

Sexual and Substance Use Behaviors and HIV Prevalence Among Women of Transgender Experience and Transfeminine People

Findings from the 2023 National HIV Behavioral Surveillance Cycle among Women of Transgender Experience and Transfeminine People (WTE/TFP)

National HIV Behavioral Surveillance (NHBS)

- The NHBS study is a long-term project funded by the CDC conducted among men who have sex with men (MSM), people who inject drugs (PWID), and heterosexually-active adults at increased risk for HIV (HET)
 - Currently conducted in 19 cities throughout the U.S.
 - Cross-sectional study design, where data is collected at one point in time
 - Anonymous, structured interview and optional HIV testing
- NHBS objective: to measure the proportion of people living with HIV, behaviors that place people at risk for HIV, and access to and use of HIV prevention services

NHBS-Trans

- NHBS conducted a supplemental inaugural cycle among transgender women in eight U.S. cities from 2019-2020. The second supplemental cycle was conducted among women of transgender experience (WTE) and transfeminine people (TFP) in 10 U.S. cities from 2023-2024. NYC was included in both cycles
- To inform future HIV prevention efforts at both local and national levels, the project aimed to measure:
 - The prevalence of HIV,
 - Behaviors and social determinants associated with increased risk to HIV,
 - Exposure to and use of HIV prevention services,
 - Gaps in HIV prevention services, and
 - The prevalence of sexually transmitted infections (2019-2020, only)
- The study was known in NYC as NYC-TRANScends, a title selected by community members and stakeholders
- Data were collected from January - May 2024

NHBS-Trans Eligibility Criteria

Criteria to participate in survey:

- Did not previously participate in that current NHBS-Trans cycle
- Resident of NYC Metropolitan Statistical Area (MSA) which includes NYC, Westchester County, Rockland County, Orange County and some counties in New Jersey
- Able to complete the interview in English or Spanish
- At least 18 years old
- Assigned male sex at birth and has a gender identity of something other than “man”, “transgender man”, or “transmasculine”

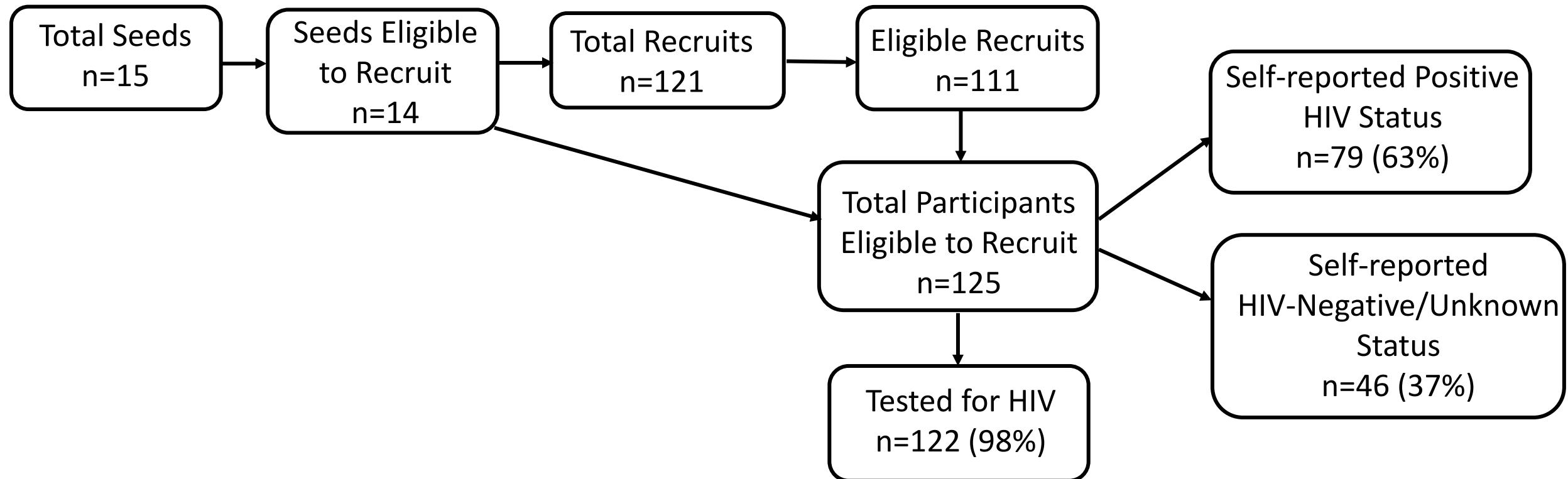
Criteria to be included in analytical sample:

- Has a gender identity of “woman,” “transgender woman,” or “transfeminine”

Respondent-Driven Sampling (RDS) Recruitment Method

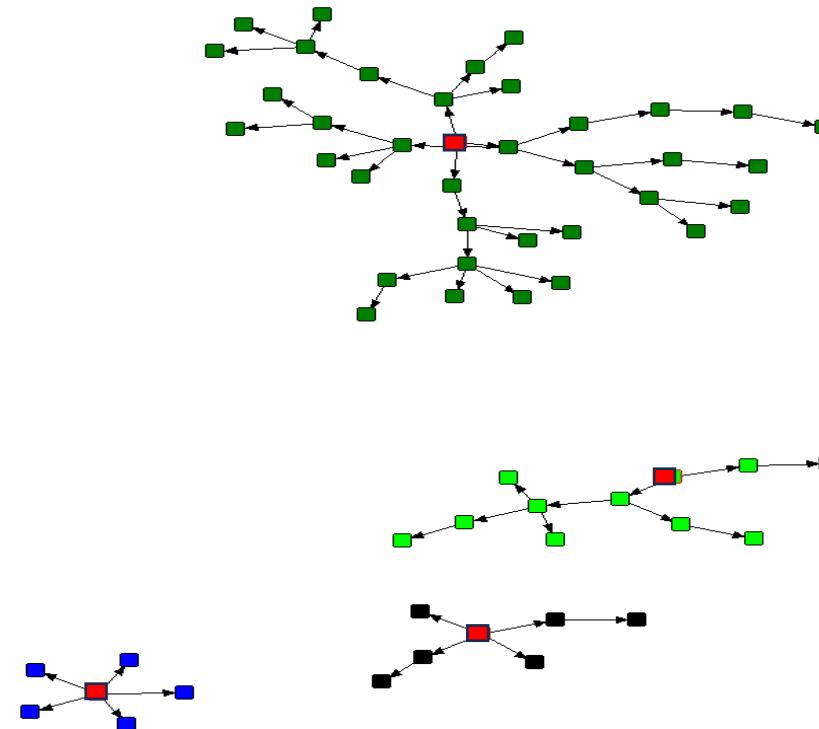
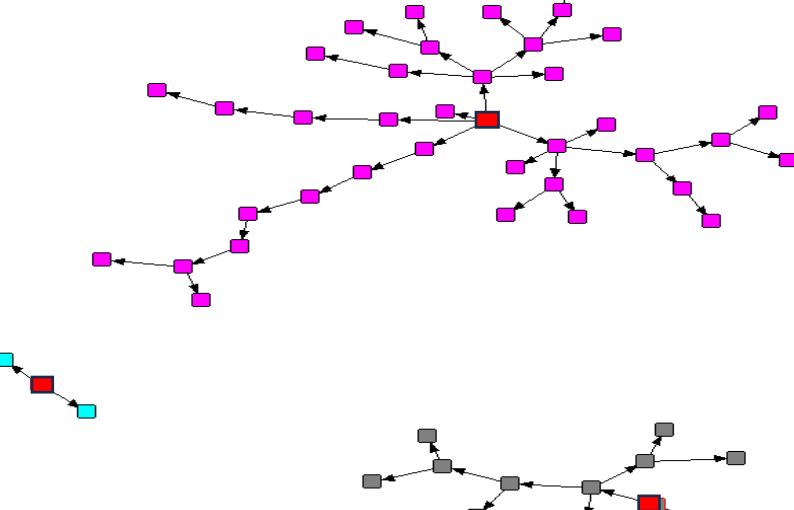
1. RDS was chosen as a recruitment method because it expands the reach beyond traditional recruitment methods and reduces biases typically found in convenience sampling
2. Study team recruited a small number of initial participants (“seeds”) through community outreach.
 - To increase the proportion of WTE/TFP of color, initial seeds had to identify as Black, Latina, or other person of color
3. Seeds participated in the study, and if eligible, then recruited up to five peers in their social networks
4. If eligible, those recruited peers participated and each recruited up to an additional five peers until the end of the study
 - Recruitment chains were continually monitored to ensure demographic representativeness
 - To focus recruitment on WTE/TFP, participants who did not identify as a ‘woman’, ‘transgender woman’ or ‘transfeminine’ were not eligible to recruit.
5. Incentives were provided for completing the survey, HIV testing, and peer recruitment

NYC NHBS-Trans Study Sample



Recruitment Chain Diagram for NYC NHBS-Trans

- Initiated by 7 productive seeds (red squares), each node represents a study participant and linking lines show recruitment chains



Statistical Analyses

- Analyses were restricted to those in the analytical sample
 - Seeds (n=14) were included as they did not differ from recruits in basic demographics
- We conducted basic descriptive frequencies of demographics, structural factors, sexual behaviors, drug use, and use of HIV testing and prevention services
- Chi-square or Fisher's exact tests (for categorical variables) and Wilcoxon and Kruskal-Wallis tests (for continuous variables) were used to compare differences in behaviors and use of HIV testing and preventions services; significant associations are denoted
- We estimated overall HIV prevalence from confirmed test results (n=123), and examined prevalence by lifetime injection use, race, age, and self-reported status

Demographics

Demographics

NYC NHBS-Trans, n=125

| | | |
|------------------------------------|------------------------------------|-----|
| Age Group (In Years) | 18-39 | 47% |
| | 40+ | 53% |
| Race or Ethnicity | Latina | 82% |
| | Black | 12% |
| | White | 0% |
| | Other ¹ | 6% |
| Gender Identity² | Transgender woman | 86% |
| | Transfeminine | 3% |
| | Woman | 4% |
| | Nonbinary | 0% |
| | Other | 6% |
| Birthplace | Continental U.S. | 17% |
| | Outside of the Continental U.S. | 83% |

¹ 'Other' racial/ethnic category includes American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander (n=8).

² Not mutually exclusive

Demographics, Continued

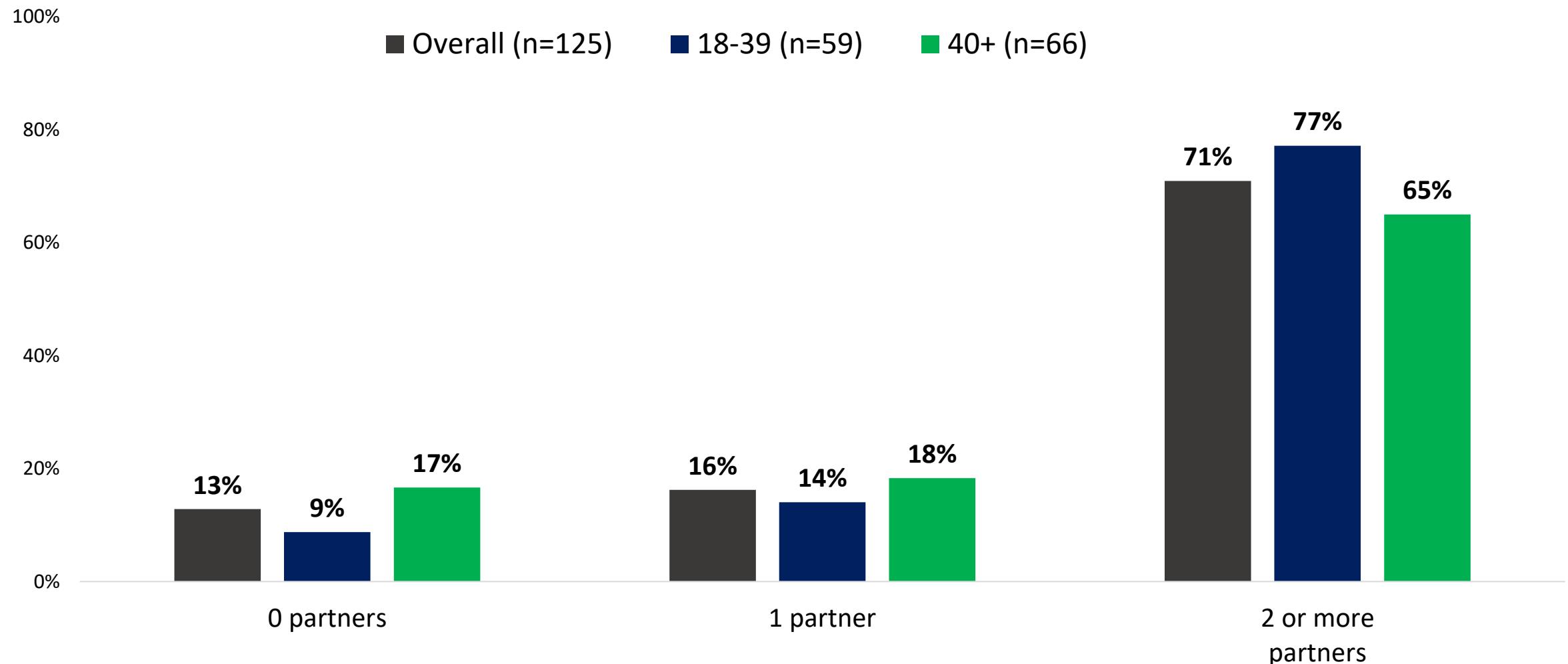
NYC NHBS-Trans, n=125

| | | |
|----------------------------------|-----------------------|-----|
| Annual Household Income | < \$10,000 | 51% |
| | \$10,000-\$29,999 | 38% |
| | \$30,000-\$49,000 | 7% |
| | ≥\$50,000 | 3% |
| Area of Residence | Bronx | 37% |
| | Brooklyn | 20% |
| | Manhattan | 11% |
| | Queens | 30% |
| | Staten Island | 1% |
| | In MSA, outside NYC | 1% |
| Education Level Completed | Less than high school | 31% |
| | High school or above | 69% |
| Homeless, past 12 months | No | 75% |
| | Yes | 25% |

Sexual Behaviors Reported

Number of Sex Partners, Overall and by Age, Past 12 Months¹

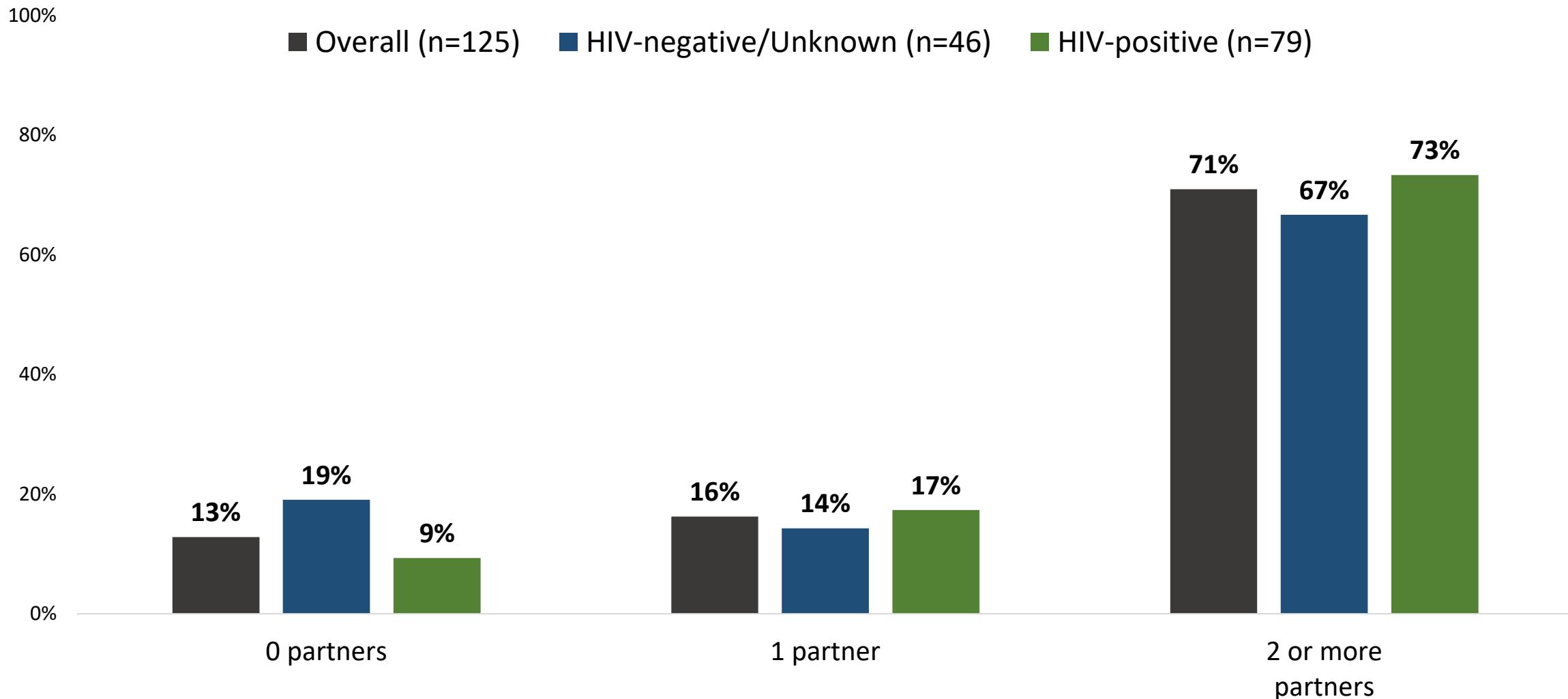
NYC NHBS-Trans, n=125



¹ Sex is defined as any kind of sex.

Number of Sex Partners Overall, and by Self-Reported HIV Status, Past 12 Months¹

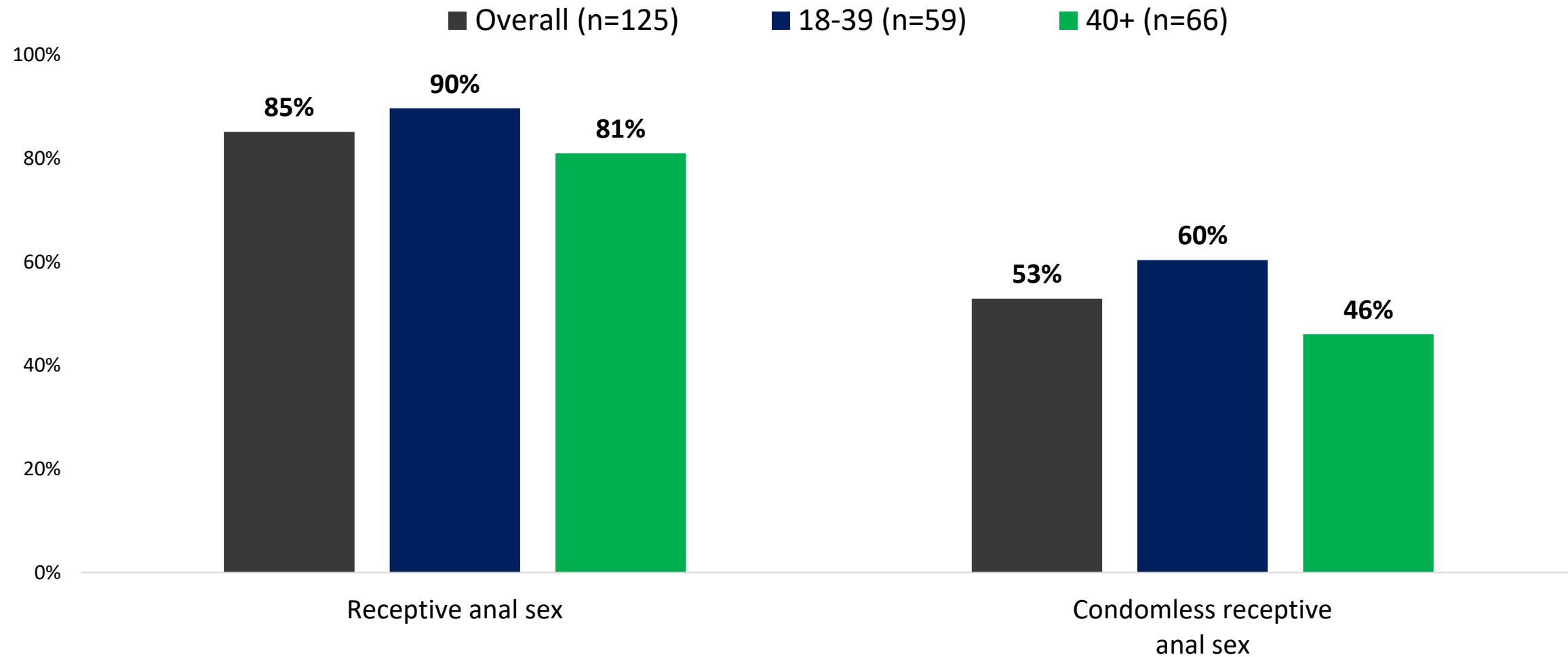
NYC NHBS-Trans, n=125



¹ Sex is defined as any kind of sex.

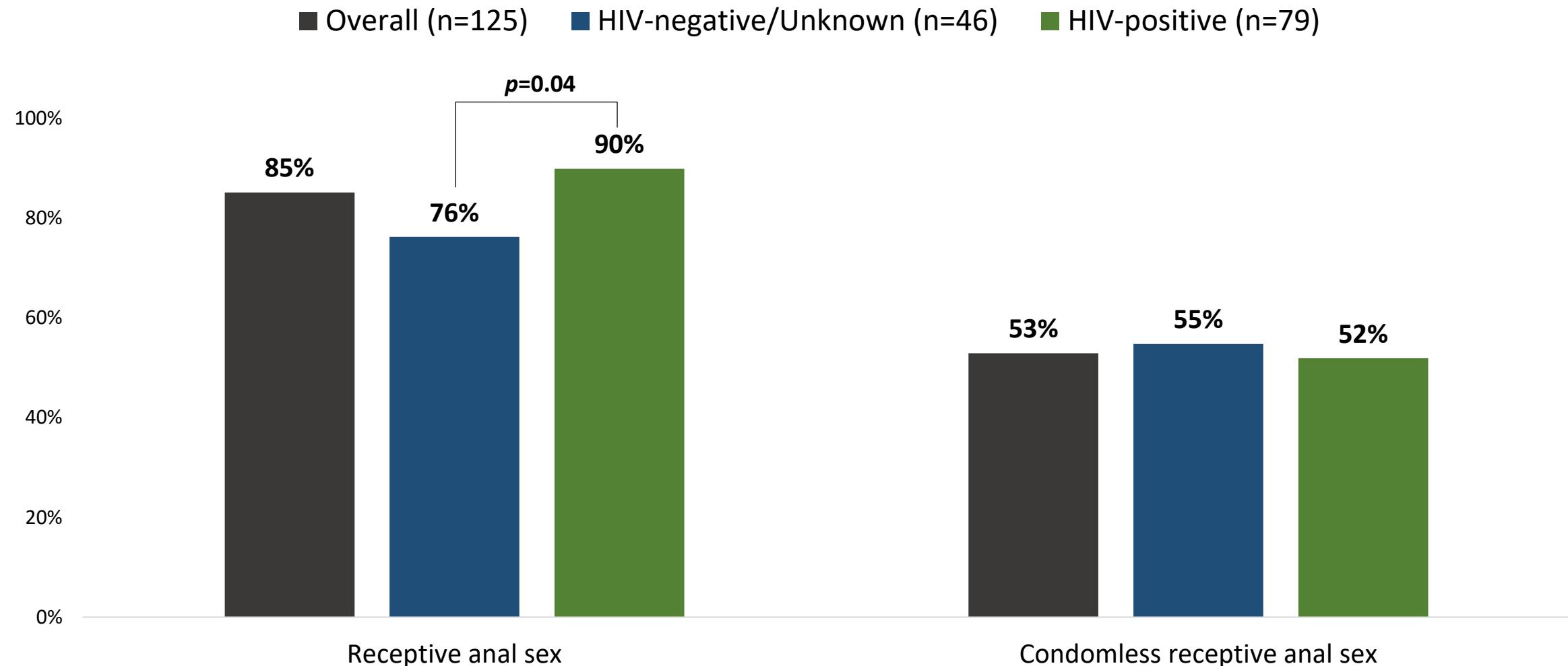
Receptive Anal Sex, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125



Receptive Anal Sex, Overall and by Self-Reported HIV Status, Past 12 Months

NYC NHBS-Trans, n=125



Receptive Vaginal Sex, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125

100%

■ Overall (n=125)

■ 18-39 (n=59)

■ 40+ (n=66)

80%

60%

40%

20%

0%

6%

3%

9%

5%

3%

6%

Receptive vaginal sex

Condomless receptive vaginal sex

Receptive Vaginal Sex, Overall and by Self-Reported HIV Status, Past 12 Months

NYC NHBS-Trans, n=125

100%

■ Overall (n=125)

■ HIV-negative/Unknown (n=46)

■ HIV-positive (n=79)

80%

60%

40%

20%

0%

6%

9%

5%

5%

7%

4%

Receptive vaginal sex

Condomless receptive vaginal sex

Source: NYC NHBS-Trans, n=125. Data are percentages of respondents who reported receptive vaginal sex in the past 12 months. HIV status is self-reported. HIV-positive includes those who are HIV-positive and those who are unknown. HIV-negative/Unknown includes those who are HIV-negative and those who are unknown. Overall includes all respondents.

Condomless Receptive Sex, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125

100%

■ Overall (n=125) ■ 18-39 (n=59) ■ 40+ (n=66)

80%

60%

40%

20%

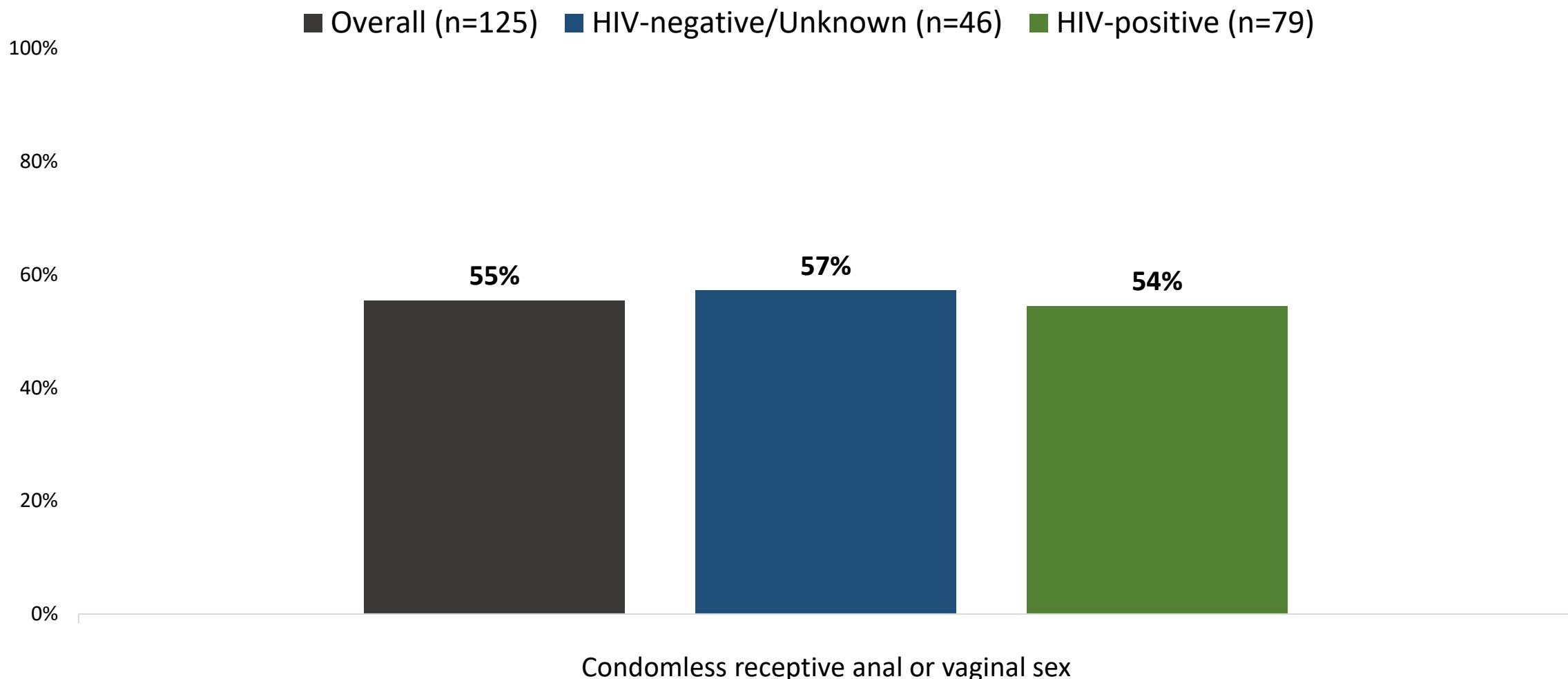
0%



Condomless receptive anal or vaginal sex

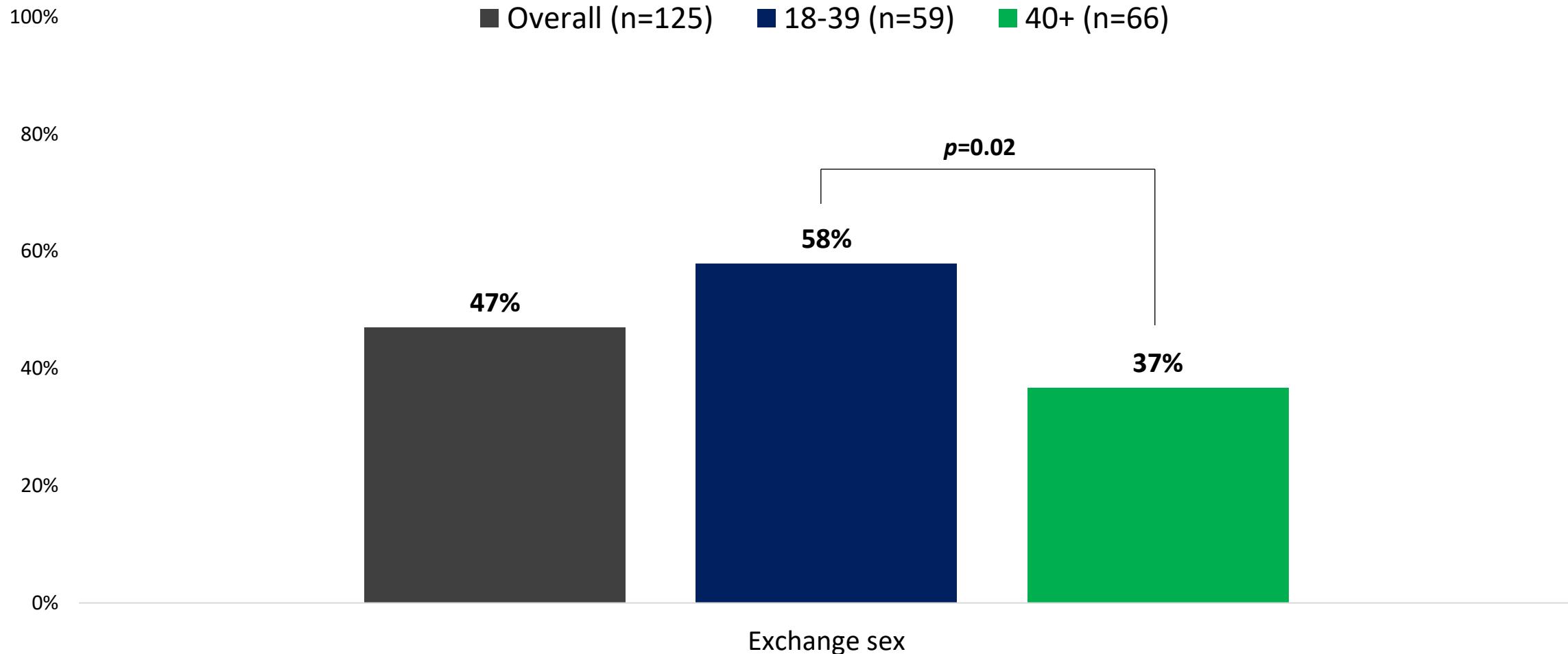
Condomless Receptive Sex, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125



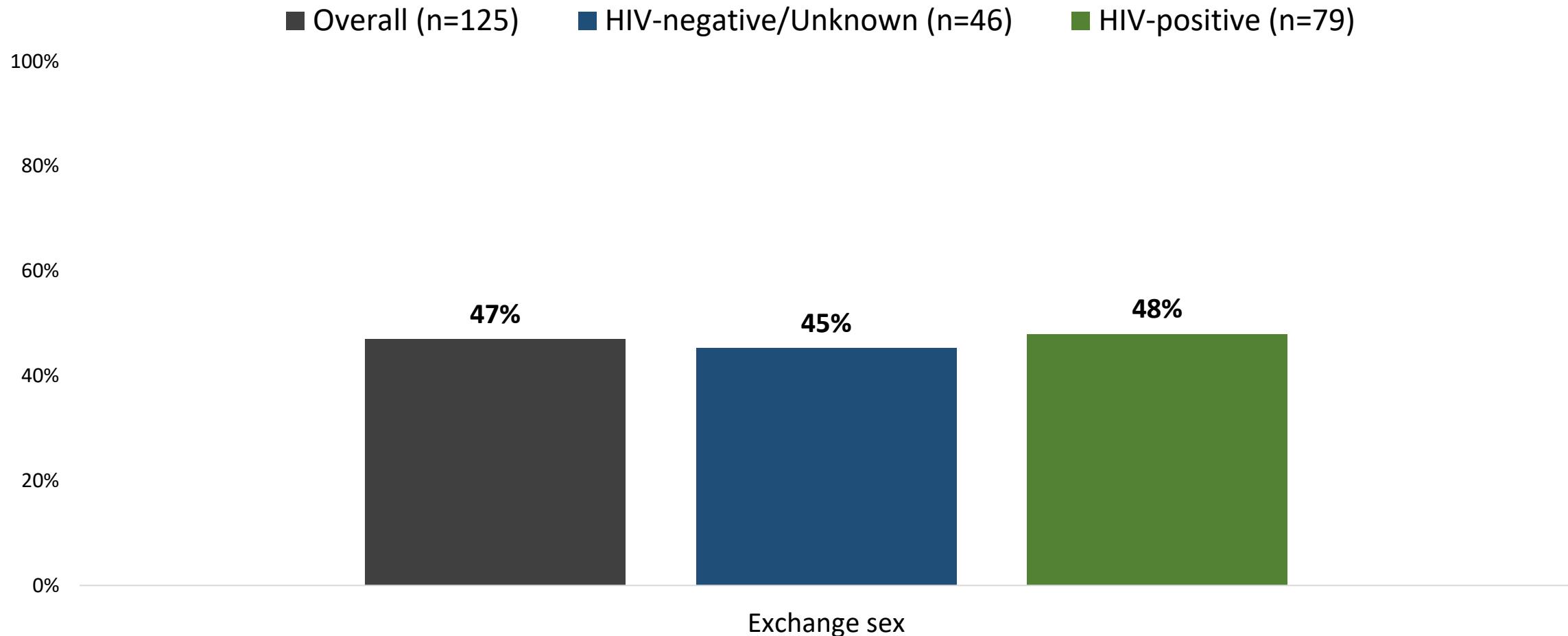
Exchange Sex, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125



Exchange Sex, Overall and by Self-Reported HIV Status, Past 12 Months

NYC NHBS-Trans, n=125



Alcohol and Substance Use Reported

Binge Drinking, Overall and by Age, in Past 30 Days¹

NYC NHBS-Trans, n=125

100%

■ Overall (n=125) ■ 18-29 (n=59) ■ 40+ (n=66)

80%

60%

40%

20%

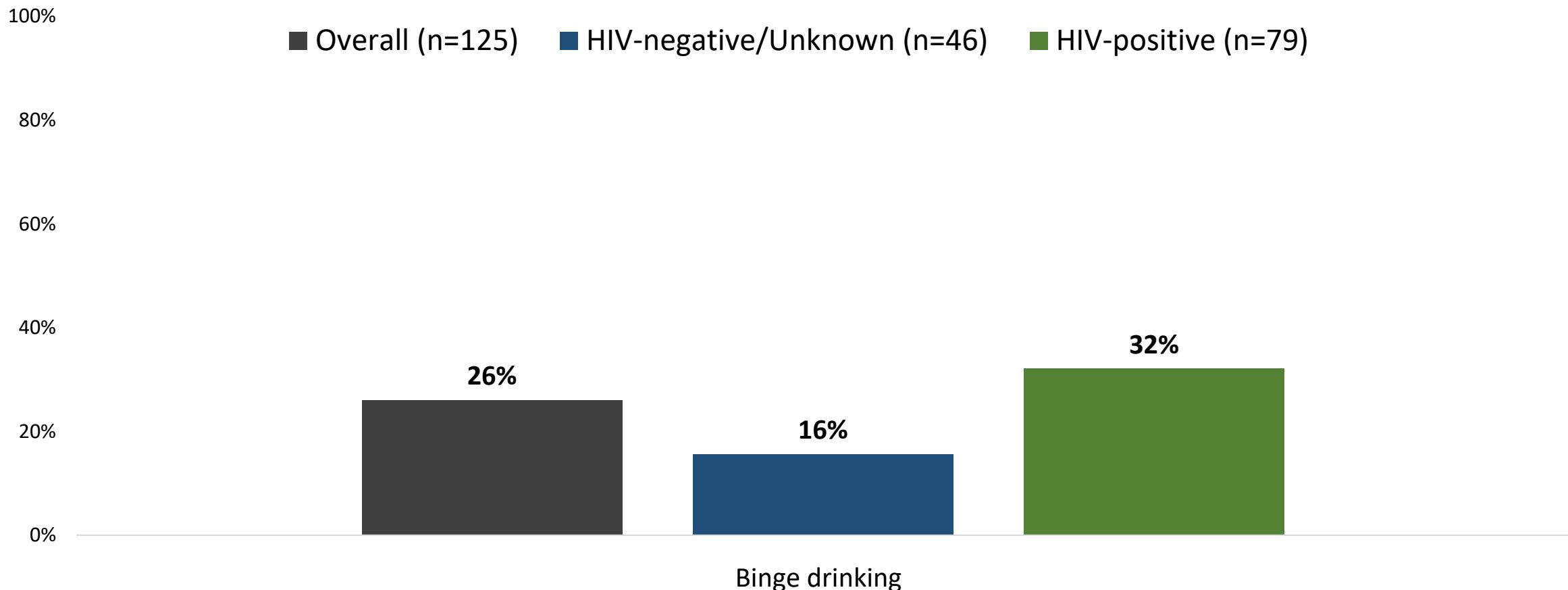
0%



¹Binge drinking is defined as consuming at least four drinks in one sitting.

Binge Drinking, Overall and by Self-Reported HIV Status, Past 30 Days¹

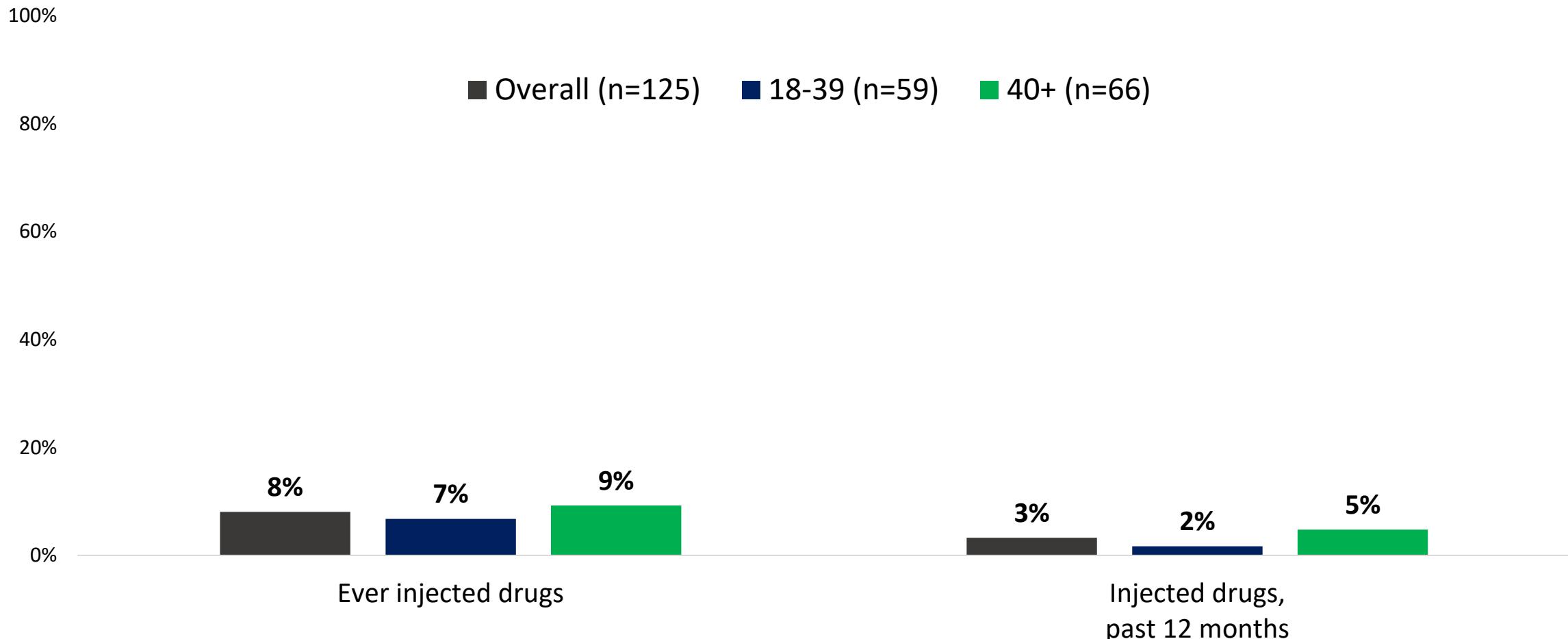
NYC NHBS-Trans, n=125



¹Binge drinking is defined as consuming at least four drinks in one sitting.

Injection Drug Use, Overall and by Age¹

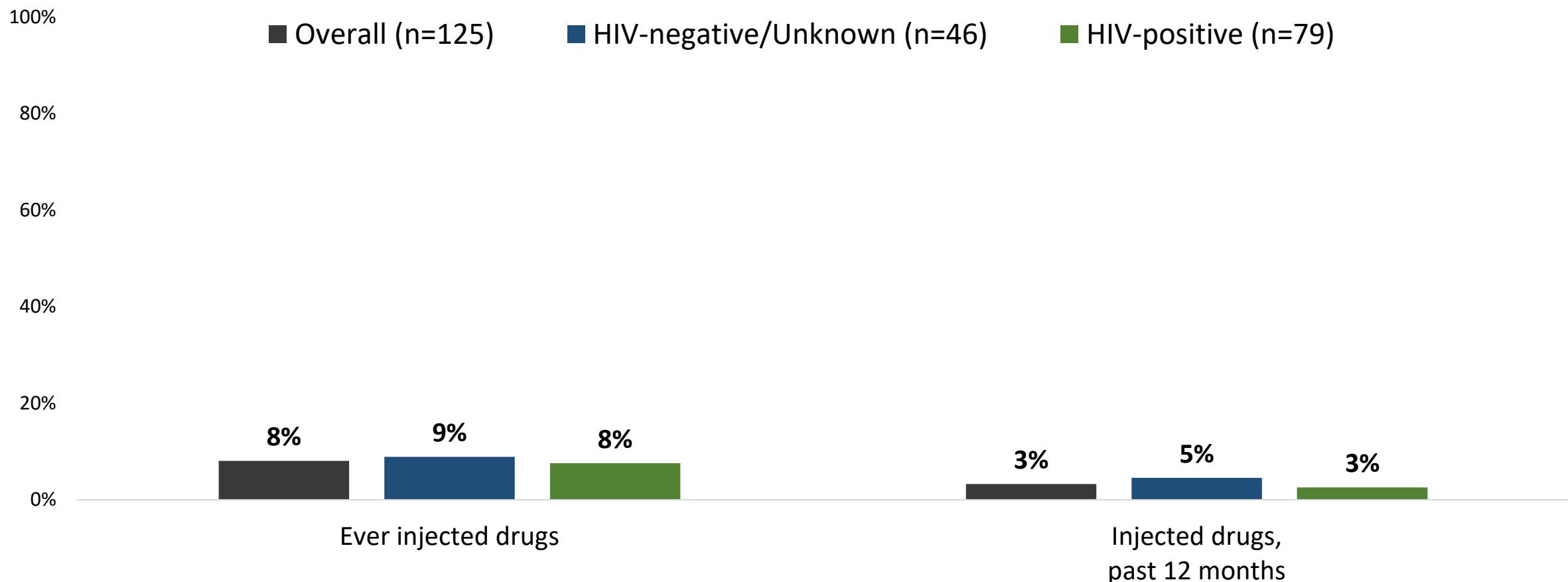
NYC NHBS-Trans, n=125



¹Injection drug use is defined as using drugs received without a prescription or that were prescribed but not used as instructed by a health care provider. Does not include drugs used for gender transition or affirmation.

Injection Use, Overall and by Self-Reported HIV Status¹

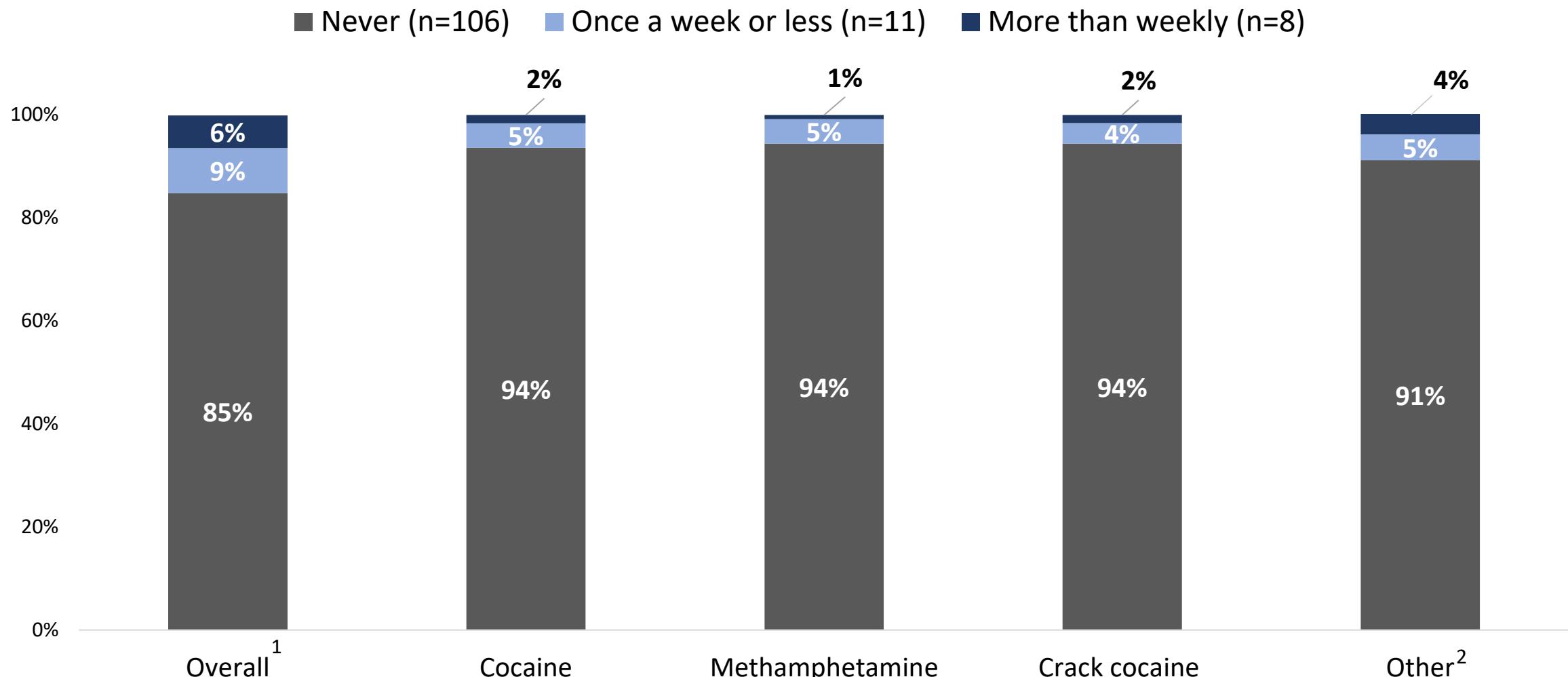
NYC NHBS-Trans, n=125



¹Injection drug use is defined as using drugs received without a prescription or that were prescribed but not used as instructed by a health care provider. Does not include drugs used for gender transition or affirmation.

Non-Injection Drug Use, Past 12 Months

NYC NHBS-Trans, n=125



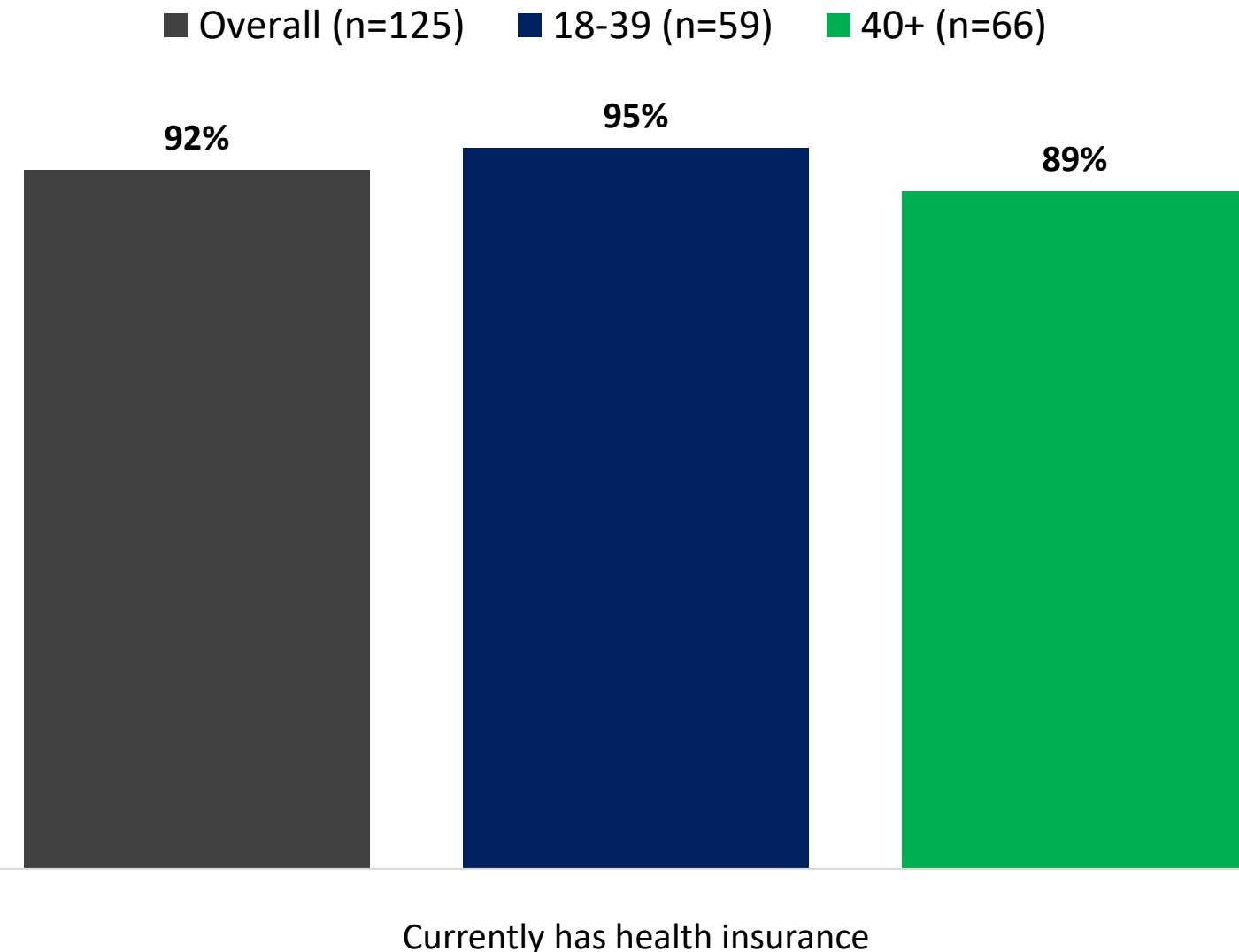
¹ Excludes use of marijuana.

² Use of other drugs (non-prescription downers and pain killers, and ecstasy) were less common and are included in the 'other' category. No participant reported non-injection heroin use.

Health Care Access

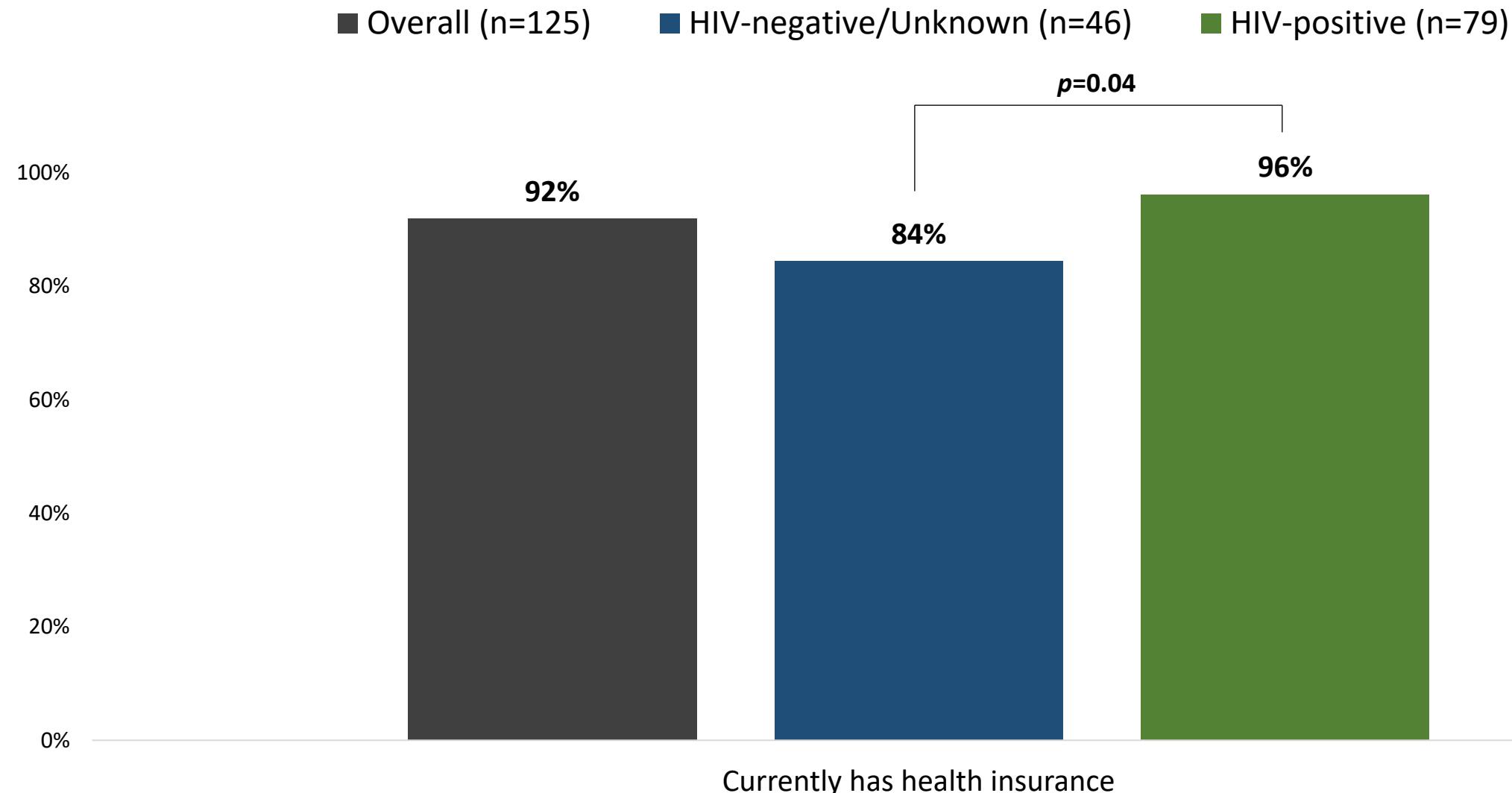
Health Insurance Coverage, Overall and by Age

NYC NHBS-Trans, n=125



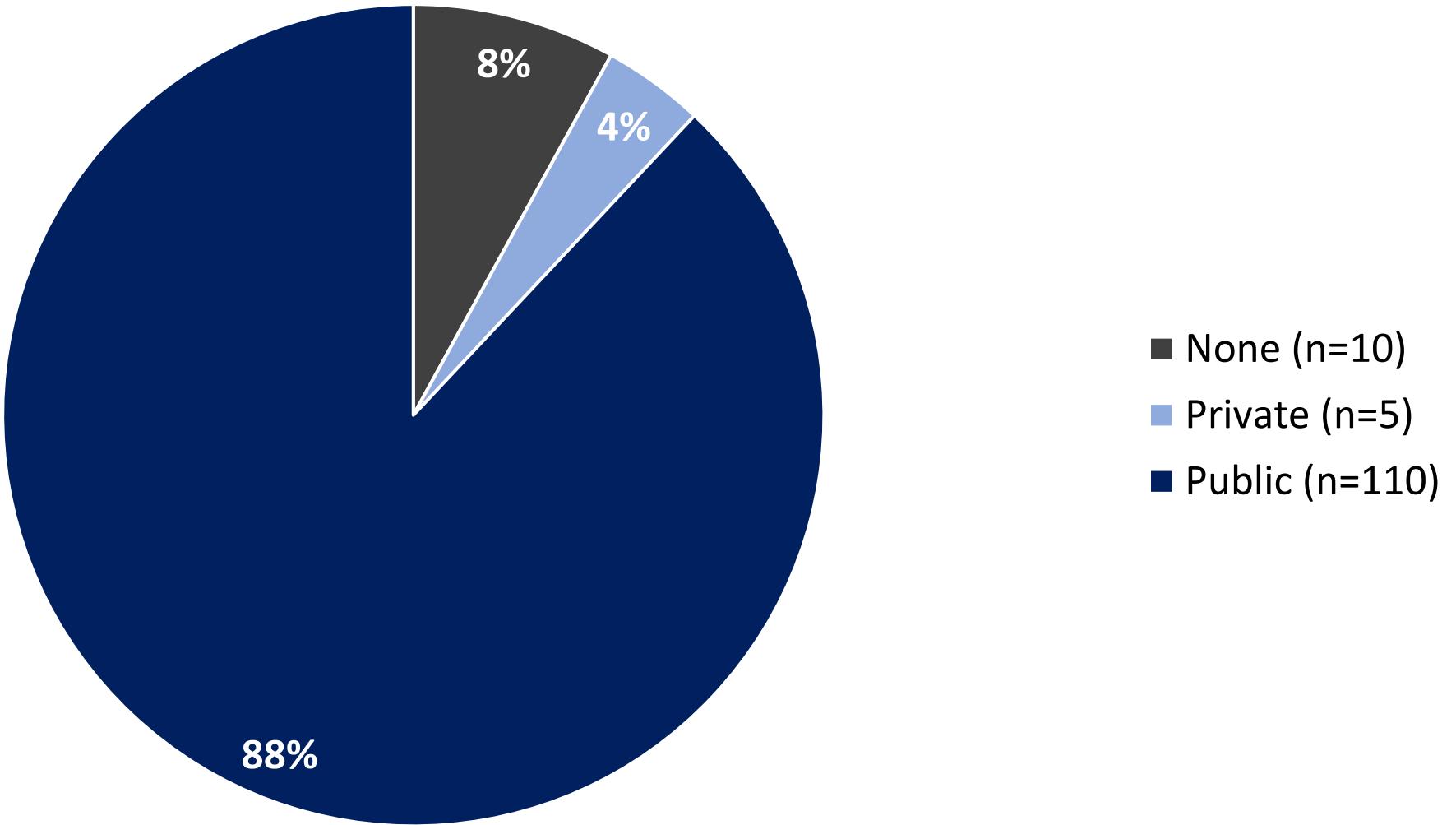
Health Insurance Coverage, Overall and by Self-Reported HIV Status

NYC NHBS-Trans, n=125



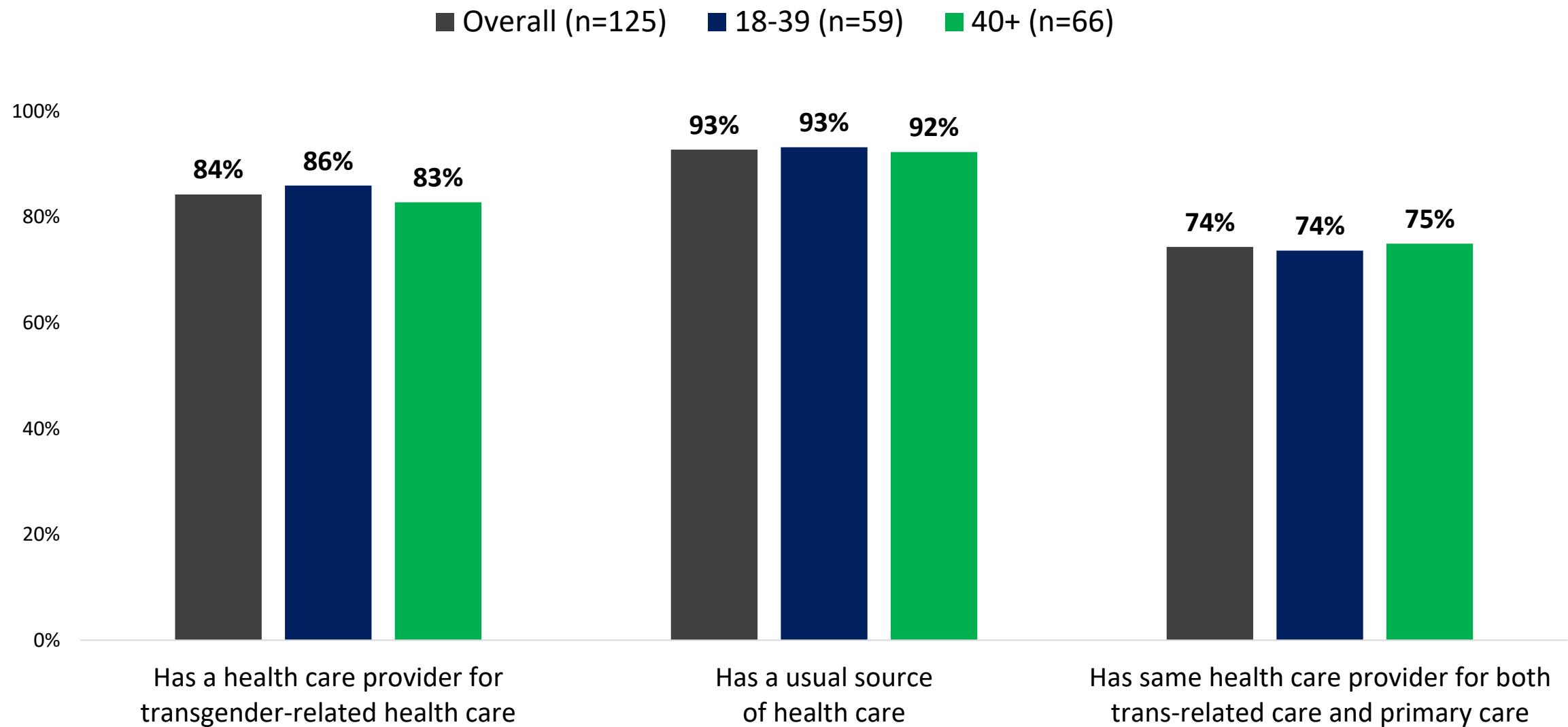
Type of Health Insurance Coverage

NYC NHBS-Trans, n=125



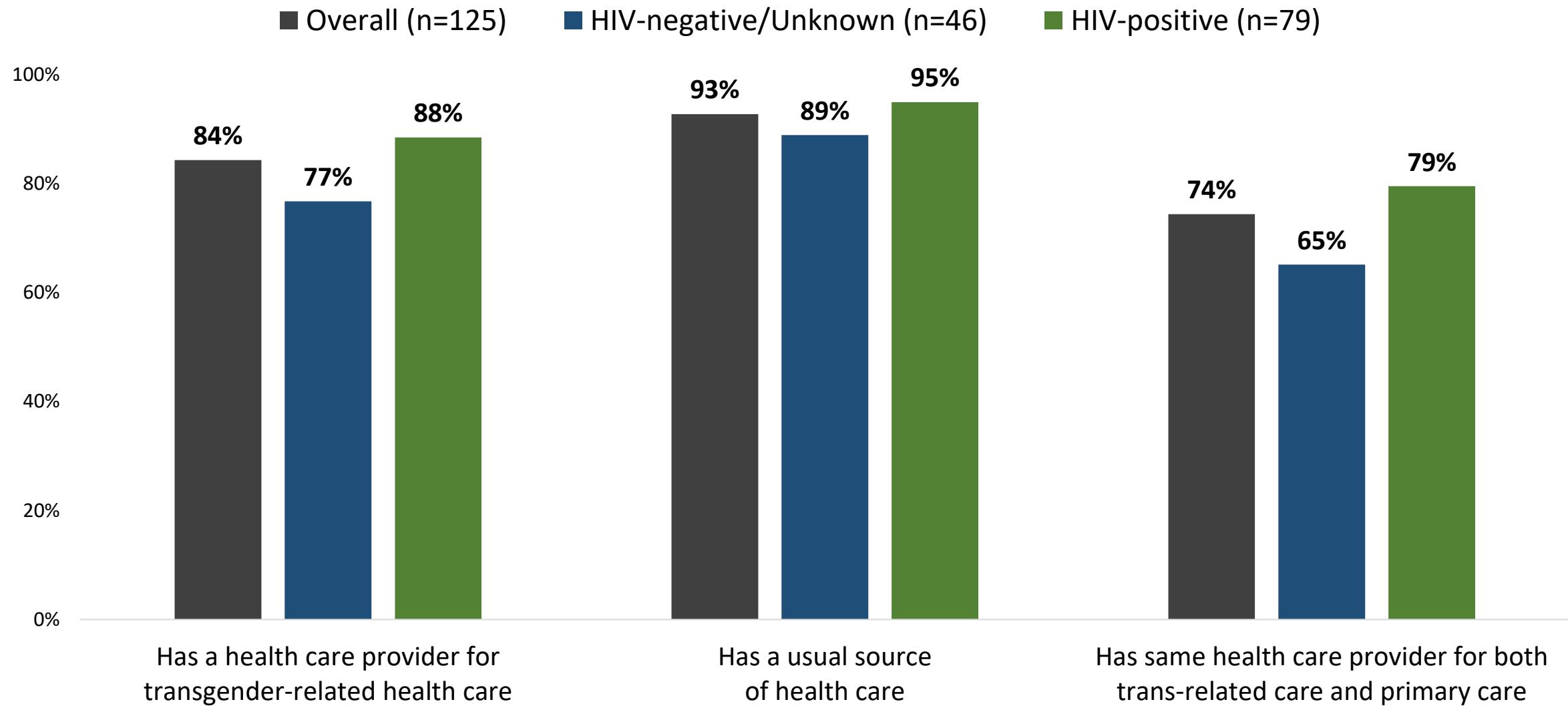
Health Care Access, Overall and by Age

NYC NHBS-Trans, n=125



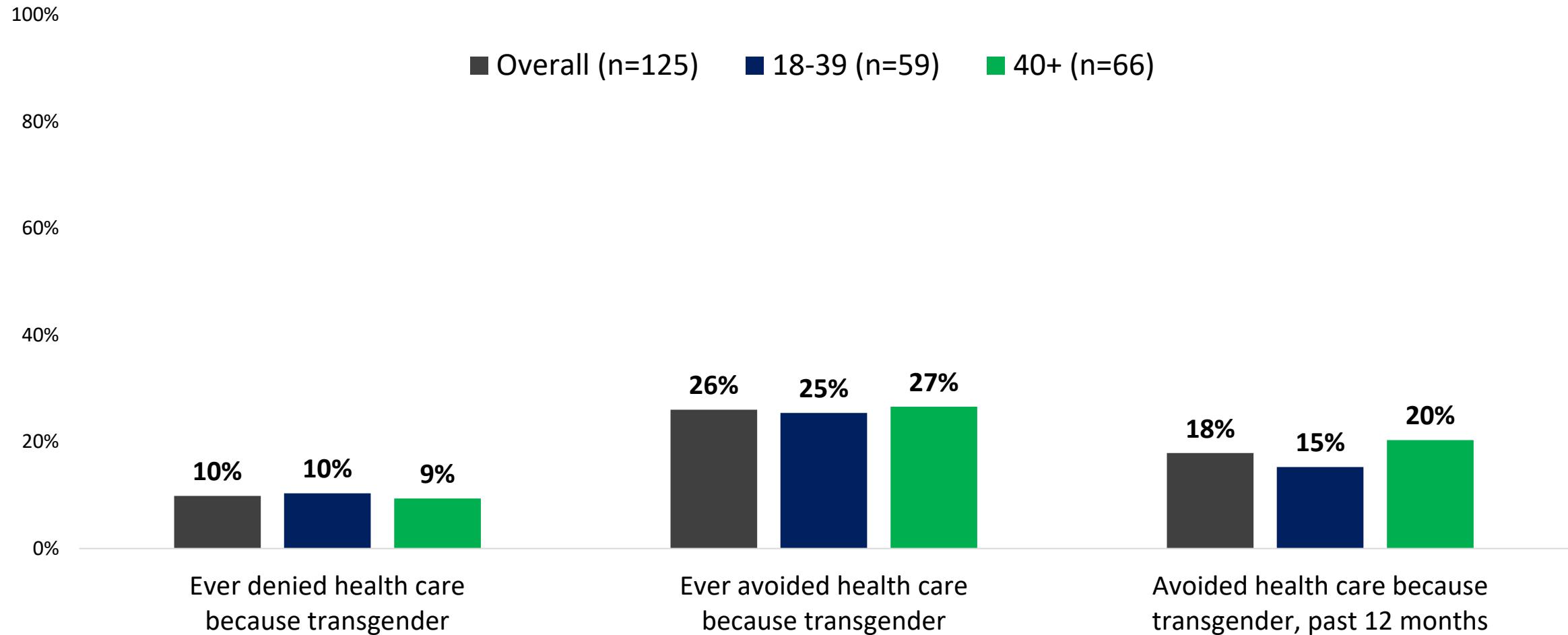
Health Care Access, Overall and by Self-Reported HIV Status

NYC NHBS-Trans, n=125



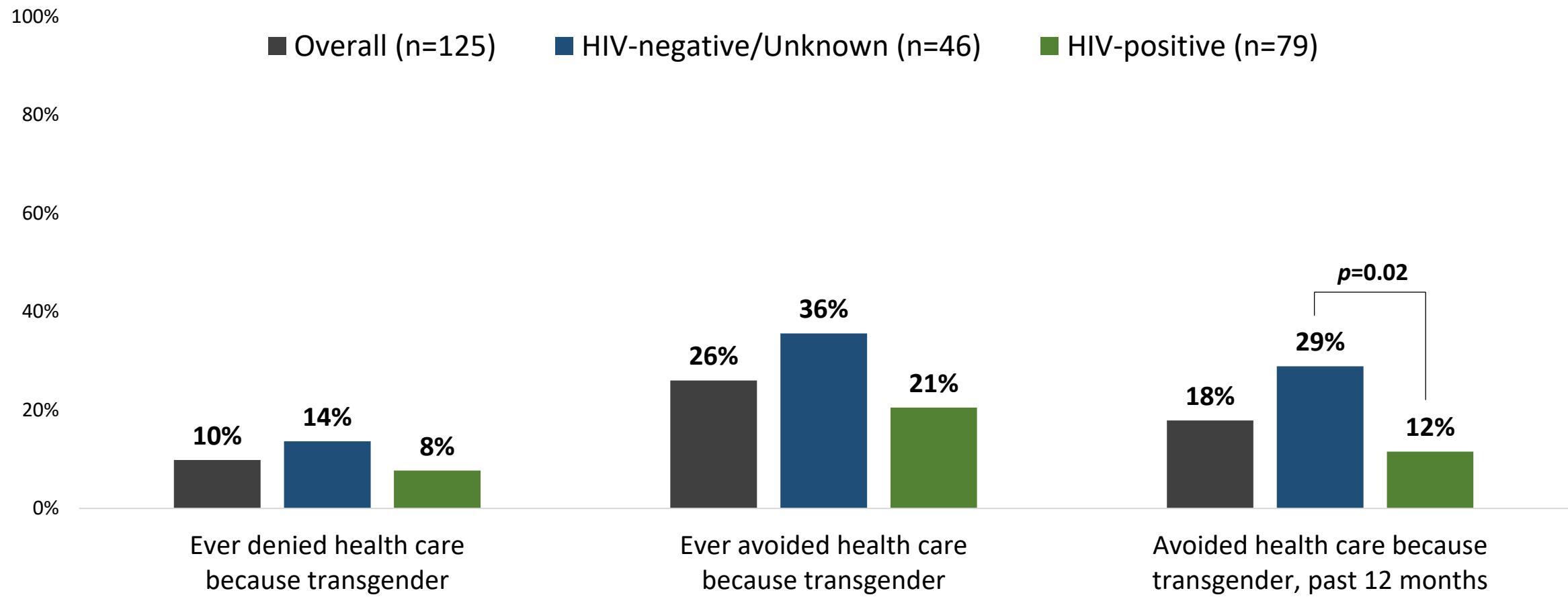
Health Care Discrimination and Avoidance, Overall and by Age

NYC NHBS-Trans, n=125



Health Care Discrimination and Avoidance, Overall and by Self-Reported HIV Status

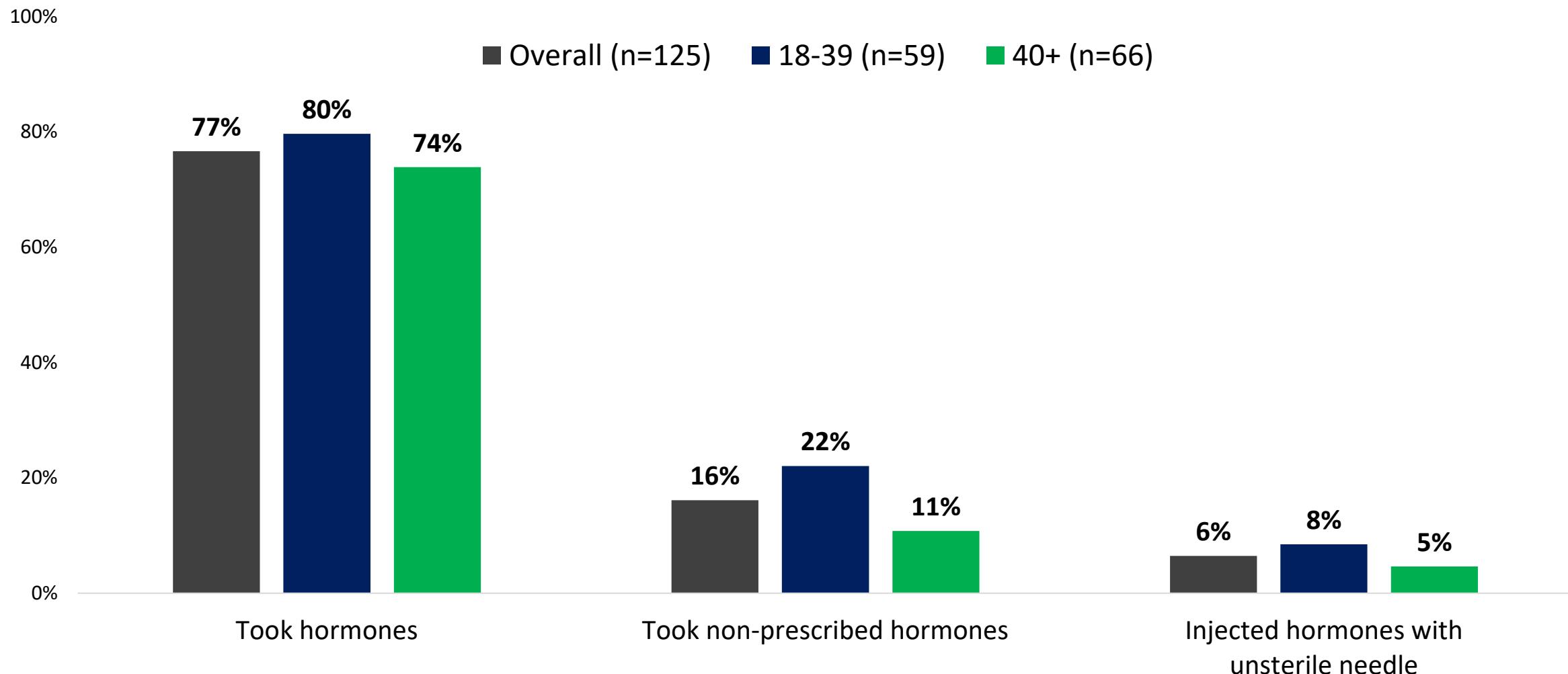
NYC NHBS-Trans, n=125



Medical Gender Affirmation

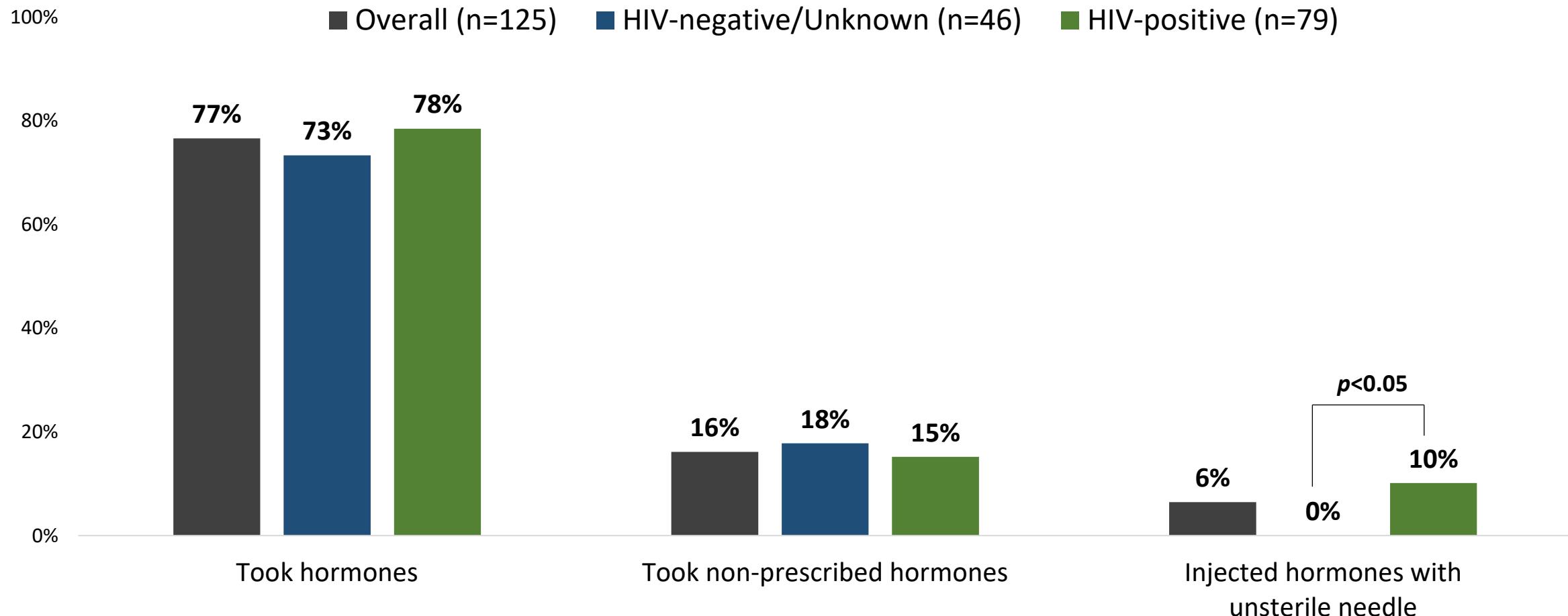
Hormone Use for Gender Affirmation, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=125



Hormone Use for Gender Affirmation Overall and by Self-Reported HIV Status, Past 12 Months

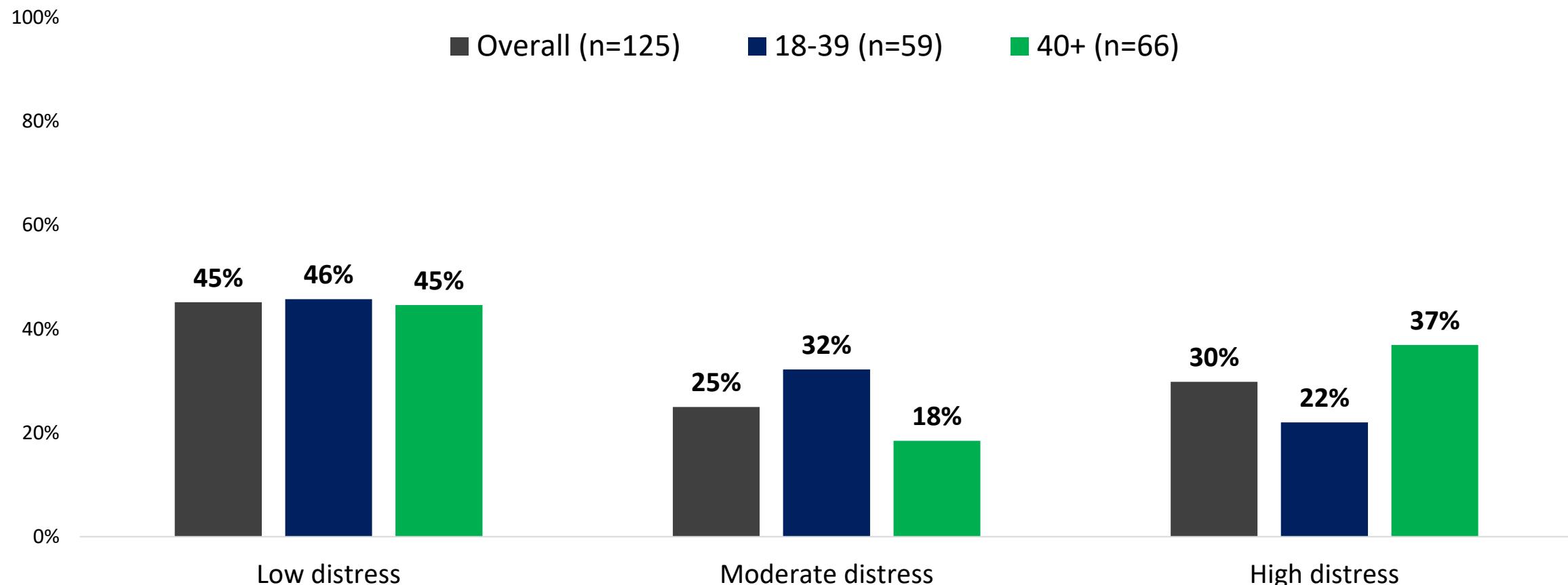
NYC NHBS-Trans, n=125



Mental Health

Psychological Distress, Overall and by Age, Past 30 Days¹

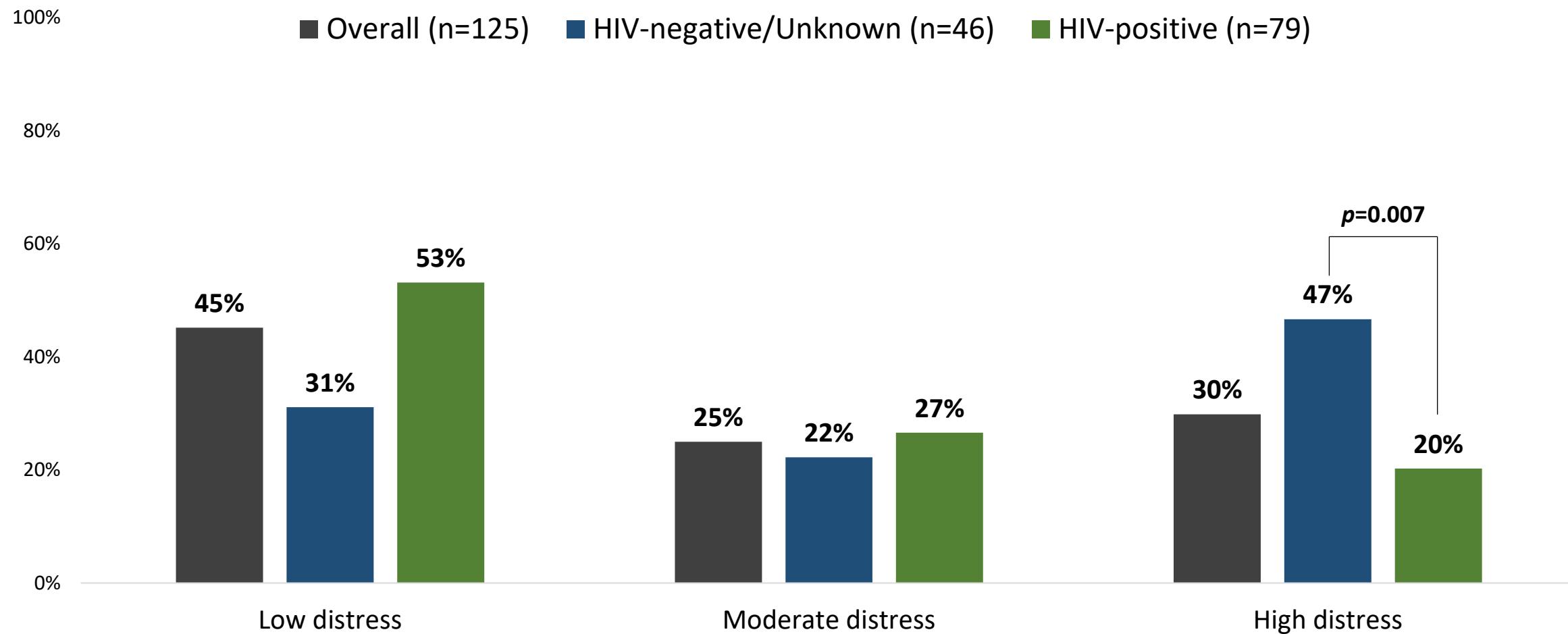
NYC NHBS-Trans, n=125



¹The Kessler 6 (K6) scale was used to assess psychological distress with scores ranging from 0 to 24. A score of 0–7 indicates low distress, 8–12 moderate distress, and 13–24 indicates high distress.

Psychological Distress Overall and by Self-Reported HIV Status, Past 30 Days¹

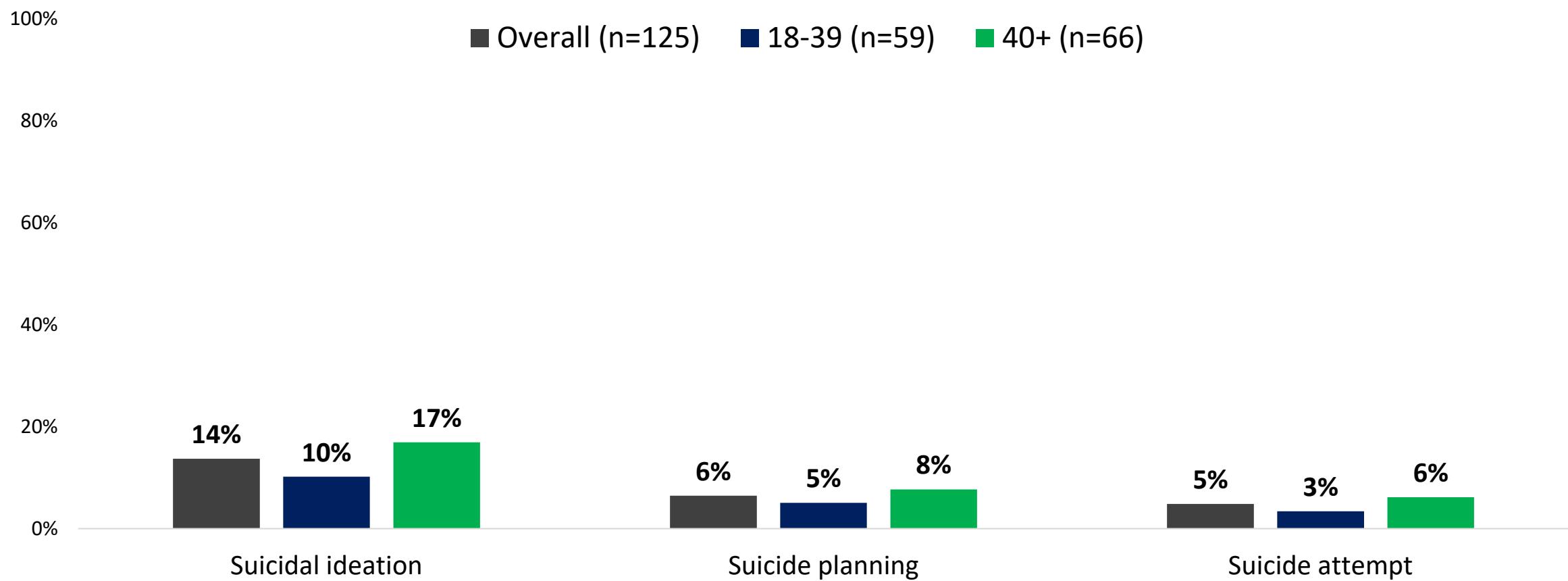
NYC NHBS-Trans, n=125



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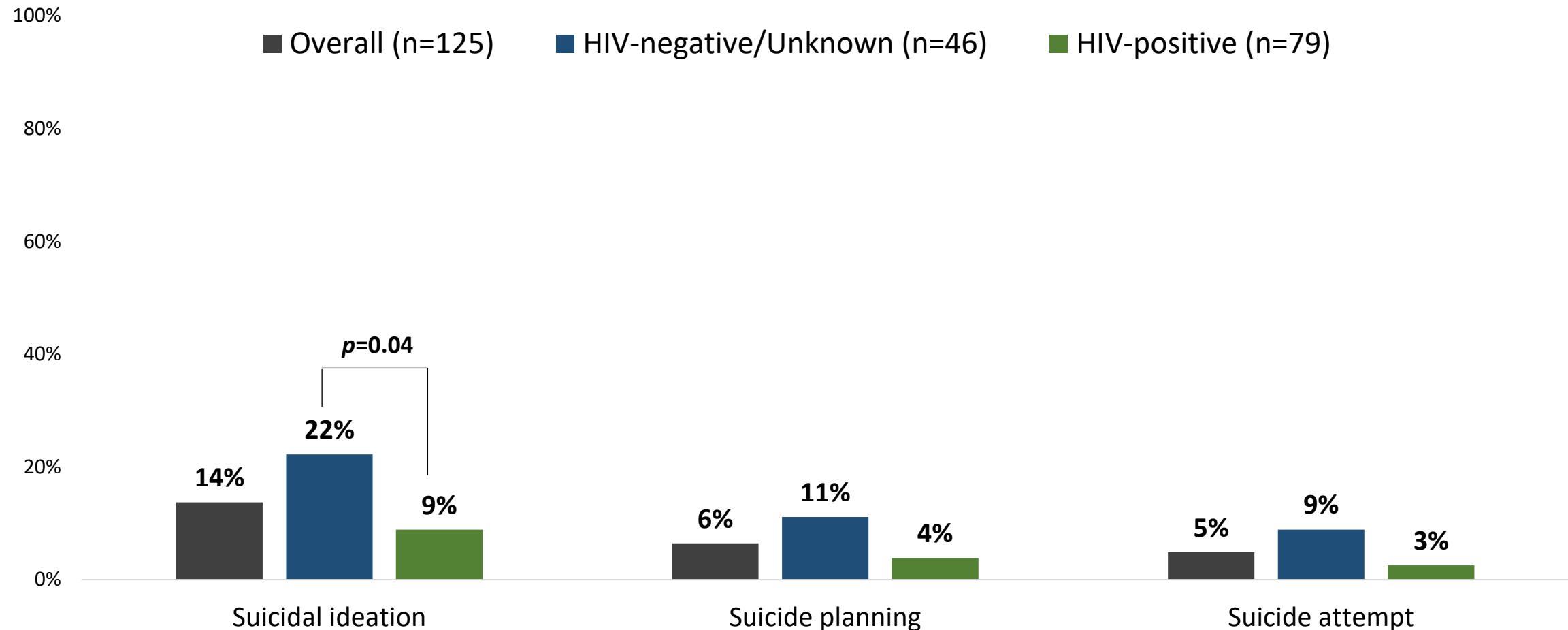
Suicidal Thoughts and Behaviors, by Age, Past 12 Months

NYC NHBS-Trans, n=125



Suicidal Thoughts and Behaviors, by Self-Reported HIV Status, Past 12 Months

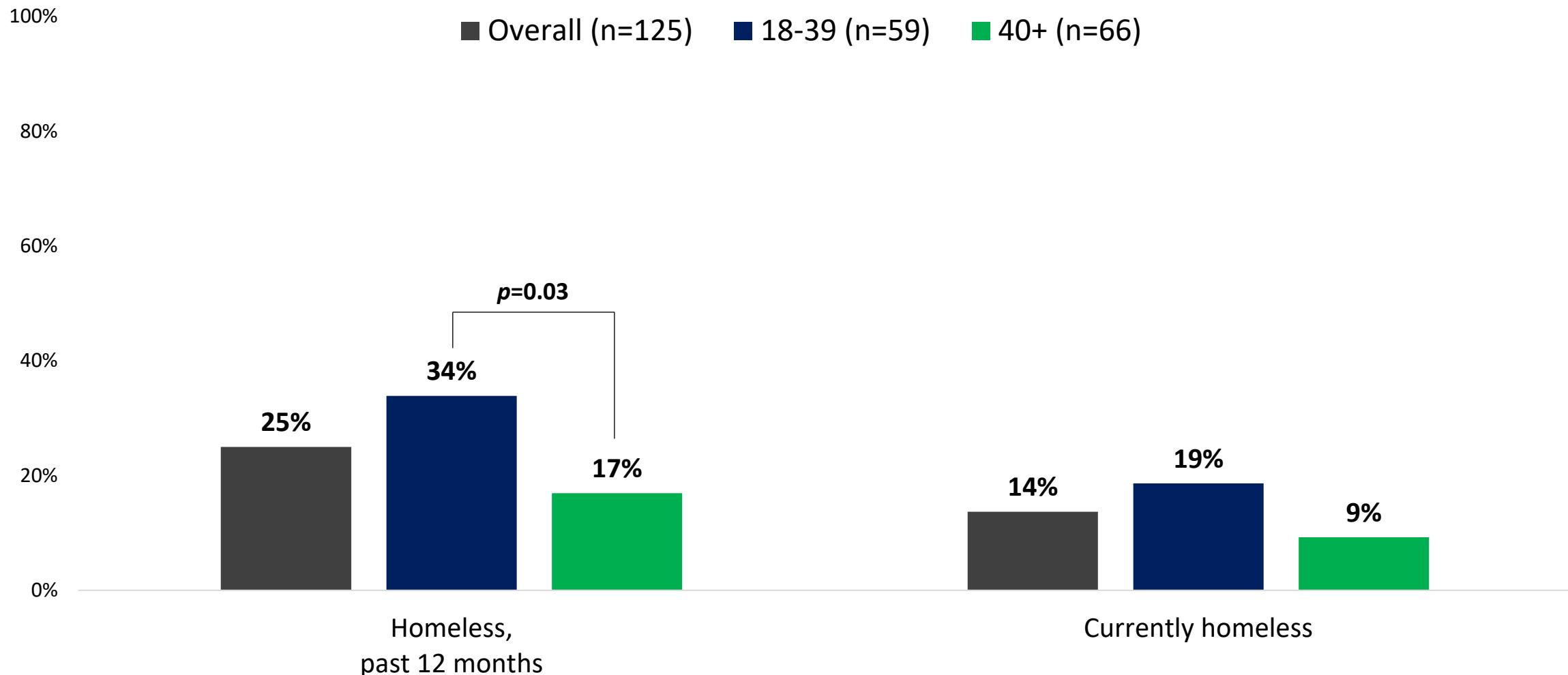
NYC NHBS-Trans, n=125



Structural Determinants

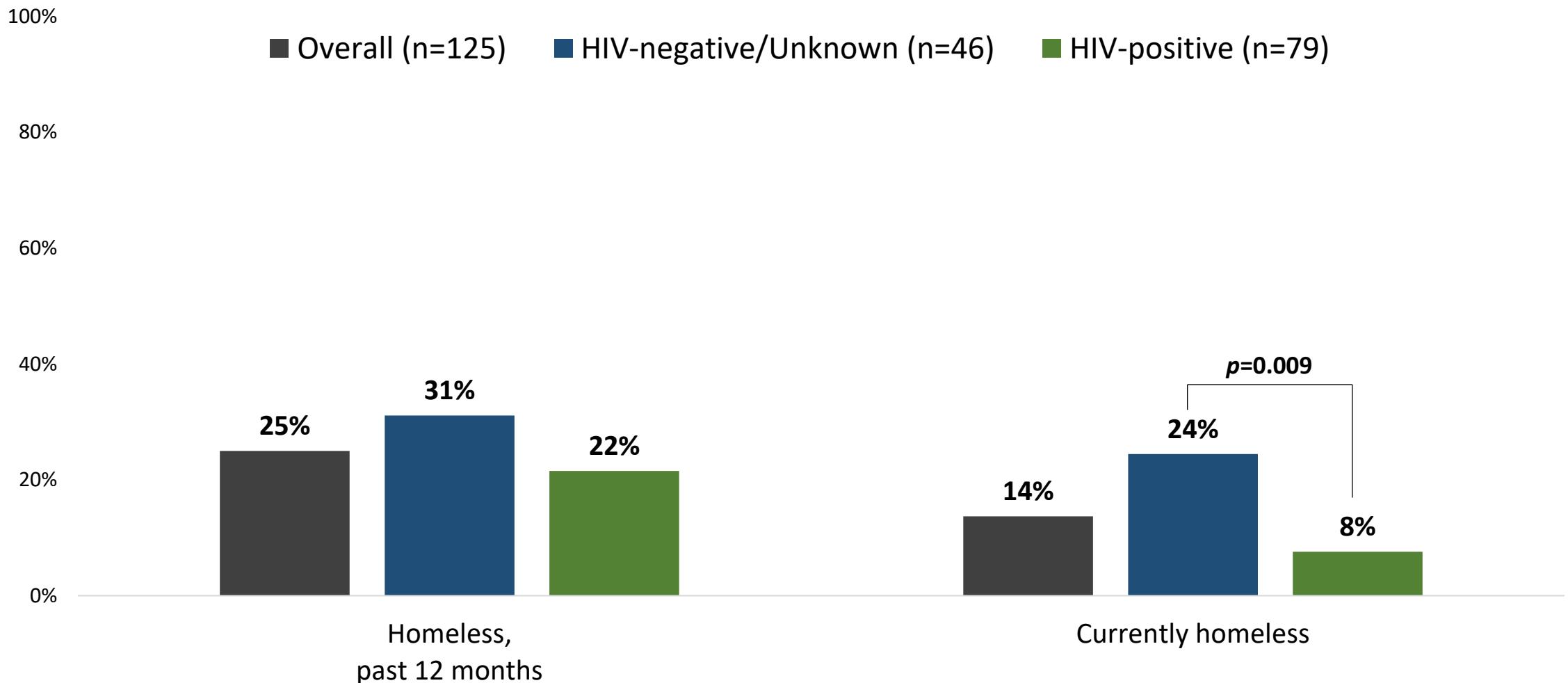
Housing Instability, Overall and by Age

NYC NHBS-Trans, n=125



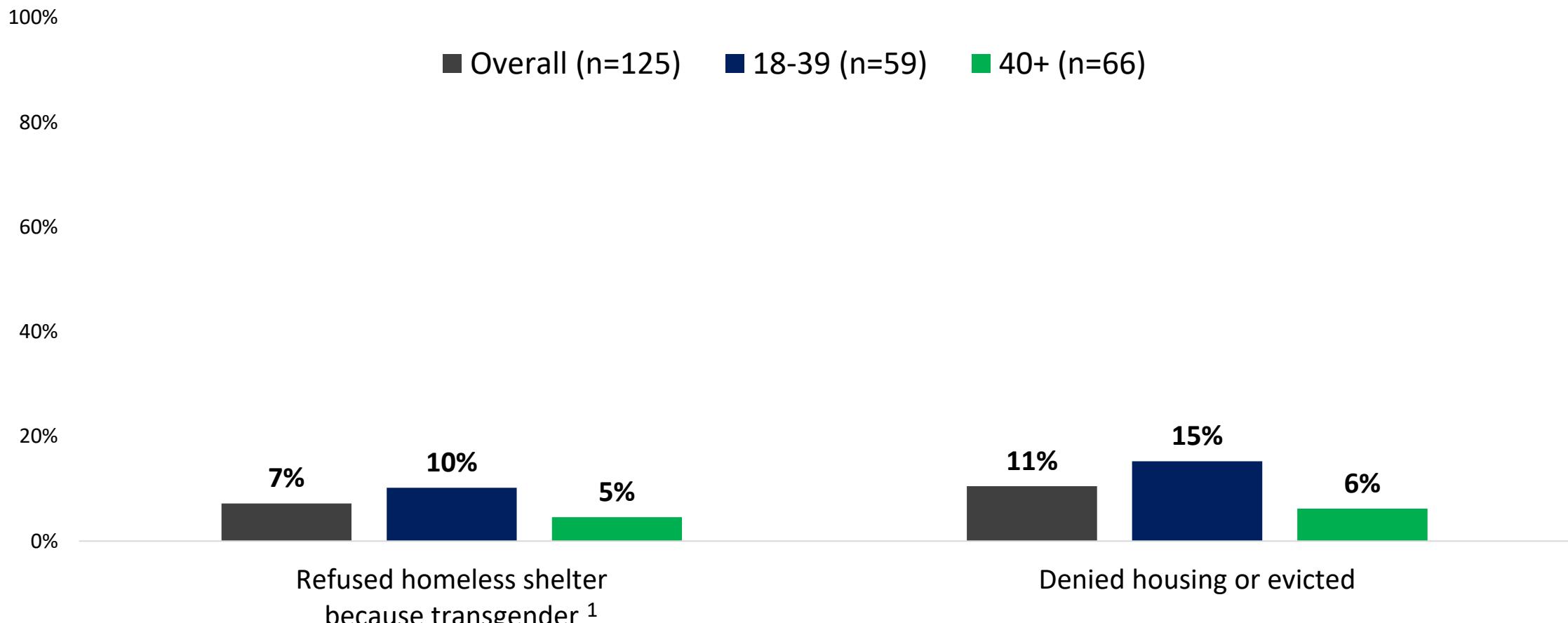
Housing Instability, Overall and by Self-Reported HIV Status

NYC NHBS-Trans, n=125



Housing Barriers, Overall and by Age, Past 12 Months

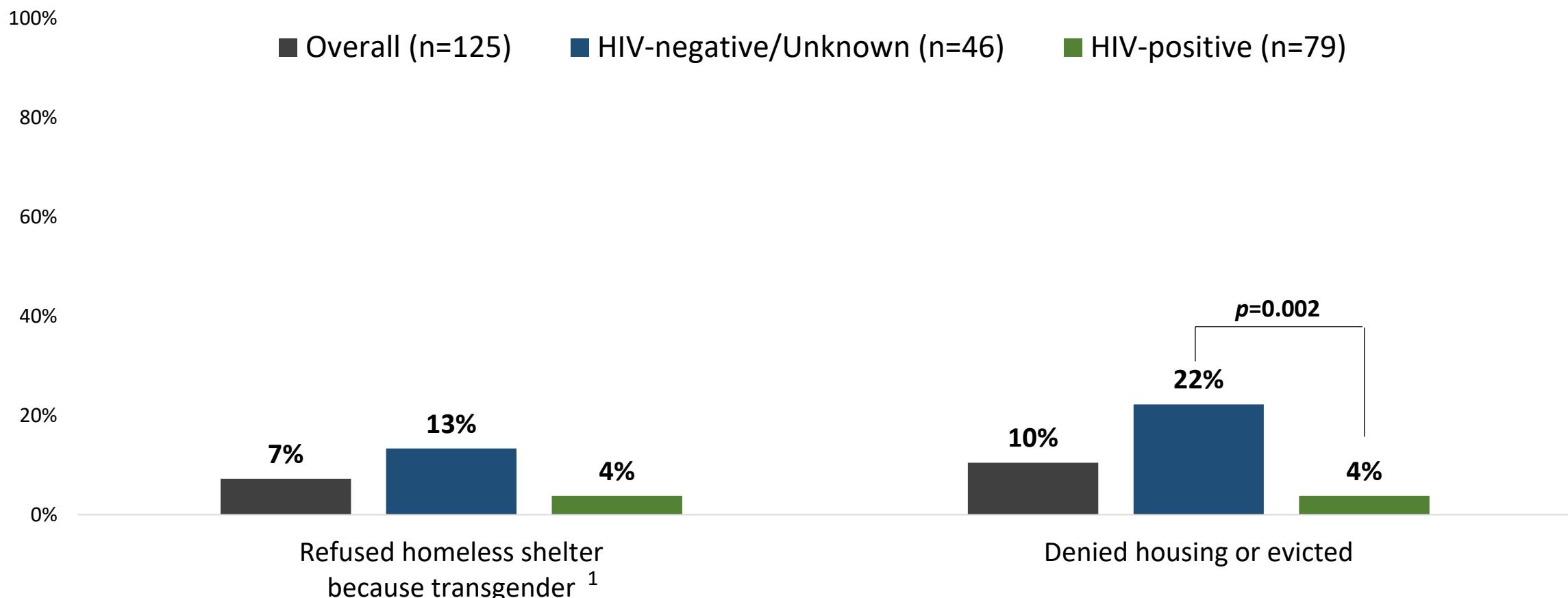
NYC NHBS-Trans, n=125



¹Refused homeless shelter access is defined as turned away, forced to house with people of a gender the participant did not identify with, or forced to change any aspect of their appearance before being allowed inside.

Housing Barriers, Overall and by Self-Reported HIV Status, Past 12 Months

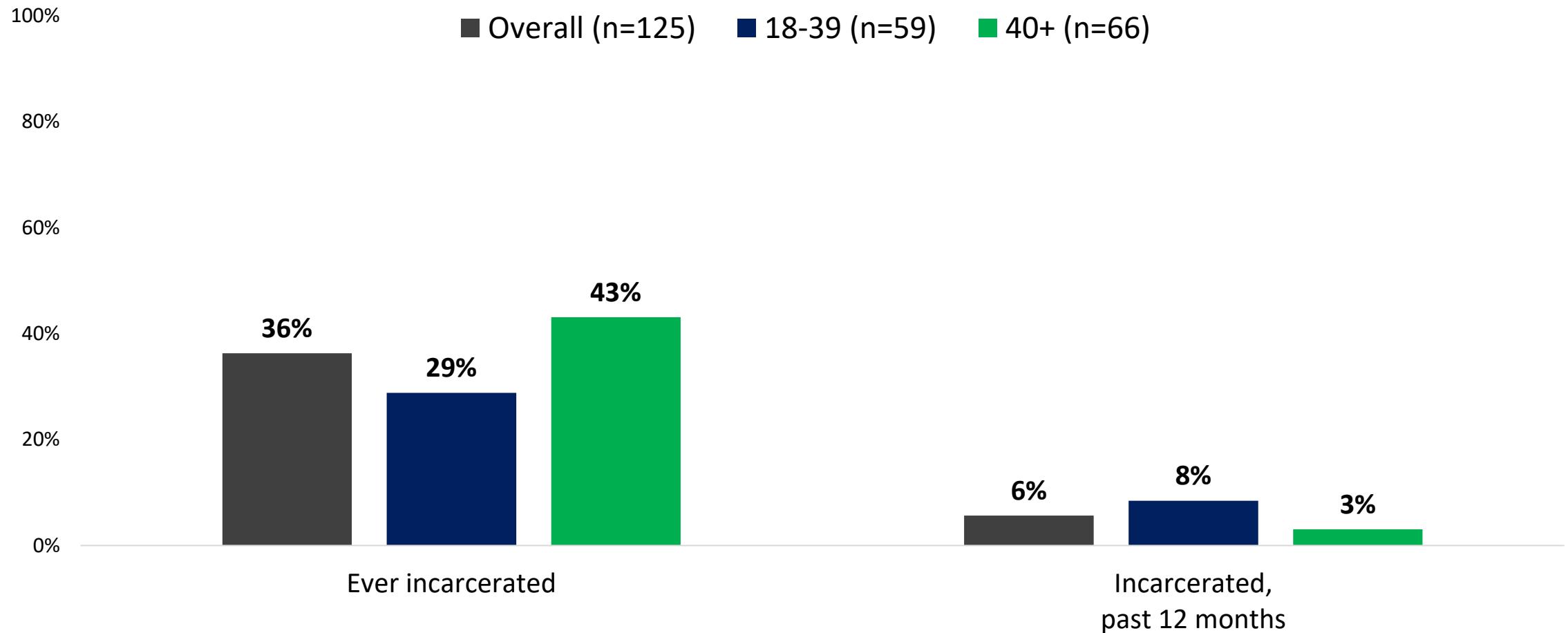
NYC NHBS-Trans, n=125



¹Refused homeless shelter access is defined as turned away, forced to house with people of a gender the participant did not identify with, or forced to change any aspect of their appearance before being allowed inside.

Incarceration History, Overall and by Age

NYC NHBS-Trans, n=125



Incarceration History Overall and by Self-Reported HIV Status

NYC NHBS-Trans, n=125

100%

■ Overall (n=125) ■ HIV-negative/Unknown (n=46) ■ HIV-positive (n=79)

80%

60%

40%

20%

0%

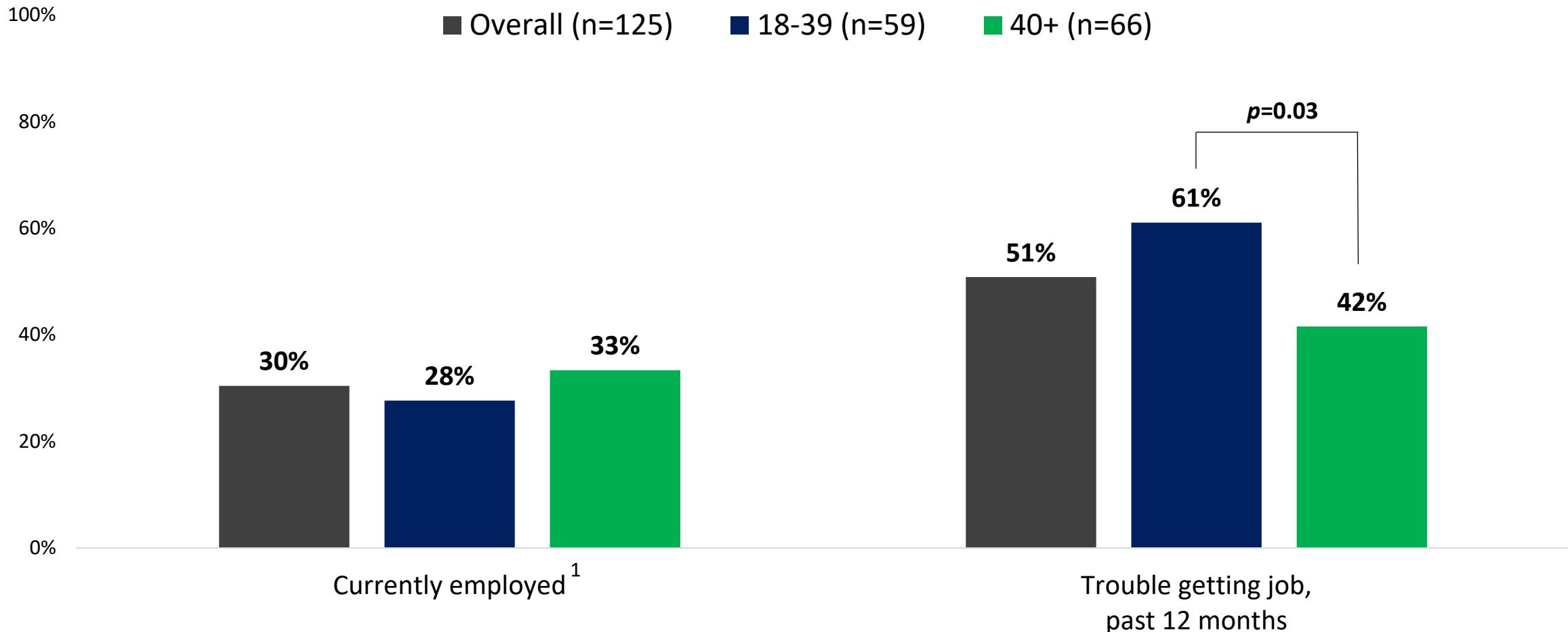


Ever incarcerated

Incarcerated,
past 12 months

Employment Stability, Overall and by Age

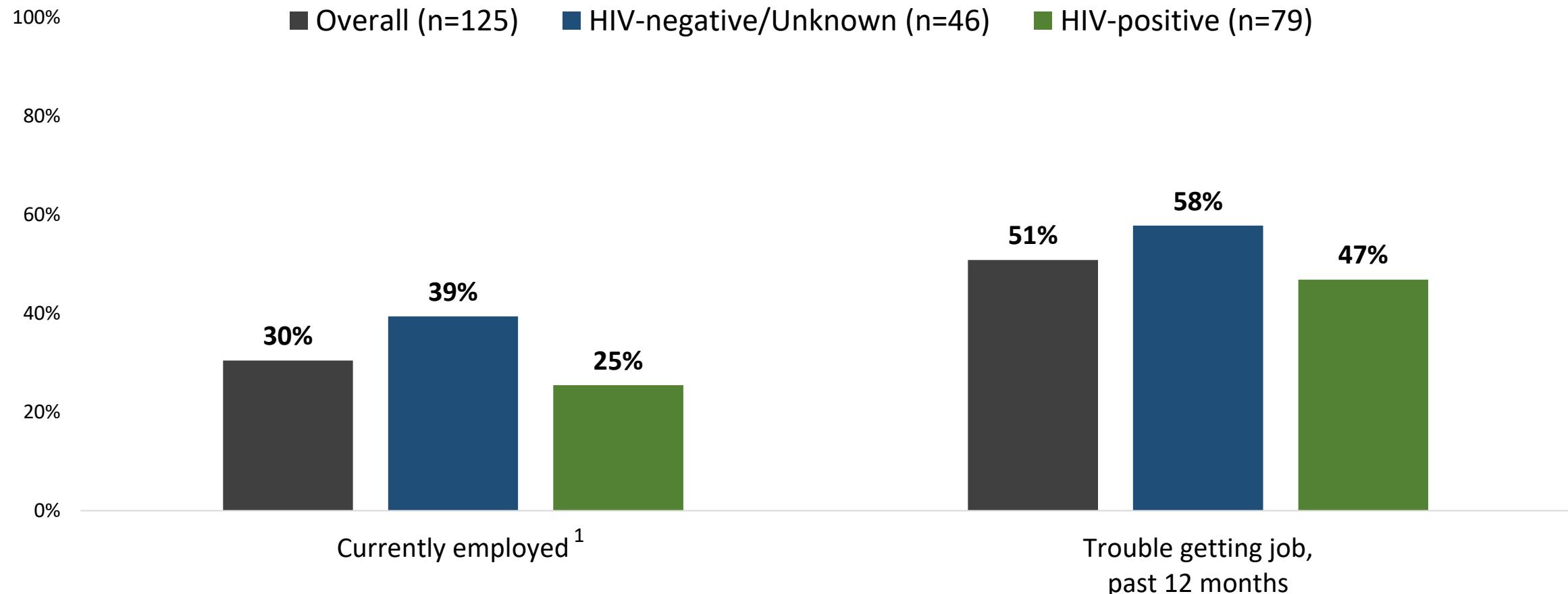
NYC NHBS-Trans, n=125



¹ Among those in the workforce (not a student, homemaker, retired, or unable to work for health reasons (n=92).

Employment Stability, Overall and by Self-Reported HIV Status

NYC NHBS-Trans, n=125

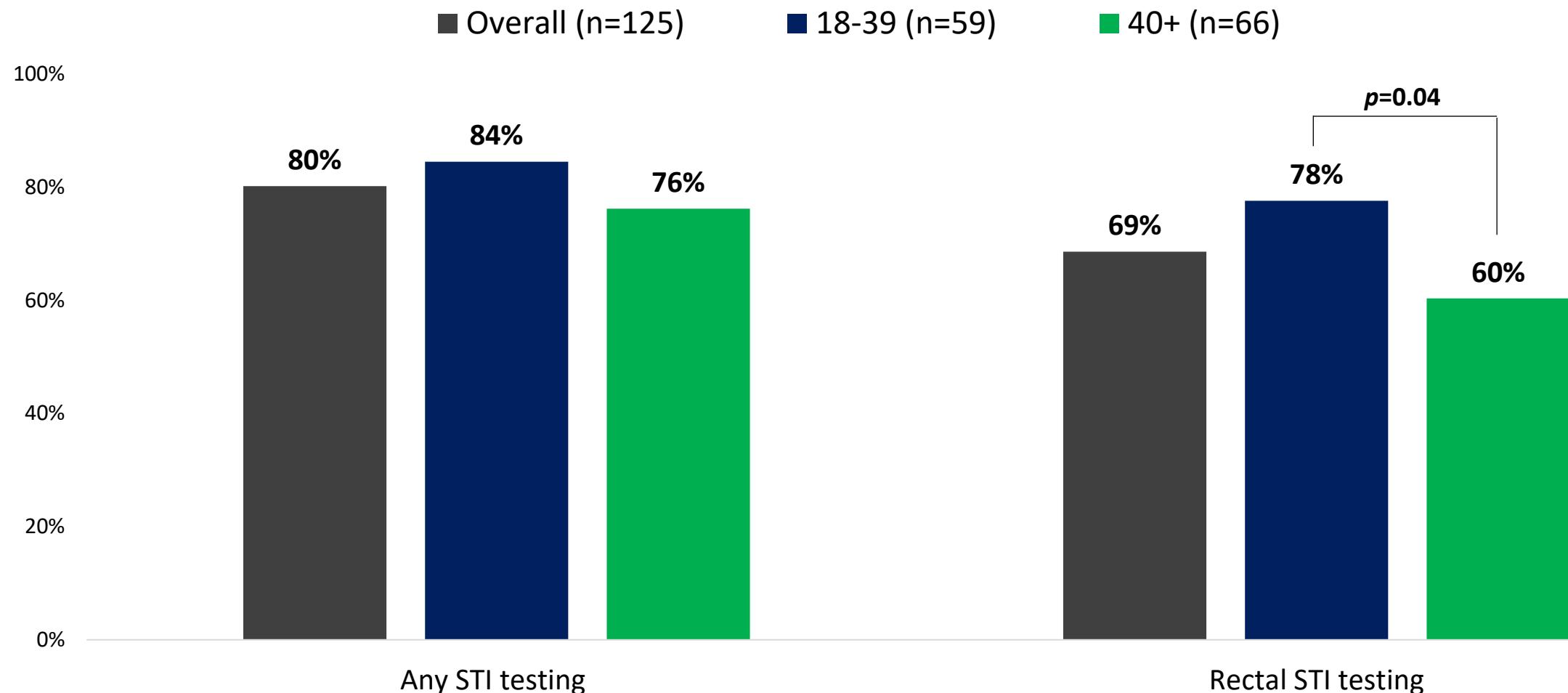


¹ Among those in the workforce (not a student, homemaker, retired, or unable to work for health reasons (n=92)..

Sexually Transmitted Infections (STIs)

STI Testing Uptake, Overall and by Age, Past 12 Months¹

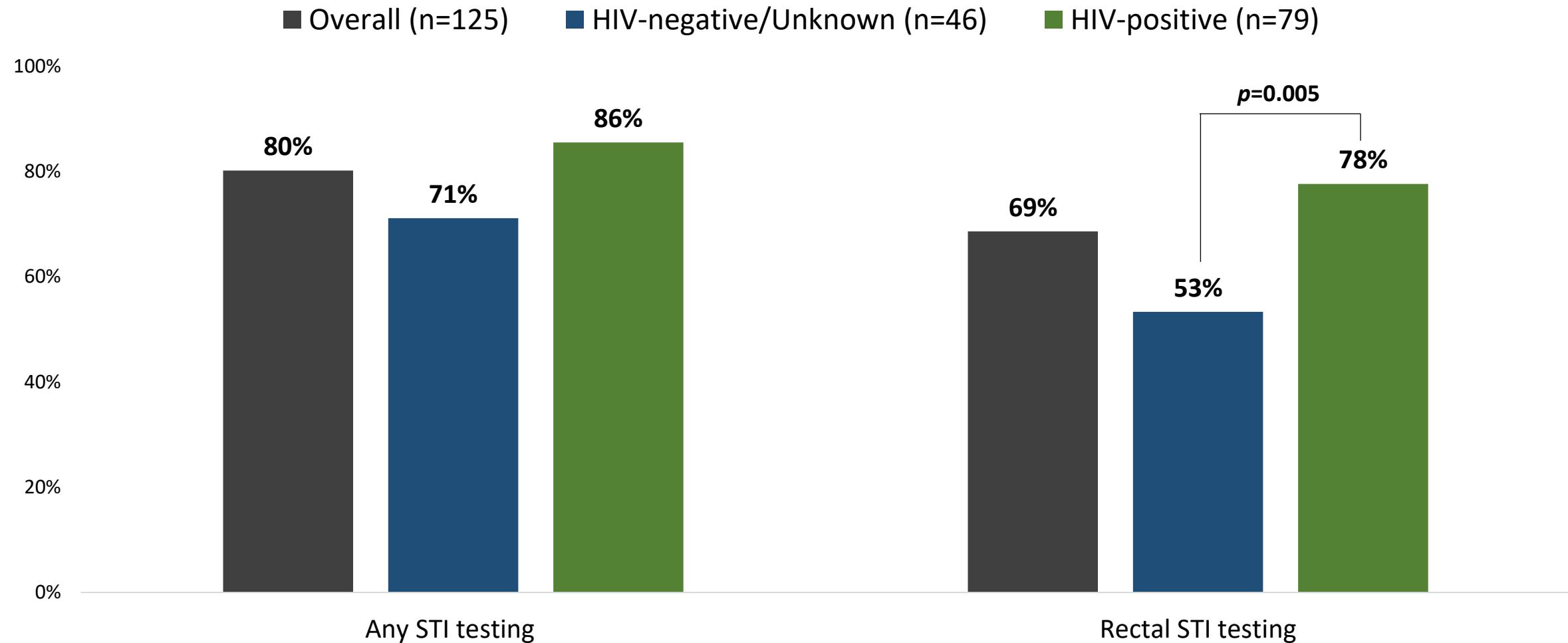
NYC NHBS-Trans, n=125



¹ STI testing does not include testing for HIV or hepatitis.

STI Testing Uptake, Overall and by Self-Reported HIV Status, Past 12 Months¹

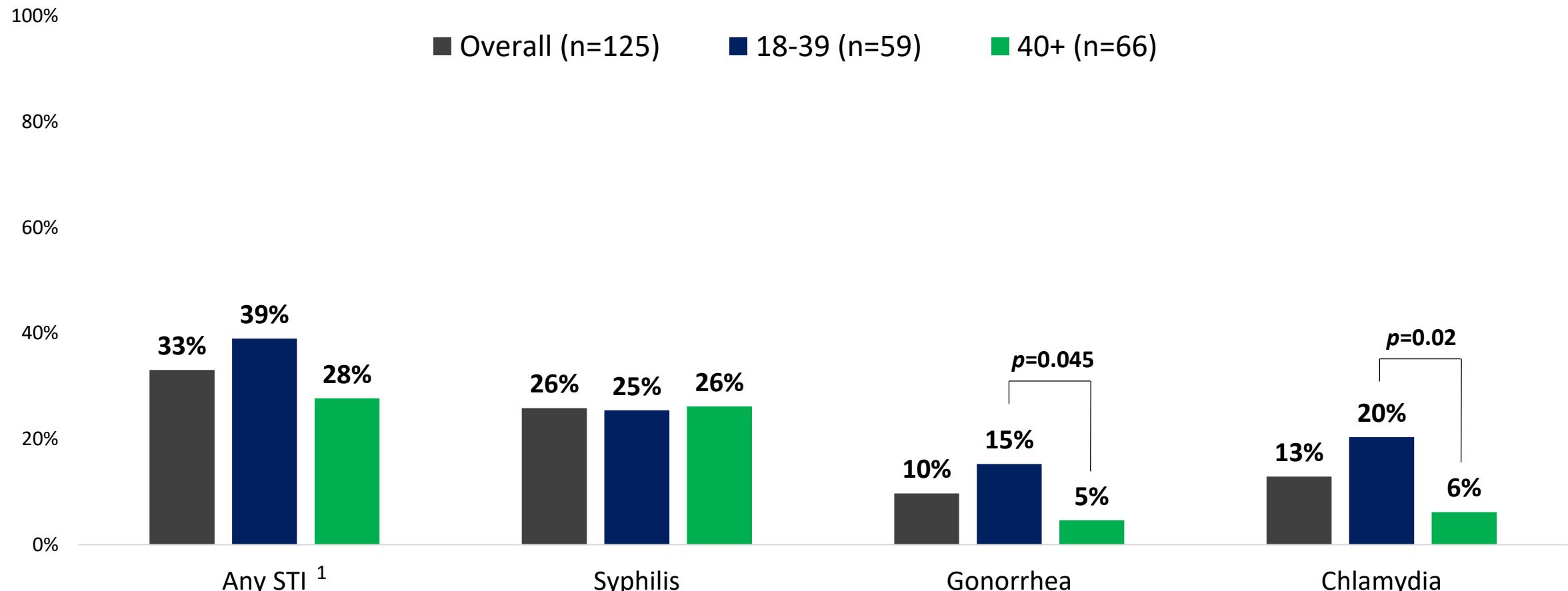
NYC NHBS-Trans, n=125



¹ STI testing does not include testing for HIV or hepatitis.

Self-Reported Bacterial STI Diagnoses, Overall and by Age, Past 12 Months

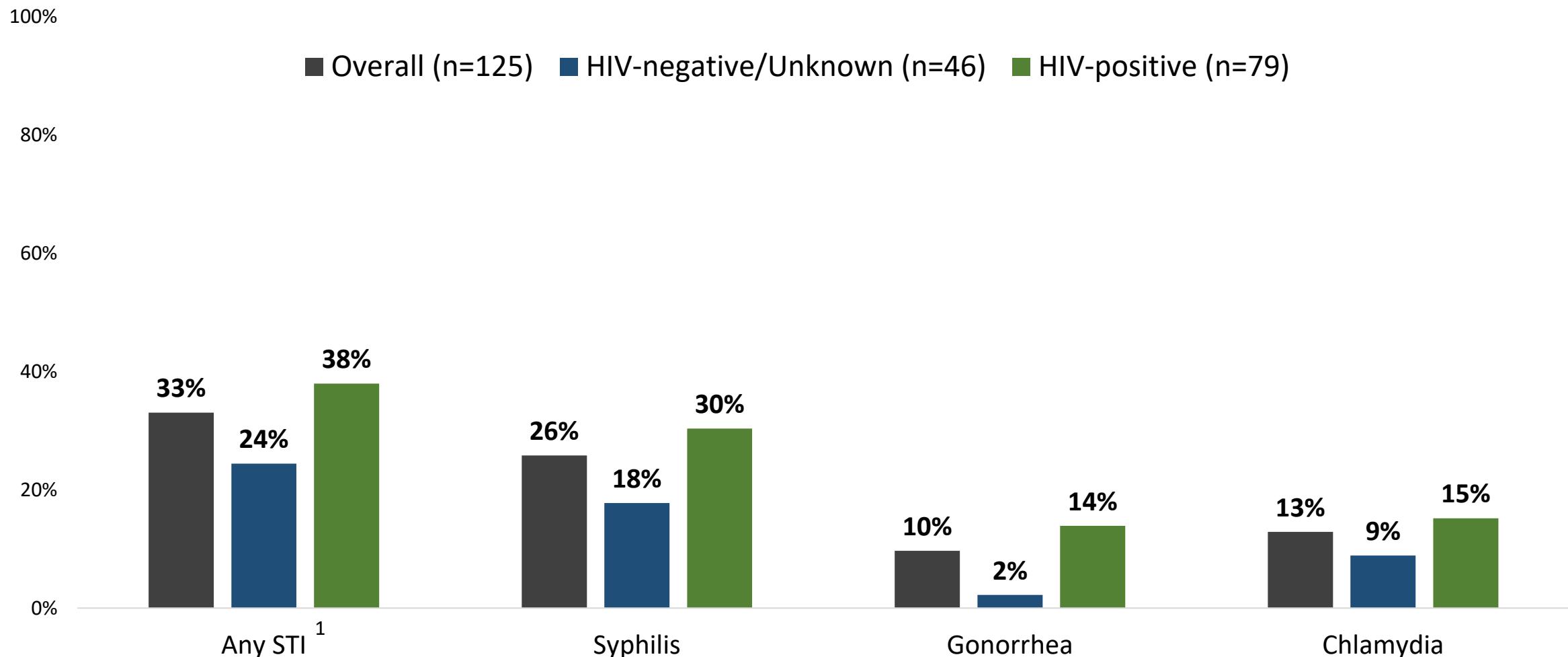
NYC NHBS-Trans, n=125



¹ Any STI diagnosis is defined as any self-reported syphilis, gonorrhea, or chlamydia diagnosis.

Self-Reported Bacterial STI Diagnoses, Overall and by Self-Reported HIV Status, Past 12 Months

NYC NHBS-Trans, n=125



¹ Any STI diagnosis is defined as any self-reported syphilis, gonorrhea, or chlamydia diagnosis.

HIV Prevalence

HIV Prevalence by Selected Characteristics

NYC NHBS-Trans, n=122 (Confirmed NHBS HIV Test Result)¹

| | Confirmed Test Result (n) | Positive Test Result n (%) | 95% Confidence Interval |
|--|---------------------------------|----------------------------------|----------------------------|
| Overall | 122 | 63.4% | 57.3% - 74.7% |
| <hr/> | | | |
| Age group | | | |
| 18-39 | 58 | 67.2% | 21.0% - 46.3% |
| 40+ | 64 | 65.6% | 23.0% - 47.3% |
| <hr/> | | | |
| Lifetime injection drug use ² | | | |
| No | 111 | 66.7% | 24.7% - 42.9% |
| Yes | 10 | 60.0% | 12.2% - 73.8% |

¹ Confirmed via a rapid-rapid testing algorithm with a final test result.

² Injection drug use is defined as using drugs received without a prescription or that were prescribed but not used as instructed by a health care provider. Does not include drugs used for gender transition or affirmation.

HIV Prevalence by Selected Characteristics

NYC NHBS-Trans, n=122 (Confirmed NHBS HIV Test Result)¹

| | Confirmed Test Result (n) | Positive Test Result % | 95% Confidence Interval |
|----------------------|---------------------------------|------------------------------|----------------------------|
| Overall | 122 | 63.4% | 57.3% - 74.7% |
| Self-Reported Status | | | |
| HIV-negative/Unknown | 45 | 8.9% | 78.8% - 97.5% |
| Positive | 77 | 100.0% | 95.3% - 100.0% |
| Race and Ethnicity | | | |
| Latina | 100 | 66.0% | 24.8% - 44.2% |
| Black | 14 | 64.3% | 12.8% - 64.9% |
| Other ² | 8 | 75.0% | 3.2% - 65.1% |

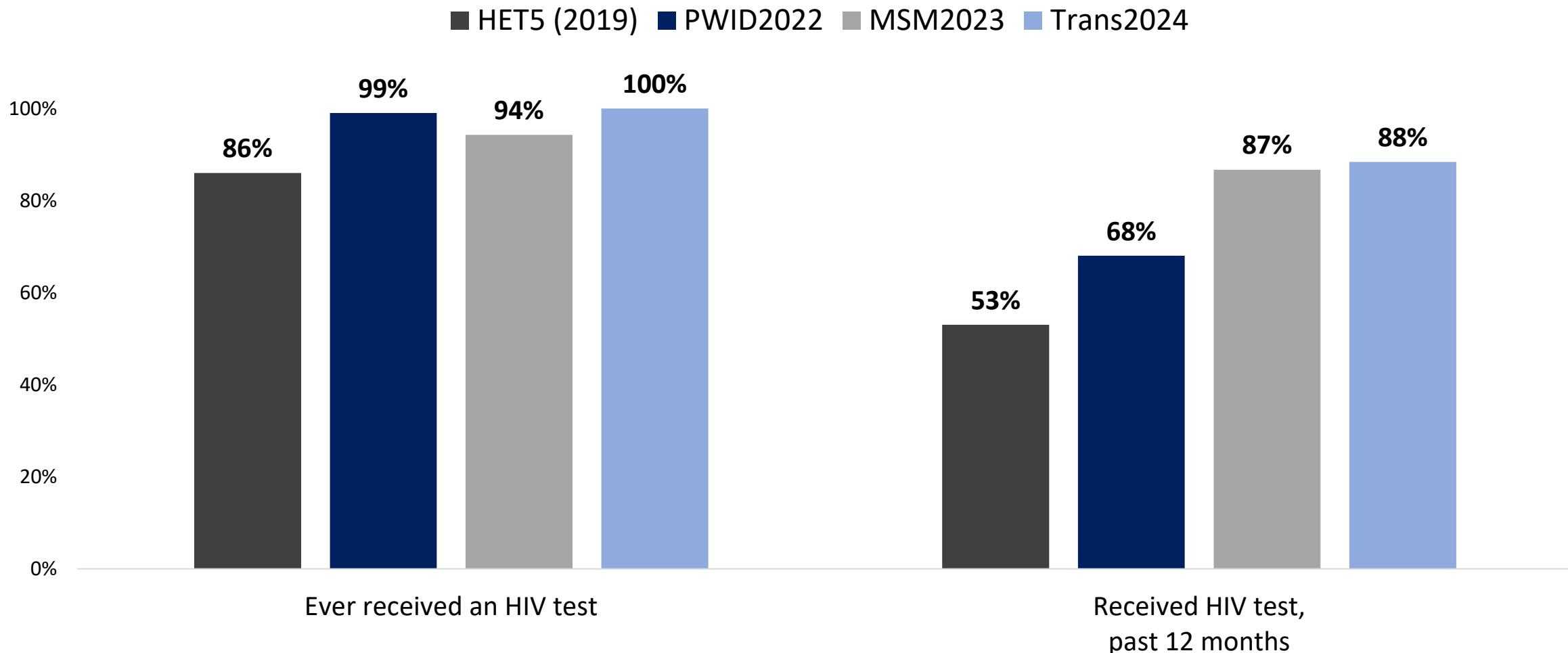
¹ Confirmed via a rapid-rapid testing algorithm with a final test result.

² 'Other' racial/ethnic category includes American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander (n=8).

HIV Prevention Services

HIV Testing History Among WTE/TFP Compared to Other NHBS Groups

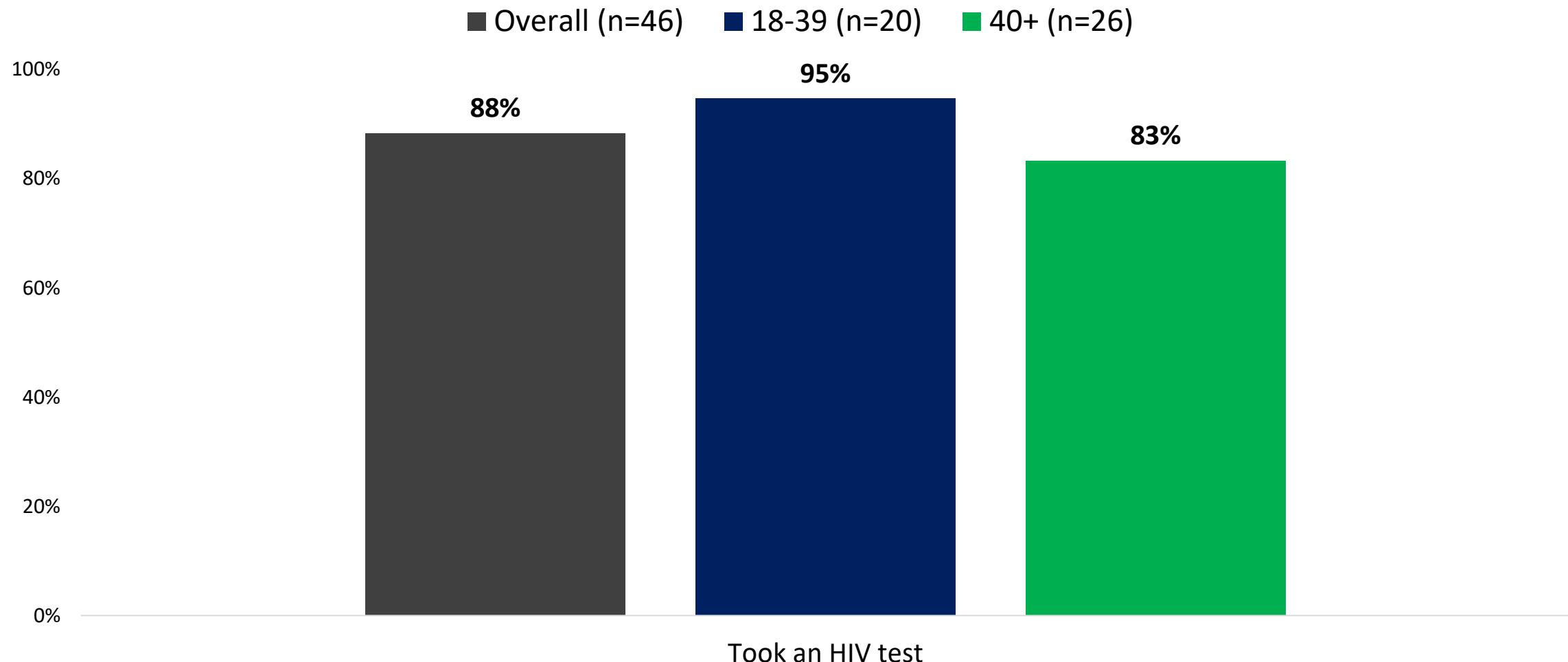
HET5 (2019), PWID2022, MSM2023, Trans (2024) (Among Participants with HIV Status of Negative or Unknown)¹



¹ Study abbreviations: HET – Heterosexually active adults (2019), PWID – Persons who inject drugs (2022), and MSM – Men who have sex with men (2023).

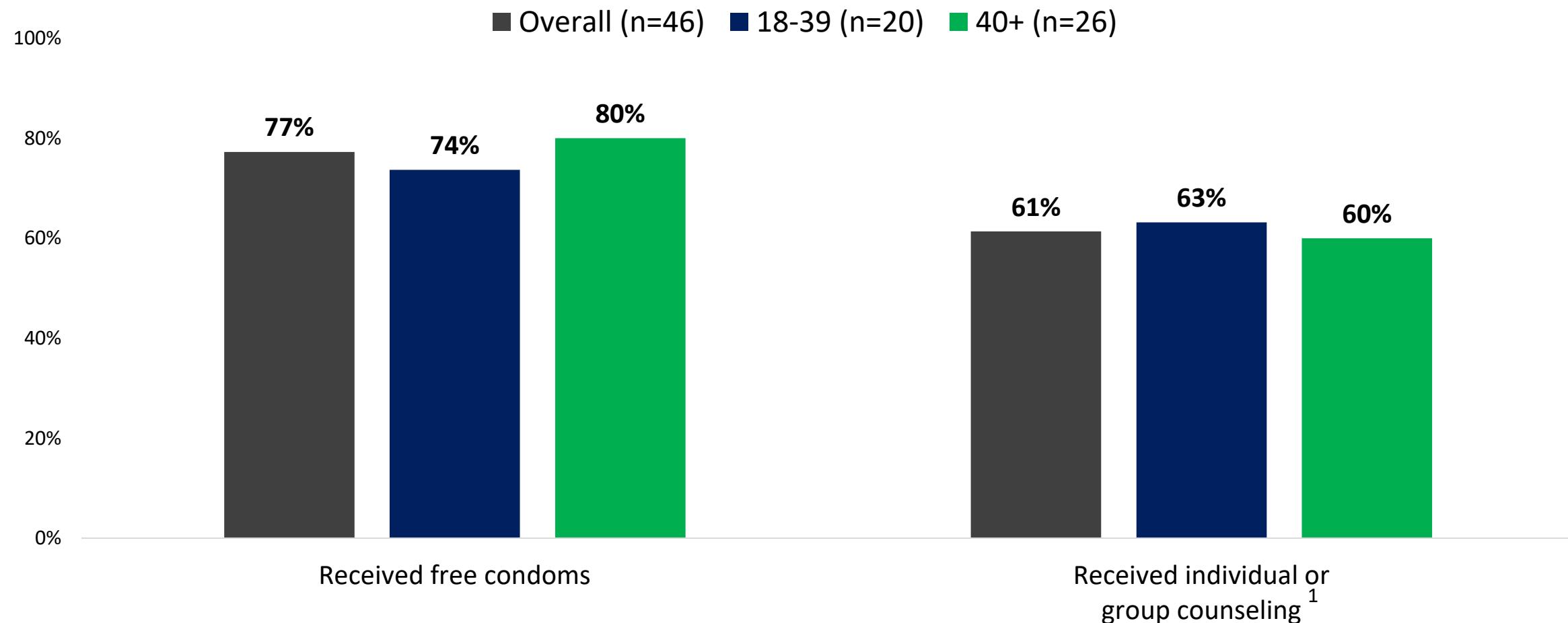
HIV Testing Uptake, Overall and by Age, Past 12 Months

NYC NHBS-Trans, n=46 (Among Participants with HIV Status of Negative or Unknown)



Use of HIV Prevention Services, Overall and by Age, Past 12 Months

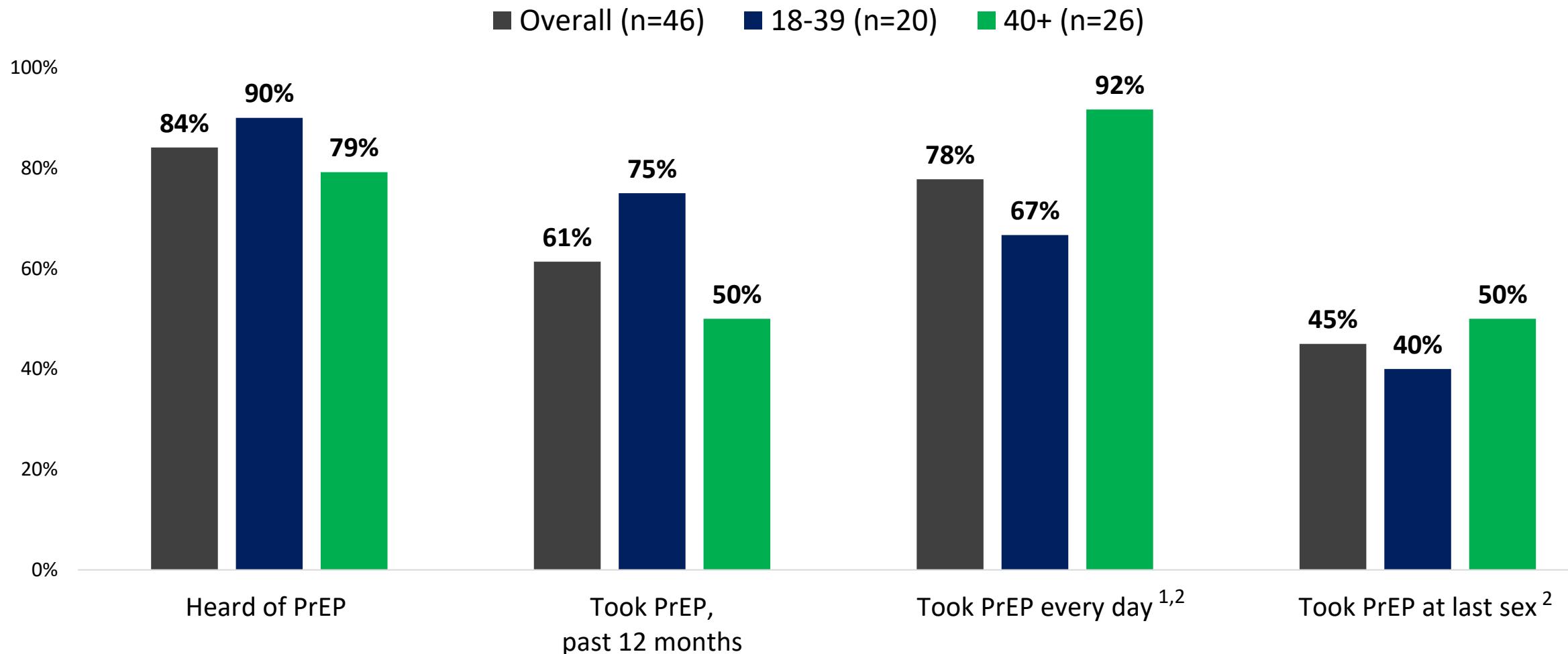
NYC NHBS-Trans, n=46 (Among Participants with HIV Status of Negative or Unknown)



¹ Individual or group counseling is defined as a one-on-one conversation with an outreach worker, counselor, or prevention program worker or participated in an organized group session to discuss ways to prevent HIV. Does not include counseling as part of an HIV test.

Pre-Exposure Prophylaxis (PrEP) Awareness and Use, Overall and by Age

NYC NHBS-Trans, n=46 (Among Participants with HIV Status of Negative or Unknown)

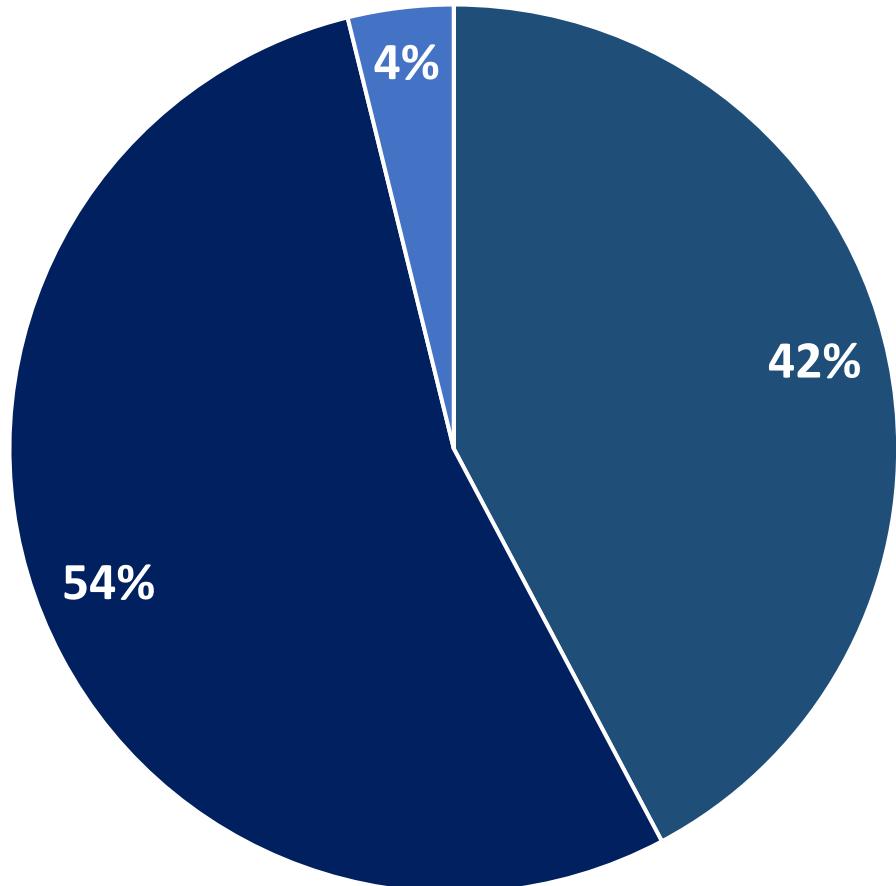


¹ In the past 12 months

² Among those who self-reported taking PrEP in the past 30 days (n=27).

Type of PrEP Used, at Last Use¹

NYC NHBS-Trans, n=27 (Used PrEP, past 30 days)



PrEP Type²

- Truvada (n=11)
- Descovy (n=14)
- Injectable Cabotegravir (n=1)

¹ Truvada, Descovy, and injectable Cabotegravir are all approved by the FDA for use in transgender women.

² Among the PrEP types listed, Truvada and Descovy are effective as a daily oral pill. Truvada is approved for all routes of potential HIV exposure, whereas Descovy is not yet approved for use through receptive vaginal sex. Injectable Cabotegravir involves an initial "lead-in" period of oral cabotegravir tablets followed by monthly or every-other-month injections of the injectable form, administered by a healthcare provider.

Conclusions

Summary

- The second cycle of the NHBS-Trans study successfully recruited 125 participants
- Over 80% of participants were born outside of the continental U.S., and 61% of the interviews were conducted in Spanish, underscoring the critical role of Spanish-speaking interviewers
- WTE/TFP who reported having HIV were significantly more likely to have receptive anal sex (90%) than those who reported a negative or unknown HIV status (76%), with more than half of the total sample (53%) reporting condomless receptive anal sex in the past 12 months
- Younger WTE/TFP (aged 18-39) were significantly more likely to engage in exchange sex in the past 12 months, compared to older WTE/TFP (aged 40 and older)

Summary, Continued

- While 92% of participants had health insurance, 18% of participants reported that they avoided health care due to being transgender in the past year, and only 74% reported that they had a health care provider for both trans-related care and primary care, highlighting that health insurance coverage does not always ensure comprehensive, quality care
- WTE/TFP who did not report having HIV were significantly more likely to have avoided health care due to being transgender, have suicidal ideation, and report high psychological distress, compared to WTE/TFP who report having HIV, highlighting a need for linkage to trans-competent mental health care in this group
- Housing stability varied by age. WTE/TFP who were 40 and older were significantly more likely to have experienced homelessness, but WTE/TFP who were 40 and younger were significantly more likely to have faced housing denial or eviction in the past 12 months
- WTE/TFP who did not report having HIV were significantly more likely to be currently homeless at the time of the study as compared to those who reported having HIV, potentially due to housing services available for people living with HIV in NYC

Summary, Continued

- No differences were observed in overall STI testing uptake. However, younger WTE/TFP and WTE/TFP who reported having HIV were significantly more likely to have had a rectal STI test in the past 12 months. WTE/TFP who reported having HIV may be more likely to have a rectal STI test since they were more likely to have receptive anal sex
- Over 30% reported an STI diagnosis in the past 12 months. Younger WTE/TFP were significantly more likely than older WTE/TFP to be diagnosed with chlamydia or gonorrhea, despite no differences in condomless sex by age, potentially due to the increased rectal STI testing in this group
- There were no differences in HIV prevalence by injection drug use, race/ethnicity, or age group

Summary, Continued

- HIV prevalence was higher than in other NYC samples of WTE/TFP, which range from 36% to 52%¹⁻³
- HIV prevalence in our sample is not representative of WTE/TFP in NYC. Higher than expected prevalence could be due to strong social networks and high homophily among TWE/TFP who report having HIV (i.e., WTE/TFP with HIV were more likely to recruit other WTE/TFP with HIV)
- Given heightened privacy concerns, the NHBS team approaches these data with sensitivity and deep appreciation for the participants who chose to share their experiences

¹ CDC. HIV Infection, Risk, Prevention, and Testing Behaviors Among Transgender Women—National HIV Behavioral Surveillance, 7 U.S. Cities, 2019–2020. HIV Surveillance Special Report 27. Published April 2021.

² Merriman J, Dharma C, Park SH, et al. Perceived Access to Gender-Affirming Care, Completion of Gender-Affirming Medical Interventions, and Psychological Distress Among Transgender Women of Color: The TURNNT Cohort Study. *Am J Epidemiol.* Published online June 20, 2025.

³ Nuttbrock L, Hwahng S, Bockting W, et al. Lifetime Risk Factors For HIV/Sexually Transmitted Infections Among Male-to-female Transgender Persons. *J Acquir Immune Defic Syndr.* 2009.

Strengths

- A standardized survey and protocol were implemented nationally
- RDS reached an underrepresented population who may not access social programs and other institutionalized settings
- Local questions were developed to explore relevant themes specific to WTE/TFP in NYC
- HIV status was confirmed via a rapid-rapid testing algorithm

Limitations

- Only those who are networked to other WTE/TFP were recruited through RDS
- Due to small sample size, we were not able to weight the data using RDS weights. Hence, our findings are not generalizable to the overall WTE/TFP population in NYC
- Survey data were collected by self-report and may be biased by recall error or social desirability
- The small sample size may have affected our ability to detect additional statistically significant differences

Implications

- The findings from the NHBS-Trans study reveal gaps in health care coverage, socioeconomic resources, and STI/HIV testing and prevention among WTE/TFP in NYC, regardless of HIV status
- Research projects such as these are critical for informing public health programs and making improvements in service delivery, and to strengthening community support

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