

HIV Risk and Prevalence among Men who Have Sex with Men in New York City

Results from the
2017 National HIV Behavioral Surveillance Study

Background

- NYC has the largest population of men who have sex with men (MSM) of any U.S. city.
- MSM are the largest group of people living with HIV/AIDS by HIV transmission risk, and the majority of new HIV diagnoses in NYC are among MSM.
- HIV case surveillance in NYC show that there were:
 - 1,243 new diagnoses among MSM in 2017
58% of all new diagnoses and 72% of new diagnoses with known risk
 - 51,591 MSM living with HIV/AIDS as of 2017
41% of all people living with HIV/AIDS (PLWHA) and 52% of PLWHA with known risk

National HIV Behavioral Surveillance (NHBS)

- Ongoing, cyclical study of three groups at elevated risk for HIV: MSM, persons who inject drugs (PWID), and high-risk heterosexuals
 - Conducted in 22 cities through the U.S.
 - Funded by CDC, designed collaboratively
 - Cross-sectional study design
 - Anonymous, structured interview and HIV testing
- In NYC, the fifth MSM cycle (MSM5) included optional testing for extragenital sexually transmitted infections (STI).

NHBS-MSM5 Objectives

- Determine frequency and correlates of HIV risk behaviors
- Assess HIV testing history and patterns
- Assess exposure to and use of HIV prevention services
- Estimate the prevalence of HIV infection
- Understand trends in HIV risk and prevalence
- Determine the epidemiology of extragenital gonorrhea and chlamydia
- Evaluate the value and feasibility of screening for extragenital STIs in venue-based settings

Eligibility Criteria

NYC NHBS-MSM5, 2017

- Born male and currently identifies as male
- At least 18 years old
- Resident of NYC metropolitan statistical area (MSA)
- Ever had oral or anal sex with another man
- Speaks English or Spanish

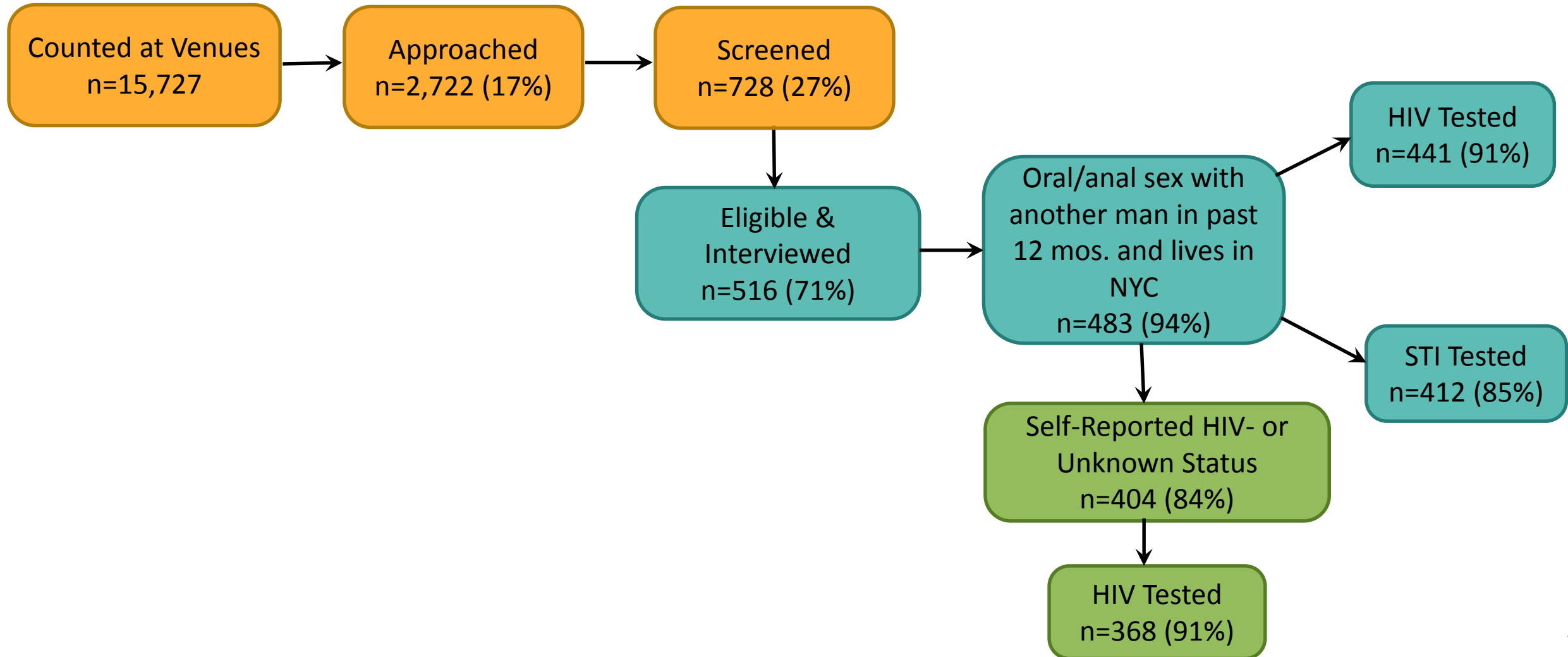
Venue-Based Sampling

NYC NHBS-MSM5, 2017

- Universe of MSM-oriented venues constructed
 - *Bars, clubs, parks, restaurants, cruising areas*
- Venues randomly selected, placed on monthly calendar
 - *Special events or venues also added non-randomly*
- Field team sequentially approach men at venue
 - *Men must cross an imaginary line; venue volume measured*
- Approached men are screened, and if eligible, provide informed consent, are interviewed, and offered testing for HIV and extragenital STIs
- Data were collected June – November 2017

Study Sample

NYC NHBS-MSM5, 2017



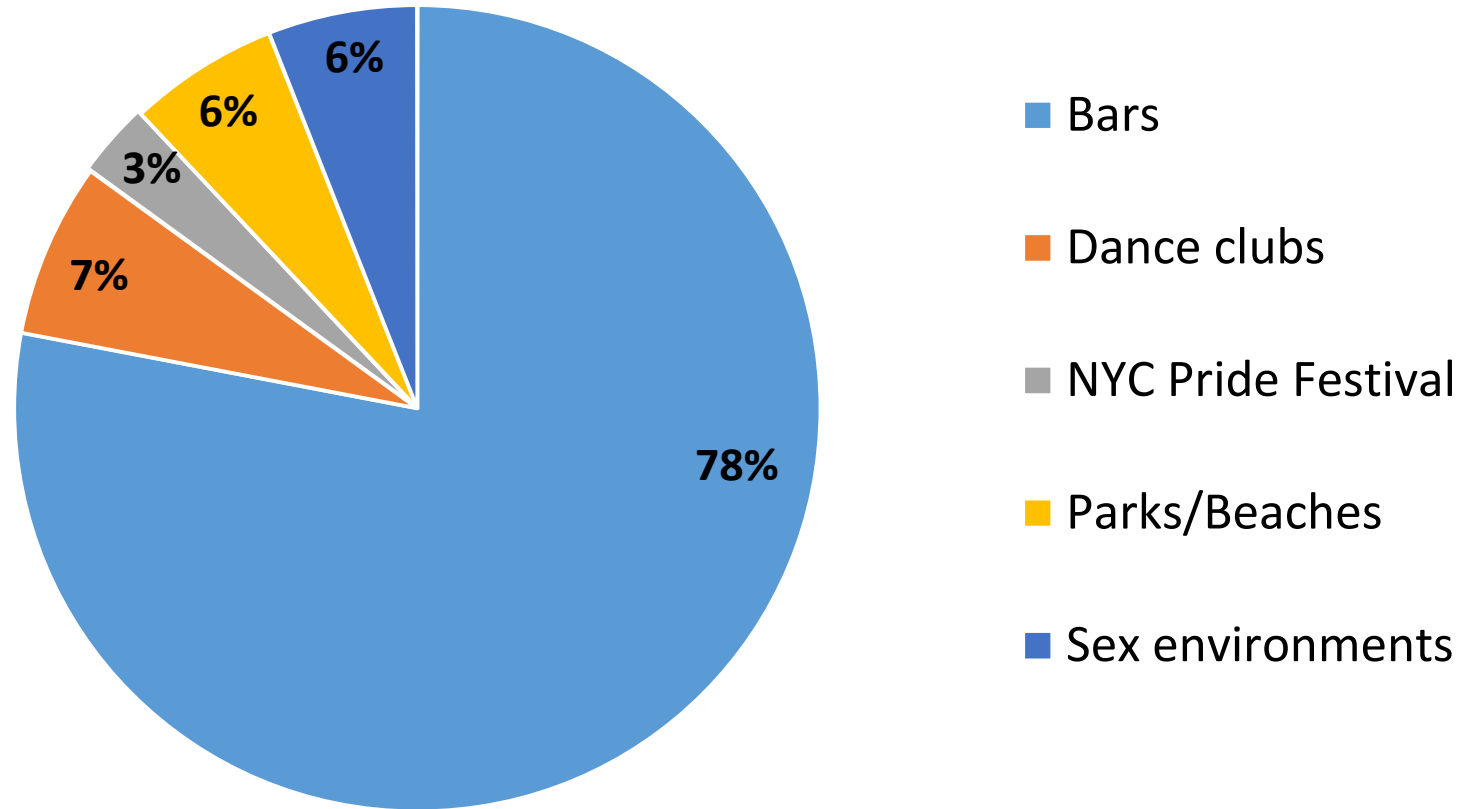
Statistical Analysis

NYC NHBS-MSM5, 2017

- Analyses restricted to those who live in NYC and reported oral or anal sex with another man in the past 12 months (n=483)
- Basic descriptive frequencies of demographics, risk behaviors, and use of HIV testing and prevention services
- Chi-square tests (categorical variables) and Wilcoxon tests (non-normal continuous variables) were used to compare differences in HIV risks and use of HIV testing and prevention services
 - Most slides focus only on MSM who did not self-report as HIV-positive (n=404), since awareness of HIV infection influences risk
- Overall prevalence of HIV infection determined by HIV test result among those with a confirmed test result (n=435)
 - Awareness of HIV status evaluated among those who tested HIV positive (n=79)

Recruitment Venues

NYC NHBS-MSM5, 2017, n=483



Demographics

NYC NHBS-MSM5, 2017, n=483

Race/Ethnicity

| | |
|-----------------|-----|
| Hispanic/Latino | 31% |
| Black | 22% |
| White | 40% |
| Other* | 5% |
| Not reported | 2% |

Age

| | |
|-------|-----|
| 18-29 | 38% |
| 30-39 | 36% |
| 40-49 | 16% |
| 50+ | 11% |

Sexual orientation

| | |
|-----------------------|-----|
| Homosexual/Gay | 84% |
| Bisexual | 14% |
| Heterosexual/Straight | 1% |
| Unknown | 1% |

Birthplace

| | |
|----------------|-----|
| United States | 72% |
| Outside the US | 27% |
| Puerto Rico | 2% |

*'Other' category includes American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander

Demographics

NYC NHBS-MSM5, 2017, n=483

Annual household income (12m)

| | |
|-------------------|-----|
| <\$10,000 | 9% |
| \$10,000-\$29,999 | 23% |
| \$30,000-\$49,999 | 16% |
| ≥ \$50,000 | 51% |

Borough of Residence

| | |
|---------------|-----|
| Bronx | 11% |
| Brooklyn | 25% |
| Manhattan | 40% |
| Queens | 23% |
| Staten Island | 1% |

Education level

| | |
|--------------------------------------|-----|
| < High school | 2% |
| High school graduate or some college | 32% |
| ≥ College graduate | 67% |

Homelessness* (12m)

| | |
|--------------|-----|
| Homeless | 8% |
| Not homeless | 92% |

*Defined as living on the street, in a shelter, in a Single Room Occupancy (SRO), or in a car.

Sexual Behavior

Number of Male Sex* Partners in Past 12 Months

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)

| | Median | Mean | Minimum | Maximum |
|------------------|---------------|-------------|----------------|----------------|
| Main | 1.0 | 1.1 | 0 | 30 |
| Casual | 5.0 | 12.6 | 0 | 269 |
| All Types | 6.0 | 13.6 | 1 | 269 |

**Defined as oral or anal sex*

Median Number of Male Sex* Partners in Past 12 Months by Participants' Race/Ethnicity

NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹

| | Hispanic/Latino | Black | White |
|--------------------|-----------------|-------|-------|
| Main | 1.0 | 1.0 | 1.0 |
| Casual** | 4.0 | 4.0 | 6.0 |
| All Types** | 5.0 | 5.0 | 6.5 |

*Defined as oral or anal sex **p<0.05 for differences in the number of male sex partners by race/ethnicity; Kruskal-Wallis test

¹Other' race (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) not shown due to small sample size.

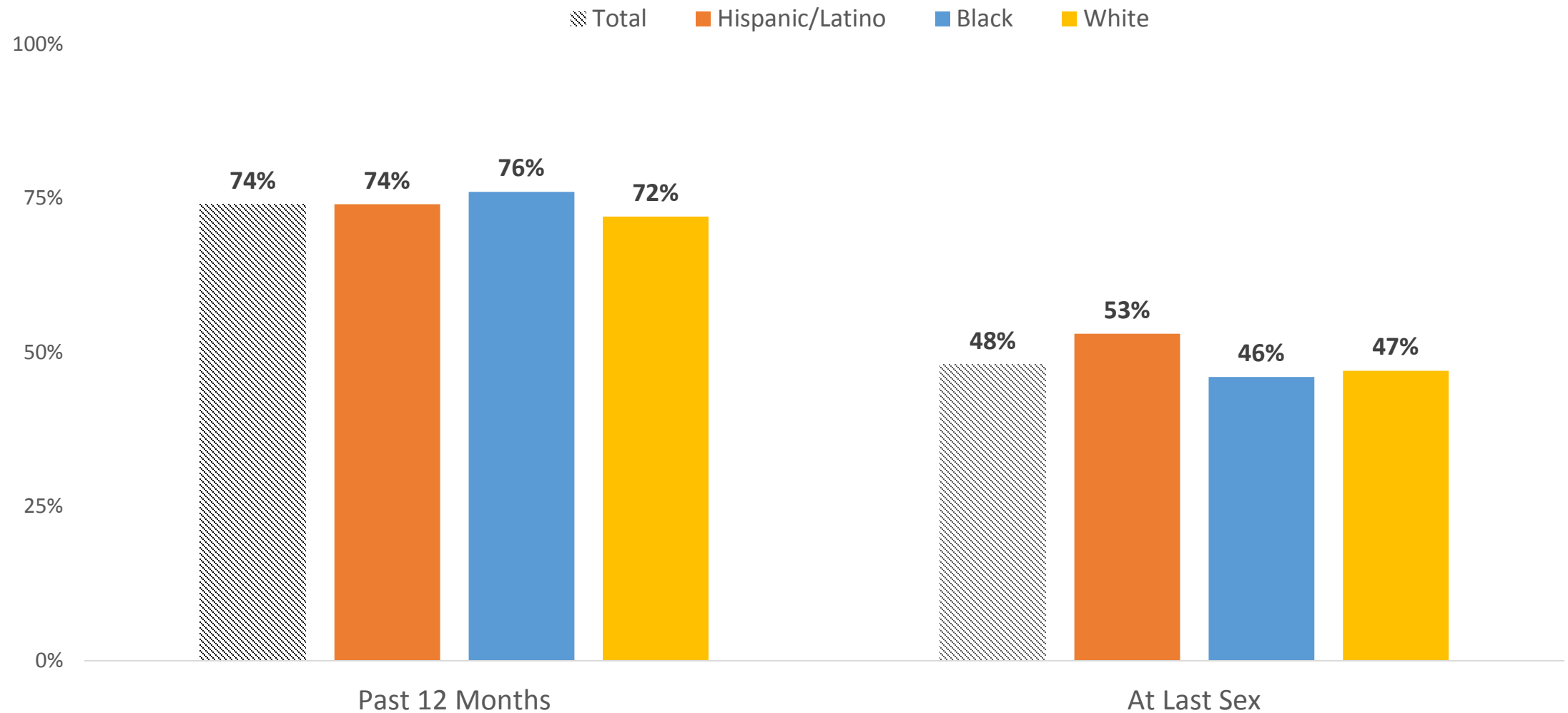
Sexual Behavior

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)

| | |
|---|-----|
| Condomless Anal Sex with a Man (12m) | 72% |
| Condomless Anal Sex with a Man (Last Sex) | 47% |
| Vaginal or Anal Sex with a Woman (12m) | 9% |
| Condomless Vaginal or Anal Sex with a Woman (12m) | 4% |

Condomless Anal Sex with a Man in Past 12 Months and at Last Sex by Participants' Race/Ethnicity

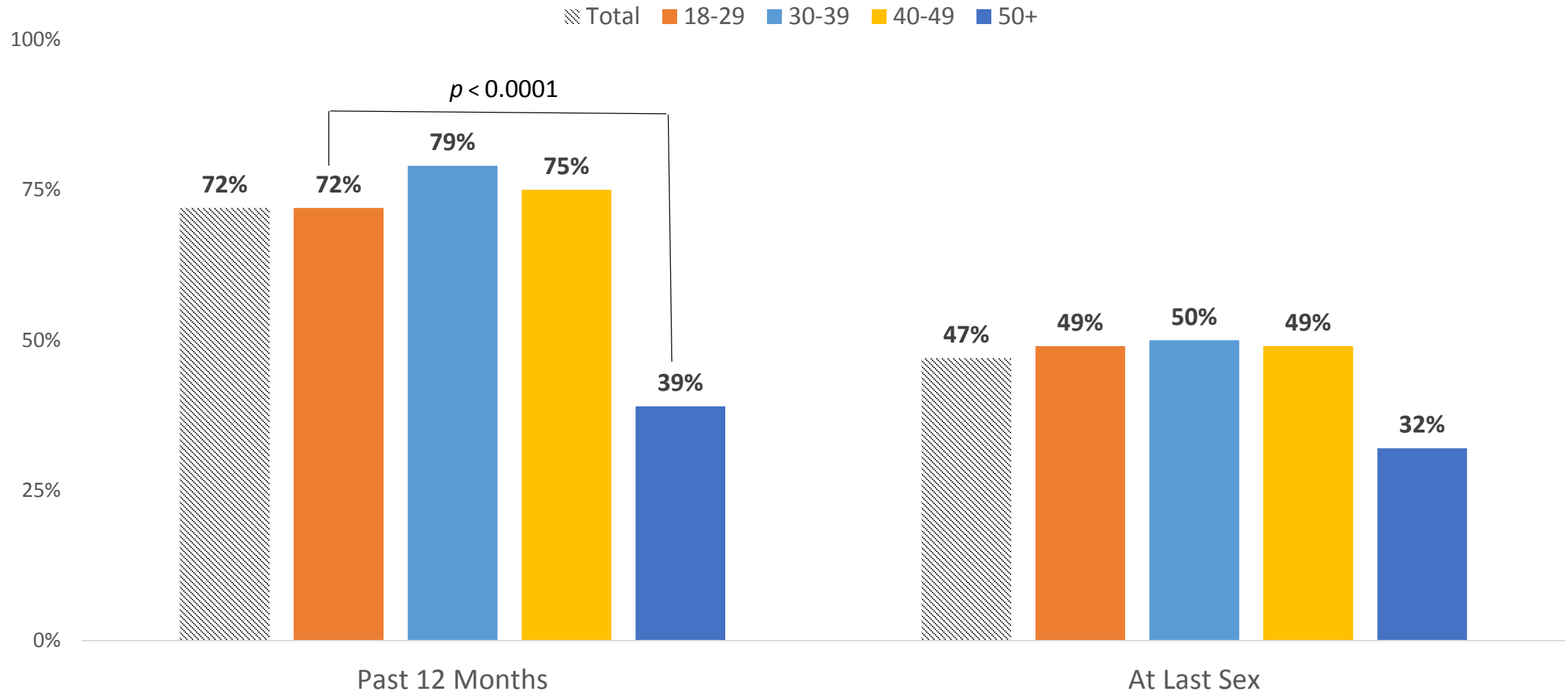
NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹



¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

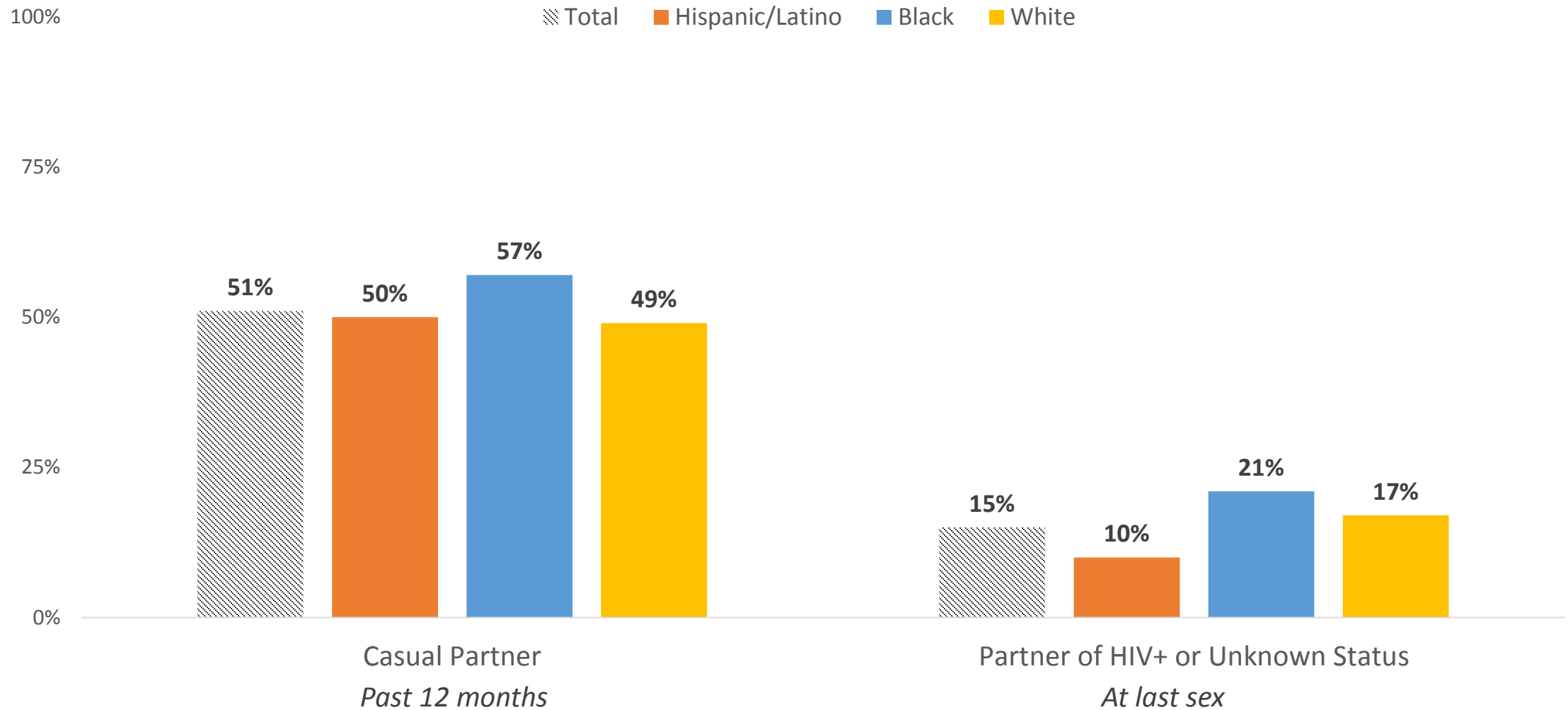
Condomless Anal Sex with a Man in Past 12 Months and at Last Sex by Participants' Age

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)



Male Condomless Anal Sex Partner Characteristics by Participants' Race/Ethnicity

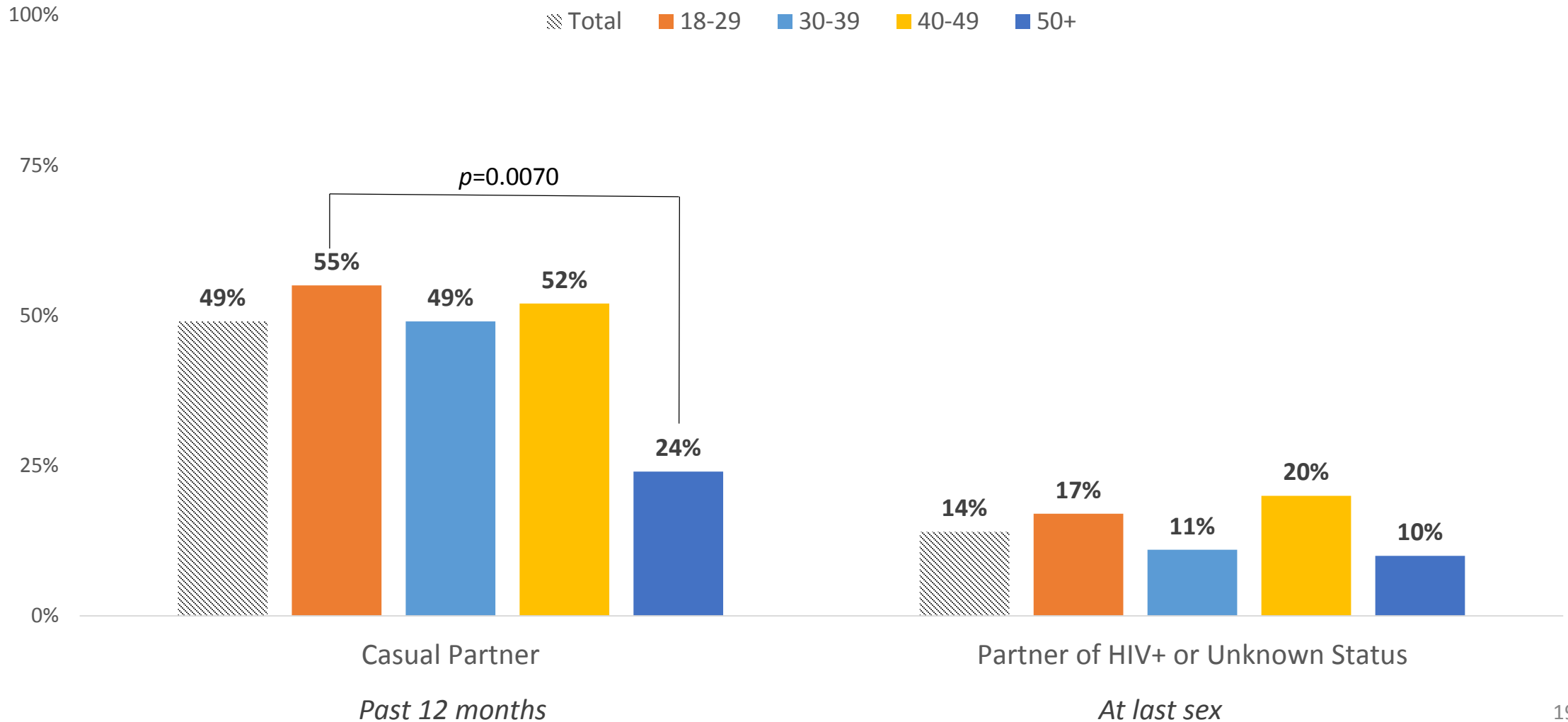
NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹



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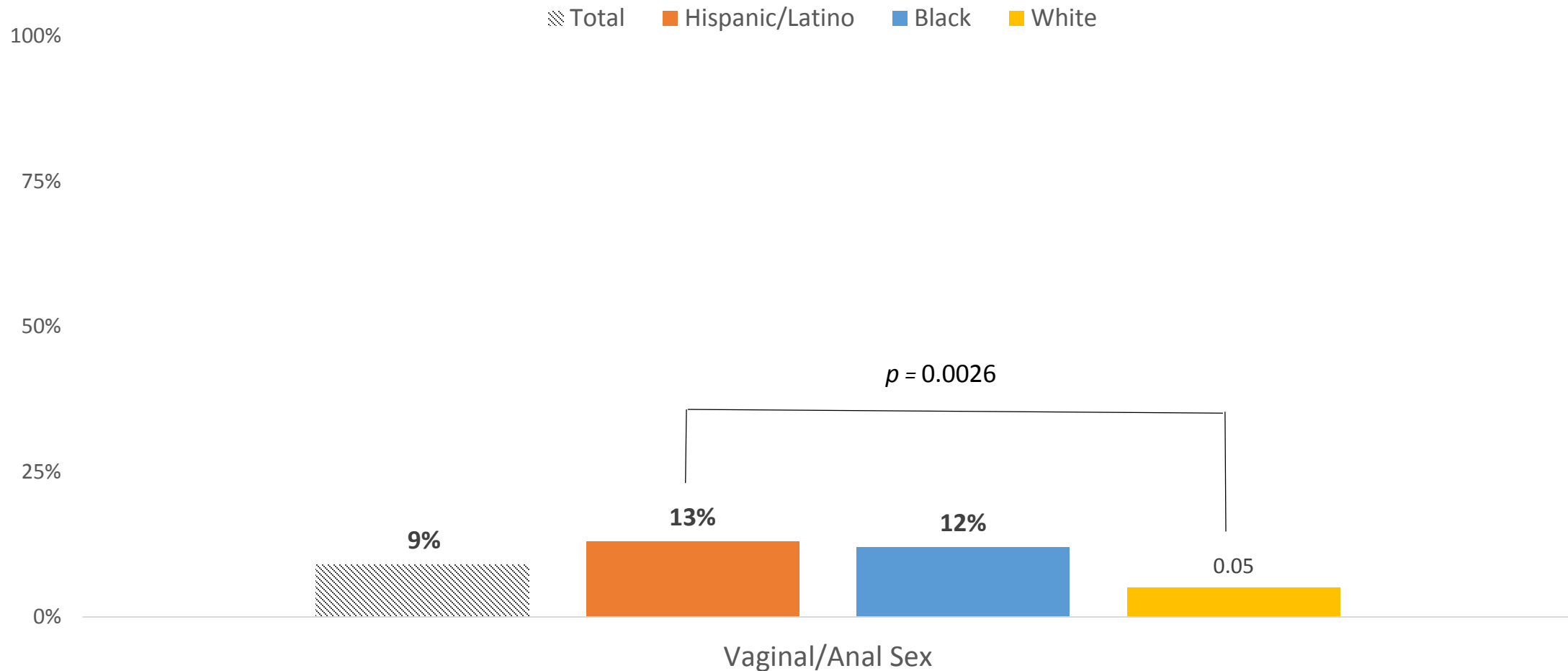
Male Condomless Anal Sex Partner Characteristics by Participants' Age

NYC NHBS-MSM5, 2017, n=395 (HIV-/Unknown Status)



Sex with a Woman in Past 12 Months by Participants' Race/Ethnicity

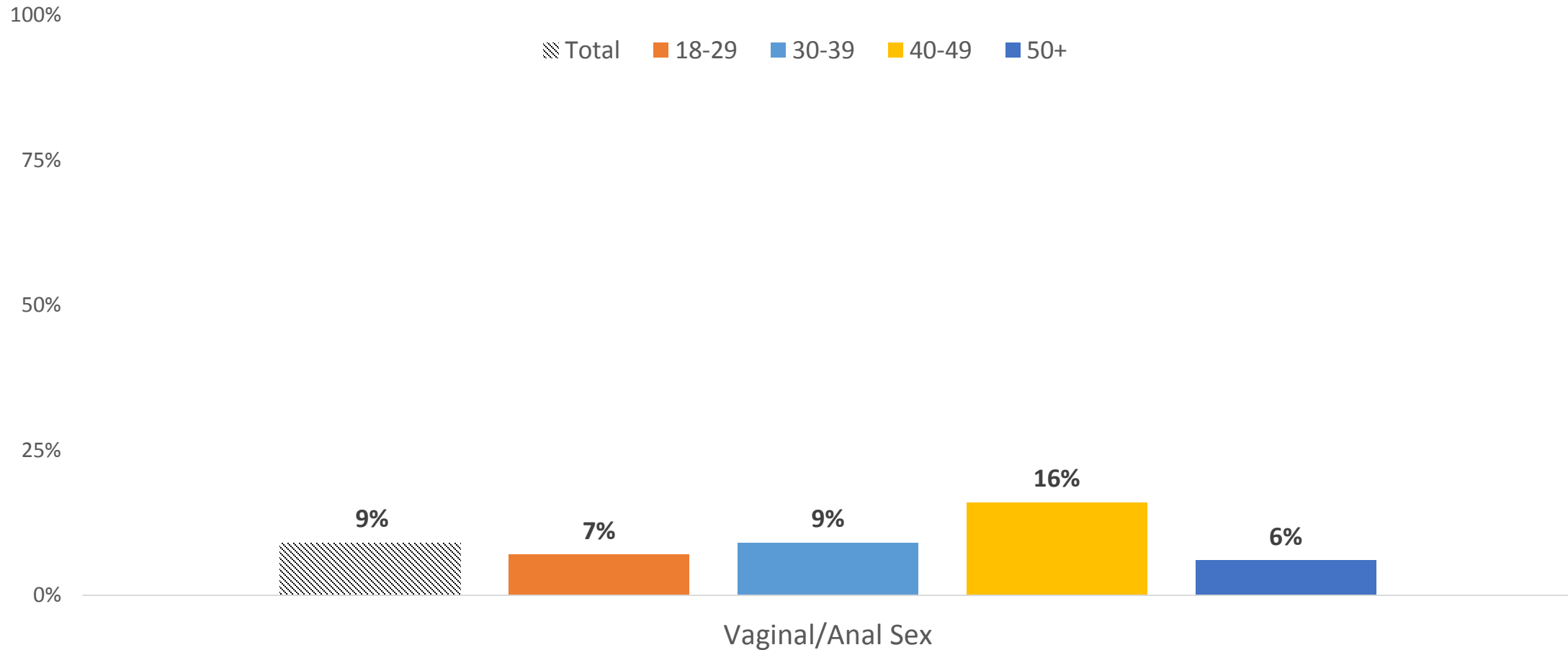
NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹



¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

Sex with a Woman in Past 12 Months by Participants' Age

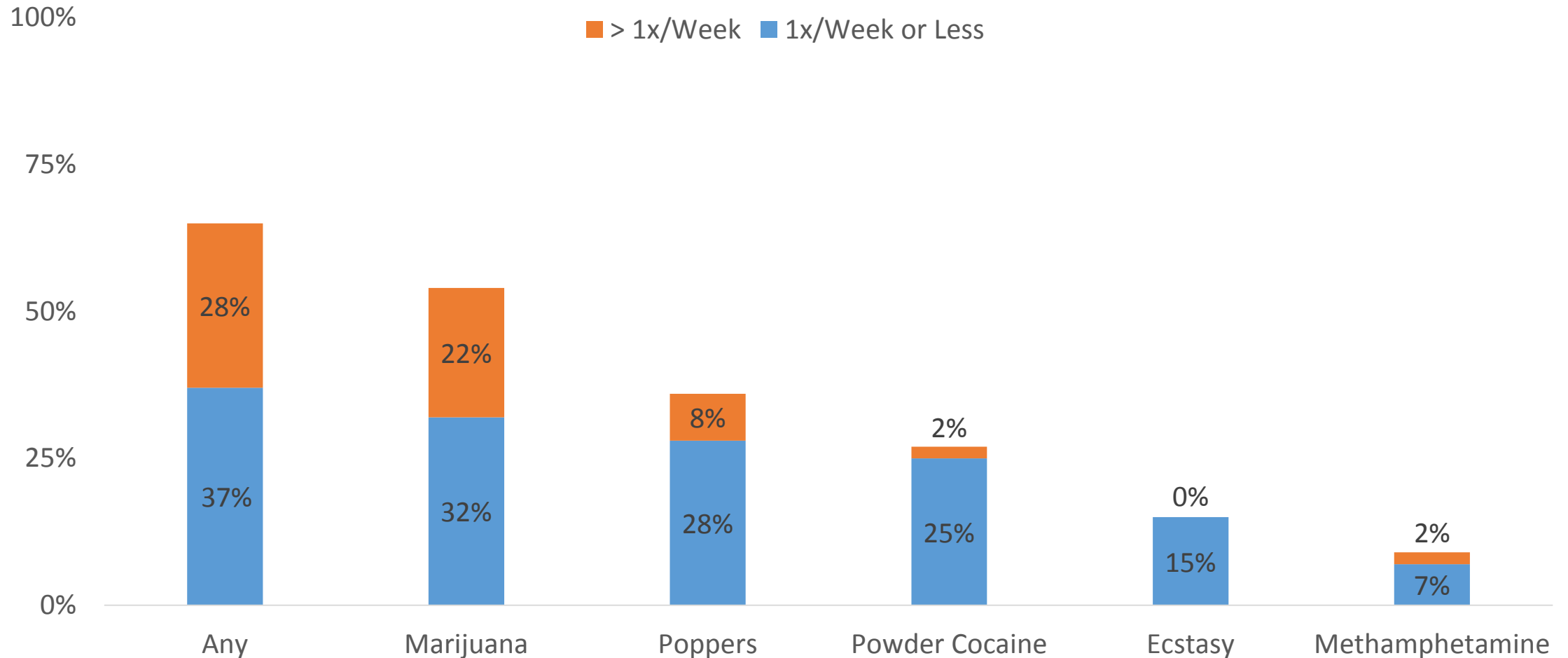
NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)



Substance Use

Non-Injection Drug Use in Past 12 Months

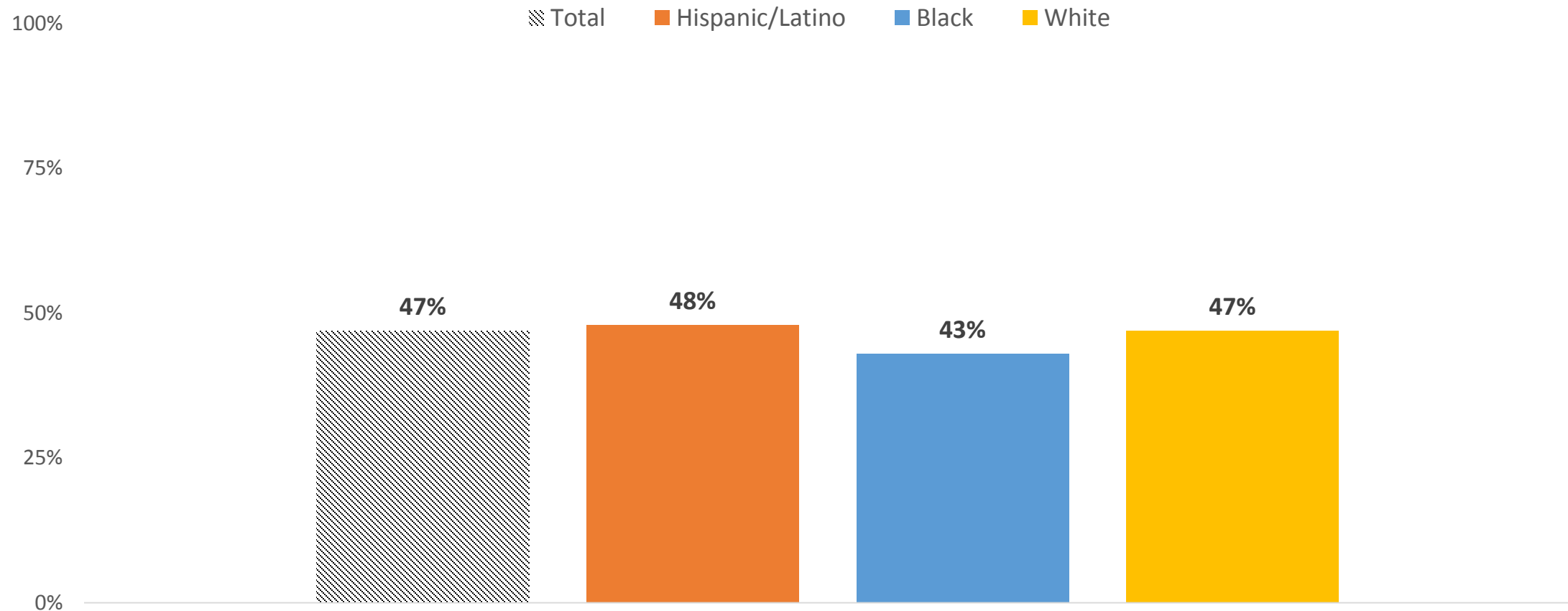
NYC NHBS-MSM5, 2017, n=483



Use of other drugs (crack cocaine, downers, nonprescription painkillers, and heroin) was less common (<6%) and is included in 'any' drug use.

Binge Alcohol Use* in Past 12 Months by Participants' Race/Ethnicity

NYC NHBS-MSM5, 2017, n=443¹

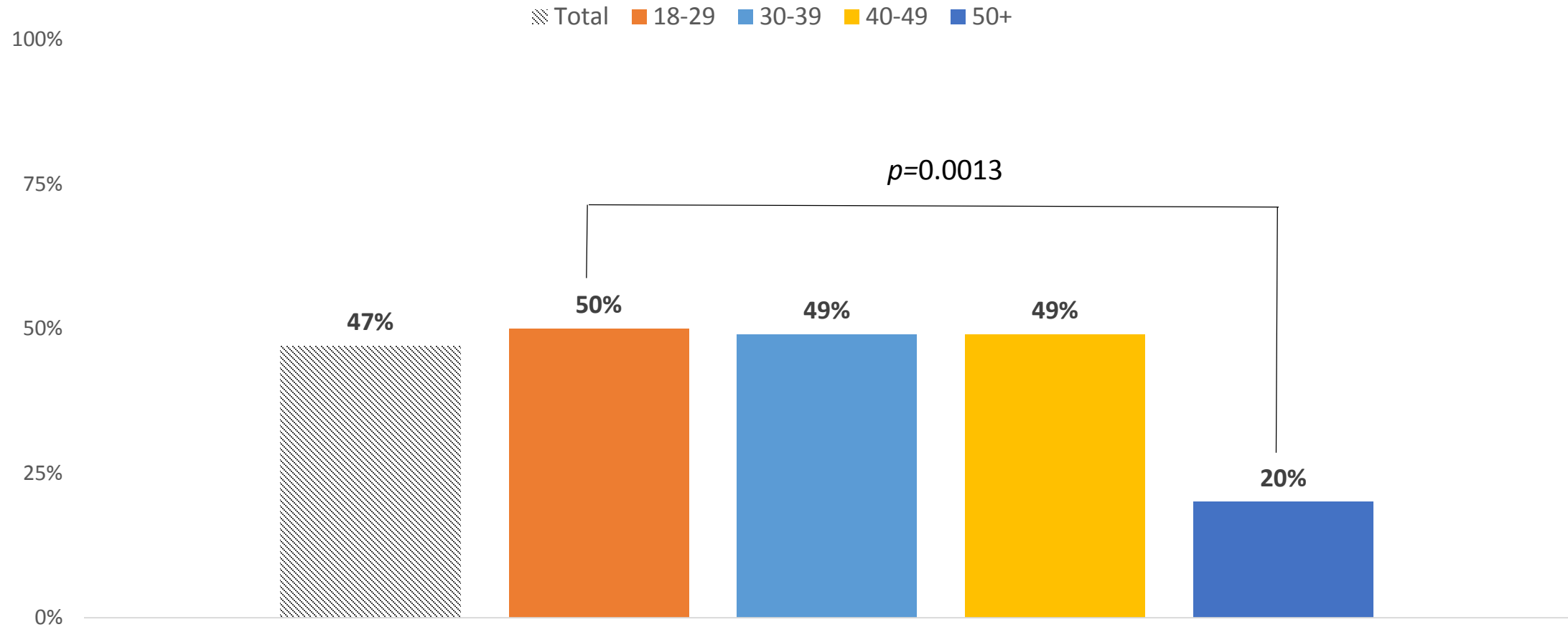


*Binge alcohol use defined as 5 or more drinks in one sitting.

¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

Binge Alcohol Use* in Past 12 Months by Participants' Age

NYC NHBS-MSM5, 2017, n=483

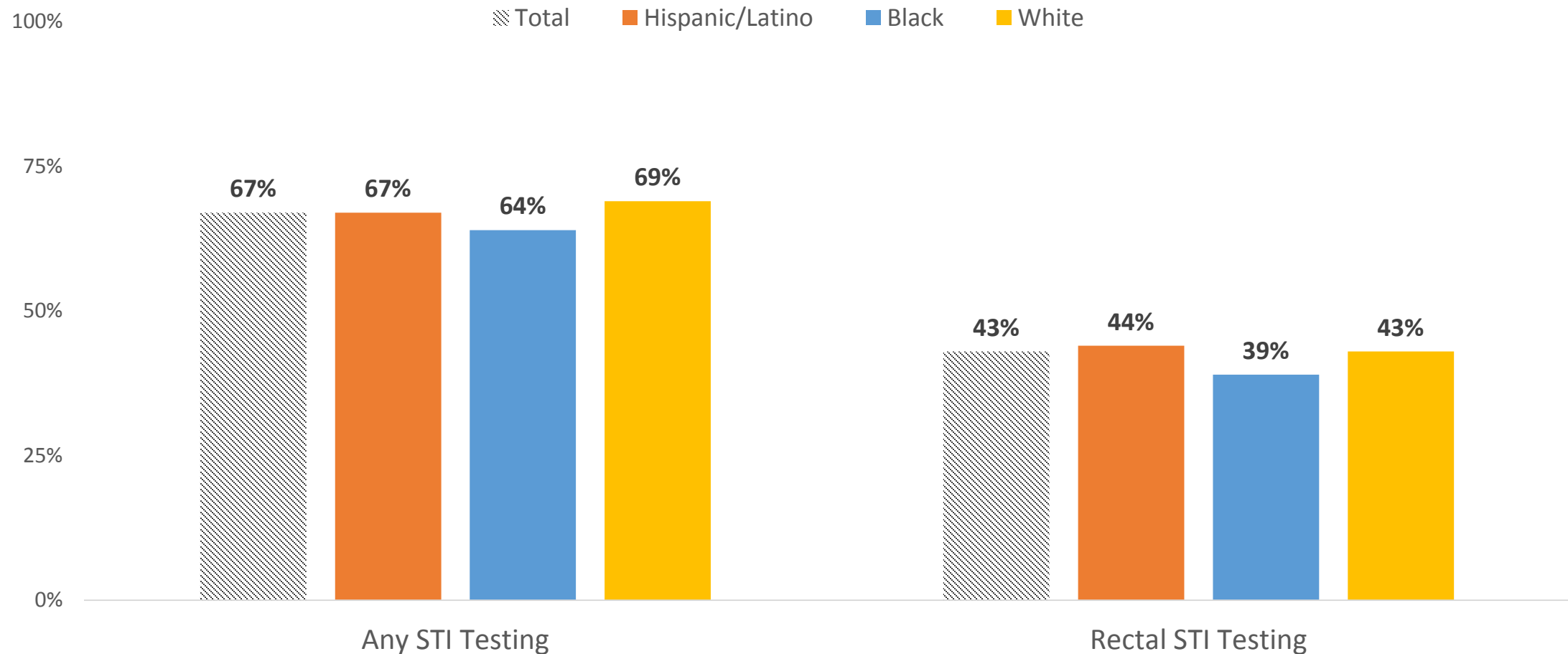


*Binge alcohol use defined as 5 or more drinks in one sitting.

Sexually Transmitted Infections

Self-Reported Sexually Transmitted Infection (STI) Testing* in Past 12 Months by Participants' Race/Ethnicity

NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹

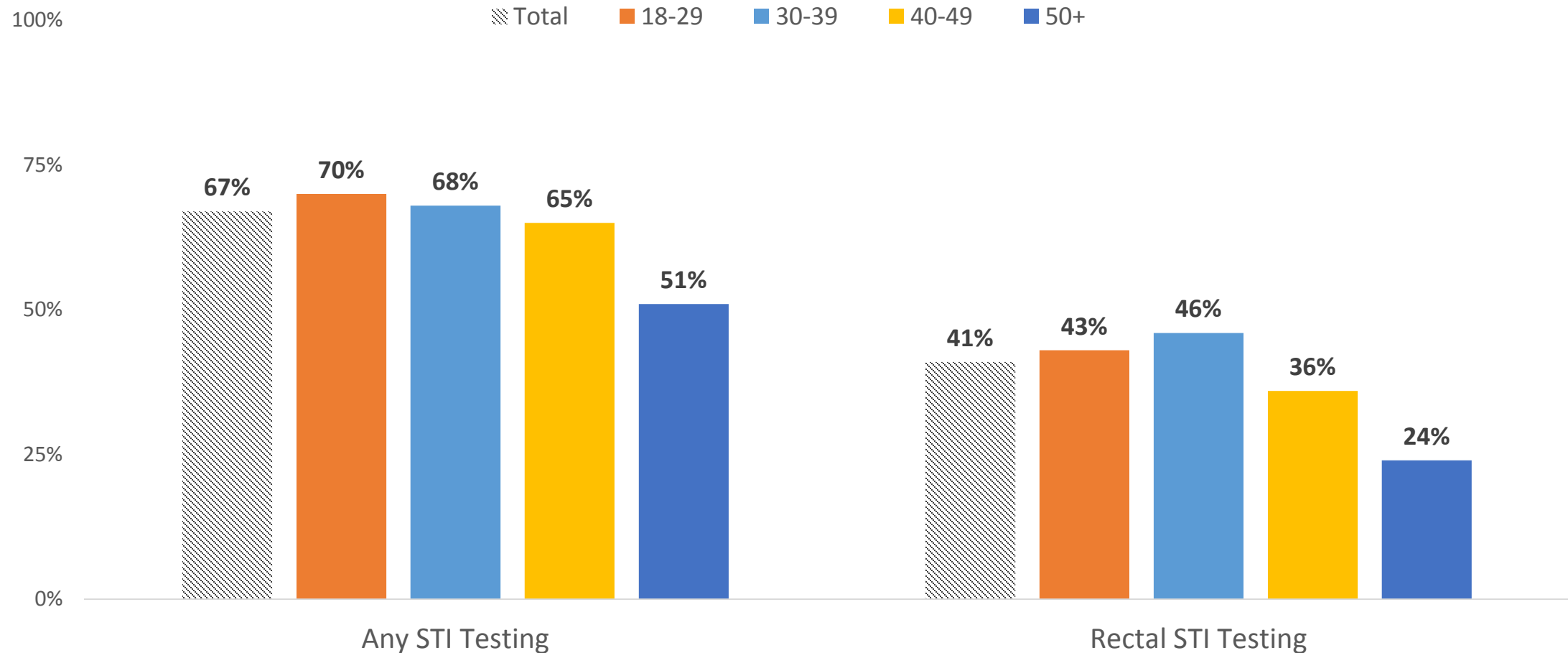


*STI testing does not include testing for HIV or hepatitis.

¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

Sexually Transmitted Infection (STI) Testing* in Past 12 Months by Participants' Age

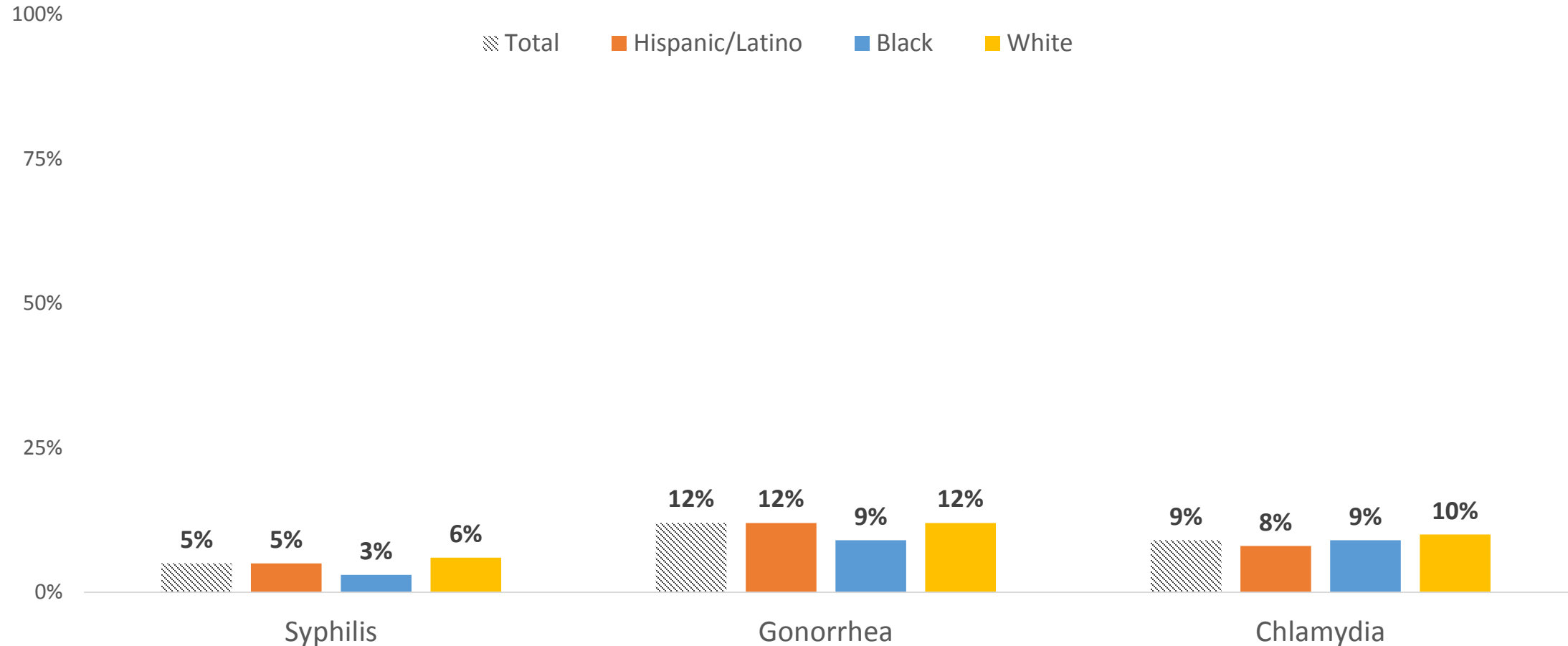
NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)



*STI testing does not include testing for HIV or hepatitis.

Self-Reported STI Diagnoses in Past 12 Months by Participants' Race/Ethnicity

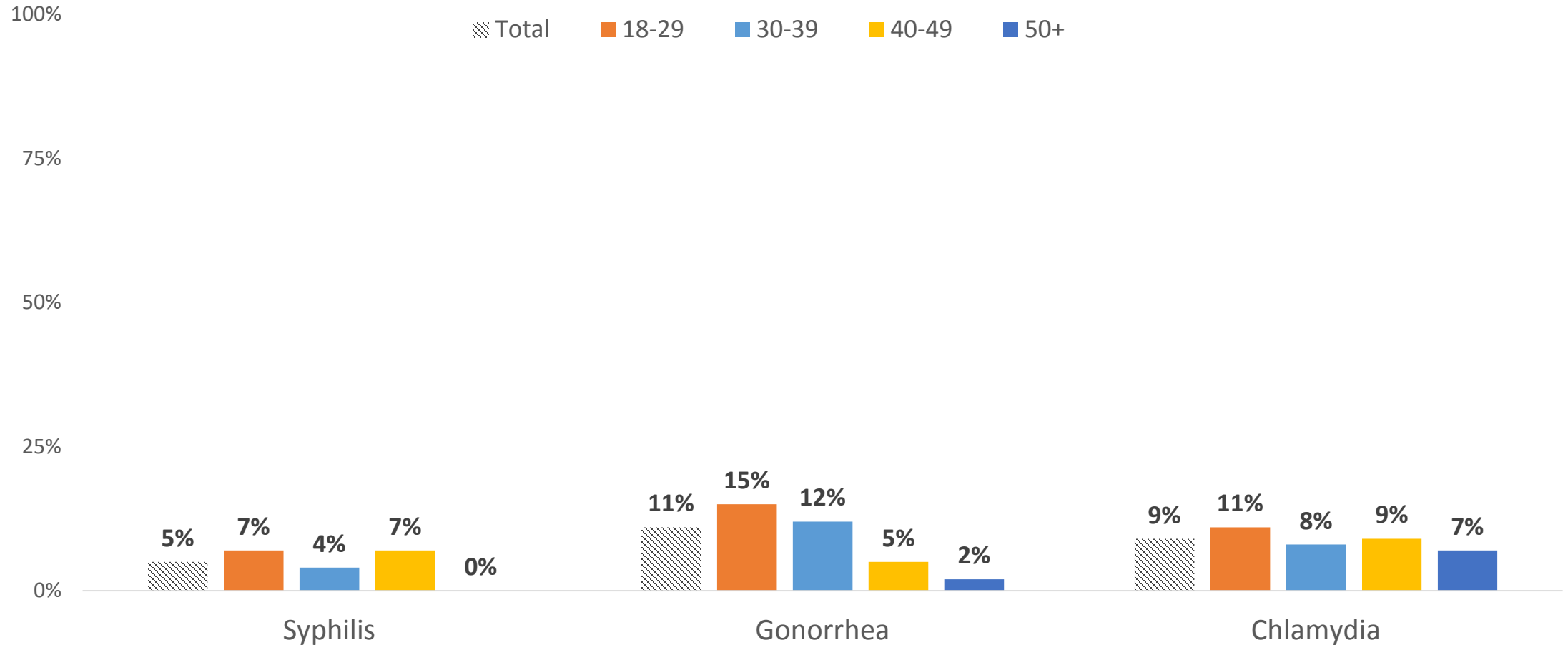
NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹



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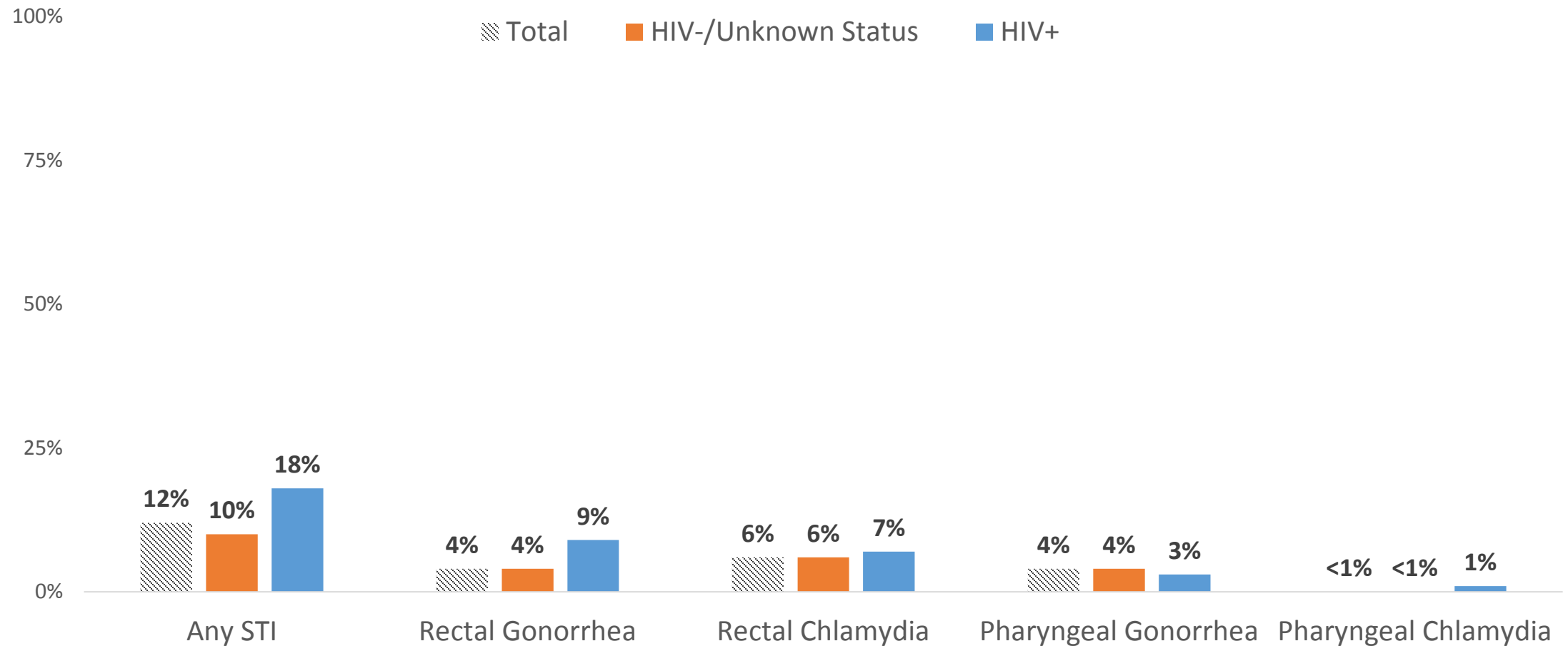
Self-Reported STI Diagnoses in Past 12 Months by Participants' Age

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)



Extragenital STI Prevalence by Self-Reported HIV Status*

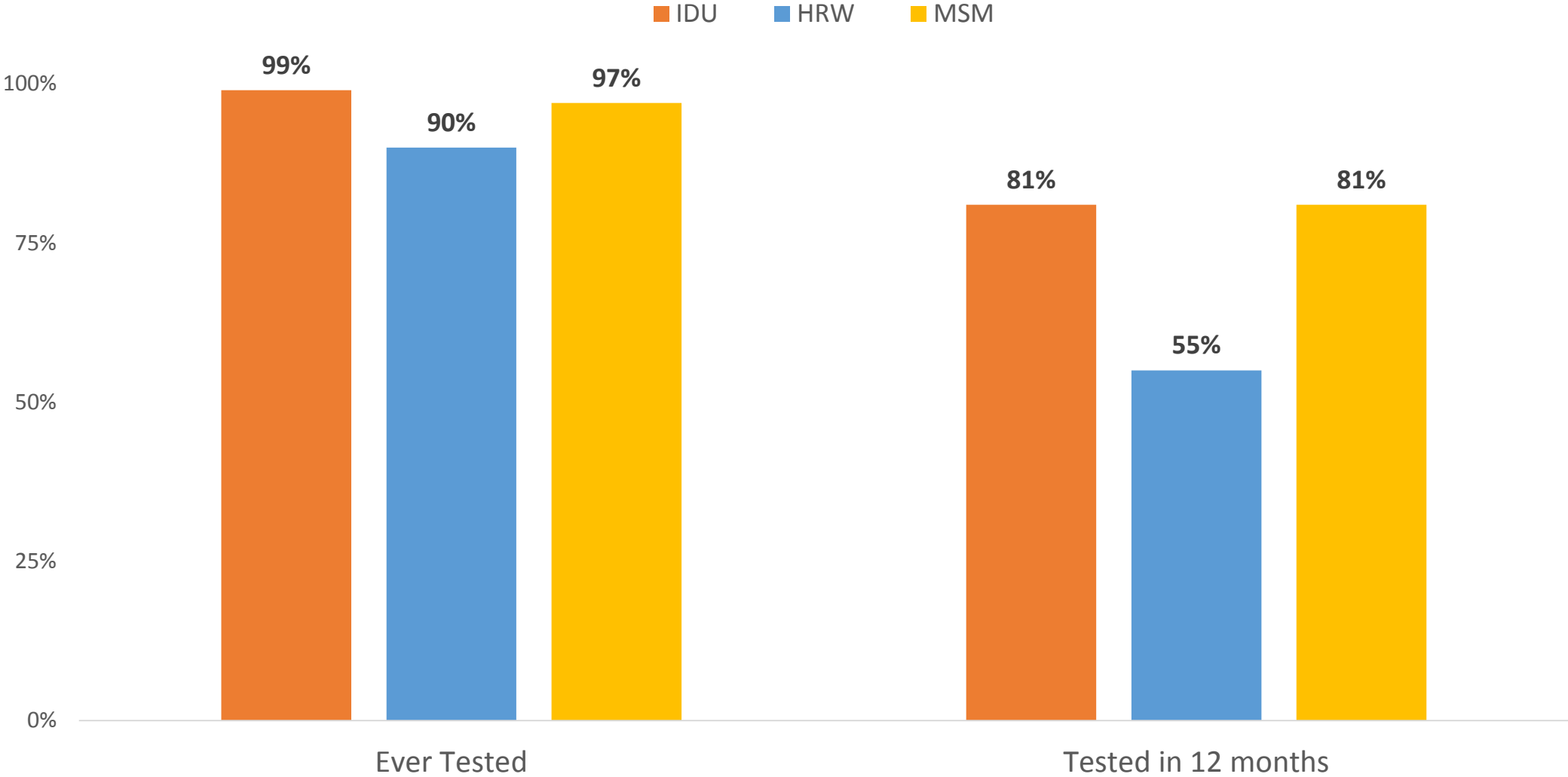
NYC NHBS-MSM5, 2017, n=412 (tested in study)



HIV Testing and Prevention Services

HIV Testing History among MSM Compared to Other NHBS High-Risk Groups

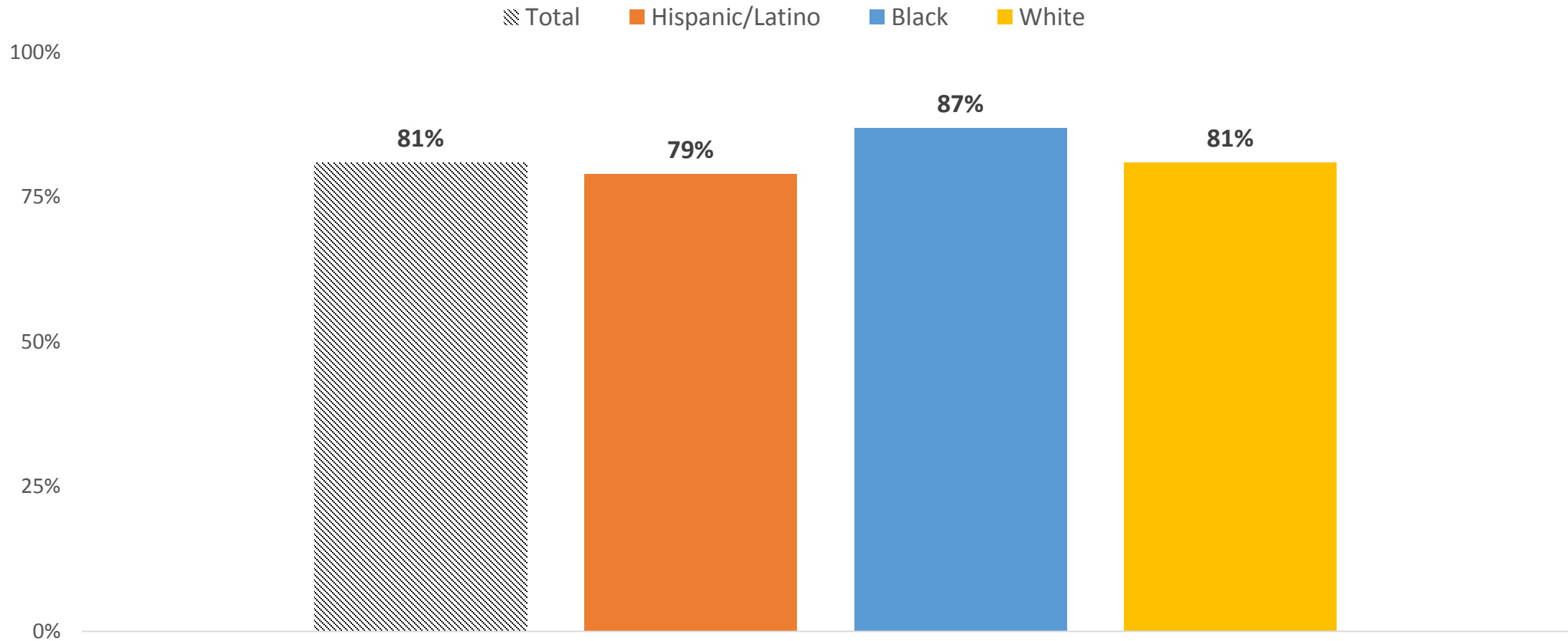
NYC NHBS IDU (2015), HRW (2016), and MSM (2017) (HIV-/Unknown status across all cycles)*



**In 2016, the NYC NHBS HET4-HRW cycle was restricted to high risk women, specifically women who exchange sex for money or drugs*

HIV Testing in Past 12 Months by Participants' Race/Ethnicity

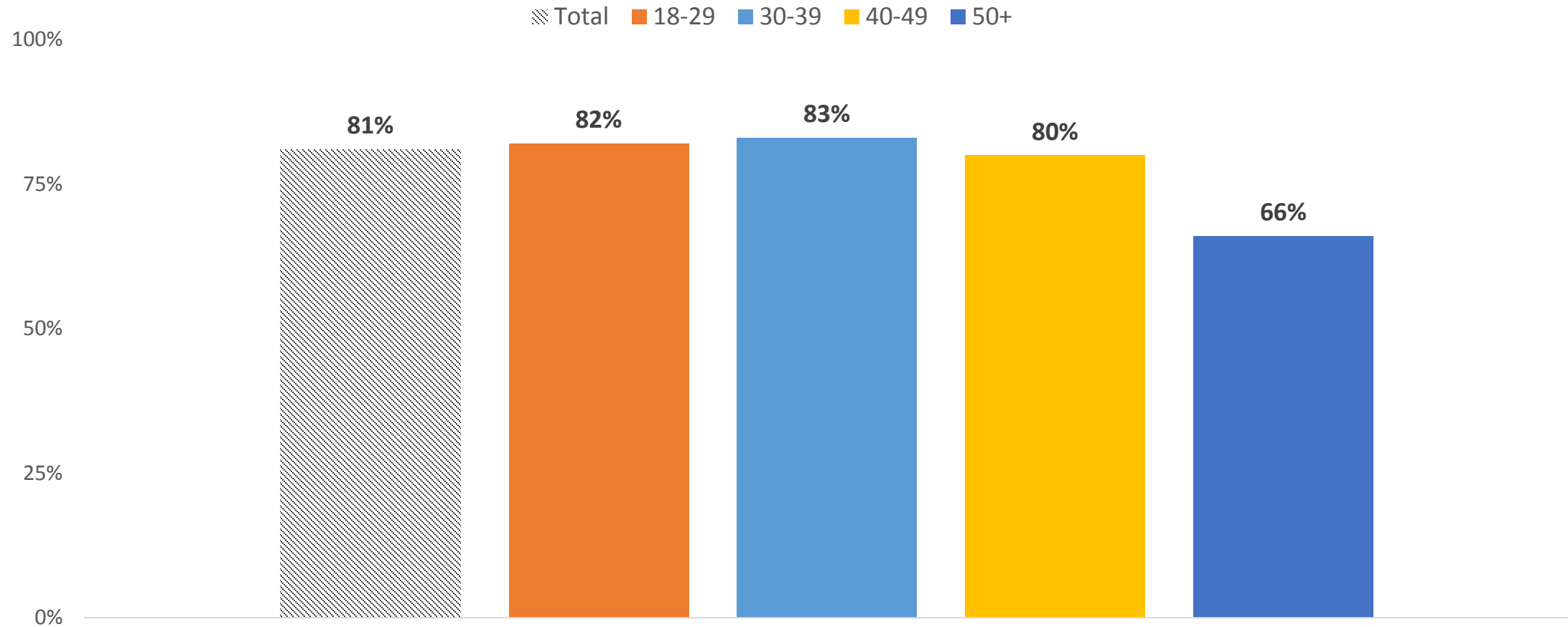
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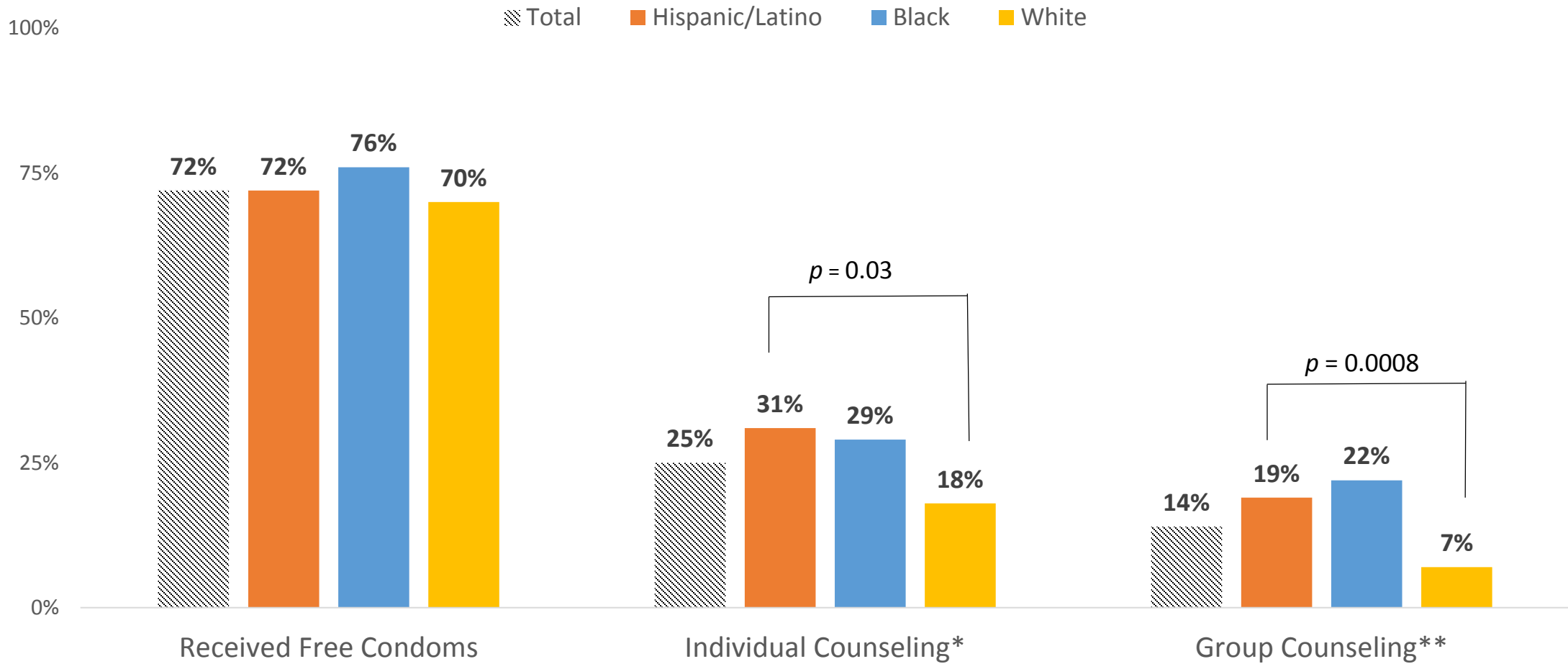
HIV Testing in Past 12 Months by Participants' Age

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)¹



Use of HIV Prevention Services by Participants' Race/Ethnicity

NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹



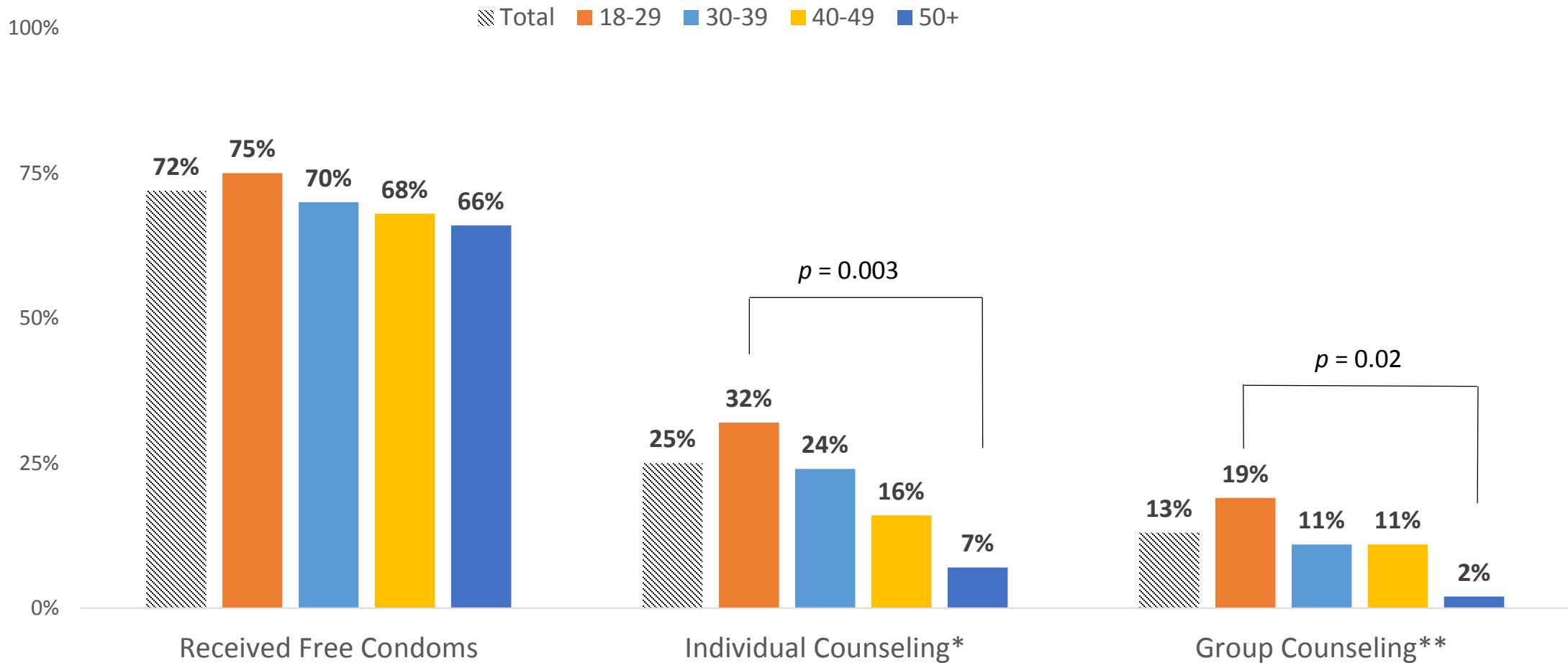
¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

*Defined as a one-on-one conversation with an outreach worker, counselor, or prevention program worker about ways to prevent HIV. Does not include counseling as part of an HIV test.

**Defined as any organized session with a small group of people to discuss ways to prevent HIV. Does not include discussions with a group of friends.

Use of HIV Prevention Services by Participants' Age

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)¹



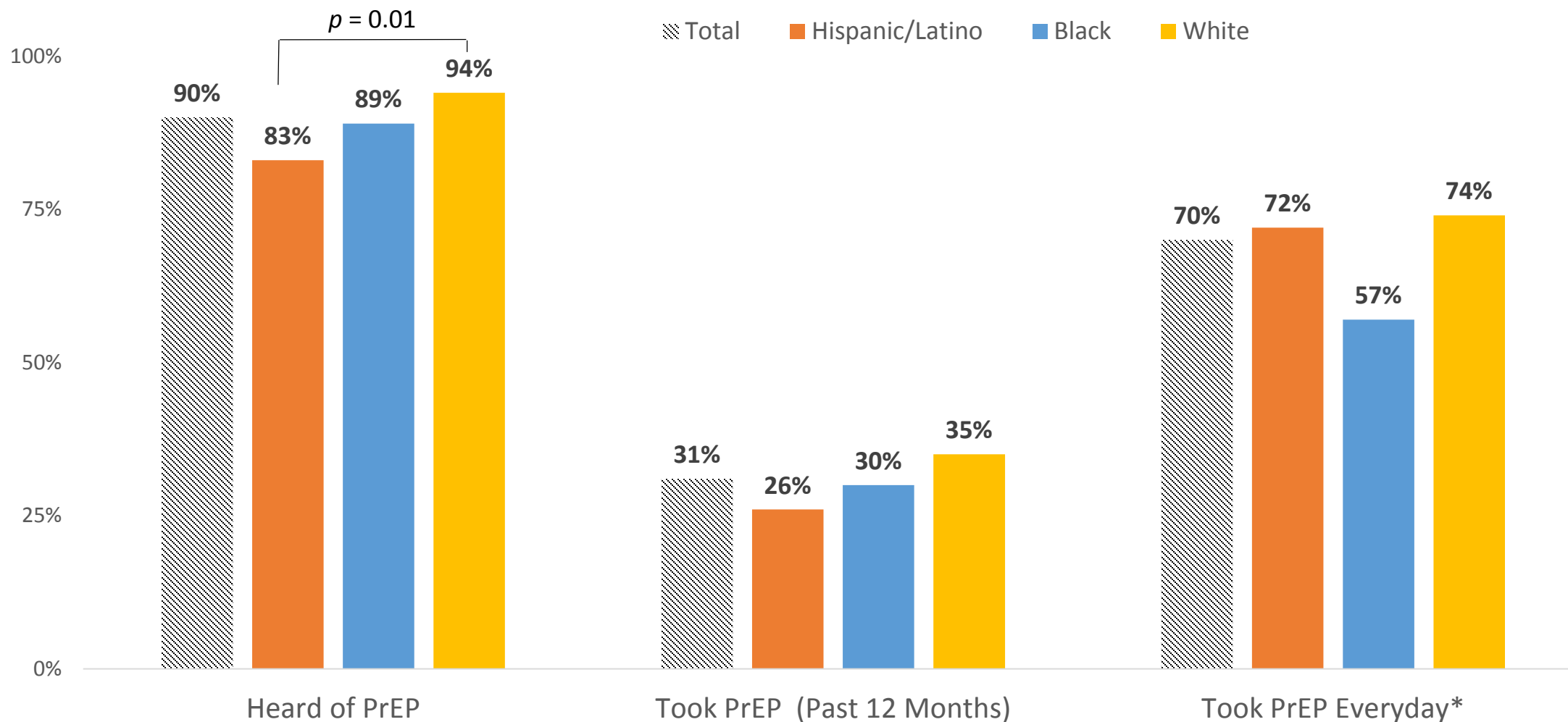
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Pre-Exposure Prophylaxis (PrEP) Awareness, Use, and Adherence by Participants' Race/Ethnicity

NYC NHBS-MSM5, 2017, n=371 (HIV-/Unknown Status)¹

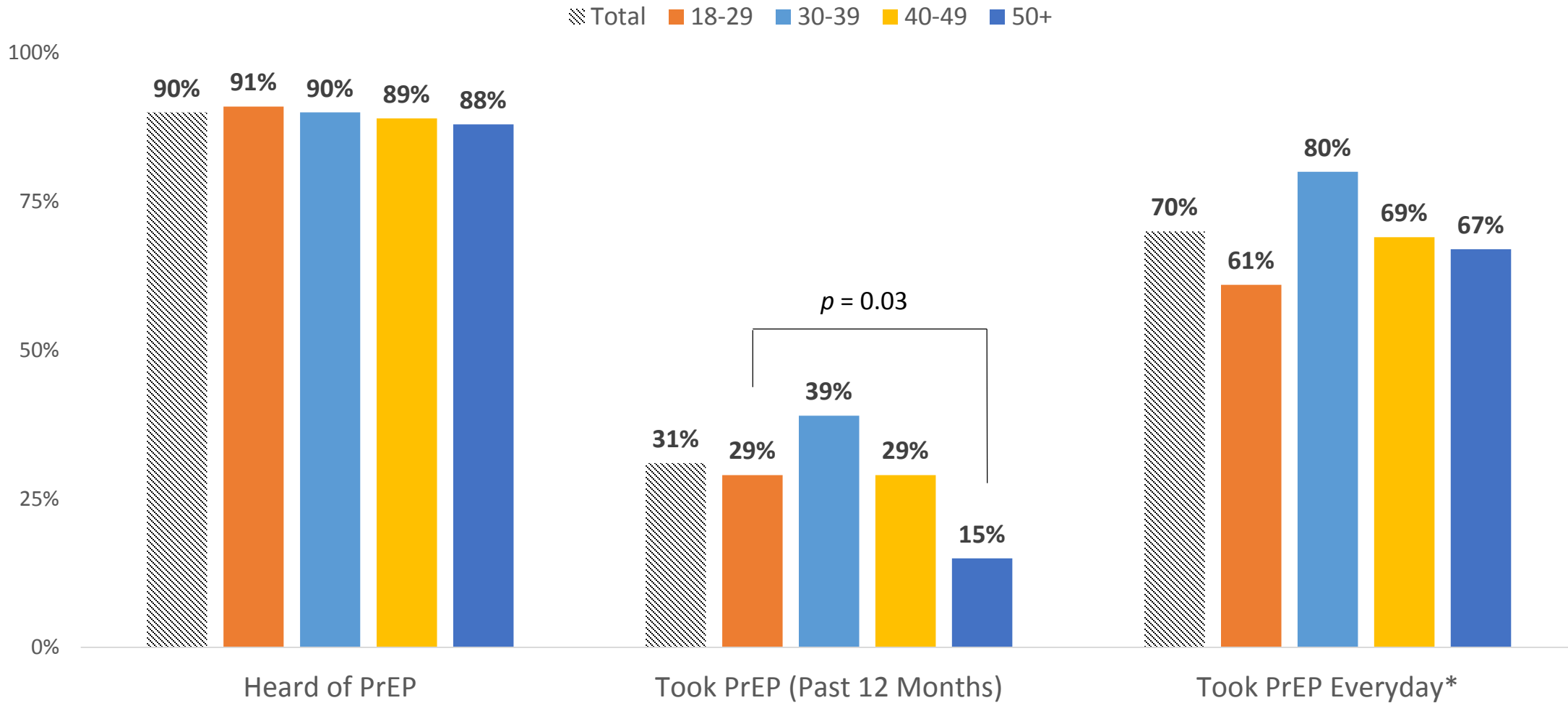


¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

*Defined as taking PrEP every day, among those who took PrEP at some point in the past 12 months (n=116).

PrEP Awareness, Use, and Adherence by Participants' Age

NYC NHBS-MSM5, 2017, n=404 (HIV-/Unknown Status)¹



¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

*Defined as taking PrEP every day, among those who took PrEP at some point in the past 12 months (n=116).

HIV Prevalence

HIV Prevalence and Awareness by Race/Ethnicity

NYC NHBS-MSM5, 2017, n=435 (confirmed test result)

| | Proportion of Participants Tested in Study | HIV-Positive* | 95% CI | Unaware of HIV-Positive Status** |
|--------------------------------------|--|---------------|---------------|----------------------------------|
| Overall | 90.1% | 18.2% | 14.5%-21.8% | 8.9% |
| By Race/Ethnicity¹ | | | | |
| Hispanic/Latino | 89.9% | 21.8% | 14.8% - 28.8% | 13.8% |
| Black | 91.5% | 29.9% | 20.8% - 39.0% | 6.9% |
| White | 89.2% | 10.4% | 0.0% - 25.7% | 0% |

* $p=0.0003$ for difference in HIV prevalence by race/ethnicity

¹Excludes 'other' race category (American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander) due to small sample size.

**n=79

HIV Prevalence and Awareness by Age

NYC NHBS-MSM5, 2017, n=435 (confirmed test result)

| | Proportion of Participants Tested in Study | HIV-Positive* | 95% CI | Unaware of HIV-Positive Status** |
|----------------|--|---------------|---------------|----------------------------------|
| Overall | 90.1% | 18.2% | 14.5%-21.8% | 8.9% |
| By Age | | | | |
| 18-29 | 91.9% | 10.6% | 6.0% - 15.2% | 5.6% |
| 30-39 | 93.6% | 19.3% | 13.2% - 25.4% | 39.2% |
| 40-49 | 84.0% | 31.8% | 20.3% - 43.2% | 25.3% |
| ≥50 | 80.4% | 24.4% | 11.3% - 37.5% | 0% |

* $p=0.0014$ for difference in HIV prevalence by age

** Among those who tested HIV-positive (n=79).

Summary of Findings (1)

- Although white MSM reported more sex partners, no statistically significant racial/ethnic differences were found in frequency of unprotected anal sex or in partner characteristics.
- Collection of extragenital samples for STI screenings at MSM venues is a feasible and may catch undiagnosed STI infections.
- Similar levels of PrEP use by race/ethnicity in this sample may reflect disparities in appropriate PrEP coverage given that HIV incidence, and therefore need for PrEP varies across racial/ethnic groups.

Summary of Findings (2)

- Racial/ethnic differences in HIV prevalence and unawareness of HIV-positive status were found, with Latino and black MSM having both higher prevalence and percentage unaware than white MSM.
- In regards to age, although HIV prevalence was highest among those aged 40-49 years, unawareness of HIV-positive status was highest among those aged 30-39 years.

NYC National HIV Behavioral Surveillance Team – MSM5

NYC Department of Health

Principal Investigator

Sarah Braunstein

Project Director

Alexis Rivera

Project Coordinator/Field Supervisor

Sidney Carrillo

Data Collection Team

Hasani Escobar

Evelyn Felix

Andrea Hernandez

Caleb LoSchiavo

Tony Martinez

CDC

Gabriela Paz-Bailey

Dita Broz

Cyprian Wejnert

Contact

Alexis Rivera, MPH

NHBS Project Director

HIV Epidemiology and Field Services Program

NYC Department of Health

Email: arivera6@health.nyc.gov