

# IMPACT OF PREP MESSAGING FACTORS

*on comprehension, adherence motivation,  
and risk compensation intentions*



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# Thank *you*

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The participants who give their time and energy to our work

# Why does PrEP messaging matter?

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1. Almost a year after FDA approval, PrEP knowledge and awareness remain low.



# Why does PrEP messaging matter?

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## 2. PrEP exists within a broader context of anti-HIV medications

*"I think using PrEP...there's still this association that people who have HIV take ARV drugs, and so people who are HIV-negative who take ARV drugs on a daily basis, its kinda the same association..."*

-- 24 year old Latino gay man



# Why does PrEP messaging matter?

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## 2. PrEP exists within a broader context of anti-HIV medications

*"I think there will be a lot of skepticism, like uptown, you know? Like 'Oh, yeah, those big-wigs will tell us anything,' you know? [We need] more posters and more commercials around town and more word of mouth.*

-- 31 year old Black transwoman



# Why does PrEP messaging matter?

## 3. PrEP is impacted by historical – and current -- HIV prevention messages

*“Gay men in their late 20s early 30s – me and my peers -- have kind of grown tired of the safe sex campaign, and we’ve kind of reached this age where we’re tired of condoms [laughs]. And we’re reluctant to really admit that.”*

-- 35 year old Black gay man

### CONDOM IN A PILL BOTTLE?

A significant study finds that treatment protects HIV-negative partners—among straight couples. Will gay couples stop using condoms?

BY STEPHEN FALLON, PHD



# Why does PrEP messaging matter?

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4. Conversations about PrEP availability, targeting, and efficacy are complex.



# Research Question

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Why types of PrEP messages will have the most beneficial effects on comprehension, adherence motivation, and risk compensation?

## Corollary:

How can we apply existing behavioral science knowledge to help us answer this question?



# PrEP Awareness, Readiness, and Education

National Institutes of Mental Health

R01MH095565 (Golub, PI)

# Study Design

*Apply research on three messaging factors:*

## 1. Framing Effects

- Loss Frame (risk-focused)
- Gain Frame (health-focused)

## 2. Specificity of Numerical Information

- Verbatim
- Gist

## 3. Delivery Modality

- Computer
- Health Educator



(Kahneman et al., 1981)

# Study Design

## 2x2x2 Factorial Design

		Gain Frame	Loss Frame
Verbatim Information	In-person	1	2
	Computer	3	4
Gist Information	In-person	5	6
	Computer	7	8

# Study Design

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- Recruiting MSM and transgender women in NYC
  - HIV-negative
  - $\geq 1$  unprotected anal sex act in the past 30 days
  
- Single study visit
  - Computerized self-report survey
  - TLFB interview
  - PrEP information
  - Acceptability, comprehension, risk perception and risk compensation



# Study Design

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## *Outcome variables*

### 1. Comprehension

“ Five multiple choice questions based on message

### 2. Adherence motivation

“ 3 items (How motivated would you be to take the pills every day; how tempted to miss pills)

### 3. Risk compensation intentions

▪ 5 items (If you were taking PrEP, how likely would you be to not use condoms when...)

# Participant Demographics (n= 305)

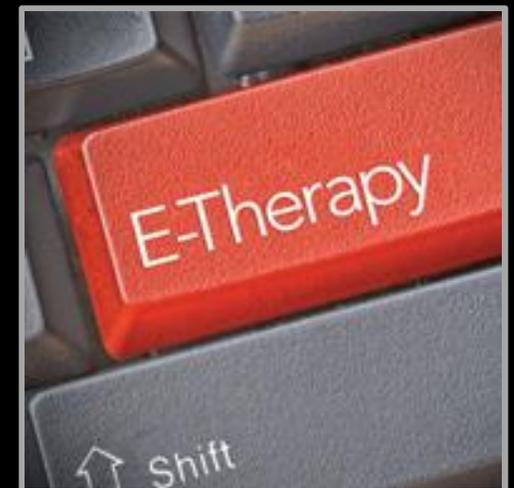
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<b>Age</b>	18-66, Med = 30, IQR = 25-41	
<b>Race</b>	Black/African-American	98 (32.1%)
	Latino	79 (25.9%)
	White	105 (34.4%)
	Asian/Other/Multi-racial	23 (7.5%)
<b>Education</b>	Less than a BA	176 (57.7%)
	College Degree	129(42.3%)
<b>Yearly Income</b>	Under \$10,000	104 (34.1%)
	\$10,000-\$30,000	97 (31.8%)
	Over \$30,000	104 (34.1%)
<b>Main Partner</b>	Spouse, partner, boyfriend	139 (45.6%)

# Key Findings: **Comprehension**

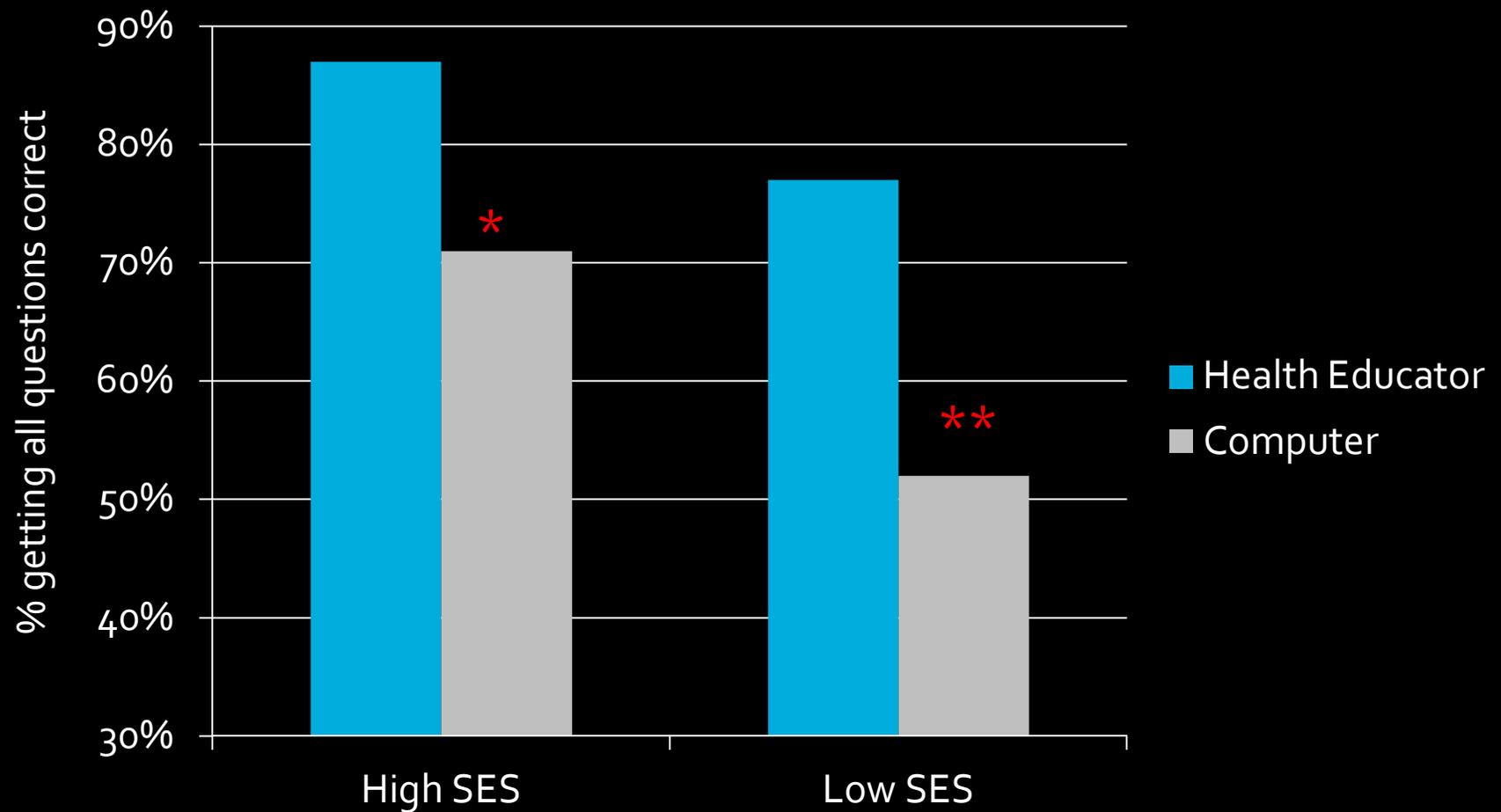
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- 74% (225) got **all 5 questions correct**
- Comprehension was worse among those:
  - with lower SES ( $p = .001$ )
- Comprehension was significantly impacted by
  - Modality ( $p = .003$ )
    - Health Educator = 81% all correct
    - Computer = 66.5% all correct



# Key Findings: **Comprehension**

*Effects of modality were exacerbated by **low SES***



# Key Findings: **Comprehension**

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Why was *comprehension lower* in the *computer* condition?

- 16% of participants did not watch all six videos
- However, 34% watched at least one video more than once
- 46% of those who received an “in-person” message asked a question; 26% asked two or more questions



# Participant Questions

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- Clarification (16%)
  - What's bone density?
  - Is PrEP only for people who are HIV-negative?
  - Wait, say that again?
- Request for more information (19%)
  - How many pills is PrEP?
  - What medication is it in particular?
  - What about cirrhosis?



# Participant Questions

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- Reflection (20%)
  - Because the whole effectiveness is based on it being at that high-level in the blood already?
  - So that means if individuals had taken the PrEP medication as prescribed that number would have been higher?
- Personalization (7%)
  - Is this true even if you are a top?
  - So let's say someone has sex very infrequency, like once a month, would it still be wise for them to take PrEP?



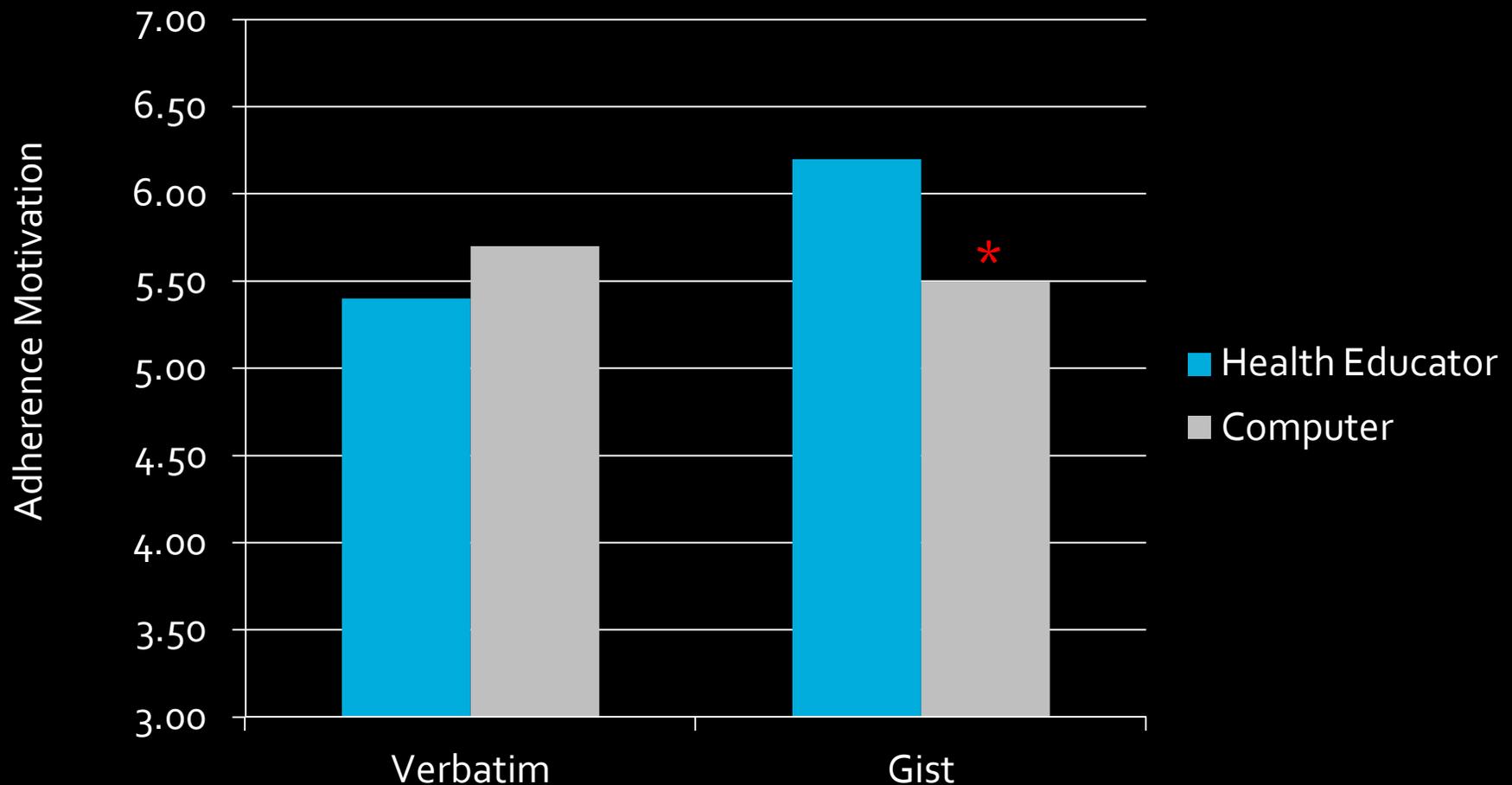
# Key Findings: Adherence Motivation

- Adherence motivation was **higher** among those who were **likely to take PrEP**
- Adherence motivation was **lower** among **Black** participants compared to Whites and Latinos
- Adherence motivation was impacted by
  - Modality by Specificity interaction
  - Especially for those over 30



# Key Findings: Adherence Motivation

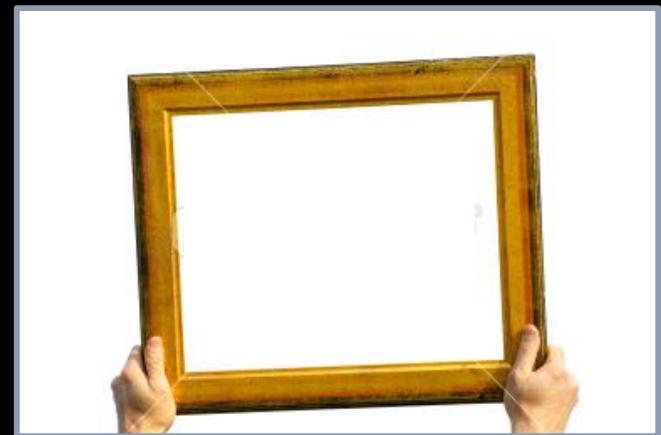
Motivation was *highest* after *gist* presentation by *health educator*



# Key Findings: Risk Compensation

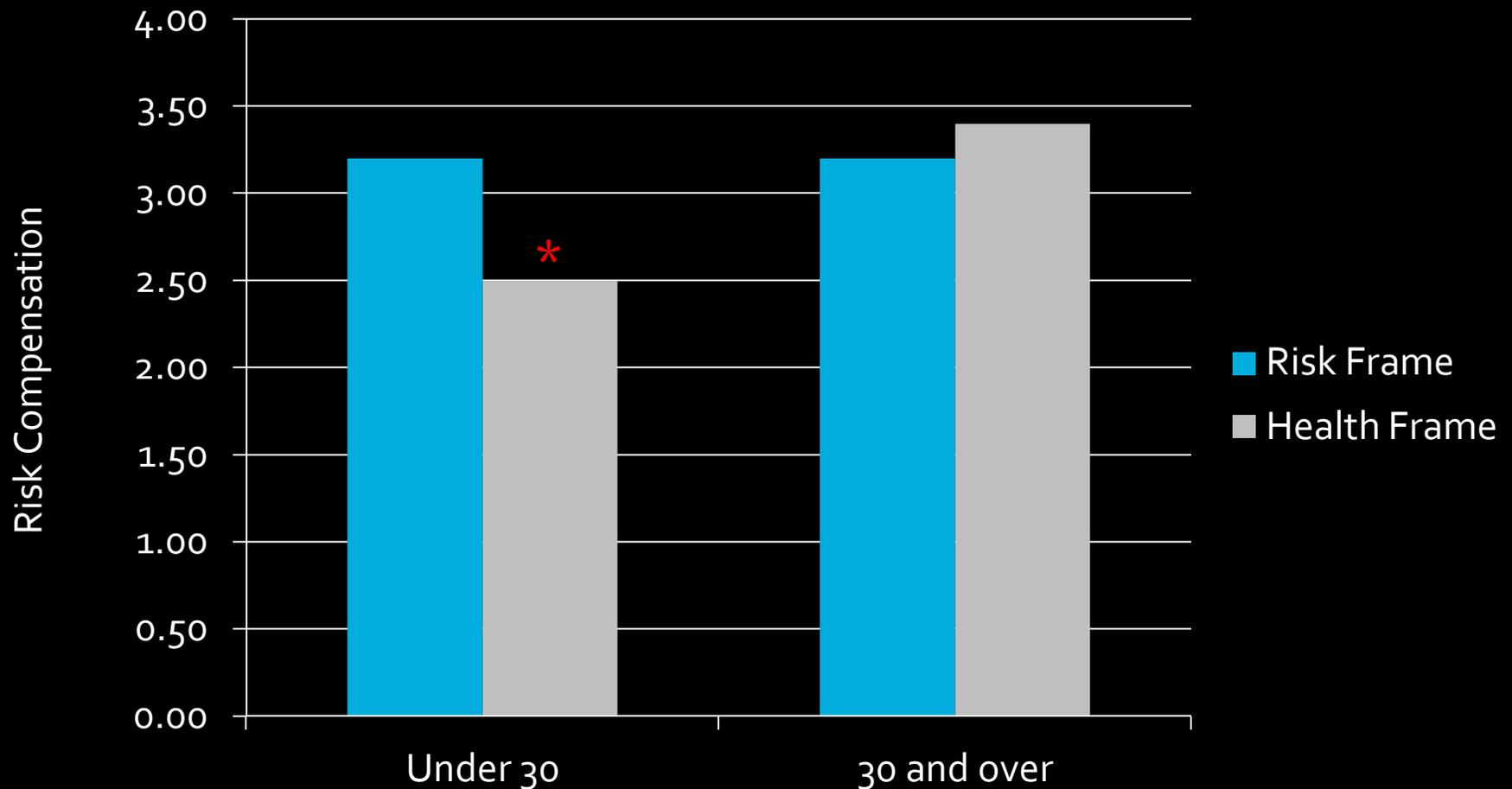
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- Risk compensation intentions were **higher** among:
  - Participants **over 30**
  - Participants with higher rates of **current risk taking**
- Risk compensation is affected by **message frame** for those under 30



# Key Findings: Risk Compensation

*Message frame mattered for younger participants*



# Key Findings: **Summary**

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- Comprehension is improved by **in-person delivery** of the message, especially for those with lower SES
- **In-person** messages may work by facilitating **clarification** and **engagement**
- **In-person, gist messages** appeared best for comprehension and adherence motivation
- A **health promotion frame** appears better for minimizing risk compensation, especially among those under 30

# Next Steps

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- More power
- Individual difference variables (health numeracy, need for cognition...)
- More sophisticated regression models
- Application to a real world setting

SPARK -- PrEP Demonstration Project

R01AA022067 (Golub, PI)



This is what I picture, it would be a commercial...

The guy is taking his PrEP every morning, every day, he's taking his PrEP and then one day in the weekend, he goes to a party and he gets all messed up and then he has unprotected sex. He wakes up all stressed out -- but then he remembered, he took his PrEP!

So, you know, so just in case, you know?



Thank you!

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**HART**  
Hunter AIDS Research Team

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# Recent Sexual Behavior

## Aggregate Sex Acts in past 30 days

	Mean	SD	Range	IQR
Total anal sex acts	5.9	5.7	1-38	2-7
Total UAI acts	4.8	5.5	1-37	1-5
Percent anal acts unprotected	80%	29%	3-100%	67-100%
Total UAI with casual partners	1.9	3.6	0-37	0-2

### Last HIV test

Within past 3 months  
 Within the last year  
 More than a year ago

131 (43.0%)  
 124 (40.6%)  
 50 (16.4%)

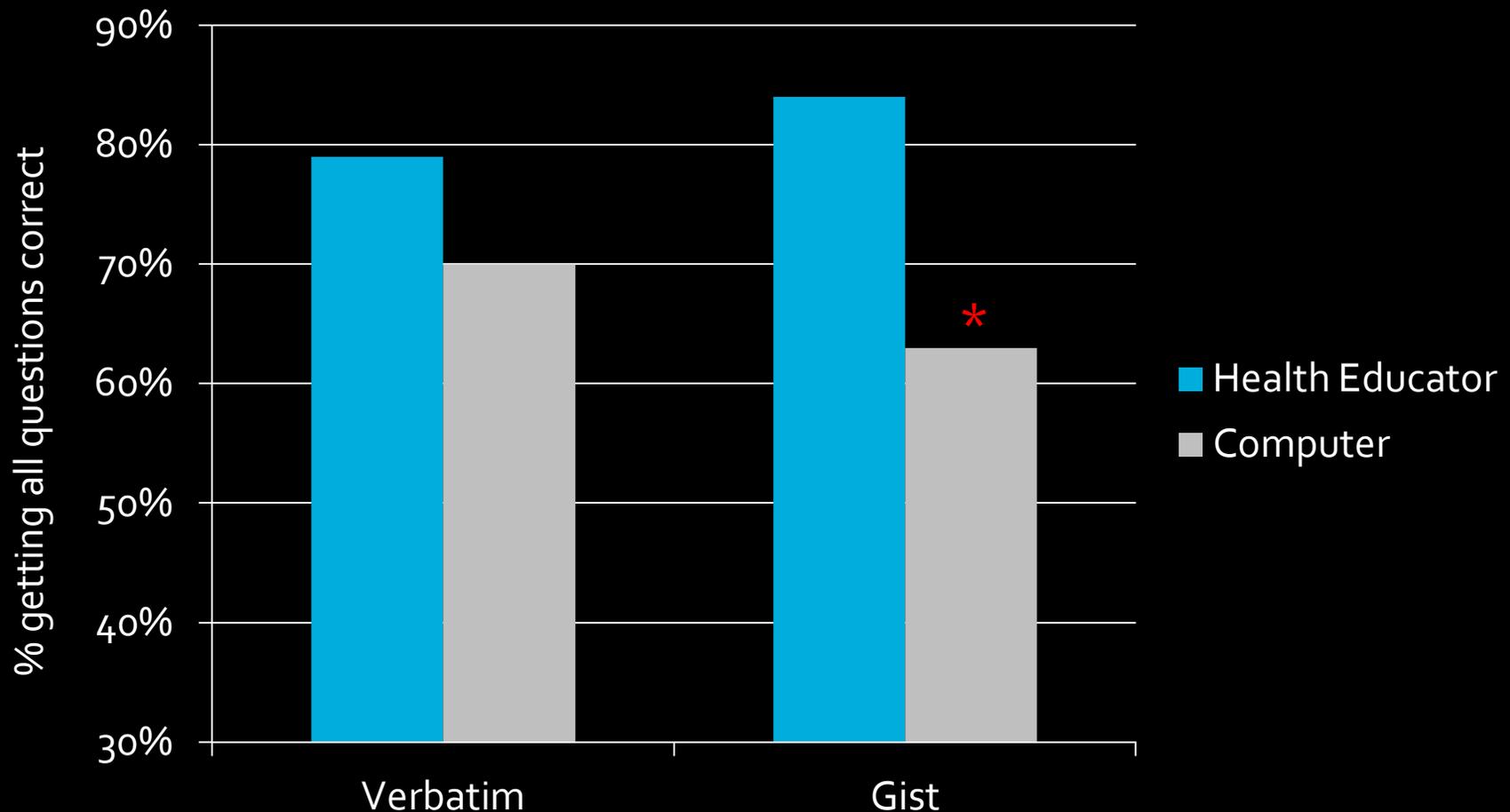
### History STI

Lifetime  
 Past Year

130 (42.6%)  
 29 (9.5%)

# Key Findings: **Comprehension**

*Effects of modality were exacerbated by **gist** presentation*



# Key Findings: **Acceptability**

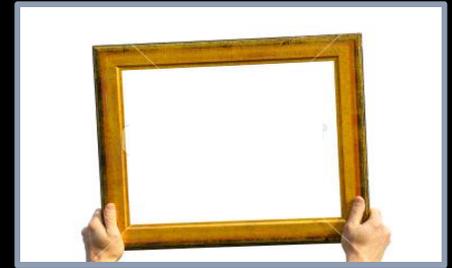
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- 41% said they would “definitely” take PrEP
- 19% said they would “probably” take PrEP
- No difference in acceptability by:
  - Age, race/ethnicity, STI history, HIV testing history, sexual risk in past 30 days
- Acceptability was higher among those:
  - with less than a BA degree
  - who made less than \$20K per year
  - perceived themselves at **higher risk** for HIV

# Considerations for PrEP Messaging

## 1. Framing Effects

Decision-making is affected by the ways in which choices are presented

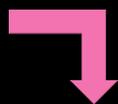


Loss Frame



Out of the 600 infected, 400 will die

Gain Frame



Out of the 600 exposed, 200 will be saved

# Considerations for PrEP Messaging

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## 1. Framing Effects

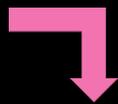
Decision-making is affected by the ways in which choices are presented

Loss Frame



PrEP as a risk reduction strategy

Gain Frame



PrEP as a health promotion strategy

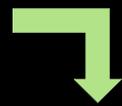
# Considerations for PrEP Messaging

## 2. Specificity

Decision-making is affected by the ways in which risk information is encoded

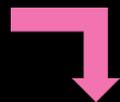


Verbatim



Quantitative, numerical, specific

Gist



Qualitative, emotional, general

# Considerations for PrEP Messaging

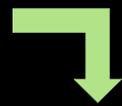
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## 3. Modality

Decision-making is affected by format through which information is presented

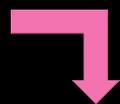


Computer



Standardized, cost-effective, modern

In-person



Responsive, reacts to non-verbal cues, not subject to a digital divide

*Murray et al., 2005; Cline & Hays, 2001*

# Participant Questions

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- Clarification (16%)
  - What's bone density?
  - Is PrEP only for people who are HIV-negative?
  - Wait, say that again?
- Reflection (20%)
  - Because the whole effectiveness is based on it being at that high-level in the blood already?
  - So that means if individual had take the PrEP medication as prescribed that number would have been higher?

# Participant Questions

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- Request for more information (19%)
  - How many pills is PrEP?
  - What medication is it in particular?
  - What about cirrhosis?
- Dosing (19%)
  - If I take it Wednesday, am I good for Wednesday night even if I didn't take it Saturday, Sunday, Monday?
  - What about taking it in a different dosage? Or in a different way?
  - I mean, technically, couldn't you like, let's say, take the pill on Friday 'cause I'm gonna go out tonight but not take it the rest of the week?

“I think using PrEP it kind of, there’s still this association that...people who have HIV take ARV drugs, and so people who are HIV-negative who take ARV drugs on a daily basis, its kinda the same association... some people who have HIV don’t like taking a pill every day, because that’s what reminds them that they have HIV...So that’s kinda why I would be skeptical to taking it. It’s just that it would be the association with people who have HIV...” -- 24 year old Latino gay man



“Gay men in their late 20s early 30s – me and my peers -- have kind of grown tired of the safe sex campaign, and we’ve kind of reached this age where we’re tired of condoms [laughs]. And we’re reluctant to really admit that. It’s taboo to admit that you are tired of condoms because it’s proved to be a great way to reduce the risk of infection, but...they suck. Um, so I’m definitely telling all my peers that I know about PrEP, and it would be nice to hear the message get louder.

-- 35 year old Black gay man



# Key Findings: **Comprehension**

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- Personalization (7%)
  - Is this true even if you are a top or a bottom?
  - So let's say someone has sex very infrequency, like once a month, would it still be wise for them to take PrEP?
- Understanding iPrEx
  - Were all of them routinely exposed to the virus?
  - And that is because they told you or you had like actual proof that it prevented it? They told you they had sex with someone that has HIV?