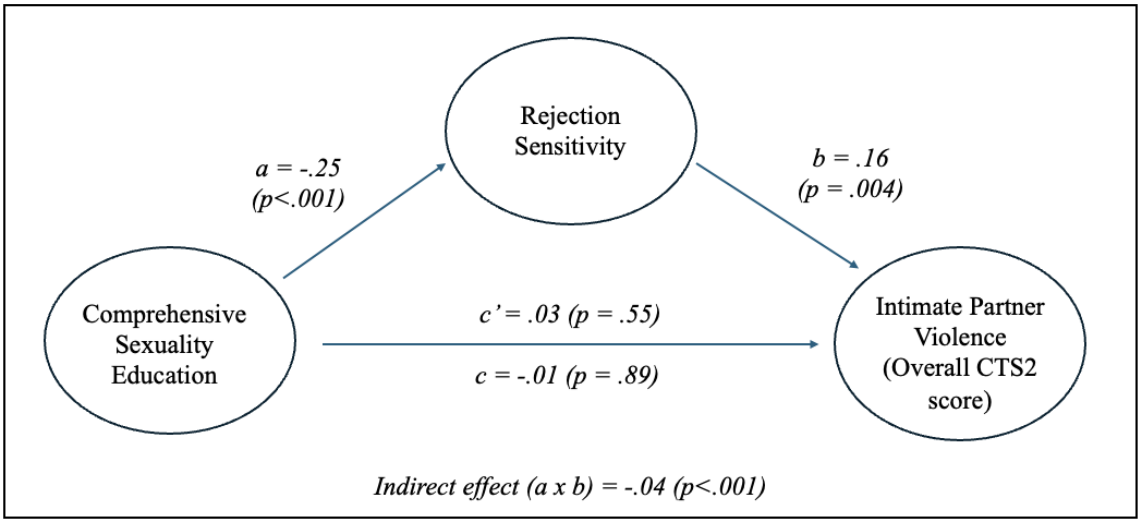


Figure 2.

Mediation Model of CSE on IPV Perpetration Outcomes (CTS2)

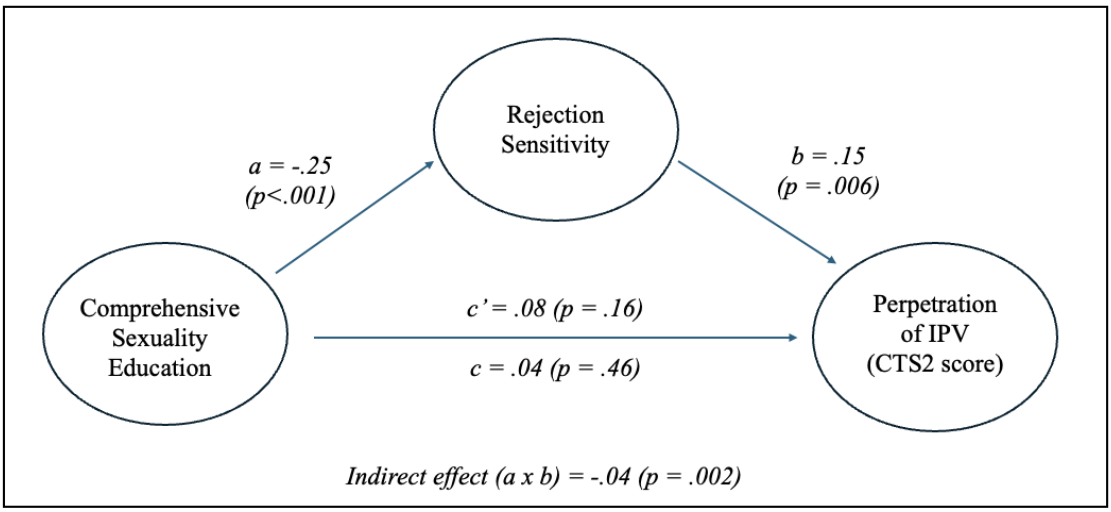
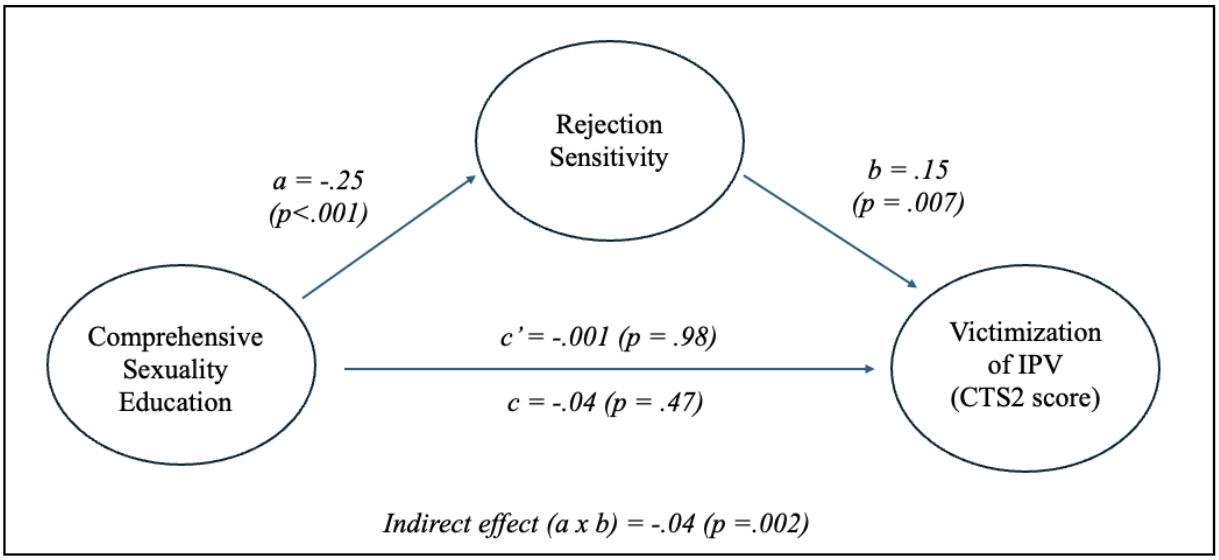


Figure 3.

Mediation Model of CSE on IPV Victimization Outcomes (CTS2)



When mediated by RS, some of the subscales of CSE predicted IPV, whereas others did not. The abstinence question on the CSE measure did not reveal any indirect effect of abstinence education on the subscales of IPV perpetration or victimization. Most notably, every subscale of CSE significantly predicted reduced psychological aggression when mediated by RS. Table 6 shows results from the models that yielded significant results such that there was an indirect effect of CSE subscales on IPV outcomes when mediated by RS. Contact the author for nonsignificant models and further analysis, given space constraints.

Discussion

This study aimed to explore whether Comprehensive Sexuality Education may be a protective factor against IPV through its relationship with rejection sensitivity. Specifically, I tested whether higher levels of CSE were associated with lower RS and whether lower RS in turn predicted lower IPV perpetration and victimization. To do so, I collected self-report survey data from 338 U.S. participants and conducted mediation analyses. Participants reported their exposure to the primary aspects of a CSE curriculum, levels of RS, and experiences with IPV (both perpetration and victimization across multiple forms). The mediation analysis supported

my hypothesis, such that RS mediated the relationship between CSE and IPV, including perpetration, victimization, and overall instances of IPV experienced. Direct effects (ADE) of CSE on IPV outcomes after accounting for RS were all non-significant, indicating that RS plays a mediating role in predicting lower outcomes of IPV. All of the indirect effects were significant, which could indicate that, through RS, CSE predicts lower instances of IPV. As this study is correlational and no causation can be assumed, it operates primarily as suggestive evidence of the preventative and protective qualities CSE may have in reducing IPV outcomes.

This study adds to existing literature about the connection between RS and IPV. Increased RS levels were associated with greater instances of perpetration ($r = .13$, $p = .01$) and victimization ($r = .15$, $p = .005$), supporting prior research that identifies RS as a risk factor for IPV (Ayduk et al., 1999; Inman & London, 2021). Whereas previous studies have explored RS as a risk factor for IPV, few have examined potential preventative pathways for reducing RS itself. This study extends the literature by examining CSE as one such protective factor.

By integrating RS into a mediation model, this study offers a framework for understanding how CSE may indirectly reduce both IPV perpetration and victimization. Beyond IPV, RS also is a risk factor for a range of mental health concerns including depression, anxiety, loneliness, borderline personality disorder, and body dysmorphic disorder (Goa et al., 2017). Emerging research also suggests a connection between RS and rejection sensitivity dysphoria – a condition with severe emotional pain due to perceived rejection – that is often found in individuals with attention-deficit/hyperactivity disorder (ADHD; Dodson et al., 2024). Given its broad psychological impact, identifying protective or preventative interventions to mitigate RS is a critical area of inquiry.

Across all of the models tested for this project, higher CSE was significantly associated with lower RS (path a = -.25, p <.001). That is, participants who recalled greater exposure to CSE content reported lower RS. This negative association was consistent among every subscale of CSE, indicating that a broad range of CSE topics may contribute to reducing RS. Notably, however, the power relations subscale was most strongly correlated with RS (r = -.24, p < .001), suggesting that classroom discussions around power dynamics may be especially impactful for reducing RS. These findings highlight the potential of CSE to reduce RS by fostering open conversations around sexuality and relationships.

One possible explanation for this potential is that CSE can help normalize talk about relationships, consent, and identity, which may reduce anxiety around rejection by fostering emotional self-awareness and communication skills. Given RS's role as a risk factor for IPV, this supports the idea that CSE may serve as a protective intervention, not just by promoting knowledge (such as consent teachings), but by addressing underlying psychological and communicative vulnerabilities that contribute to violence risk.

To add to the overall discussion of CSE, I ran some exploratory correlational and mediation analyses with IPV, RS, and "abstinence from sexual activities." This latter measure was included with the CSEM; however, abstinence is not a part of CSE curricula, but assessment of this educational choice was an additional line of inquiry. Analyses involving the "abstinence from sexual activities" scale showed a slight negative correlation with RS (r = -.11, p = .05), though yielded no significant associations in the mediation analyses. This finding reinforces, however, the distinction between abstinence-focused education and CSE, as abstinence content did not appear to impact RS and IPV-related outcomes. Because abstinence is ideologically

distinct from CSE, and therefore not the main premise of this study, future research should consider exploring abstinence-emphasized education's connection to RS and other outcomes.

As mentioned, certain IPV outcomes were correlated more strongly with CSE than were others. Specifically, when mediated through RS, every subscale of CSE and the overall CSE score predicted lower accounts of perpetration and victimization of psychological aggression. The definition of psychological aggression is similar to aspects of the "four horsemen of the apocalypse," a commonly accepted theory of action that predicts the end of a relationship (Gottman & Silver, 1999).

Based off a metaphor from the New Testament, the Four Horseman include criticism, defensiveness, contempt, and stonewalling. Criticism is expressing negative feelings about a partner's personality or character (Gottman & Silver, 1999, p. 33). This includes placing blame on their character for small, disliked actions (i.e. "You're so lazy, you never clean the dishes."). Criticism is a common example of psychological aggression, with these insults and attacks on character wearing on both the relationship and one's view of self. Stonewalling, withdrawing from interaction with one's partner (such as avoiding eye contact), can also be an example of psychological aggression as it involves making a partner feel invisible (Gottman & Silver, 1999, p. 38).

Gottman uses the four horsemen as predictors for the downfall of relationships, specifically citing them as predictors for divorce (Gottman & Silver, 1999). Because CSE predicted lower RS, and RS in turn predicted lower psychological aggression, these findings suggest that CSE could play a preventative role by reducing RS communication patterns that mirror the Four Horsemen. Incorporating CSE into early education may therefore help foster healthier, more emotionally resilient relationships.

The present findings offer important implications for the design and implementation of CSE curricula into educational programs. CSE, particularly content focused on power dynamics, communication, and human rights, may serve as a meaningful protective factor against IPV by reducing RS. These components go beyond basic biological, abstinence-focused, or risk-avoidance models of sexual education by fostering emotional awareness, interpersonal respect, and confidence in navigating relationships: both intimate and otherwise. Schools, particularly middle and high schools, are uniquely positioned to provide early interventions that can shape young people's beliefs about themselves, others, and relationships. Integrating CSE into the larger curriculum allows for more discussions of power dynamics, boundaries, identities, and relational communication into classroom settings. These skills may help build psychological resilience (to rejection) and lower susceptibility to maladaptive interpersonal patterns such as those, found in this study, associated with RS. In the implementation of this curriculum, CSE becomes not only a tool for sexual health education but also a mechanism for emotional development and relational violence prevention.

When considering the consistent negative associations between CSE and RS in this study, educational policymakers and curriculum developers may consider implementing CSE into school systems. As implementing a full CSE curriculum may be challenging for some schools, prioritizing specific elements – including content around power dynamics – may still offer meaningful benefits in RS reduction, and by extension, IPV. As well, some subscales may be more feasible and politically "safe" to implement. Interestingly, the positive sexualities and respectful relationships subscale (including topics such as sexual pleasure, curiosity around sexual experiences, and sexual behaviors) showed a significant indirect effect through RS in predicting lower physical assault perpetration (ACME = -.03, p = .006), a strong and significant

direct effect was also found (ADE = .15, $p < .001$), such that greater exposure to positive sexualities content was associated with increased physical assault perpetration, independent of RS.

This complex finding suggests a cautionary but important consideration: Whereas discussions of sexuality may lower RS, there may be other aspects that contribute to harmful behavior in certain contexts. One possibility is that those who learn about relationships might be more likely to seek them out and are therefore inherently at a higher risk of perpetrating or being a victim of IPV because there is more possibility for doing so. Additionally, in certain environments, messages about sexual positivity may be influenced by traditional masculinity or heteronormative scripts, such as the idea of men needing to be dominant during sex. As well, there may be an incomplete framing of positive sexuality in some middle or high school curricula such that important topics of consent or power dynamics are missed, or adolescents are unaware or not ready to integrate teachings into their lives in healthy and effective ways. These findings, and lack of clear hypothesis as to how they occur, highlight the need for further research into how sexual content is framed, received, and internalized across adolescent populations. It also underscores the importance of embedding specific discussion topics, such as consent teachings, alongside sexual positivity in CSE curricula.

As CSE is an understudied area, the development of a measure to test areas discussed was necessary. The CSEM was originally tested with a non-representative and smaller sample size than is optimal. Future research should consider how the CSEM is applied with a wider sample, potentially adapting the CSEM to different cultural contexts to ensure the validity of its use in diverse populations. Additionally, whereas this measure was created with high construct validity,

and resulted in strong internal validity, it has not yet been tested for convergent validity as the preliminary study did not assess how the CSEM aligns with other potentially related variables.

Moreover, the CSEM relies on participants' memory of their sexual or health education in middle and/or high school. For many eligible participants, there may be gaps or errors in memory the further they are from their original education. The CSEM aims to minimize this error by focusing on things participants remembered discussing, versus learning, and encouraging only in-classroom recollections in the instructions. It is also important to note that, if participants rate something lower than what they actually experienced, implying they did not remember something, it could indicate a larger problem with how they were taught and the education they received. Education is only effective if the student remembers the lessons longer-term.

Other limitations of this study include its cross-sectional and correlational design, which cannot establish causality. As well, whereas the mediation analyses suggest pathways, the directionality of these relationships cannot be confirmed. Further research should consider opportunities to seek causation between CSE teachings and RS levels. Moreover, longitudinal research would allow for development of best practices of CSE and how effective they are in the long-term. Moreover, given the sensitivity nature of reporting on IPV, some participants may have underreported negative behaviors due to social desirability bias, although this limitation was mitigated through multiple reminders of privacy and anonymity in the survey. Additionally, other psychological and relational factors such as attachment style or trauma history were not measured but could play a critical role in IPV outcomes. As well, the positive direct effects of some CSE subscales (such as positive sexualities and respectful relationships) on IPV outcomes raise critical questions about how CSE should be implemented. To address these inquiries, future

research that is qualitative or longitudinal may help establish greater understanding of how to approach these subjects.

Conclusion

This study explored whether comprehensive sexuality education could predict reduced intimate partner violence through lower rejection sensitivity. The hypothesis was supported, demonstrating RS as a mediator between CSE and IPV, such that, as discussion of CSE topics increased, RS scores decreased, in turn decreasing IPV outcomes. By identifying RS as a mediator and CSE as a potential point of intervention, the findings contribute to literature about how education can foster relational health. Whereas some findings raise new questions about curriculum implementation and development, the broader pattern supports the value of CSE as more than just a tool for sexual health. Future work should continue to explore these ideas, particularly focusing on longitudinal implications and causal connections to understand how communication-based interventions can help reduce interpersonal violence.

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Appendix A

Initial CSEM Used for Data Collection

Preamble for participants: This survey is designed to assess the breadth and depth of the sexual education you received during middle and/or high school. It includes 25 statements that cover a variety of topics that may or may not have been a part of your health or sex education curriculum. For every topic, you will use a scale to indicate how much you recall learning in high school.

Here is an example related to math curriculum…

I learned how to solve the quadratic formula.

0- This topic was never discussed.

1- I think this was mentioned, but I don't remember it.

2- Some of this topic was mentioned, but it was not discussed fully.

3- We spent time learning about this topic.

Please respond to each statement as accurately as possible based on your recollection. It is important to note that, although you may have learned about these topics outside of your school education, I am focused on what you learned in the classroom to the best of your recall.

Statements:

1. I learned the specific steps and scientific process of reproduction.
2. I learned about contraception options.
3. I learned how to make informed decisions about sexual behavior.

4. I learned that social, cultural, and religious factors can influence our understanding of sexuality.
5. I learned about healthy and unhealthy relationships including different family structures, friendships, and long-term commitments (such as a romantic partnership, boyfriends/girlfriends, or marriage).
6. I learned about pregnancy.
7. I learned about gender-based violence.
8. I learned about peer influence/pressure and how to challenge negative peer pressure.
9. I learned about sexual abuse, sexual harassment, and bullying (possibly including cyberbullying).
10. I learned that effective communication is key to expressing personal needs and sexual limits.
11. I learned about puberty for both males and females.
12. I learned that stereotypes about gender can lead to bias and inequality.
13. I learned that everyone has the right to decide who can touch their body, where, when, and in what way.
14. I learned that everyone has human rights.
15. I learned about sources of help and support in my school and the wider community.
16. I learned about HIV/AIDS care, treatment, and the stigma surrounding them.
17. I learned it is important to challenge stigma and discrimination.
18. I learned about the difference between biological sex and gender.
19. I learned that it is natural to be curious about sexuality.

20. I learned that the media could portray unrealistic images about sexuality and sexual relationships.
21. I learned about the importance of getting tested for STIs.
22. I learned about a variety of options for if my partner or I become pregnant.
23. I learned that it is important to know my own rights.
24. I learned that it is important to ask a trusted adult question, if I have them, about my sexuality or sexual health related experiences.
25. I learned about abstinence.

Revised CSEM

Preamble for participants: The first part of the survey is designed to assess the breadth and depth of the sexual education you received during middle and/or high school. It includes 25 statements that cover a variety of topics that may or may not have been a part of your health or sex education curriculum. For every topic, you will use a scale to indicate how much you recall discussing in high school. Here is an example related to math curriculum:

We discussed…

How to solve the quadratic formula.

0- This topic was never discussed.

1- This topic was very briefly mentioned.

2- Some of this topic was discussed, but not thoroughly.

3- We spent time discussing this topic.

Please respond to each statement as accurately as possible based on your recollection. It is important to note that, although you may have learned about these topics outside of your school education, I am focused on what you discussed in the classroom to the best of your recall.

Statements:

We discussed…

1. The specific steps and scientific process of reproduction
2. Contraception options
3. How to make informed decisions about engaging in sexual behavior
4. Social, cultural, and religious factors that influence our understanding of sexuality
5. Healthy and unhealthy relationships that could include different family structures, friendships, and long-term commitments (such as a romantic partnership, including LGBTQ+ relationships)
6. The physiological process of pregnancy
7. Gender-based violence
8. Peer influence/pressure and how to navigate negative peer pressure
9. Sexual abuse, sexual harassment, and bullying (possibly including cyberbullying)
10. Expressing personal needs and sexual limits
11. Puberty for my sex and others' sex
12. Stereotypes about gender and how such stereotypes can lead to bias and inequality
13. The right to decide who can touch my body, where, when, and in what way
14. Human rights including LGBTQ+ rights or the Women's Suffrage movement
15. Sources of help and support in my school and the wider community

16. HIV/AIDS care, treatment, and the stigma surrounding HIV/AIDS
17. Challenging stigma and discrimination related to the LGBTQ+ community
18. The difference between biological sex and gender
19. Natural curiosity about sexuality
20. The media and its portrayal of sometimes unrealistic images about sexuality and sexual relationships
21. Getting tested for STIs
22. A variety of options for if my partner or I become pregnant
23. Knowing my own rights about my body
24. Asking a trusted adult questions, if I have them, about my sexuality or sexual health related experiences
25. Abstinence from sexual activities **

*** This question should only be used if a researcher is interested in abstinence as a different factor, as abstinence is not a part of the recommended CSE curricula and does not fall into the categories determined by the exploratory factor analysis*.

Scoring

In order to score the CSEM, add up all the questions other than question 25, if included. To look at particular areas that may differ in amount taught, reference the categories below (as determined by the factor analysis) and add the specific items for an overall score.

Positive Sexualities and Respectful Relationships

- (3) How to make informed decisions about engaging in sexual behavior

- (4) Social, cultural, and religious factors that influence our understanding of sexuality
- (7) Gender-based violence
- (12) Stereotypes about gender and how such stereotypes can lead to bias and inequality
- (18) The difference between biological sex and gender
- (19) Natural curiosity about sexuality
- (20) The media and its portrayal of sometimes unrealistic images about sexuality and sexual relationships

Power Relations

- (5) Healthy and unhealthy relationships that could include different family structures, friendships, and long-term commitments (such as a romantic partnership, including LGBTQ+ relationships)
- (8) Peer influence/pressure and how to navigate negative peer pressure
- (9) Sexual abuse, sexual harassment, and bullying (possibly including cyberbullying)
- (10) Expressing personal needs and sexual limits
- (13) The right to decide who can touch my body, where, when, and in what way

Sexual Reproductive Health-related Concerns and Practices

- (1) The specific steps and scientific process of reproduction
- (2) Contraception options
- (6) The physiological process of pregnancy
- (11) Puberty for my sex and others' sex
- (16) HIV/AIDS care, treatment, and the stigma surrounding HIV/AIDS

- (21) Getting tested for STIs
- (22) A variety of options for if my partner or I become pregnant
- (24) Asking a trusted adult questions, if I have them, about my sexuality or sexual health related experiences

Young People's Rights, Participation, and Agency

- (14) Human rights including LGBTQ+ rights or the Women's Suffrage movement
- (15) Sources of help and support in my school and the wider community
- (17) Challenging stigma and discrimination related to the LGBTQ+ community
- (23) Knowing my own rights about my body

Not in a Category

- (25) Abstinence from sexual activities

Appendix B

Table 6.

Mediation Analysis Results for Significant Models Examining the Effect of CSE Subscales on IPV outcomes (CTS2) as Mediated by RS

IV	DV	DV subscale	ACME (Indirect)	ADE (Direct)	Total Effect	Prop. Mediated
CSE	CTS		-.041***	.033	-.007	5.53
	IPV Perpetration		-.039**	.079	.040	-.97

		Psychological aggression	-.035**	.002	-.033	1.06
		Physical assault	-.031**	.099*	.068	-.45
		Sexual Coercion	-.027	.148***	.120***	-.23
		Injury	-.030**	.072*	.041	-.73
	Victimization		-.038**	-.001	-0.039	.96
		Psychological aggression	-.041**	-.050	-0.091	.45
		Physical assault	-.032**	.034	0.002	-13.84
		Sexual Coercion	-.024*	.003	-0.021	1.14
		Injury	-.022*	.034	0.012	-1.86
Positive sexualities & respectful relationships	CTS		-.036***	.077	.042	-.86
	Perpetration		-.034***	.122*	.088	-.38
		Psychological aggression	-.030**	.012	-.017	1.70

		Physical assault	-.027**	.149***	.122**	-.22**
		Sexual Coercion	-.023	.186	.162***	-.14***
		Injury	-.023	.186***	.162***	-.14
	Victimization		-.034**	.039	.006	-6.13
		Psychological aggression	-.036**	-.023	-.059	.61
		Physical assault	-.029**	.082*	.054	-.53
		Sexual Coercion	-.021*	.020	-.001	26.12
		Injury	-.020*	.076	.056	-.35
Power relations	CTS		-.037**	.009	-.028	1.30
	Perpetration		-.036**	.066	.031	-1.17
		Psychological aggression	-.034**	.021	-.013	2.71
		Physical assault	-.027*	.074	.047	-.59
		Sexual Coercion	-.023	.105*	.082*	-.28
		Injury	-.027*	.047	.020	-1.34

	Victimization		-.034**	-.033	-.067	.51
		Psychological aggression	-.039**	-.049	-.088	.44
		Physical assault	-.027*	-.018	-.045	.61
		Sexual Coercion	-.022*	-.009	-.031	.72
Sexual and reproductive health-related concerns and practices	CTS		-.034**	-.029	-.062	.54
	Perpetration		-.030**	-.007	-.037	.82
		Psychological aggression	-.030*	-.023	-.053	.57
		Physical assault	-.022*	-.002	-.024	.91
		Injury	-.022*	-.026	-.048	.46
	Victimization		-.033**	-.040	-.073	.45
		Psychological aggression	-.037**	-.068	-.105	.35

		Physical assault	-.026**	-.015	-.041	.64
		Sexual Coercion	-.021*	-.028	-.049	.42
Young people's rights, participation, & agency	CTS		-.036**	.062	.026	-1.41
	Perpetration		-.034**	.101*	.067	-.51
		Psychological aggression	-.030*	.004	-.026	1.16
		Physical assault	-.028**	.136**	.108*	-.26*
		Sexual Coercion	-.024	.172***	.148**	-.16
		Injury	-.027***	.090*	.063	-.42
	Victimization		-.034**	.028	-.007	5.21
		Psychological aggression	-.036**	-.046	-.082	.44
		Physical assault	-.029**	.074	.045	-.65

Sexual Coercion	-.023*	.042	.019	-1.18
Injury	-.020*	.066	.046	-.44

Note: Note. IV = independent variable; DV = dependent variable; ACME = average causal mediation effect; ADE = average direct effect; Prop. Mediated = proportion mediated. *** = $p >$ .001, **= $p >$ .01, *= $p >$ .05.