Using HIV Status and Viral Load Knowledge for Decision Making in Sexual Behavior: Outcome Analysis from the Medical Monitoring Project in Texas

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Background

- Condom use has been the most widely recognized and promoted form of protected sexual behavior.
- However, research shows there are other harm reduction strategies for sexual behavior that can be effectively used by HIV-positive persons.
- Serosorting, selecting partners of concordant HIV serostatus, and having an undetectable viral load (VL) are two such harm reduction strategies.

Objective

- This analysis assessed the association of HIV status and VL knowledge with sexual behavior decision making among people living with HIV (PLWH) receiving care in Texas.

Methods

- The Medical Monitoring Project (MMP) is an ongoing surveillance system funded by the Centers of Disease Control and Prevention (CDC) that uses a three stage cluster sampling method to assess behaviors and clinical characteristics of PLWH who are receiving outpatient medical care.
- From the Texas and Houston MMP facilities, 470 of 800 sampled persons participated in the 2012 cycle.
- Data were collected using an in-person interview and a medical record abstraction.
- In the interview, participants were asked to rate their level of agreement with four statements related to serosorting and viral load as well as about their sexual behaviors in the past 12 months.
- The weighted interview dataset was analyzed to assess participant responses using SAS 9.3. Differences were assessed using Rao-Scott chi-square tests at significance level of $p<0.05$.
- Data are weighted to adjust for non-response bias.

Results

Demographics

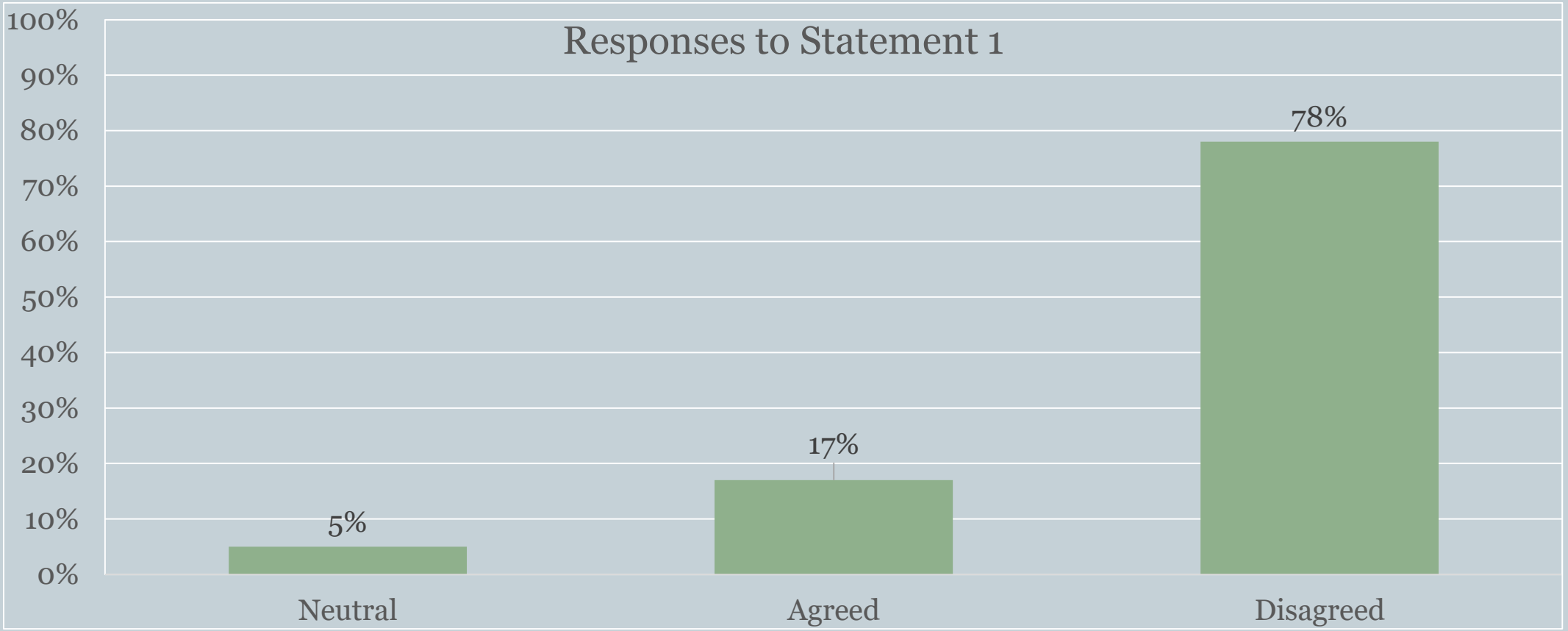
N=470

Characteristics	N	%
Gender		
Male	328	70%
Female	133	28%
Transgender	9	2%
Race/Ethnicity		
White, non-Hispanic	113	29%
Black, non-Hispanic	196	40%
Hispanic	144	26%
Other	17	5%
Age Category		
18-29 years	38	9%
30-39 years	108	23%
40-49 years	142	29%
50+ years	182	39%
Education		
Less than high school	106	21%
High school degree/equivalent	132	28%
Greater than high school	232	51%

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Statement 1: *If my partner tells me he or she is HIV positive, I am more likely to have unprotected sex*

n=462

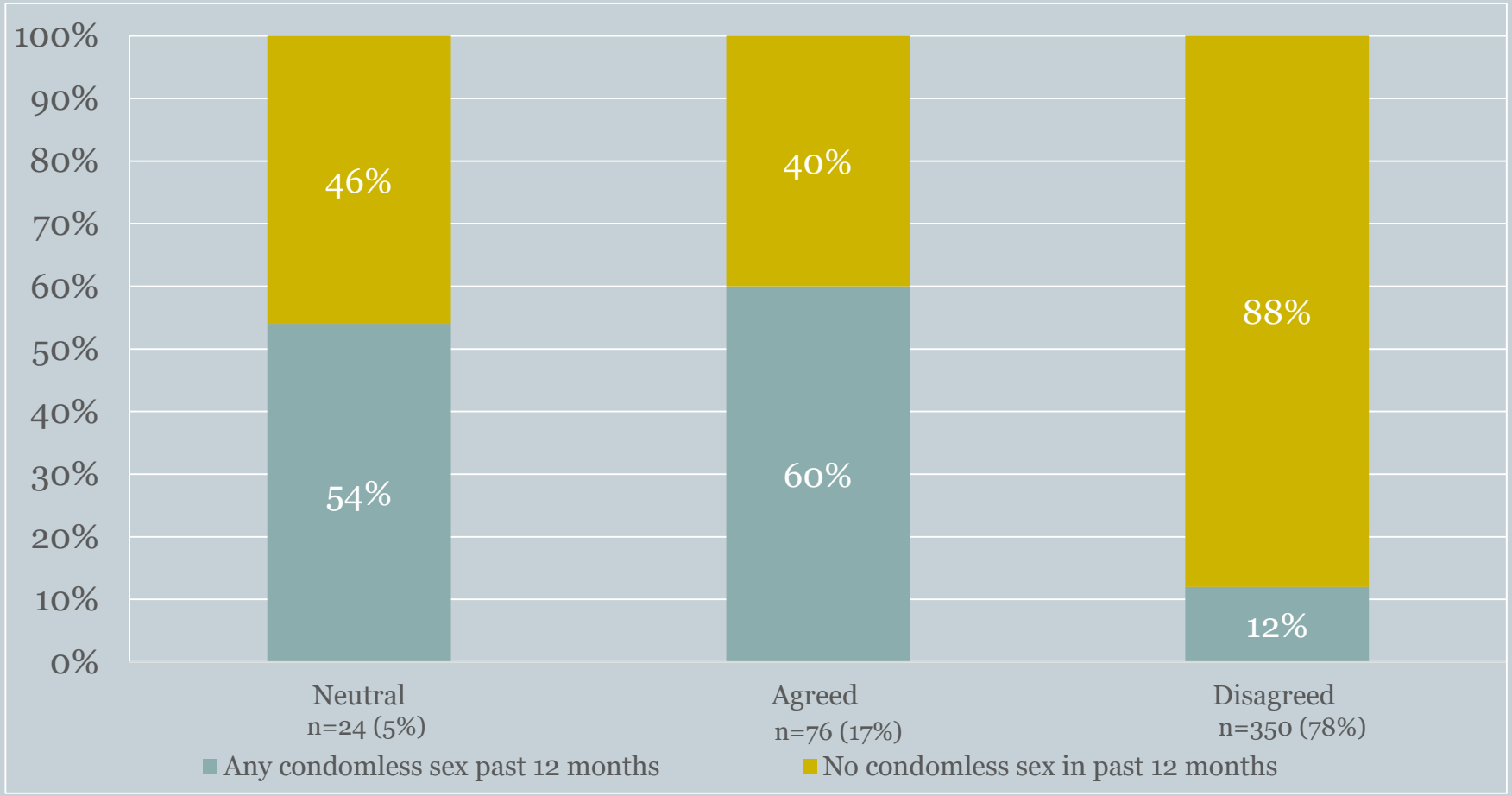


Associations significant at p<0.0001

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Condomless Sex by Level of Agreement to Statement 1

n=450



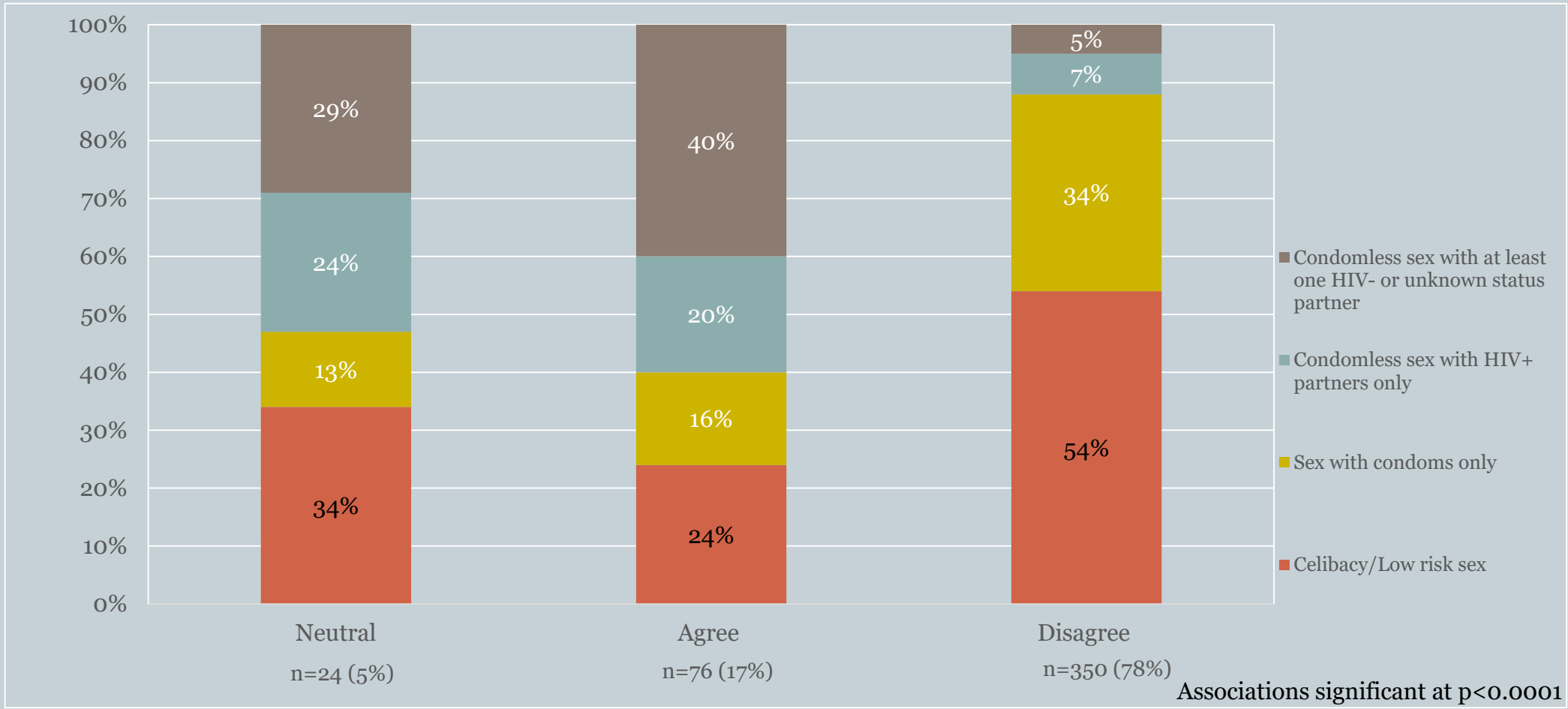
Associations significant at $p<0.0001$

Statement 1: *If my partner tells me he or she is HIV positive, I am more likely to have unprotected sex*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Sexual Behavior and Partner Status by Level of Agreement with Statement 1

n=450

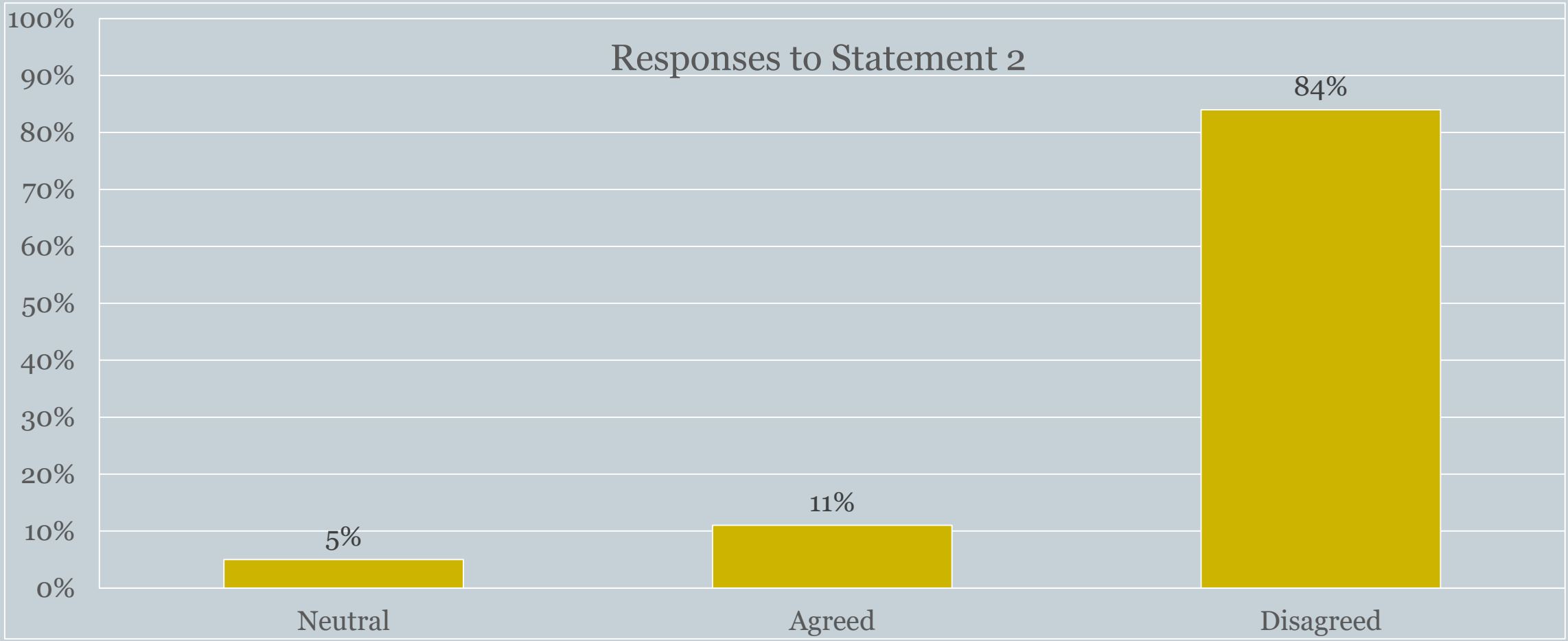


Statement 1: *If my partner tells me he or she is HIV positive, I am more likely to have unprotected sex*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Statement 2: *If my partner tells me or she is HIV positive, we don't have to worry about using condoms*

n=461

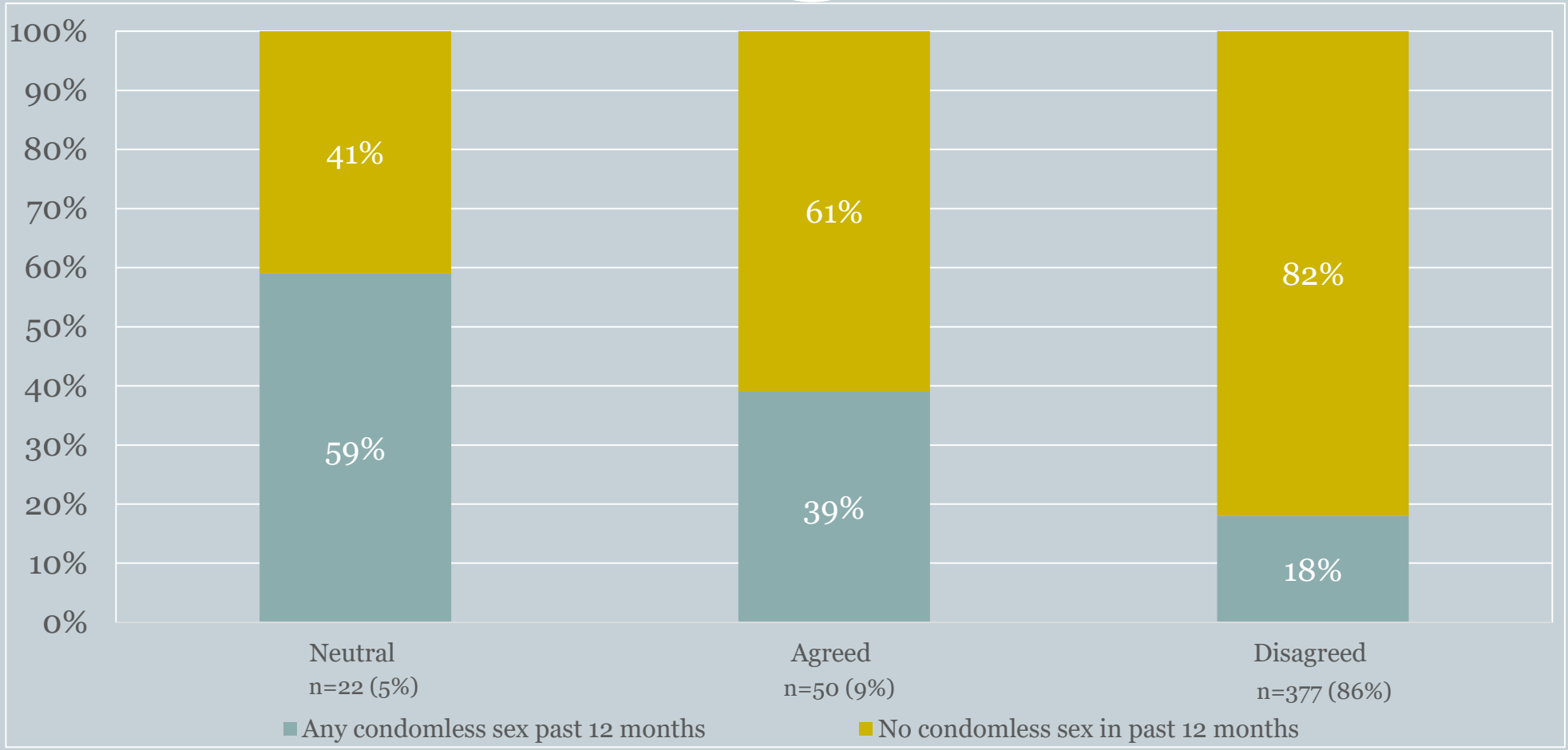


Associations significant at p<0.0001

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Condomless Sex by Level of Agreement to Statement 2

n=449



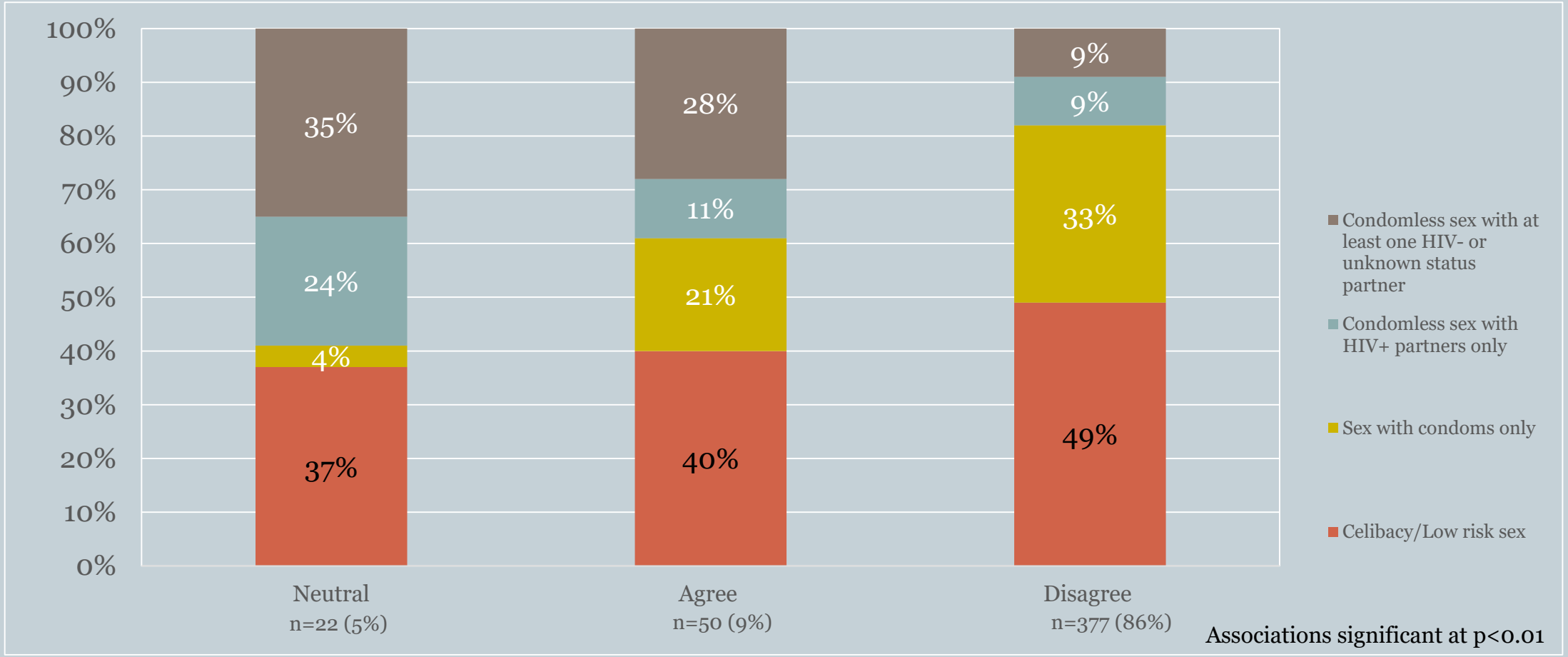
Associations significant at $p<0.01$

Statement 2: *If my partner tells me he or she is HIV positive, we don't have to worry about using condoms*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Sexual Behavior and Partner Status by Level of Agreement with Statement 2

n=449

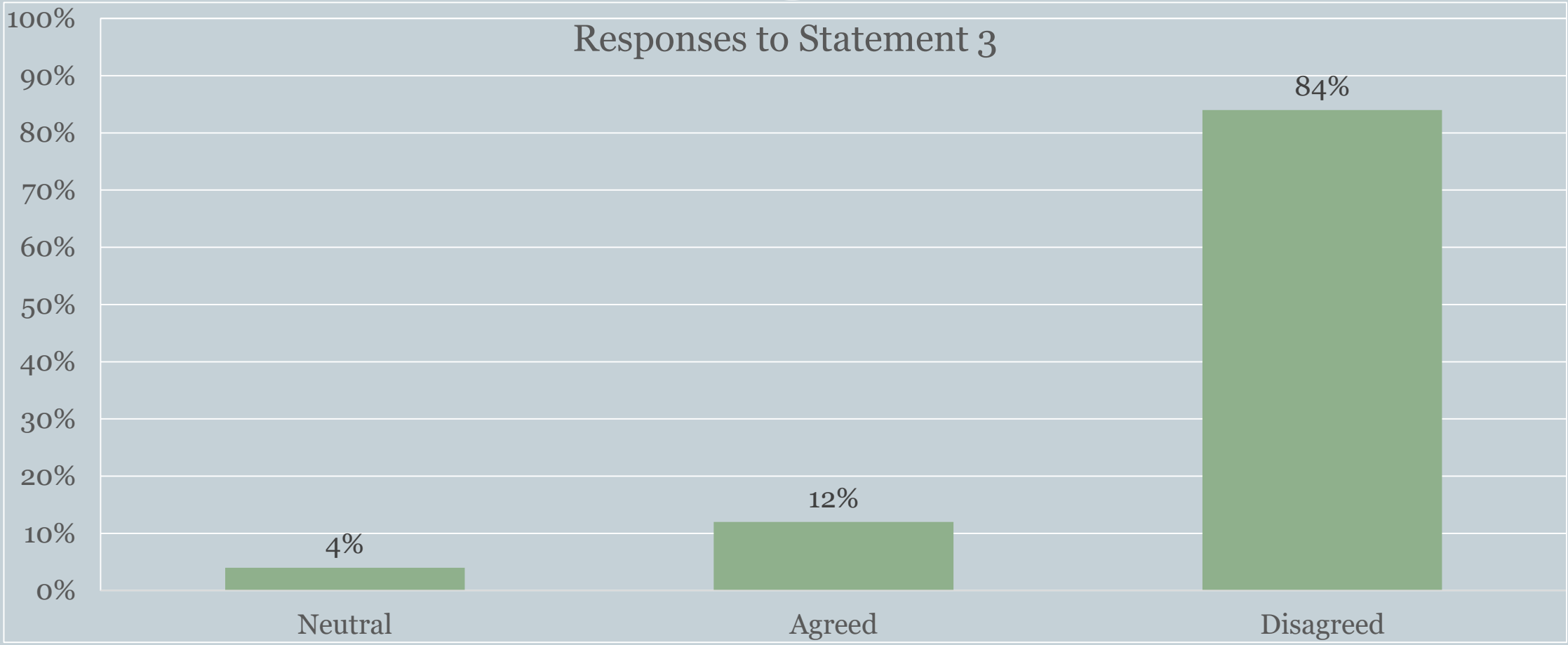


Statement 2: *If my partner tells me he or she is HIV positive, we don't have to worry about using condoms*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Statement 3: *If I have an undetectable HIV viral load, I am more likely to have unprotected sex*

n=461

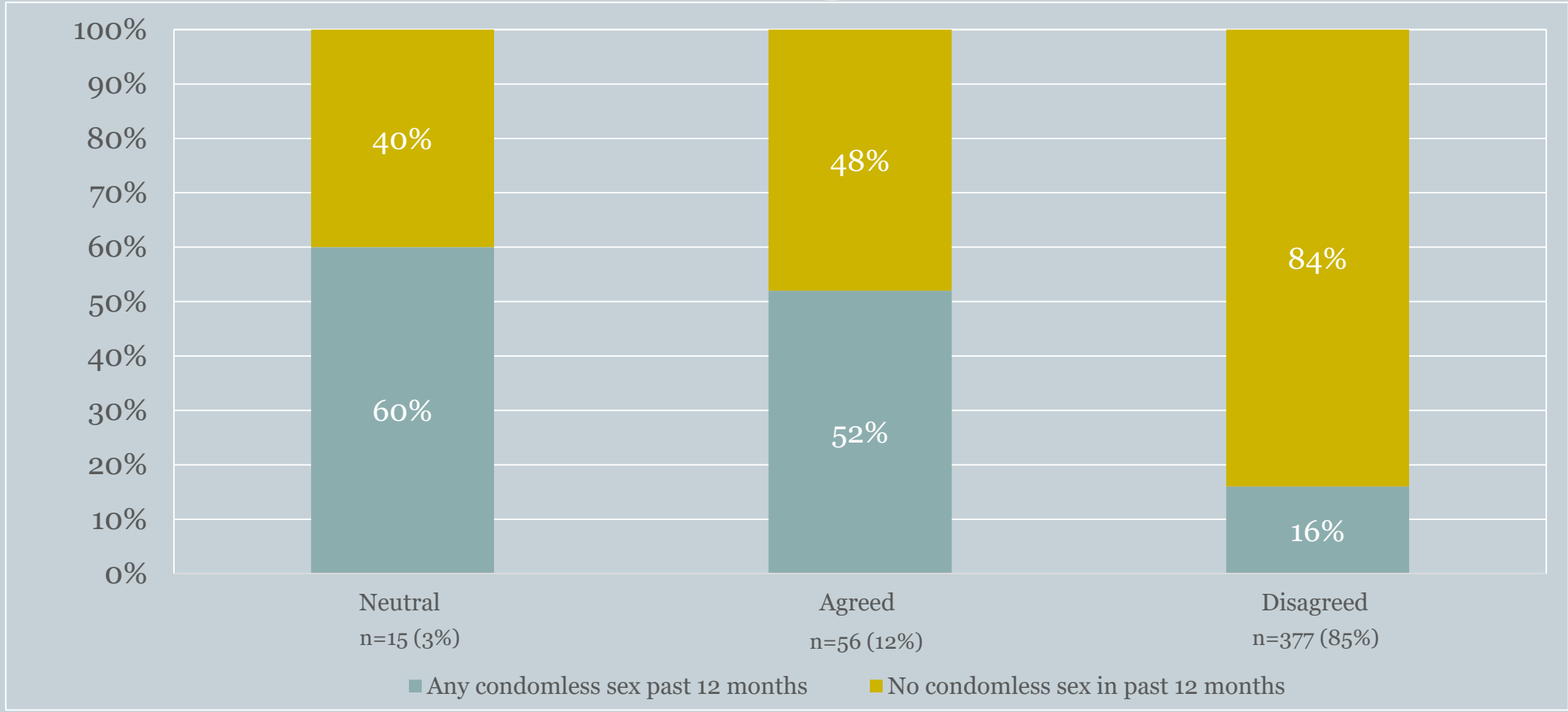


Associations significant at p<0.0001

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Condomless Sex by Level of Agreement to Statement 3

n=448



Associations significant at $p<0.0001$

Statement 3: *If I have an undetectable HIV viral load, I am more likely to have unprotected sex*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Agreement with Statement 3 and Viral Load Status by Sexual Behavior

n=433

Agreement/Viral Load Status*	Any condomless sex in past 12 months	No condomless sex in past 12 months
Agreed with Statement 3		
Undetectable VL (n=45)	45%	55%
Detectable VL (n=11) (p<0.05)**	83%	17%
Disagreed with Statement 3		
Undetectable VL (n=292)	17%	83%
Detectable VL (n=85) (p=0.75)	15%	85%

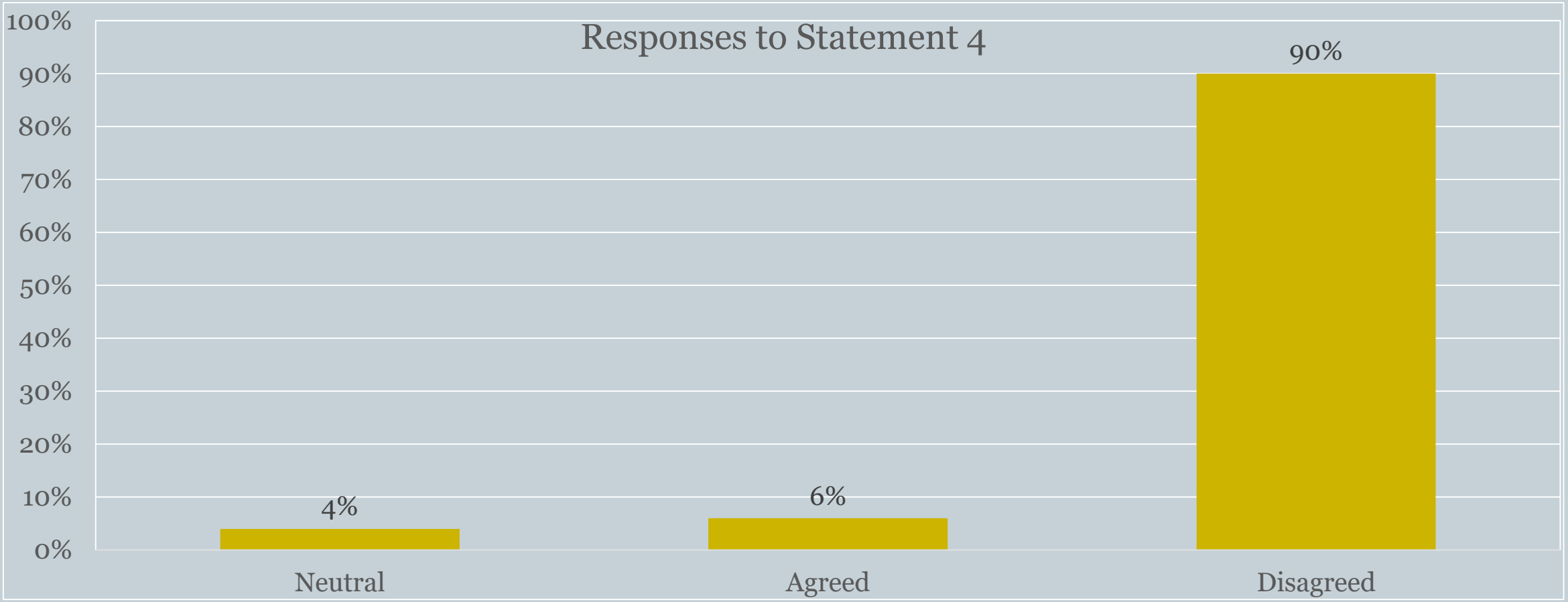
*Most recent VL in medical chart
** Associations significant at p<0.05

Statement 3: *If I have an undetectable HIV viral load, I am more likely to have unprotected sex*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Statement 4: *Having an undetectable viral load means I can worry less about having to use condoms*

n=461

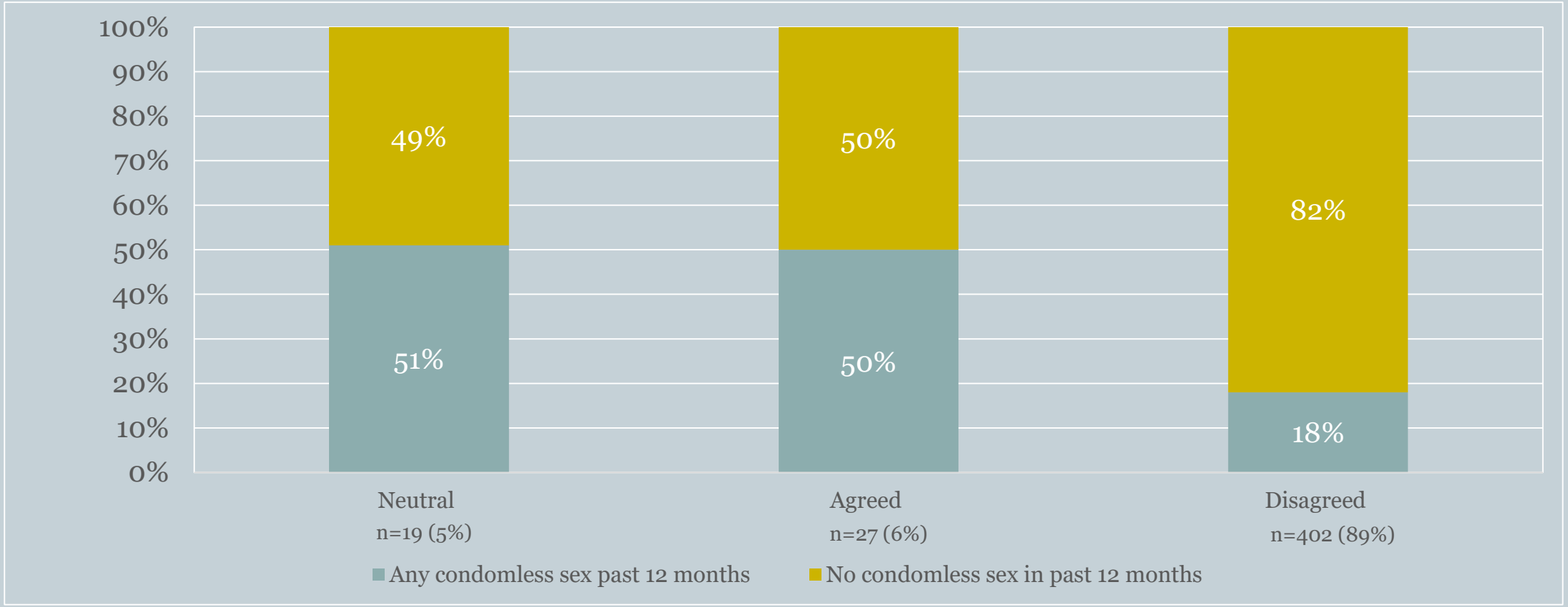


Associations significant at p<0.0001

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Condomless Sex by Level of Agreement to Statement 4

n=448



Associations significant at $p<0.01$

Statement 4: *Having an undetectable viral load means I can worry less about having to use condoms*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Agreement with Statement 4 and Viral Load Status by Sexual Behavior

n=429

Agreement/Viral Load Status*	Any condomless sex in past 12 months	No condomless sex in past 12 months
Agreed with Statement 4		
Undetectable VL (n=22)	47%	53%
Detectable VL (n=5) (p=0.65)	60%	40%
Disagreed with Statement 4		
Undetectable VL (n=311)	18%	82%
Detectable VL (n=91) (p=0.69)	20%	80%

*Most recent VL in medical chart
** Associations not significant

Statement 4: *Having an undetectable viral load means I can worry less about having to use condoms*

Source: 2012 TX/HOU MMP weighted interview and MRA datasets

Conclusions

- Texas MMP data suggest significant differences between the level of agreement with serosorting and viral load statements and condom use.
- As sexual harm reduction strategies are increasingly incorporated into prevention messages, a focus towards behavioral change beyond just using condoms is needed as transmission and spread of HIV depends on volitional behavior of people.
- It is important to use behavior change theories that consider knowledge, beliefs, and skills needed to make changes.
- Educating PLWH on evaluating the risks associated with each strategy is needed to make informed decisions.

Limitations

Limitations:

- Potential for recall bias and social desirability bias in interview data

- This analysis makes inferences between serosorting beliefs/viral load status and condom use. Participants are not asked their reasons for not using condoms.

Acknowledgements

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