

Community Violence Exposure and Sexual Risk Behaviors among Heterosexuals at High Risk for HIV Infection in New Orleans

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Background

Multiple sex partners, condom-less vaginal and anal sex, and sex in exchange for drugs and money are high-risk sexual behaviors for HIV transmission. Previous literature among adolescents has found an association between community violence exposure and high-risk sexual behaviors. This association has not been thoroughly evaluated in adults.

Objectives

To evaluate the association between community violence exposure and high-risk sexual behaviors among heterosexually active adults at high risk for HIV infection in New Orleans

Study Population

Data Source: Cross-sectional data from CDC's National HIV Surveillance System (NHBS HET-5) from 2019

Sample Population: Using respondent-driven sampling, 468 participants met the eligibility criteria below:

Inclusion Criteria:

- Between the ages of 18 and 60 years
- Lives in the New Orleans MSA
- had vaginal or anal sex with a person of the opposite-sex in the past 12 months

Exclusion Criteria:

- Transgenders
- Men who reported sex with other men in last 12 months

Variable Categorization

Community Violence Exposure (CVE) in past 12 months

- Participants were asked about the frequency they experienced seven community violence-related events with responses using seven point-Likert style
- Summed to create a composite and then categorized into:
 1. Low: Scores 0 to 11
 2. Moderate Scores: 12 to 23
 3. High : Scores: 24 to 35

Sexual Risk-Taking Behaviors in the past 12 months

1. Multiple Sex Partners
2. Unprotected Vaginal Sexual Intercourse
3. Unprotected Anal Sexual Intercourse
4. Sex in Exchange for Money or Drugs

Statistical Analysis

- Exploratory Factor Analysis for Community Violence Inventory
- Descriptive Statistics (frequencies and proportions)
- Log-linked Poisson regression models with generalized estimating equations (GEE) with an exchangeable correlation matrix

Results

- For the 7-item community violence inventory, the standardized Cronbach coefficient alpha was 0.88, indicating good internal consistency
- Of the 468 participants, 83.9% were Black, 83.7% lived below the poverty line and 41.0% had high community violence exposure.
- After adjusting for potential confounders, community violence exposure (high vs. low) was found to be associated with:
 - Multiple sex partners, aPR: 1.23, 95% CI: 1.03-1.47
 - Unprotected vaginal sex, aPR: 1.12., 95% CI 1.04-1.20
 - Unprotected anal sex, aPR: 1.67, 95% CI:1.17-2.39
 - Exchange sex for drugs/money, aPR: 1.80, 95% CI: 1.14-2.82

Table 1 . Results of Exploratory Factor Analysis for Items measuring Community Violence Exposure (N=468)

Item	Factor loading score*
1) Heard Gun Shots	65
2) Seen Someone Arrested	81
3) Seen Drug Deals	73
4) Seen Someone Beaten Up	80
5) Found out someone you knew was murdered	59
6) Seen some offer money or drugs for sex	66
7) Seen someone get shot	73
Standardized Cronbach Coefficient Alpha	0.88

*Results multiplied by 100 and rounded to nearest integer

Figure 1. Select Characteristics of Study Population (N=468)

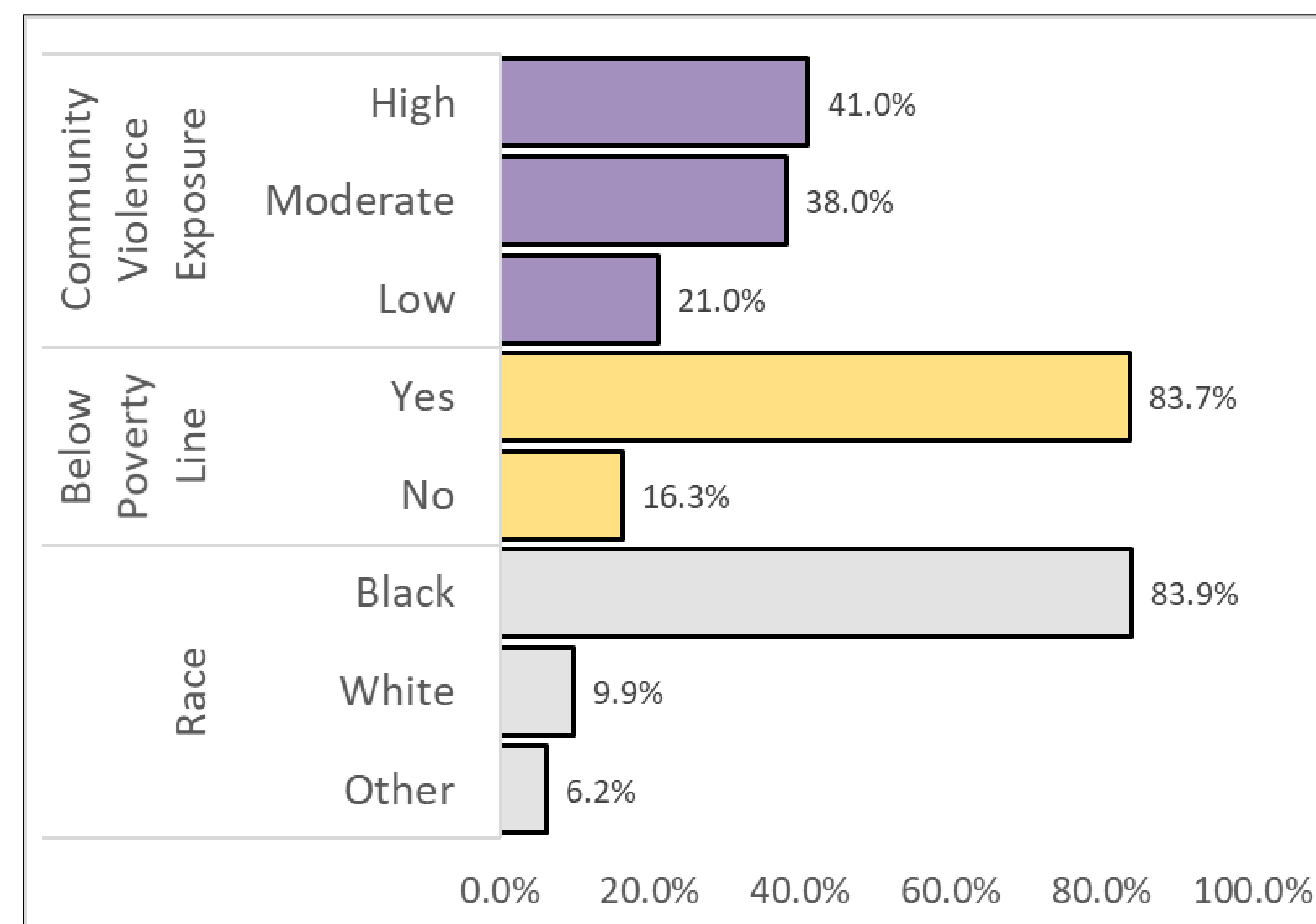
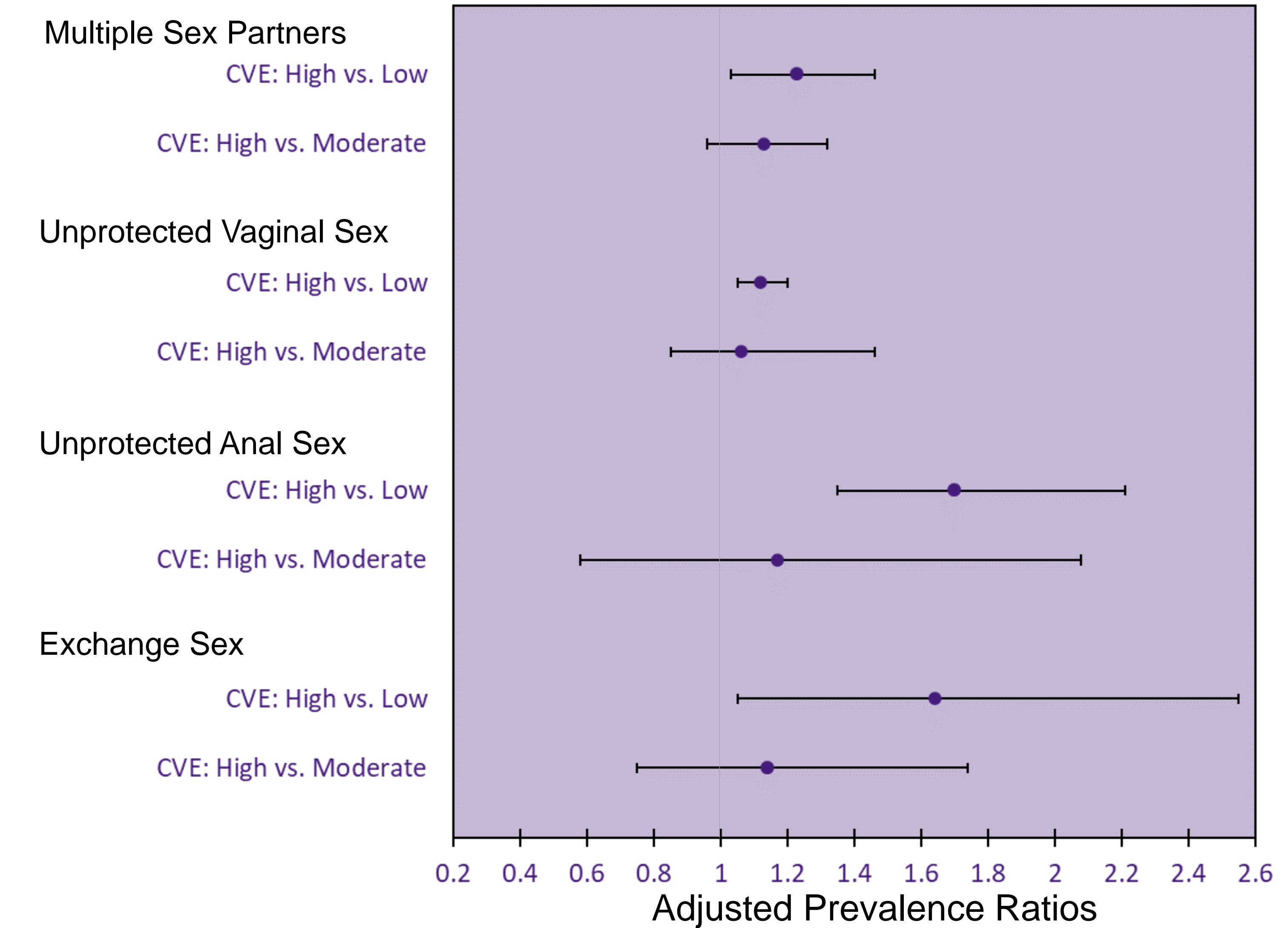


Figure 2. Adjusted Prevalence Ratios for Community Violence Exposure (CVE) and Sexual Risk Behaviors



- Adjusted for age, gender, race, marital status, marital status, binge drinking, illicit drug use, poverty status, and personal network size
- Estimated using Poisson models with robust variances

Limitations

- Cross-sectional data → cannot establish temporality
- Secondary Data Analysis → unmeasured confounding
- Recall bias and social desirability bias
- Non-random sampling method

Discussion

- We found that higher levels of community violence exposure was associated with a higher prevalence of high-risk sexual behaviors among New Orleans heterosexual adults at risk for acquiring HIV.
- The psychosocial theory proposes that stressors alter host susceptibility and/or **induce negative health behaviors**, especially the use of illicit drugs, diet, and **sexual behaviors**
- Therefore, community violence may be a potential stressor, which may induce higher likelihood to engage in risk sexual behaviors.
- The relationship between community violence exposure and high-risk sexual behaviors may extend into adulthood.
- Future longitudinal are warranted to establish temporality and to examine potential mediators and moderators in this relationship.