

## Lecture 20

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### Reading Minds

- **What is someone really saying?!**
  - **Understanding sarcasm and irony**
  - **The multiple constraints model**
- **What is someone thinking?!**
  - **“Social-perceptual” processes and eye reading**
  - **“Social-cognitive” processes and faux pas**

## **What is Someone Really Saying?**

**A sarcastic comment**



**From *Finding Nemo***

## **What is Someone Really Saying?**

### **Paralinguistic cues to sarcasm**

**Analysis of the vocal qualities of sarcastic speech suggests that it is characterized by an increased range and amplitude of fundamental voice frequency, higher emphatic stress, shorter pauses, and a caricatured lengthening of syllables compared to sincere speech**

**Rankin (2009)**

## **What is Someone Really Saying?**

**An example of paralinguistic cues**

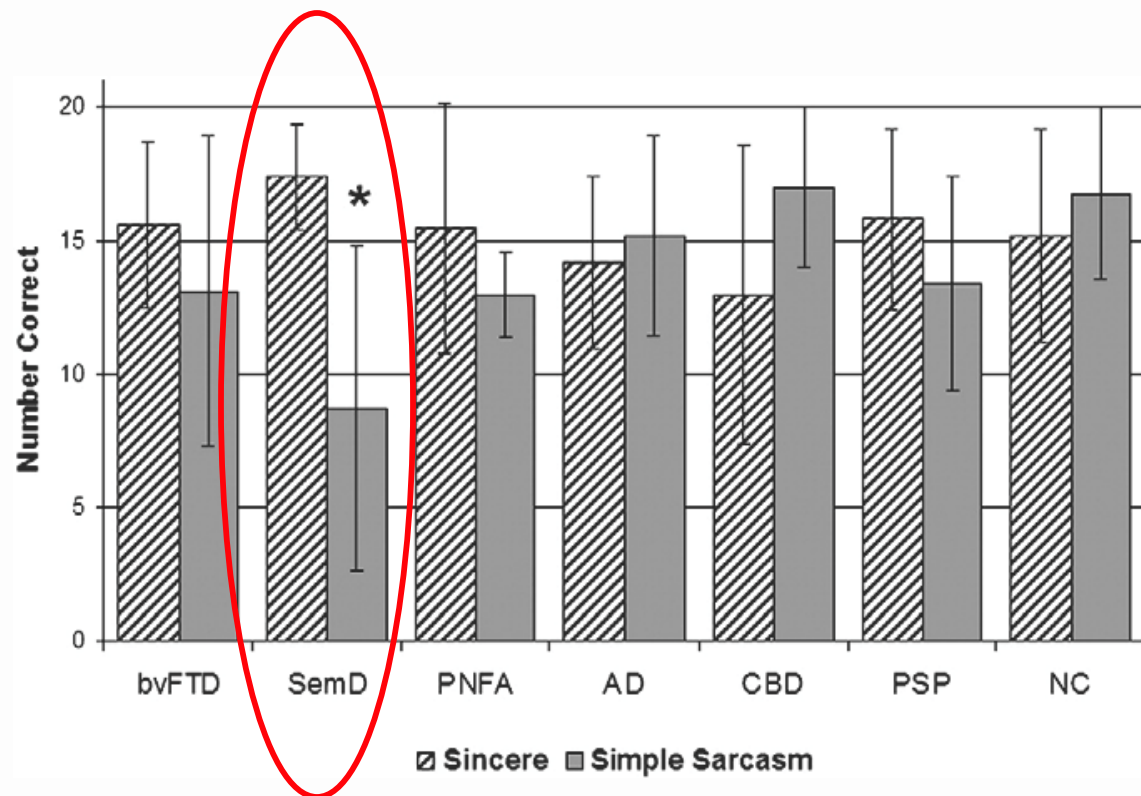


**Rankin (2009)**

## What is Someone Really Saying?

### Sarcasm discrimination by patient population

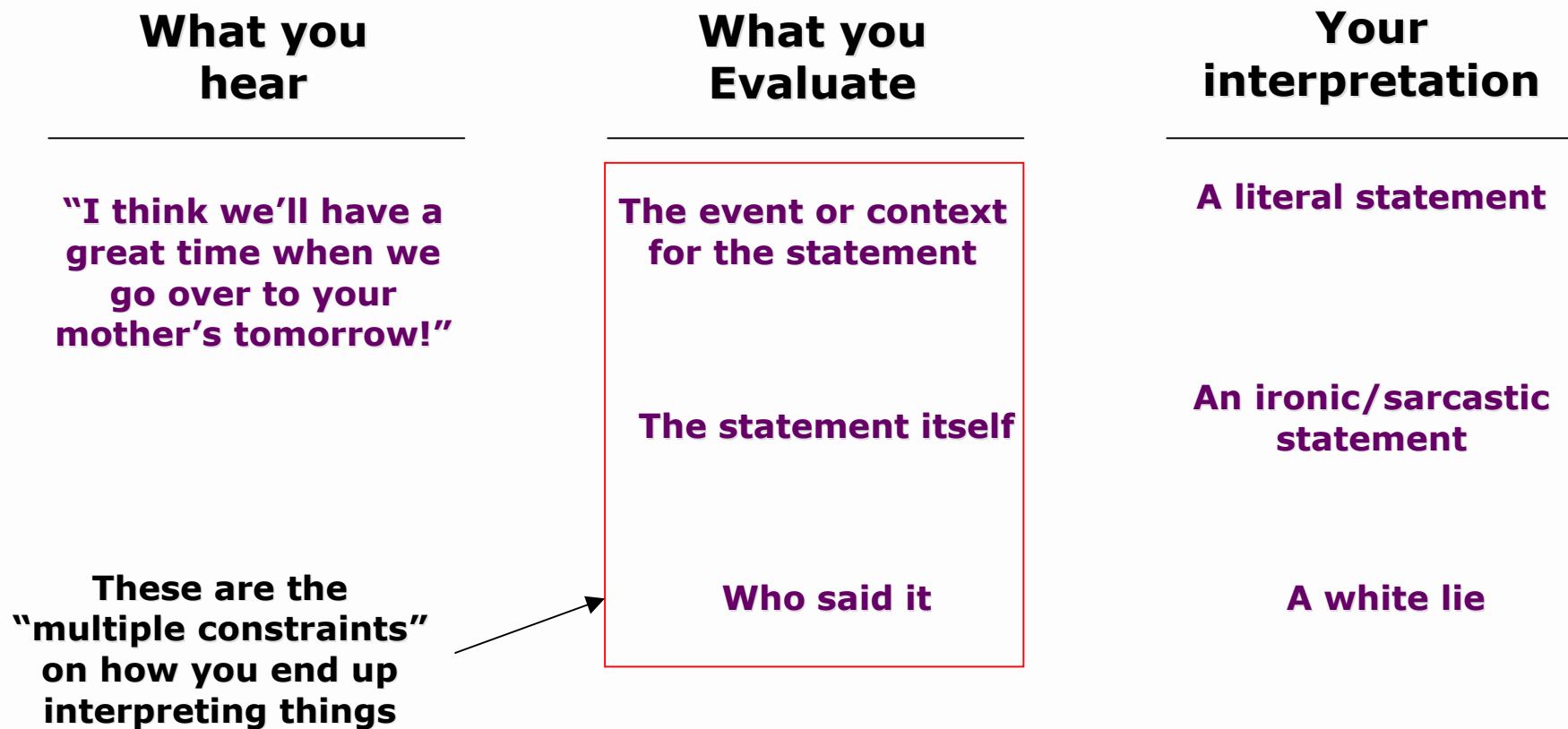
Plotted are the number of comments correctly interpreted, as a function of patient group. The patients with semantic dementia were the only ones to have a specific problem with recognizing sarcasm.



Rankin (2009)

# What is Someone Really Saying?

## The multiple constraint model



**Pexman (2009)**

## **What is Someone Thinking?!**

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**The social benefit of lying and deceit**



**From *The Invention of Lying***

## **What is Someone Thinking?!**

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**We use two kinds of processes to infer what someone else is thinking**

### **Social–perceptual processes:**

**Using nonverbal cues like the eyes and bodily posture as a way of “decoding” one’s mental state**

### **Social–cognitive processes:**

**Abstract reasoning about another’s mental state, such as goals & motives**



# **What is Someone Thinking?!**

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## **Social-perceptual Processes**

**It has been suggested that the ability to decode others' mental states evolved as a biological imperative for detecting deception in others, in order to reinforce group cooperation and assist coalition formation.**

**This implies that we might be particularly adept at decoding the mental states of familiar others (i.e., those with whom we may perceive a heightened probability of strategic alliance), particularly given that our most serious lies tend to be exchanged among those with whom we are the closest.**

**Adams (2010)**

## What is Someone Thinking?!

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Which label best fits the person's mental state?

irritated  
1

sarcastic  
2



3  
worried

4  
friendly

irritated  
1

sarcastic  
2



3  
worried

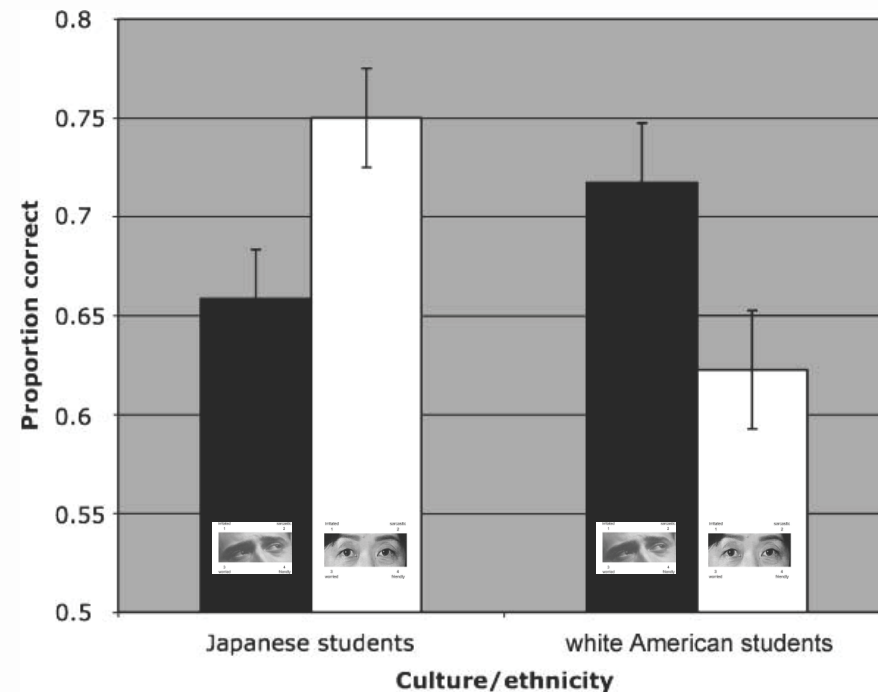
4  
friendly

**Adams (2010)**

## What is Someone Thinking?!

### Accuracy Results, by culture/ethnicity

Plotted is proportion of correct responses for Japanese (left) and caucasian American students (right), as a function of face type



Adams (2010)

# **What is Someone Thinking?!**

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## **Social-Cognitive Processes**

**Humans are social animals that under normal circumstances seek rewarding social interactions for adaptive learning and psychological satisfaction. To accomplish this important goal, we must be equipped with cognitive processes and the accompanying neural mechanisms that underpin both competent and successful interaction and communication with other people. These processes are classified under the construct termed social cognition, which concerns the mental operations underlying social interactions, including the human ability to understand the intentions and dispositions of others.**

**Lee (2010)**

## **What is Someone Thinking?!**

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### **Faux Pas and understanding social intention**

**Faux pas is a French term meaning a “false step,” and refers to a social blunder or indiscretion. One example is when a speaker says something he or she should not have said, not knowing or not realizing the words’ inappropriateness, which could hurt the recipient’s feelings.**

**When an individual recognizes the occurrence of a faux pas, he or she mentalizes that the speaker who said what was said did not intend to hurt the listener’s feelings.**

**Lee (2010)**

## **What is Someone Thinking?!**

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### **A faux pas example**

**“Jessica was at Maria’s apartment. While appreciating a crystal vase that she gave Maria as a birthday gift, she accidentally dropped the vase to the ground, which then shattered into pieces. Jessica felt really sorry about breaking the vase. Maria said, “Don’t worry about it. I never liked the vase anyway.”**

**Lee (2010)**

# **What is Someone Thinking?!**

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## **The Faux Pas Test**

### **Question 1:**

**Did someone say something he/she should not have said?**

### **Question 2:**

**Who said something he/she should not have said?**

### **Question 3:**

**Why should he/she not have said it?**

### **Question 4:**

**Why did he/she say it? What was his/her intention?**

### **Control question:**

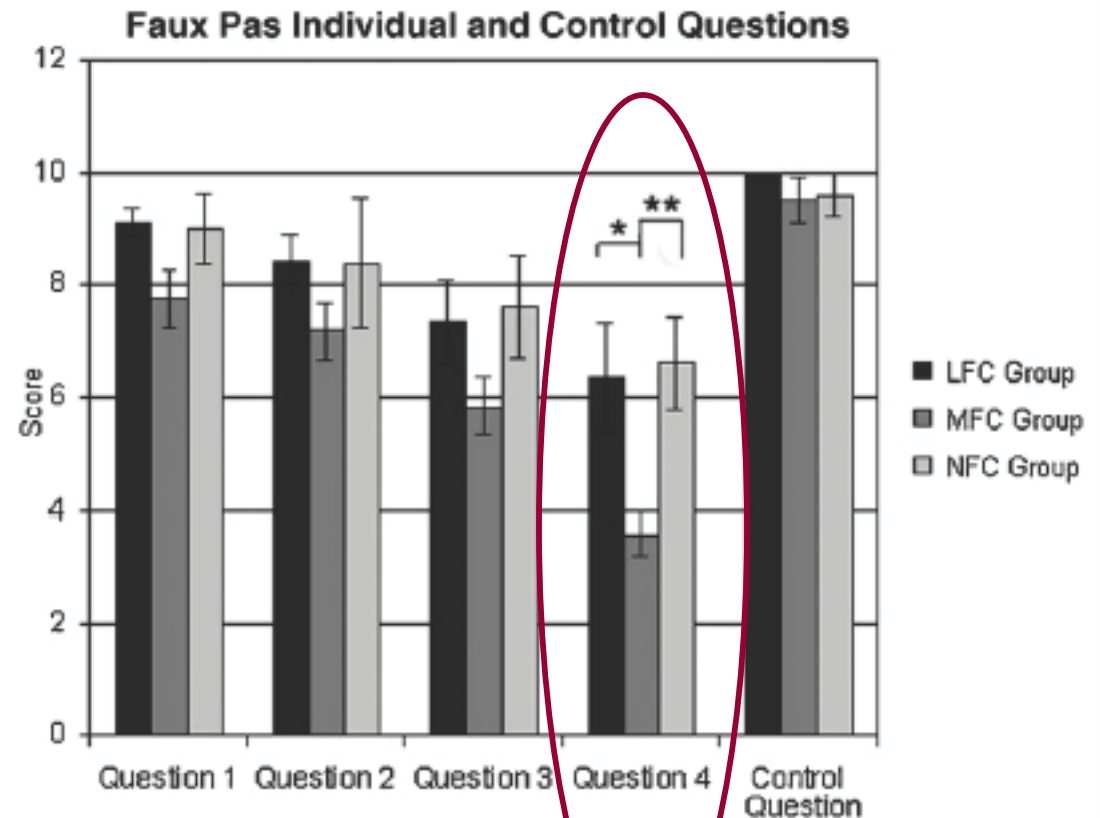
**What was the basic gist of the story?**

**Lee (2010)**

# What is Someone Thinking?!

## Test performance and brain damage

People with lesions in medial frontal cortex (MFC group) were impaired in ability to infer intentions in the faux pas test, relative to people with lesions in lateral frontal cortex (LFC group) or lesions in posterior or non-frontal cortex (NFC group)



Lee (2010)