

Latent Classes of Sexual Identity and Homophobia Associated with Sexual Risk among Black Sexual Minority Men in HPTN 061

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Background

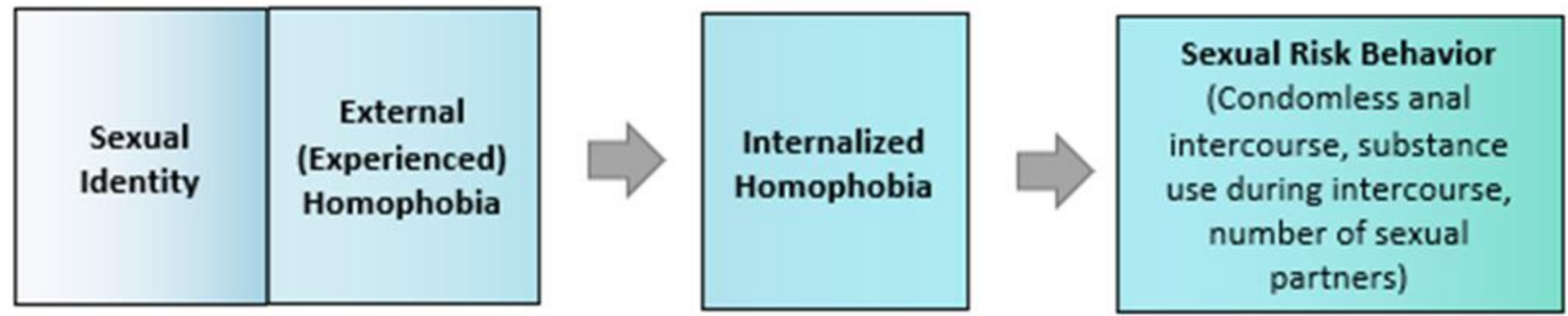
- Black sexual minority men (BSMM) are a priority population in HIV and STI prevention efforts
 - Disproportionately high HIV prevalence (1 in 3 currently, 1 in 2 expected in lifetime) and incidence (26% of new diagnoses)
 - High incidence and prevalence of gonorrhea, chlamydia, and syphilis
- Factors associated with sexual risk in this population is of critical importance

Theory and Rationale

- Minority stress theory is useful for understanding risk outcomes
 - Homophobic stigma, threats, violence
 - Internalized homophobia, shame
- BSMM may be vulnerable to homophobia, we posit this may affect sexual risk
- Homophobia may also differ across sexual identities
- Latent class analysis (LCA) can be useful for identifying patterns of sexual identity and homophobia

Theoretical Model

Among BSMM, we tested if sexual identity and external homophobia were associated with sexual risk behavior, mediated through internalized homophobia and additional relevant mechanisms.



Sample

- **Dataset:** HPTN 061, a prospective cohort from 2009 to 2011 primarily consisting of BSMM (n=1,553) focused on HIV risk
- **Eligibility Criteria**
 - 18 years of age or older
 - Self-identify as a man (98% cisgender men) or male at birth (2% transgender)
 - Black, African-American, or Caribbean American
 - Have had insertive or receptive anal intercourse with a man in the past 6 months

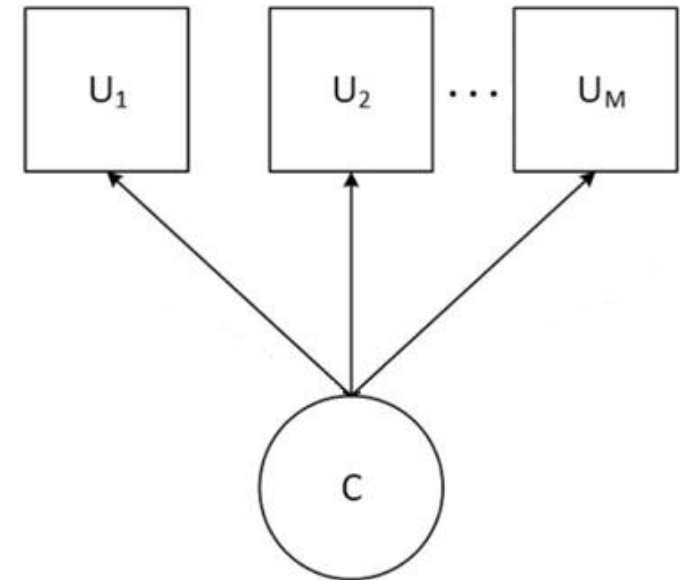


Measures

- **Baseline:** Sexual identity, self-reported experienced homophobia (25 items), and confounders (age, education level, income, site location)
- **6 months:** Internalized homophobia, substance use, social support, depression
- **12 months:** Frequency of condomless receptive anal intercourse (CRAI), transactional sex, number of sexual partners
- All measures other than site location were self-reported

Analysis

- Latent classes of sexual identity and experienced homophobia at baseline
- Class models selected based on ideal fit (entropy, AIC, etc.)
- Tested associations between latent classes and sexual risk outcomes
- Tested mediation through our mediators using structural equation modeling with bootstrapping



Latent Class Identification

- We selected a 7-class model with the following classes:
 1. Bisexual, rarely experienced homophobia (the reference)
 2. Mixed identities, mixed experiences with homophobia
 3. Bisexual, often experienced homophobia
 4. Heterosexual/SGL, often experienced homophobia
 5. Gay, often experienced homophobia
 6. Gay/SGL, often experienced homophobia
 7. Gay, rarely experienced homophobia

Latent Class Regression Results

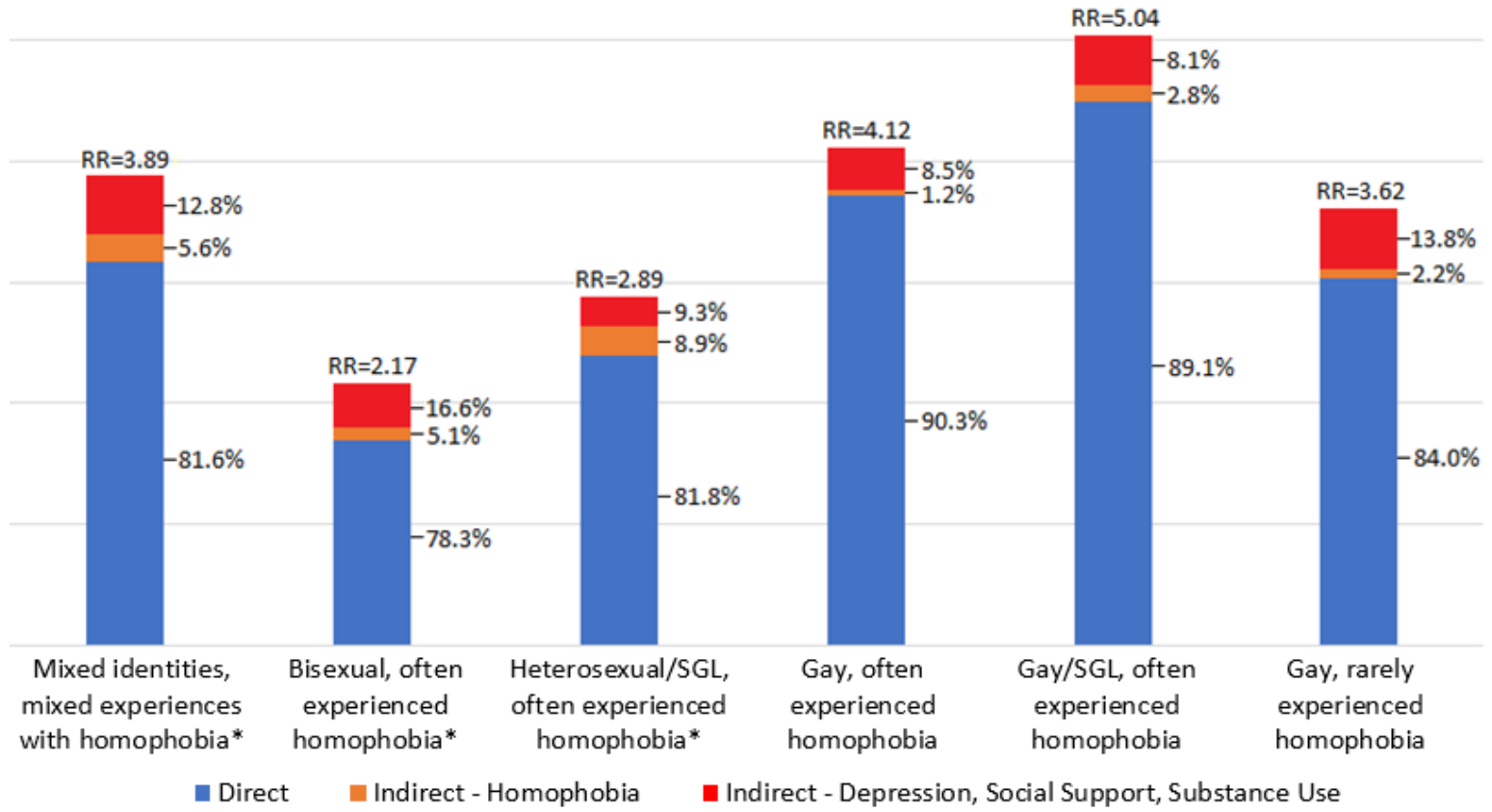
Table 4. Rate ratios for sexual risk behavior outcomes across latent classes among Black sexual minority men (n=1,123).

Latent Class	Frequency of Condomless Receptive Anal Intercourse ¹		Number of Sexual Partners ¹		Any Transactional Sex ²	
	Unadjusted	Adjusted ³	Unadjusted	Adjusted ³	Unadjusted	Adjusted ³
Bisexual, rarely experienced homophobia	Reference	Reference	Reference	Reference	Reference	Reference
Mixed identities, mixed experiences with homophobia	5.68 (2.77, 11.67)	3.89 (1.88, 8.08)	1.00 (0.78, 1.28)	1.41 (0.83, 2.40)	1.37 (0.56, 3.38)	1.97 (0.78, 4.97)
Bisexual, often experienced homophobia	2.51 (1.18, 5.32)	2.17 (1.02, 4.63)	1.12 (0.87, 1.44)	1.74 (1.05, 2.90)	2.41 (1.01, 5.73)	2.01 (0.83, 4.85)
Heterosexual/SGL, often experienced homophobia	2.84 (1.27, 6.32)	2.89 (1.29, 6.46)	0.88 (0.66, 1.17)	1.27 (0.70, 2.29)	1.63 (0.60, 4.41)	1.45 (0.54, 3.95)
Gay, often experienced homophobia	5.48 (2.61, 11.47)	4.12 (1.95, 8.67)	0.95 (0.73, 1.24)	1.55 (0.89, 2.70)	1.49 (0.57, 3.87)	1.82 (0.69, 4.80)
Gay/SGL, often experienced homophobia	6.21 (2.95, 13.08)	5.04 (2.38, 10.67)	0.80 (0.60, 1.06)	1.31 (0.73, 2.36)	1.16 (0.41, 3.27)	1.47 (0.52, 4.16)
Gay, rarely experienced homophobia	3.88 (1.73, 8.72)	3.62 (1.61, 8.17)	0.78 (0.56, 1.07)	0.96 (0.48, 1.92)	0.86 (0.24, 3.03)	1.02 (0.29, 3.63)

¹Cumulative complementary rate ratios calculated using cumulative log-log models. ²Rate ratios calculated using Poisson regression models with scale. ³Adjusted models adjusted for age, education level, income, and study site.

Mediation Results

Figure 2. Cumulative rate ratios for 12 month condomless receptive anal intercourse and proportions mediated across latent classes¹ (n=1,123).



Discussion

- Our findings add to the literature in several ways:
 - Identifies key risk groups, incorporating sexual identity
 - Informs intervention needs (e.g. depression, substance use)
 - Identifies targetable factors for interventions
 - Demonstrates the utility of latent class analysis

Strengths and Limitations

Strengths

- Multicenter cohort of BSMM with sites across the United States
- Prospective design preserves temporality
- Use of latent class analyses

Limitations

- Not generalizable to SMM of other racial/ethnic groups
- Low proportions of transactional sex limited power
- Social desirability bias

Conclusion

- Latent classes of sexual identity and experienced homophobia were associated with CRAI among BSMM
- This was mediated in part through depression, social support, substance use and internalized homophobia
- Policies and programs to promote sexual risk reduction among BSMM should consider these factors and sexual minority identities among BSMM

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