

# Following a Contextual Approach to HIV Prevention and Designing Alcohol Challenge Studies

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# Outline

- **Theoretical framework: Alcohol Myopia**
- **Impact of contextual factors: experimental evidence**
  - Alcohol manipulation
  - Sexual arousal
  - Partner-related factors
  - Situational factors
- **Research gaps: what are we missing?**
- **Implications for HIV prevention/future directions**

# Alcohol Myopia





# Support for Alcohol Myopia: Meta-Analyses/Reviews of Experimental Studies

**Addiction** 

REVIEW doi:10.1111/j.1360-0443.2011.03621.x

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**Alcohol consumption and the intention to engage in unprotected sex: systematic review and meta-analysis of experimental studies**

**Jürgen Rehm<sup>1,2,3</sup>, Kevin D. Shield<sup>1,2</sup>, Narges Joharchi<sup>1,4</sup> & Paul A. Shuper<sup>1,5,6</sup>**

Centre for Addiction and Mental Health (CAMH), Toronto, Canada,<sup>1</sup> Institute of Medical Science (IMS), University of Toronto, Toronto, Canada,<sup>2</sup> Dalla Lana School of Public Health (DLSPH), University of Toronto, Toronto, Canada,<sup>3</sup> Department of Statistics, University of Toronto, Toronto, Canada,<sup>4</sup> Department of Psychology, University of Toronto, Toronto, Canada,<sup>5</sup> and Center for Health Intervention and Prevention, University of Connecticut, Storrs, CT, USA<sup>6</sup>

AIDS Behav (2016) 20:S19–S39  
DOI 10.1007/s10461-015-1108-9

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ORIGINAL PAPER

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**Alcohol Use Predicts Sexual Decision-Making: A Systematic Review and Meta-Analysis of the Experimental Literature**

**Lori A. J. Scott-Sheldon<sup>1,2,3</sup> · Kate B. Carey<sup>4</sup> · Karlene Cunningham<sup>1,2,5</sup> · Blair T. Johnson<sup>6</sup> · Michael P. Carey<sup>1,2,3</sup> · The MASH Research Team<sup>1</sup>**

Contents lists available at ScienceDirect

 **Pharmacology, Biochemistry and Behavior** 

ELSEVIER journal homepage: [www.elsevier.com/locate/pharmbiochembeh](http://www.elsevier.com/locate/pharmbiochembeh)

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Review

**Does being drunk or high cause HIV sexual risk behavior? A systematic review of drug administration studies<sup>☆</sup>**

Meredith S. Berry<sup>☆</sup>, Matthew W. Johnson

Behavioral Pharmacology Research Unit, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, 5510 Nathan Shock Drive, Baltimore, MD 21224, United States

# **Alcohol Manipulation**

# Alcohol Dosage

- **Maisto, Carey, Carey, Gordon, & Schum (2004)**
  - N=60 women; Age=21-30
  - Alcohol conditions:
    - Control, placebo, .35g/kg, .7g/kg
  - Audio/video role-play scenarios

## Results:

- ↑ risky sex intentions for moderate but not low alcohol dose

# Alcohol Dosage

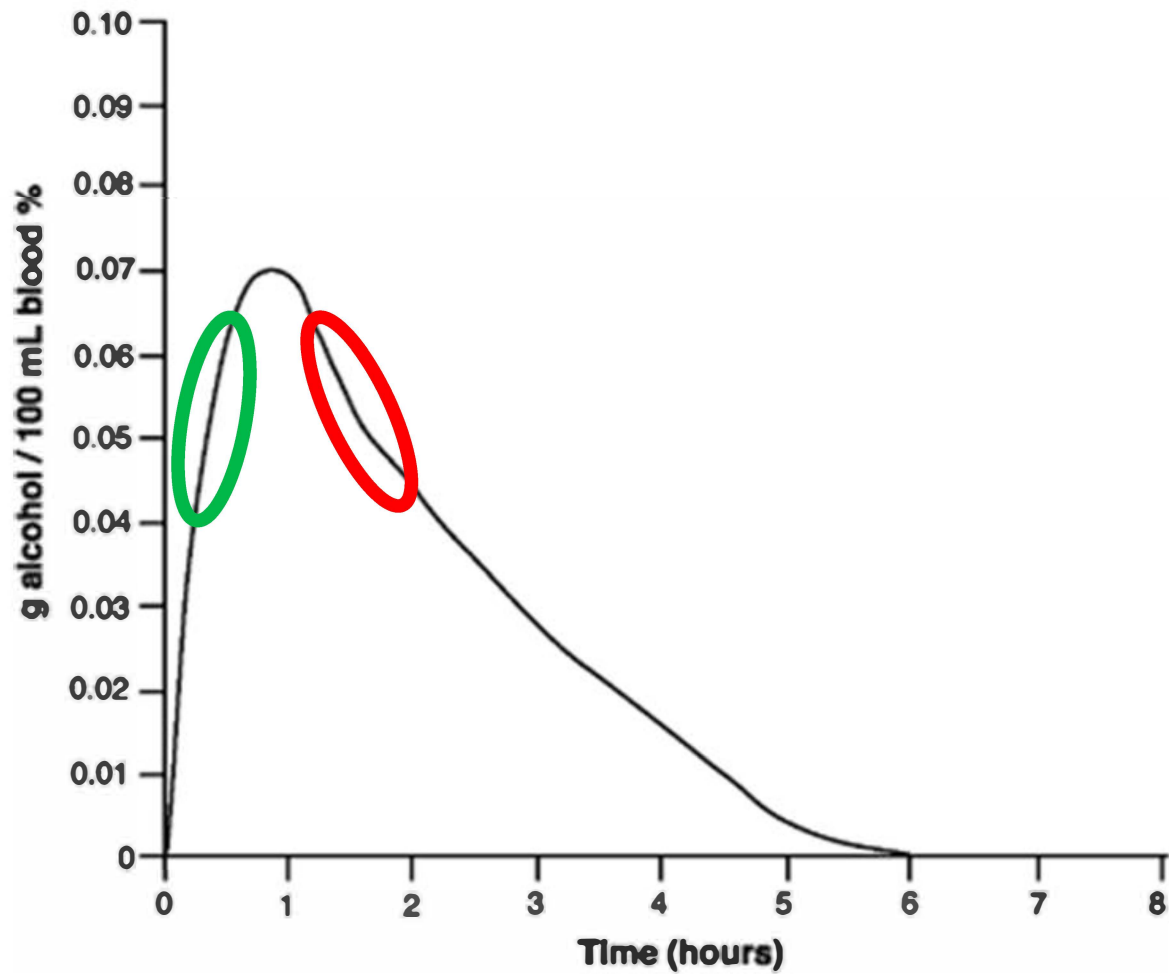
- **George, Davis, Norris, et al. (2009)**
  - N=115 men and women; Age=21-35
  - Alcohol dosages/target BAC:
    - *.00, .06, .08.*
  - Sexual arousal manipulation

## Results:

- ↑ alcohol dose → ↑ risk intentions
- *But* - indirect via sexual arousal



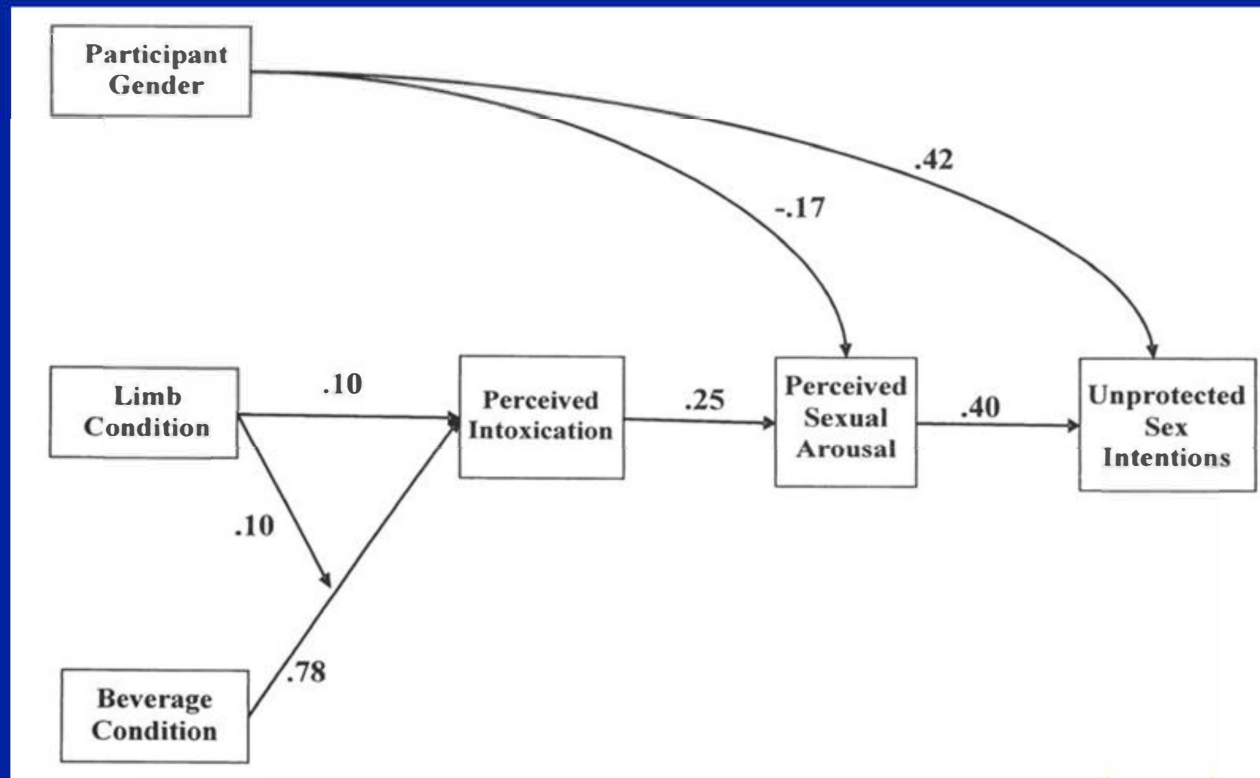
# BAC Limb





# BAC Limb

- **Davis, George, Norris, et al. (2009)**
  - N=150 men and women; Target peak BAC=.08%



# **Sexual Arousal**

# Sexual Arousal

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ORIGINAL PAPER

## **Alcohol Use Predicts Sexual Decision-Making: A Systematic Review and Meta-Analysis of the Experimental Literature**

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AIDS Behav (2016) 20:S158–S172  
DOI 10.1007/s10461-015-1220-x

ORIGINAL PAPER

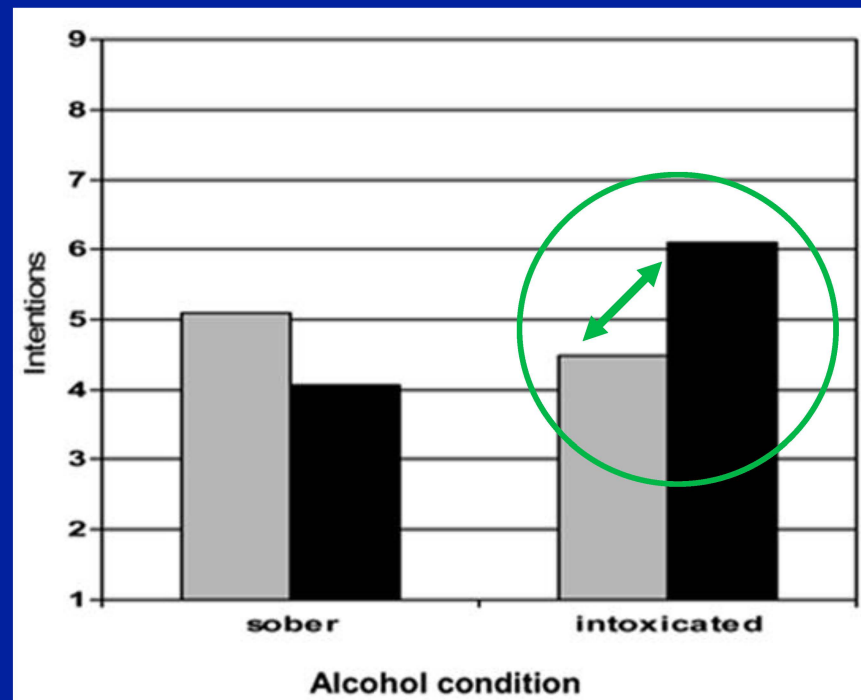
## **Research on the Effects of Alcohol and Sexual Arousal on Sexual Risk in Men who have Sex with Men: Implications for HIV Prevention Interventions**

Stephen A. Maisto<sup>1</sup> · Jeffrey S. Simons<sup>2</sup>

# Sexual Arousal

## ■ Ebel-Lam, MacDonald, Zanna, & Fong (2009)

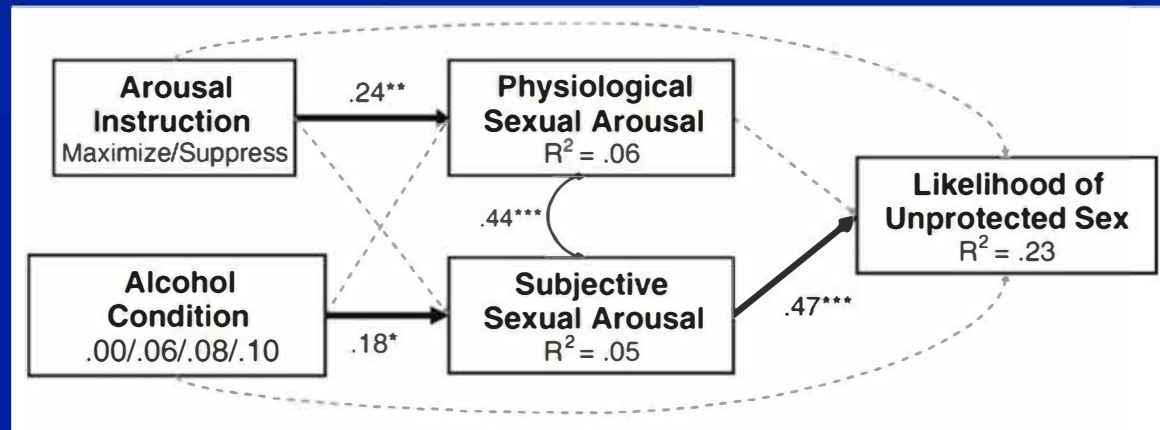
- N=79 men, Target BAC=.08%
- Sexually explicit story; video-based partnership scenario



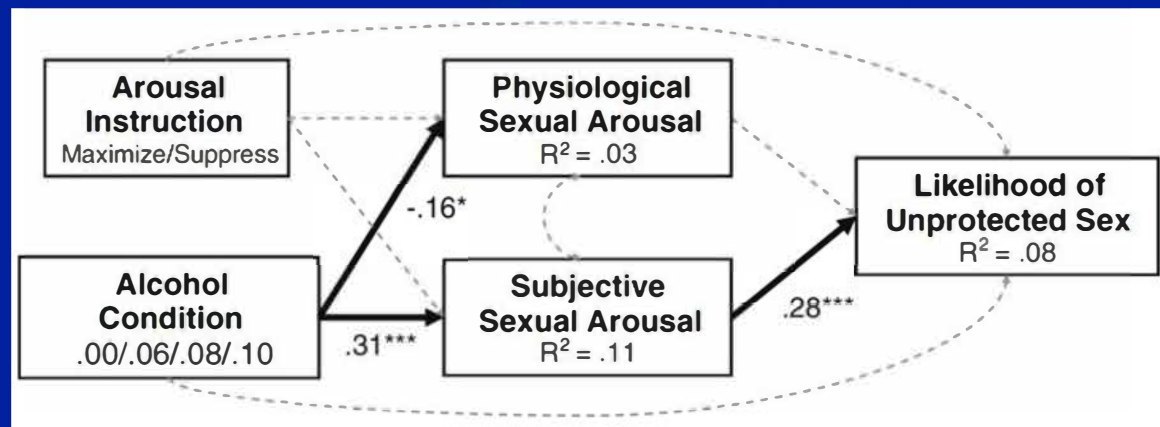
# Sexual Arousal

## ■ George, Davis, Norris, et al. (2009)

N=165 men



N=173 women





# Partner-Related Factors

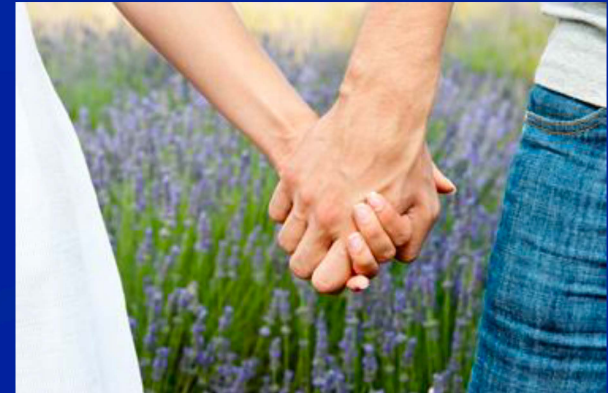
# Partner-Related Factors

## ■ Fromme, D'Amico, & Katz (1999)

- N=160 M&W; Target BAC=.08%

- Relationship type

  - New vs. regular partners

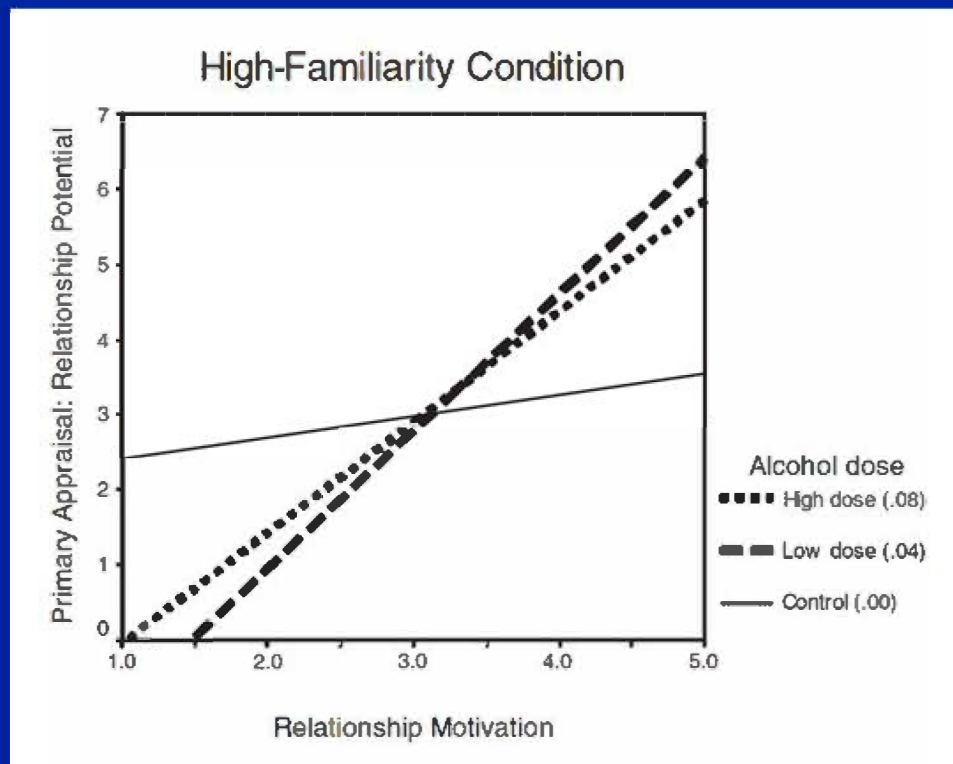


## Results:

- Alcohol (vs. placebo, control) → perceived lower risk for engaging in unsafe sex with new, but not regular partners

# Partner-Related Factors

- Zawacki, Norris, Hessler, et al. (2009)
  - Partner familiarity; N=161 women



# Partner-Related Factors

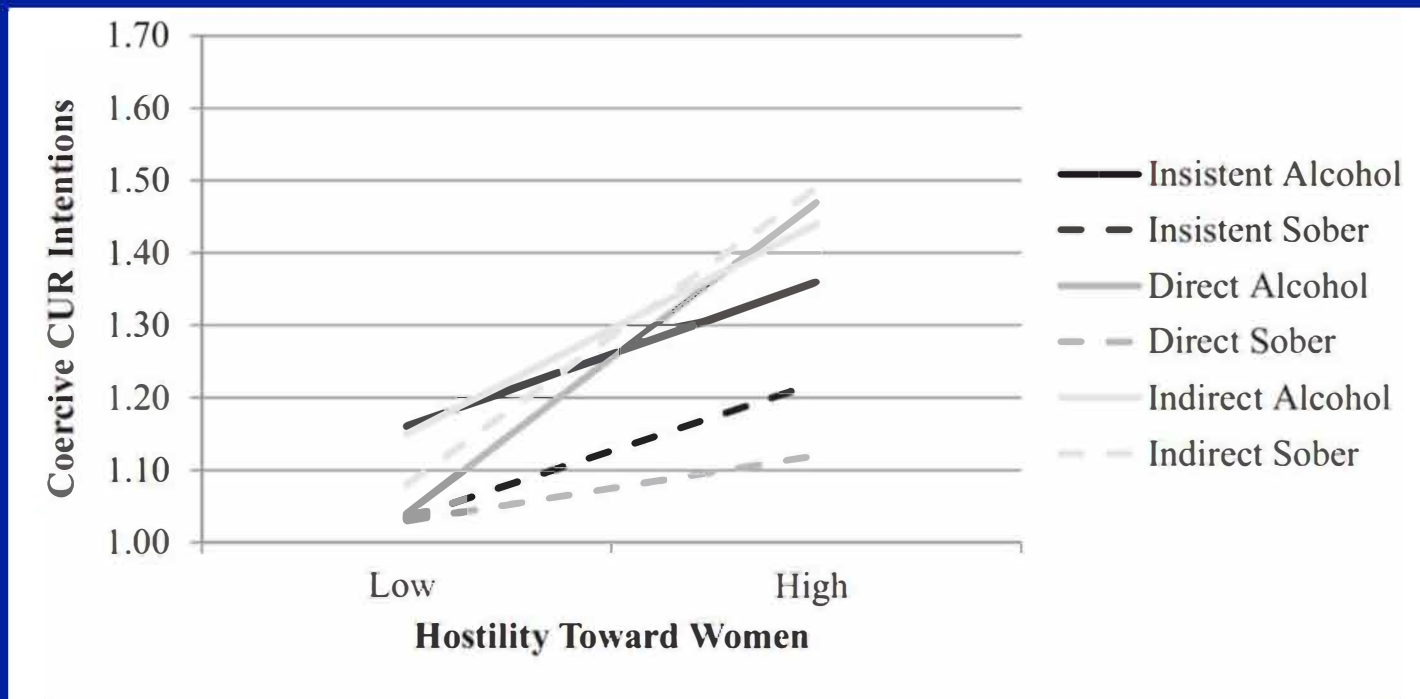
- **Purdie, Norris, Davis, et al. (2011)**
  - N=230 women; Target BAC=.04%, .08%
  - Partner risk: unknown, low, high

## Results:

- High risk partner – greater sexual potential for alcohol condition (vs. placebo and control)

# Partner-Related Factors

- **Wegner, Davis, Stappenbeck, et al. (2017)**
  - N=296 men; Target BAC=.08%
  - Female partner's condom request style; Male P's hostility
  - Condom use resistance (CUR) tactics





# Partner-Related Factors

## ■ Shuper, Joharchi, Monti, Loutfy, & Rehm (2017)



This is the first time that you met Phil. He is HIV negative. Phil says that he prefers not to use condoms when he has sex.

Which of the following would you consider doing with this partner?

|  | <i>Definitely</i>     | <i>Probably</i>       | <i>Maybe</i>          | <i>Probably Not</i>   | <i>Definitely Not</i> |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Giving each other handjobs                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Letting him give you a blowjob - no condom       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anal sex - HIS penis in YOUR butt - use a condom | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anal sex - HIS penis in YOUR butt - no condom    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anal sex - YOUR penis in HIS butt - use a condom | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anal sex - YOUR penis in HIS butt - no condom    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Continue

# **Situational Factors**

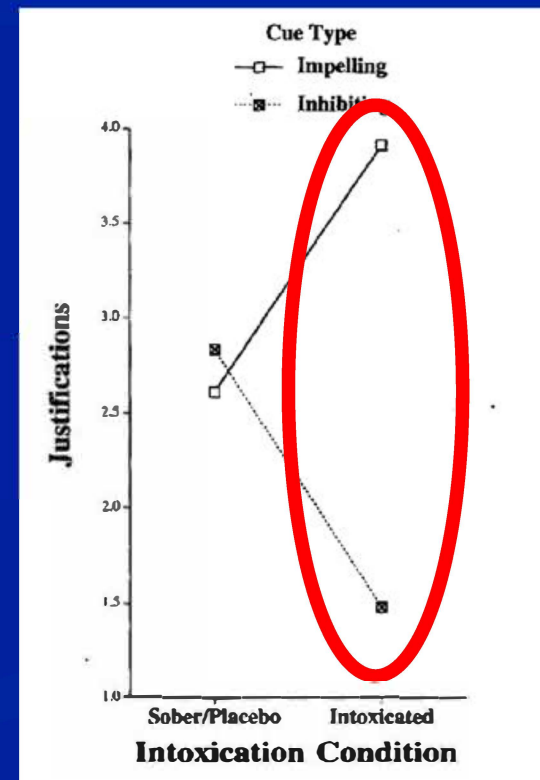
# Situational Factors

## ■ MacDonal, Fong, Zanna, & Martineau (2000)

Study 3 (Field experiment)

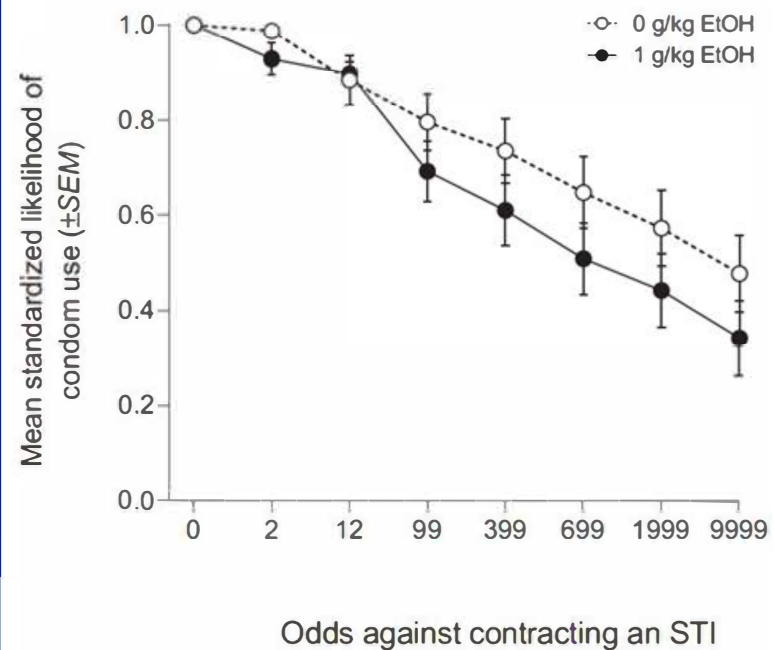
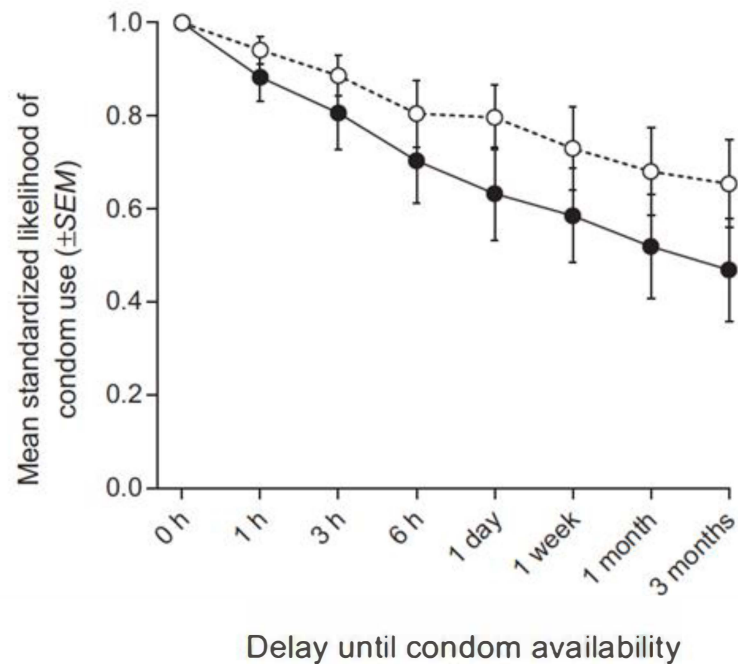


Study 4 (Lab experiment)



# Situational Factors

- **Johnson, Sweeney, Herrmann, & Johnson (2016)**
  - Delay (condom availability) and probability (STI acquisition) discounting



# Research Gaps



# Level of Intoxication

- Max target BAC typically=.08%, and not beyond .10%



# Alcohol PLUS Other Substance Use

- Johnson et al. (2017)

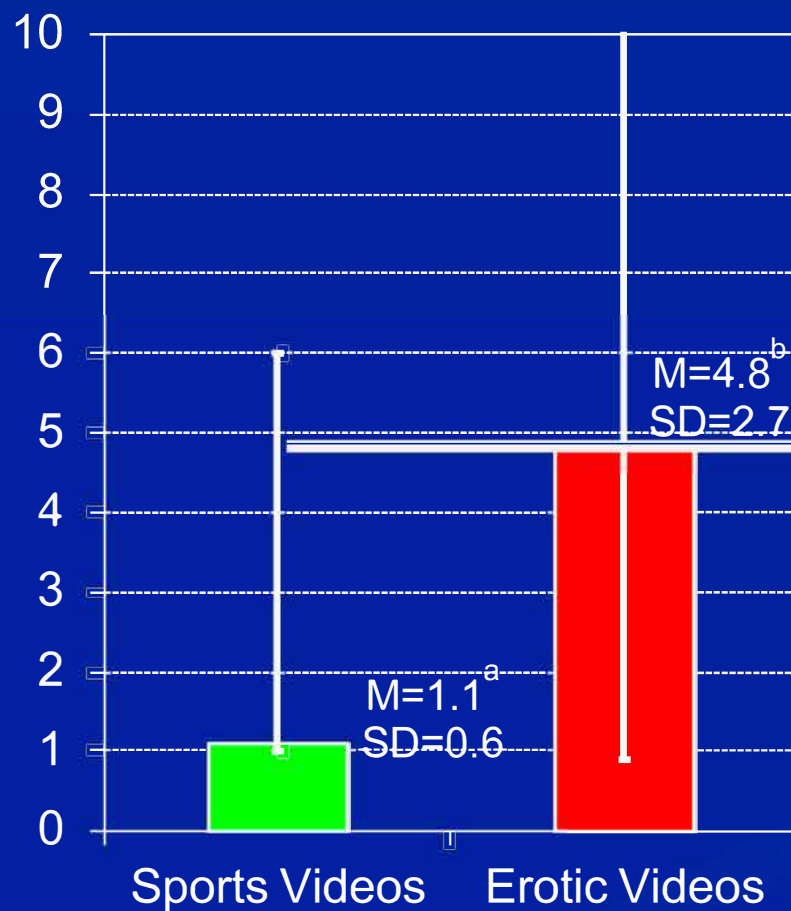
- Effect of cocaine on risky sex (tested alone, not with alcohol)



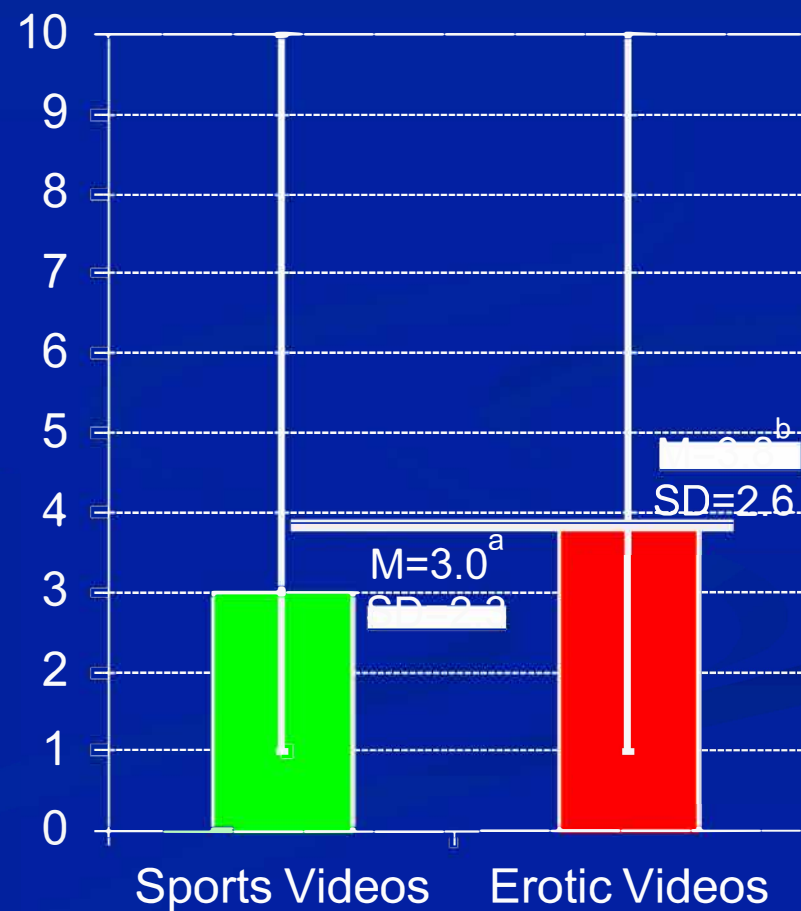
# Level of Sexual Arousal

- e.g., Shuper et al. (2017)

## After Second Video

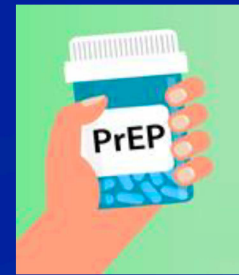


## End of Experiment



# Interplay Between Individual and Contextual Factors

- **Limited research/not addressed:**
  - MSM (e.g., Maisto et al., 2012; Shuper et al., 2017; Wray et al., 2018)
  - HIV seropositivity (Shuper et al., 2017)
  - TasP (Shuper et al., 2017?)
  - PrEP (?)
  - Transactional sex (?)





# Setting/Situational Factors

- Pitpitan & Kalichman (2016)



or



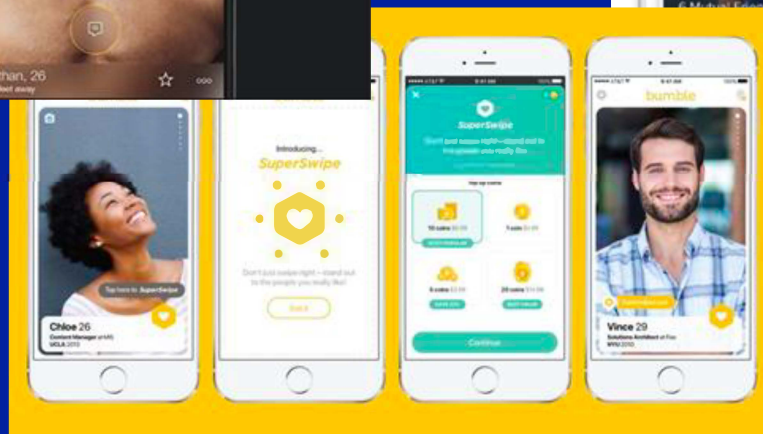
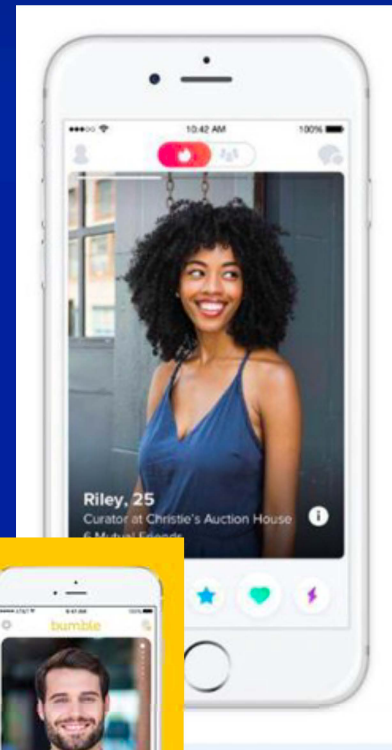
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# Setting/Situational Factors: Salient Condom-Promotive Cues



# Contextual Factors and Alcohol Myopia in the Era of Dating Apps



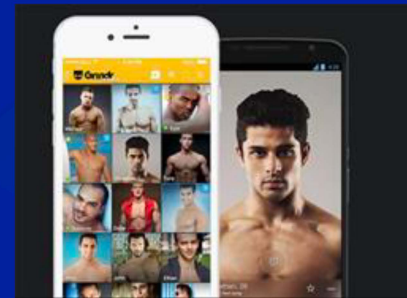
**SCRUFF**



# **Contextual Aspects of Alcohol Challenge Studies:**

## **Implications for HIV Prevention/ Future Directions**

# Many Unstudied and Understudied Contextual Aspects Can (and Should) be Investigated



# Alcohol Challenge Paradigms can Help Guide, and can be Used as, HIV Prevention Interventions

- Identify contextual “triggers” for risk



# Interventions

- Enhance information, motivation, and skills “offline”





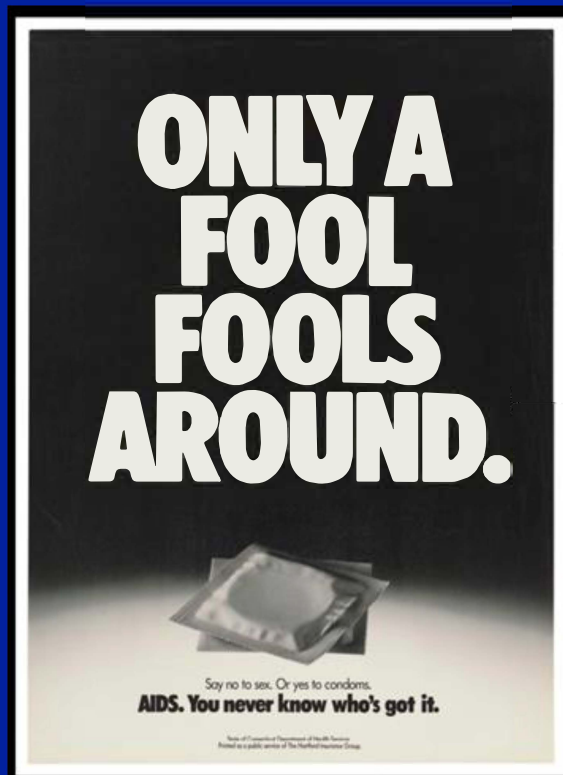
# Interventions

- Enhance information, motivation, and skills “in-the-moment”



# Interventions

- Evaluate and implement strong, salient, and simple risk-inhibiting and/or condom-promotive cues



# The Use of Virtual Reality





# Conclusions

# Conclusions

- Considerable knowledge gained – contextual factors influencing sexual risk decisions
- Need to examine alcohol myopic dynamics in the era of PrEP, TasP, and even dating apps
- Capitalize on alcohol challenge methodology - HIV prevention interventions
- New VR technologies hold promise for future HIV prevention-focused alcohol experimentation

# Questions and Discussion

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