

Forgotten Topics in Emotion II: Visceral States



Psychology of Emotion
Lecture 17
Professor David Pizarro

Visceral States

- Affective/Motivational states of strong arousal/desire (Loewenstein, 1996)
 - hunger
 - thirst
 - sexual arousal
 - drug cravings
 - pain
- Hyper-focus of attention (“motivational myopia”)
- Lead people to disregard the sorts of consequences that seem so evident under “cooler” reflection

Are these emotions?

- While they are considered “affective states” by many researchers
 - they are unlike other ‘basic’ emotions in that they have a very specific set of elicitors
 - often tied to survival
 - strongly motivational
- But have same attention-focusing features, and can influence judgment in even stronger ways

Weakness of the Will

- Why do people do things they almost immediately regret? Things they themselves believe to be wrong?
- Paradox of *Akrasia* (e.g., Aristotle, 4th Century B.C.E.)
- Research on failures of the will includes
 - Cognitive preoccupation (Ward & Mann, 2000)
 - Stress (Cohen & Lichtenstein, 1990)
 - Prior exertions of will (Baumeister, Bratslavsky, Muraven & Tice, 1998).

How does visceral arousal work?

What arouses us?

What are the consequences of this arousal for judgment and behavior?

How good are we at knowing how these states might affect us?

Imagine that three vacationers in Colorado this past August embarked on a short, 6-mile hike. In the early afternoon, a sudden dry-lightning storm caused them to run into the shelter of a densely forested area. After the storm passed, they searched for the trail but could not find it. As the day wore on, they realized that they were hopelessly lost and had no idea how to find their way out of the wilderness. Worse, because they had packed lightly for a short hike, they had not carried much in the way of food or water. As night fell, the three hikers found themselves in dire straights: They had no food and no water.

Thirst and the hot/cold empathy gap

(Van Boven & Loewenstein, 2003)

- Pre/Post workout as a manipulation of thirst
- When thirsty, participants were much more likely to estimate thirst to be more unpleasant than hunger, and report that they would regret not taking more water.

Visceral states and the assessment of risk

- One feature of these states is that the focus on the desired “reward” is so great that it appears as if people are simply ignoring the consequences.
- Can this be demonstrated in how they assess risk?

I did it all for the cookie

(Ditto, Pizarro, Epstein, Jacobson, & MacDonald, 2006)

- 80 participants (48 men)
- Brought into lab for study on risk-perception
- All participants were told that they would have a chance to take a gamble to win cookies.

Method

- Boring cognitive tasks for 15 minutes
- 4 conditions
 - **Visceral:** Cookies were baking in room or cookies were simply described.
 - **Risk:** Choice to gamble for cookies or not:
 - 1/2 given a low-risk gamble (80% chance of winning cookies)
 - 1/2 given a high-risk gamble (60% chance of winning cookies).

Method (cont'd)

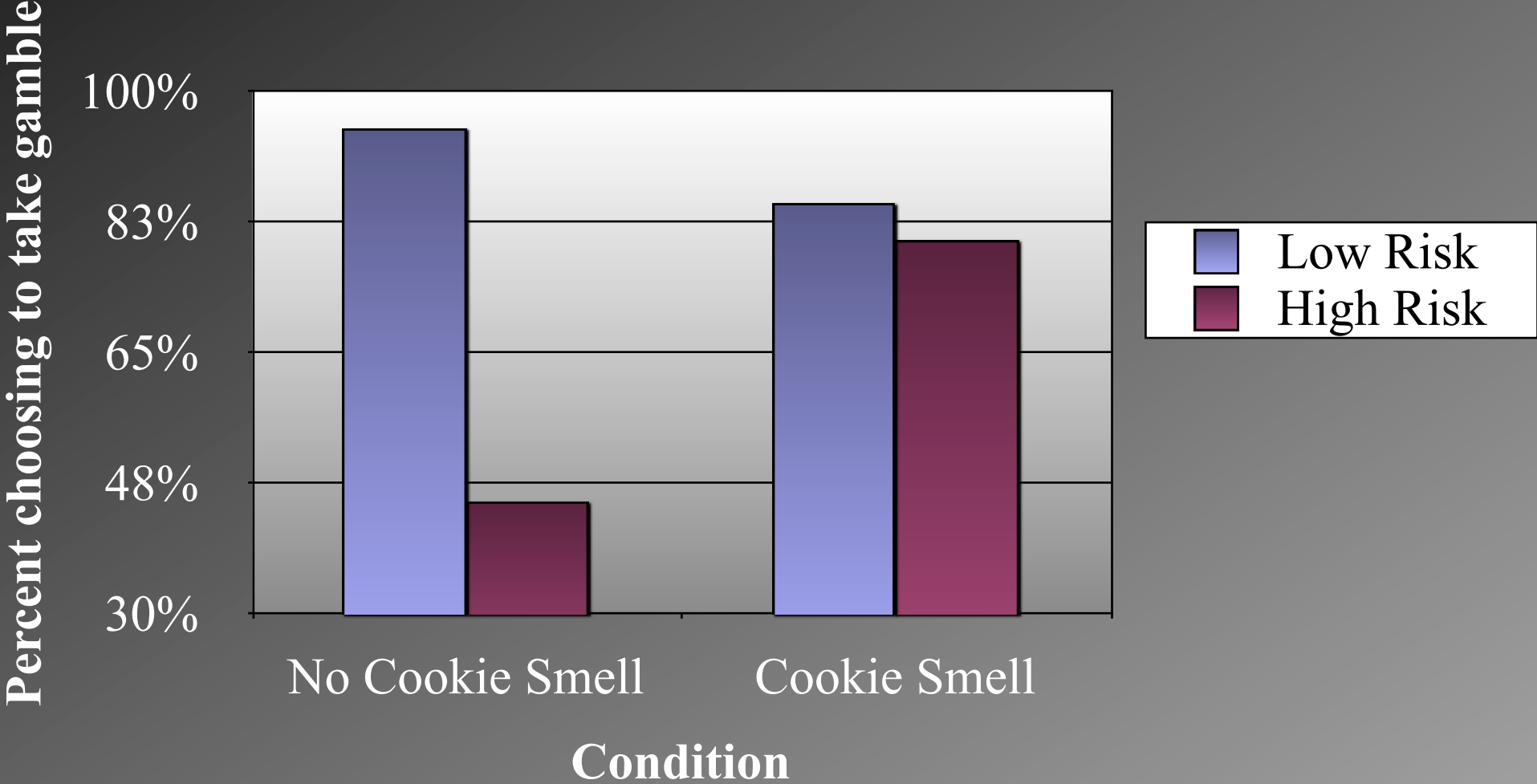
If participant CHOSE TO GAMBLE:

- AND LOST, received NO cookies, and had to stay 30 minutes to do more Raven's Progressive Matrices.
- AND WON, got as many cookies as they wanted, and got to go home immediately

If participant CHOSE NOT TO GAMBLE:

- they had to stay for a few more short questionnaires (approx. 10 min.) and could leave.

Results: % Participants who chose to gamble



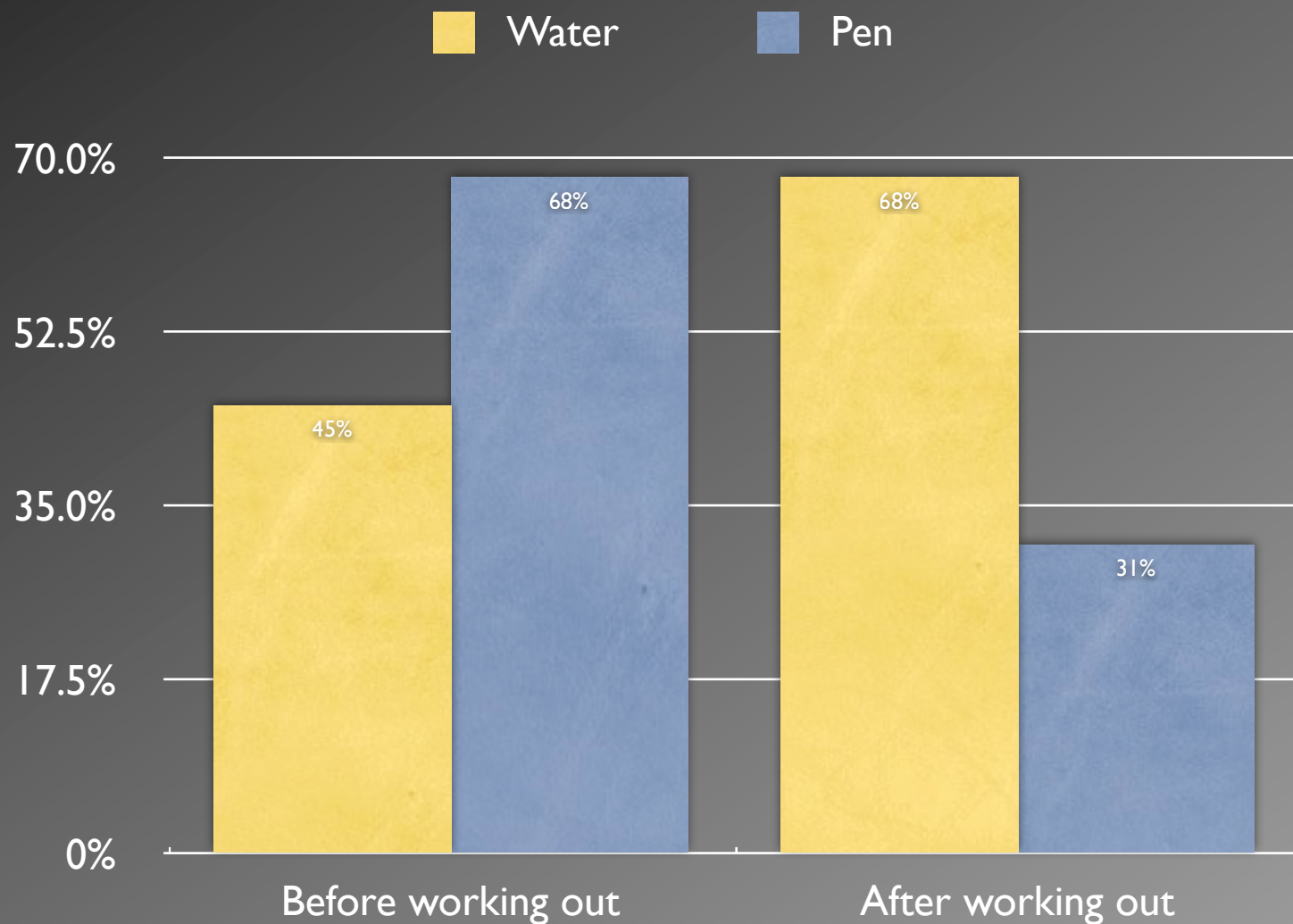
Visceral states and ethical behavior

(Williams, Pizarro, Weinberg & Ariely)

- Participants approached either before a gym workout or after (thirst was assessed).
- Asked to participate in a one-page survey (about satisfaction with gym).
- Not enough water bottles-- think of a number between 1 and 10 (but don't tell us)
 - Was it even? (odd?) If so, you get a water bottle!



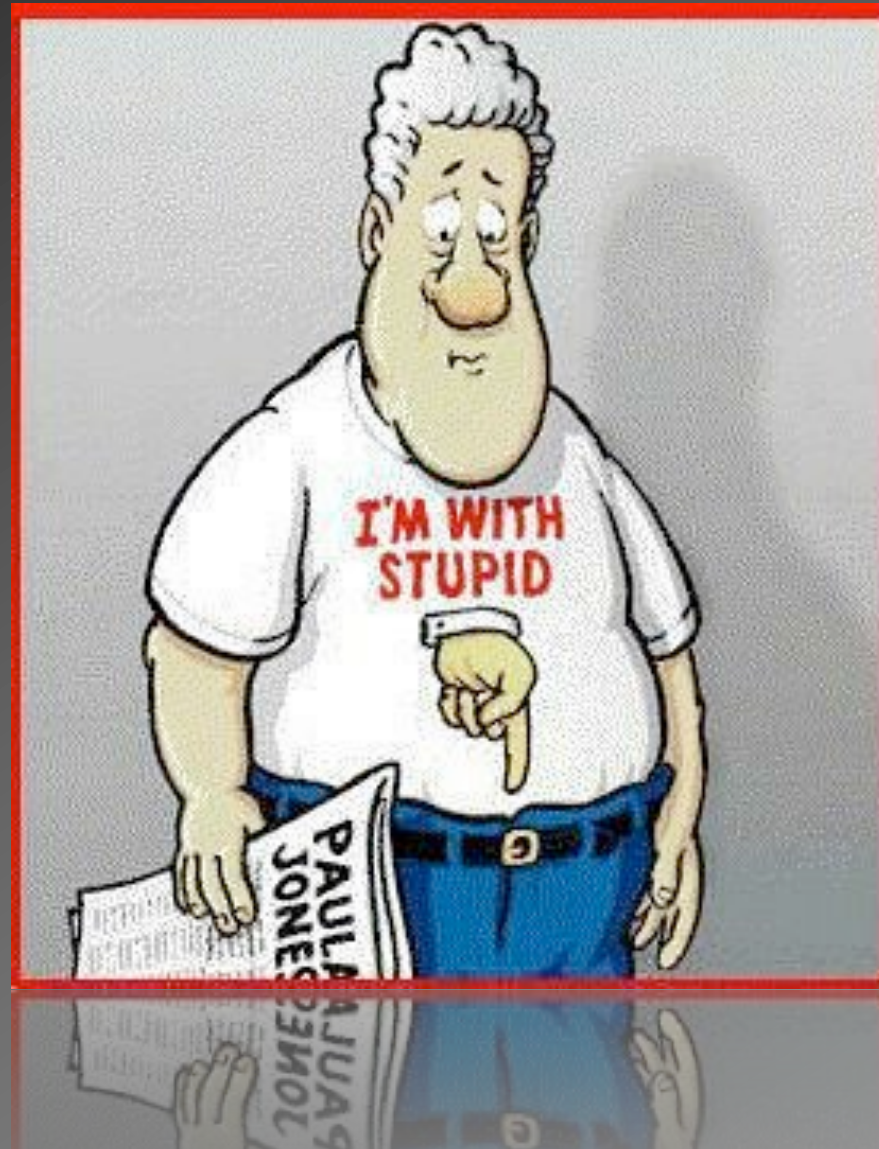
Thirsty people more likely to 'lie' for water



“Visceral” Myopia

- Visceral states hard to predict, and seem to make us shortsighted
 - Less focused on long-term consequences
 - Less focus on moral standards
 - More focus on the features of the reward (it “looms” large).

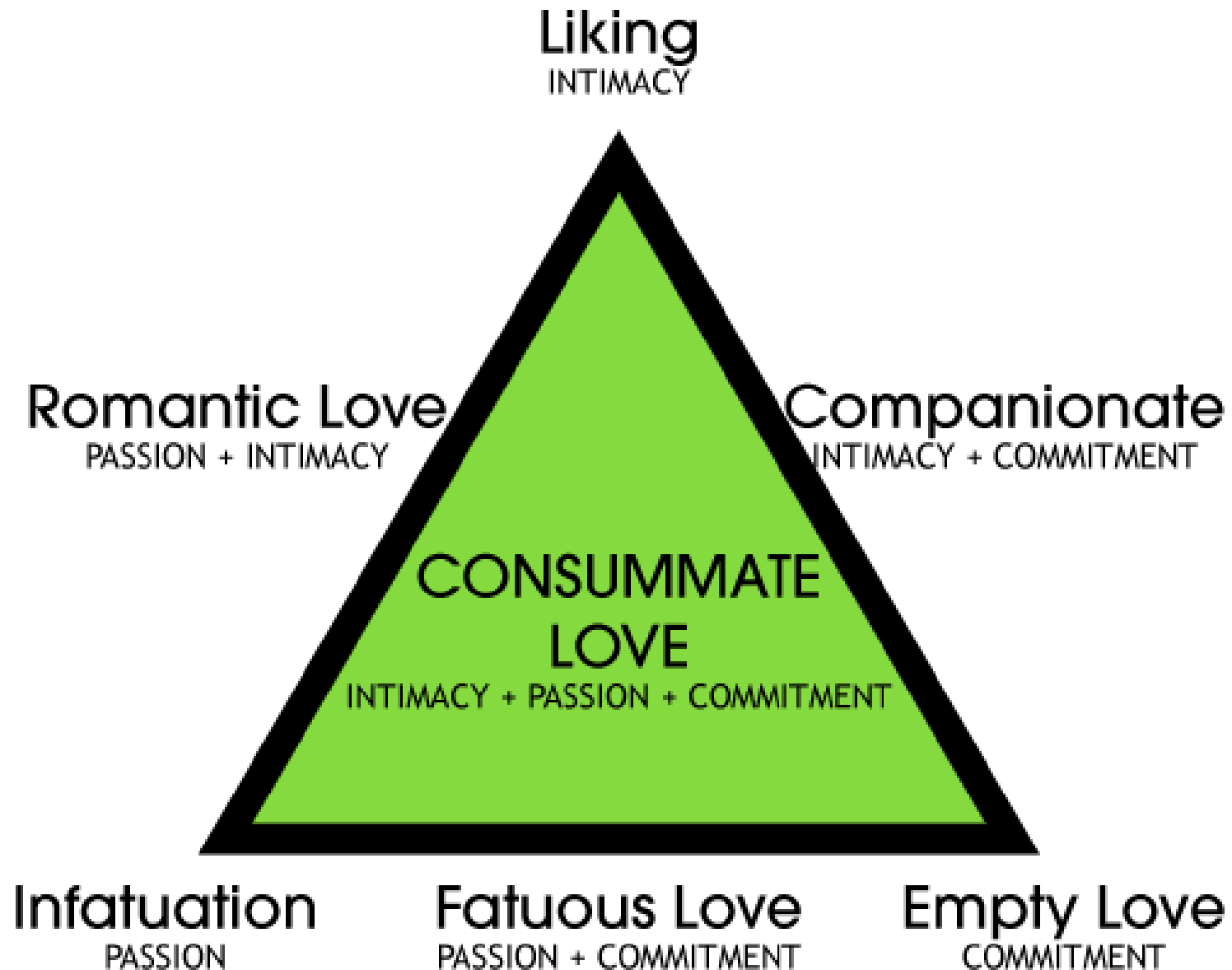
Sexual Arousal



Sexy Time!

- There is a large body of literature on attraction, dating, and relationships
 - But this is beyond the scope of a class on *emotion*.
- Love has been researched a lot, but often this research tries to create taxonomies of love (e.g, Sternberg's "love triangle")

Sternberg's Triangular Theory of Love (Sternberg, 1986)



What makes us aroused?

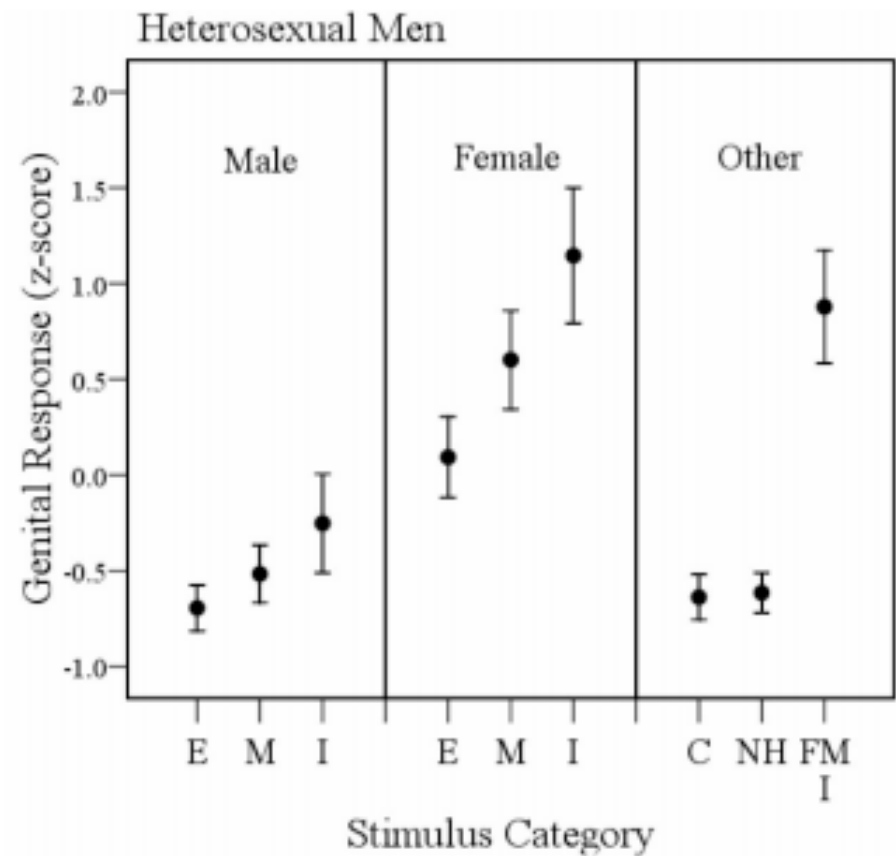
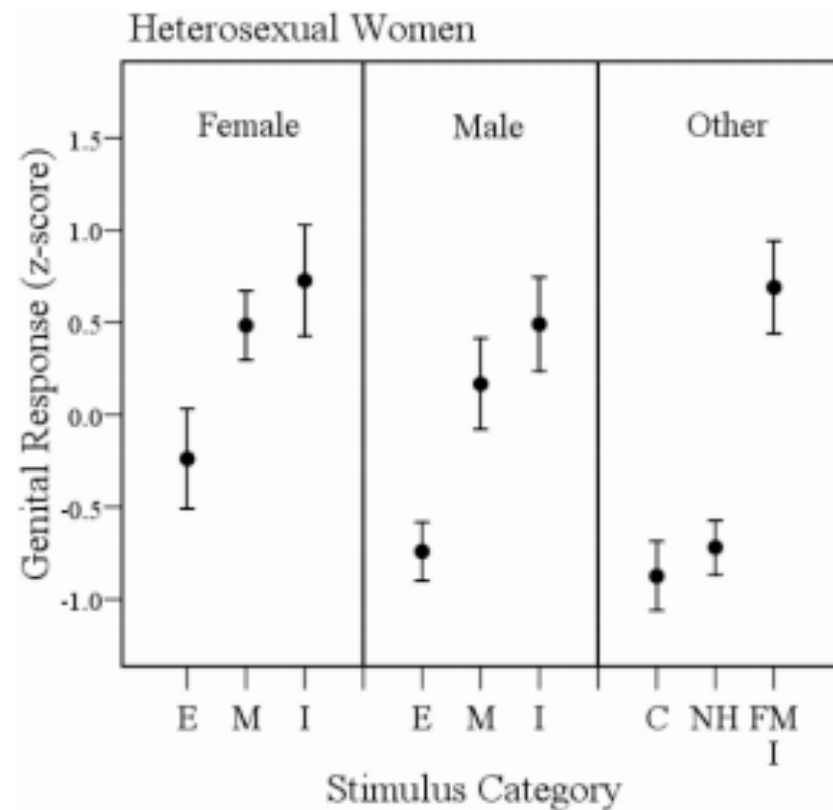
- Simply (and almost circularly), sexual stimuli make us aroused.
- But the story is more complex...

Gender Differences in Sexual Arousal

(Chivers et al, 2007)

- General strategy to determine what arouses us--measure arousal!
- Men and women shown film clips of:
 - Same sex intercourse
 - Different sex intercourse
 - Nude people exercising
 - Bonobo sex

Arousal patterns: Men vs. Women



arousal and sexual orientation in men: are bisexual men equally aroused by both genders?

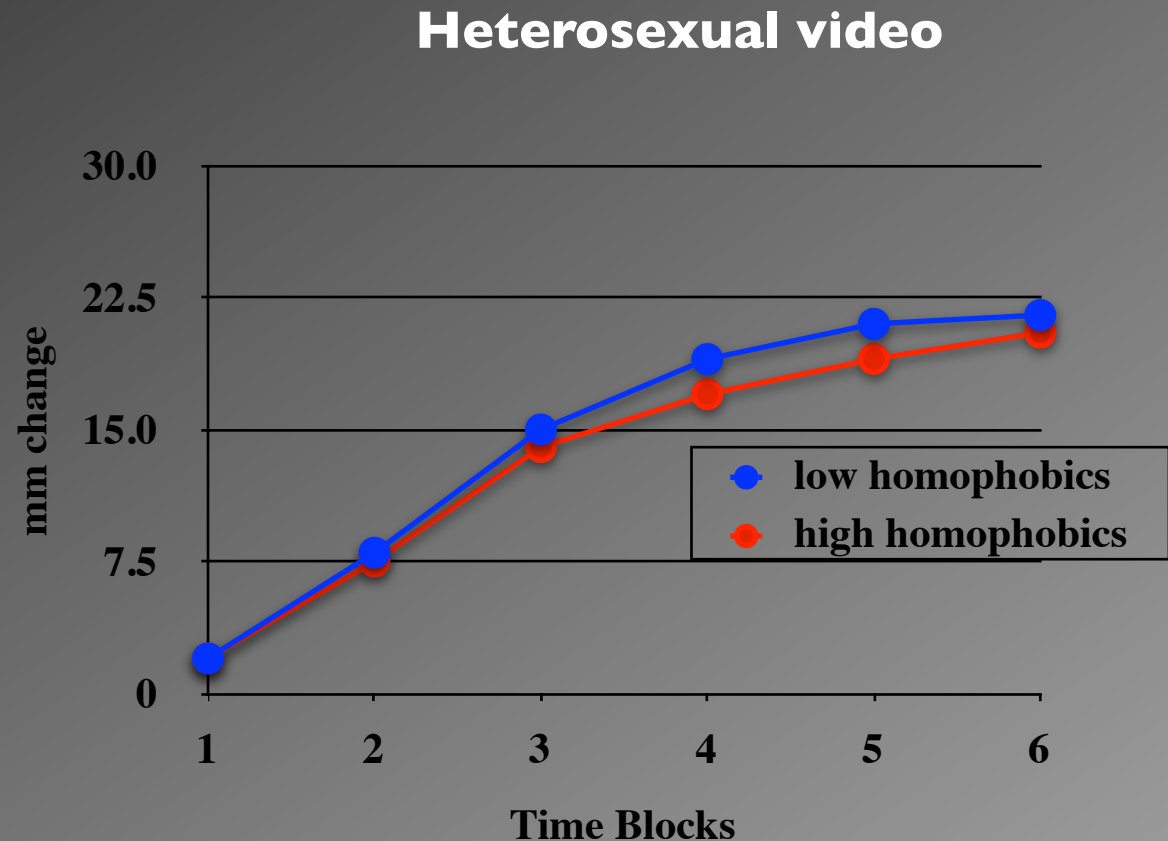
- Chivers showed (self-reported) gay men, straight men, and bisexual men videos of two men having sex or two women having sex.
- Are bisexual men equally aroused by both?
 - No (as measured by genital arousal)
 - Either aroused by one or the other (but mostly to male/male sex)

Sexual arousal among (scared) straight males

- Are men who are high in homophobia less or more likely to be sexually aroused by male-male sex?

Protest too much?

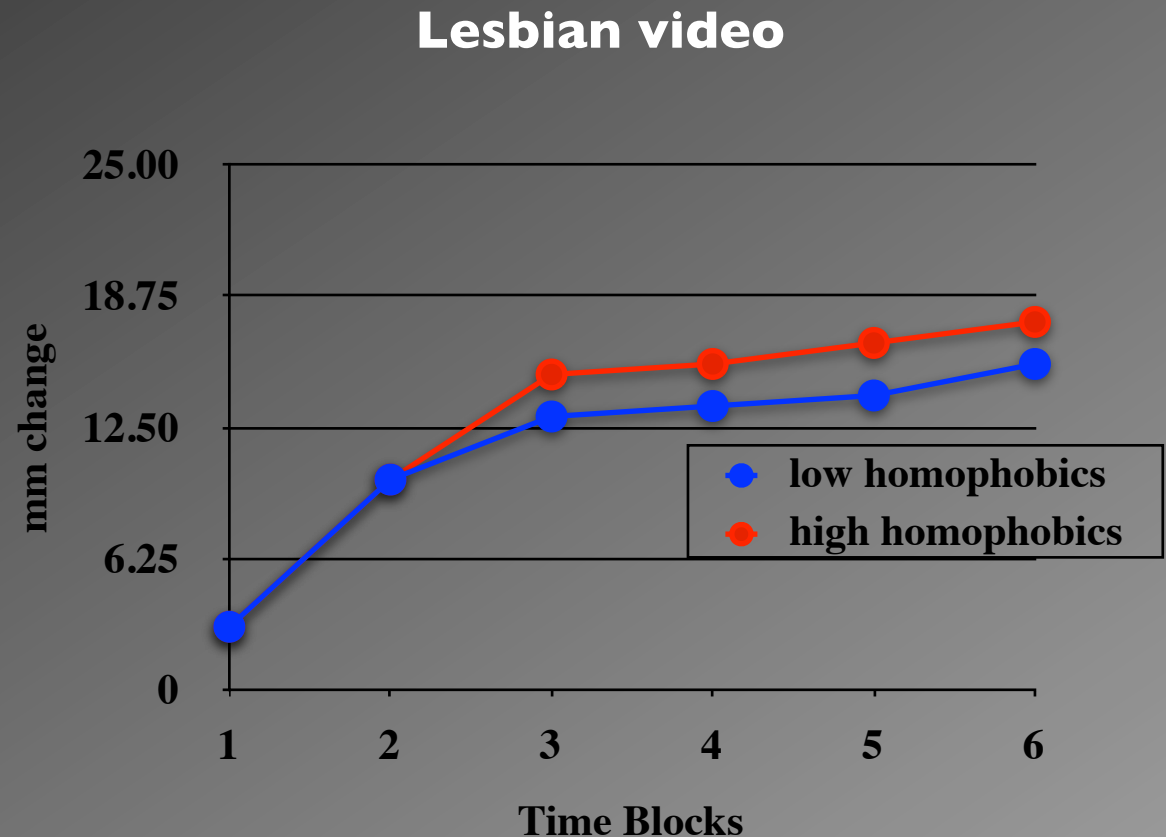
- 2 groups of heterosexual men:
 - High vs. low homophobics
- Watched videotapes of:
 - Heterosexual activity
 - Lesbian activity
 - Gay activity
- Assessed sexual arousal:
 - Penile circumference while watching



Adapted from Adams et al. (1996). *Journal of Abnormal Psychology*, 105, 440-445.

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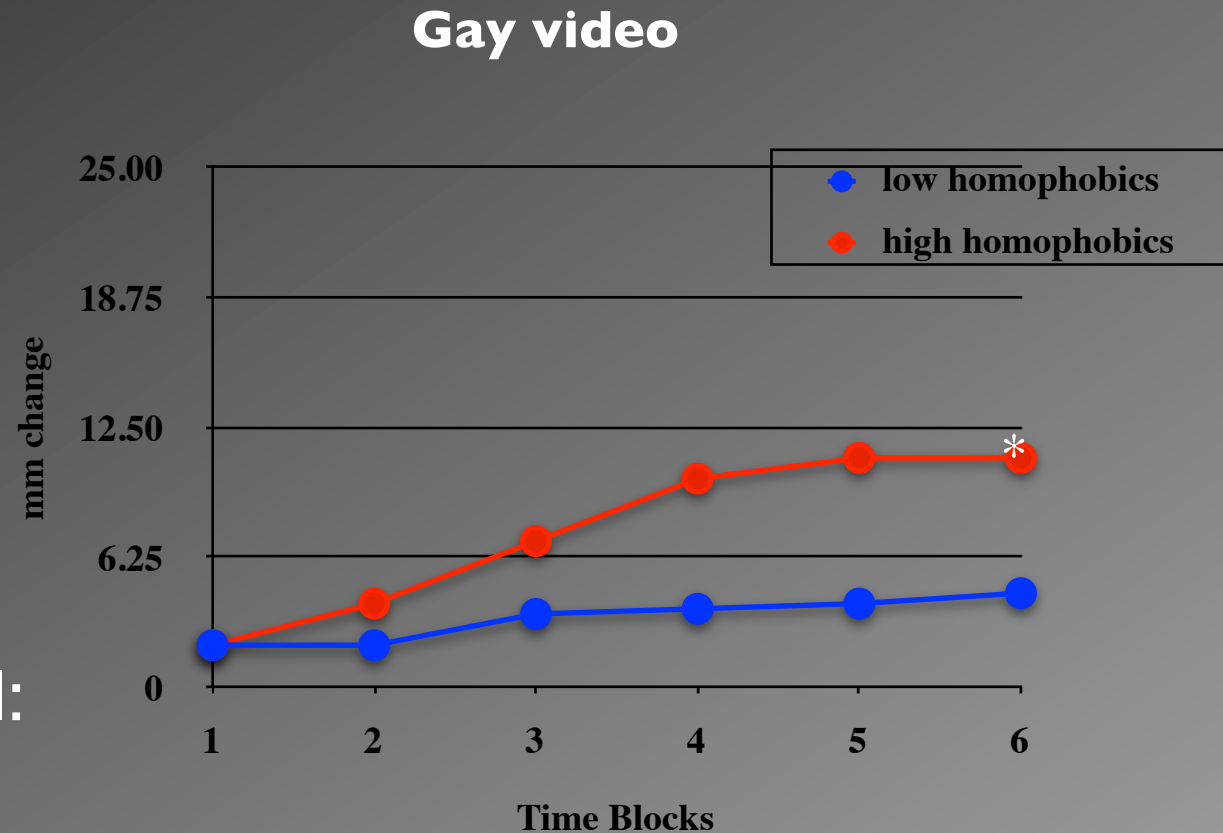
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Study: Men and Sexual Arousal (Ariely & Loewenstein, 2006)

- How are our decisions affected when under the influence of sexual arousal?
 - Thirst
 - Hunger
 - Pain
 - Anger
 - **SEX**
- And can people predict how they will act “under the influence” of these emotional states?

What kinds of Decisions?

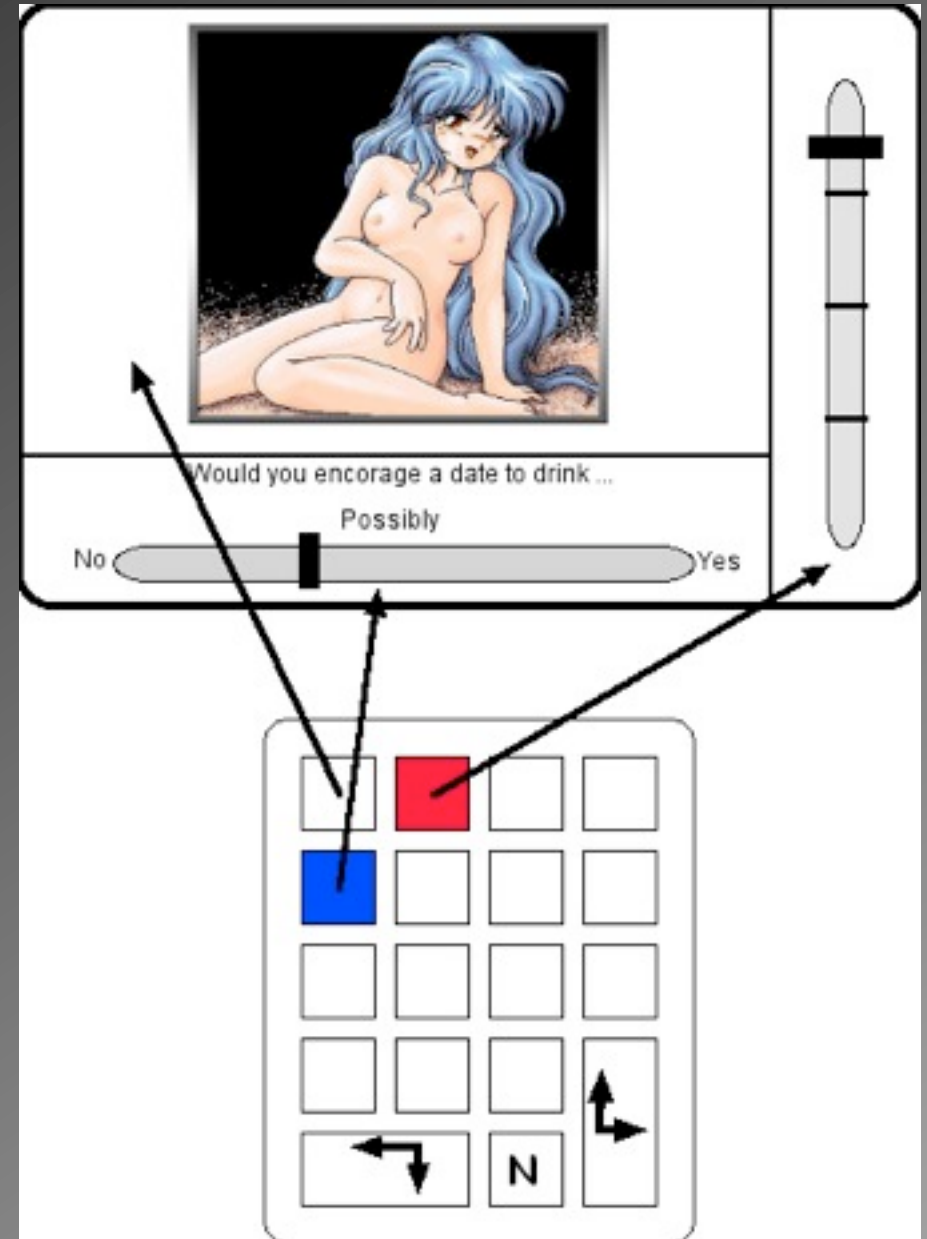
- Preferences for different activities
- Willingness to take risks
- Willingness to engage in undesirable behaviors

Procedure

- Subjects (only heterosexual males) got a laptop, took it home and used it to answer questions
- Participants were measured while:
 - Cold -- not aroused
 - Hot -- aroused

The “hot” manipulation

- One-handed keyboard
- Shown pictures of women (not really anime)
 - Scrolled through pictures
 - made ratings of arousal
 - answered a series of questions



Preferences ...



Table 2. Mean response, standard deviations, and differences for the different questions on the attractiveness of different activities

Question	Non-aroused	Aroused	Difference	<i>p</i> [<i>t</i> (23)]
Are women's shoes erotic?	42 (5.9)	65 (4.06)	23	<0.001
Can you imagine being attracted to a 12-year-old girl?	23 (4.11)	46 (6.08)	23	<0.001
Can you imagine having sex with a 40-year-old woman?	58 (3.32)	77 (2.07)	19	<0.001
Can you imagine having sex with a 50-year-old woman?	28 (4.80)	55 (4.69)	27	<0.001
Can you imagine having sex with a 60-year-old woman?	7 (2.55)	23 (4.61)	16	<0.001
Can you imagine having sex with a man?	8 (2.47)	14 (3.78)	6	= 0.14 (ns)
Could it be fun to have sex with someone who was extremely fat?	13 (4.30)	24 (5.29)	11	<0.05
Could you enjoy having sex with someone you hated?	53 (6.04)	77 (3.59)	24	<0.001
If you were attracted to a woman and she proposed a threesome with a man, would you do it?	19 (4.97)	34 (7.10)	25	<0.005
Is a woman sexy when she's sweating?	56 (3.1)	72 (5.62)	16	<0.01
Is the smell of cigarette smoke arousing?	13 (3.88)	22 (6.00)	9	<0.03
Would it be fun to get tied up by your sexual partner?	63 (5.09)	81 (4.49)	18	<0.005
Would it be fun to tie up your sexual partner?	47 (3.22)	75 (3.89)	28	<0.001
Would it be fun to watch an attractive woman urinating?	25 (5.57)	32 (5.53)	7	<0.03
Would you find it exciting to spank your sexual partner?	61 (5.35)	72 (4.70)	11	<0.1
Would you find it exciting to get spanked by an attractive woman?	50 (3.40)	68 (5.29)	18	<0.003
Would you find it exciting to have anal sex?	46 (4.91)	77 (3.58)	31	<0.001
Can you imagine getting sexually excited by contact with an animal?	6 (2.55)	16 (4.19)	10	<0.02
Do you prefer to have sex with the light on?	52 (5.84)	50 (5.15)	-2	= 0.46 (ns)
Is just kissing frustrating?	41 (4.43)	69 (4.37)	28	<0.001

Note: Each question was presented on a visual-analog scale that stretched between "no" on the left (0) to "possibly" in the middle (50) to "yes" on the right (100).

Results: preferences

- In a **cold** state, participants predicted that they would not enjoy these activities
- In a **hot** state participants predicted they would enjoy these activities



Risk ...



Table 4. Mean response, standard deviations, and differences for the different questions on willingness to engage in, and outcomes of, sexually unsafe behaviours

Question	Non-aroused	Aroused	Difference	<i>p</i> [<i>t</i> (23)]
If you pull out before you ejaculate, a woman can still get pregnant (N)	92 (2.95)	92 (4.55)	0	= 0.97 (ns)
A woman who is a good friend can give you a sexually transmitted disease (N)	86 (4.44)	89 (4.89)	-3	= 0.21 (ns)
Would you trust a woman you've just met who says she is using birth control? (A)	29 (5.14)	25 (5.51)	-4	= 0.47 (ns)
Birth control is the woman's responsibility (A)	34 (5.41)	44 (5.69)	10	= 0.051
A condom decreases sexual pleasure (A)	66 (3.88)	78 (3.73)	12	<0.002
A condom interferes with sexual spontaneity (A)	58 (5.21)	73 (4.45)	15	<0.01
Would you always use a condom if you didn't know the sexual history of a new sexual partner? (N)	88 (2.66)	69 (6.33)	19	<0.003
Would you use a condom even if you were afraid that a woman might change her mind while you went to get it? (N)	86 (3.04)	60 (4.32)	26	<0.001

Note: Each question was presented on a visual-analog scale that stretched between “no” on the left (0) to “possibly” in the middle (50) to “yes” on the right (100).

The expected higher response is marked with A for aroused or N for non-aroused.

Results: risk

- In a **cold** state, participants were not willing to take much risk
- In a **hot** state participants were willing to take more risk



Morally Questionable Behavior ...



Table 3. Mean response, standard deviations, and differences for the different questions on the likelihood to engage in immoral “date-rape” like behaviors (a strict order of severity is not implied)

Question	Non-aroused	Aroused	Difference	<i>p</i> [<i>t</i> (23)]
Would you take a date to a fancy restaurant to increase your chance of having sex with her?	55 (5.86)	70 (3.83)	15	0.01
Would you tell a woman that you loved her to increase the chance that she would have sex with you?	30 (5.40)	51 (4.54)	21	0.001
Would you encourage your date to drink to increase the chance that she would have sex with you?	46 (5.80)	63 (2.87)	17	<0.005
Would you keep trying to have sex after your date says “no.”	20 (4.32)	45 (3.44)	25	<0.001
Would you slip a woman a drug to increase the chance that she would have sex with you?	5 (2.51)	26 (3.65)	21	<0.001

Note: Each question was presented on a visual-analog scale that stretched between “no” on the left (0) to “possibly” in the middle (50) to “yes” on the right (100).

Results: undesirable behaviors

- In a **cold** state, participants were not willing to engage in these behaviors
- In a **hot** state participants were willing to take engage in these behaviors

Summary of Ariely/Loewenstein

- Individuals have different preferences under different emotional states, and sexual arousal is no different
- Individuals cannot predict this effect or intuit their preferences under a different emotional states (even common emotional states)
- Implications: Until we're aroused we don't know what sorts of crazy stuff we might do (e.g., unsafe sex, predatory behavior)

Summary

- Visceral states are affective phenomenon that are restricted to a very rigid set of elicitors
- These responses are likely necessary for survival...
- But the very thing that makes them provide an advantage (their motivational strength), makes them likely to hinder good decision-making for organisms that have long-term goals.
- Regulation--willpower? second-order control?