

# Psychology 2200

## Developmental Psychology I: Fundamentals

### Mind Reading

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## learning objectives

- Describe the Cuban Missile Crisis and how John F. Kennedy used advanced theory of mind skills to avert World War III and a nuclear war
- Describe a study that shows that desire theory of mind develops in childhood
- Describe the "Sally-Anne" Task and how research using it leads to the conclusion that belief-desire theory of mind develops discontinuously
- Explain how Birch and Bloom (2007) challenged this claim, instead arguing that theory of mind is something that even typical adults fail to master



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## Theory of Mind

- navigating life challenges urges us to accurately anticipate other's choices and behavior
- behavior is often a function of
  - **what they want (desires)** &
  - **what a person knows (beliefs)**
- this understanding is called a "theory of mind"
- Where does theory of mind come from?
  - develops with age



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## desire theory of mind

Understanding that other people have desires that may be different from your own.

A  
teddy bear



Which of these do you think would be a good present for your mom?

B  
magazine



Atance, Belanger, & Meltzoff (2010)

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task requires children to understand that the desires of another person may differ from one's own

- 3- and 4-year olds fail the test
- 5-year-olds pass the test

age	% correct (magazine)
3	60%
4	50%
5	95%

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## belief-desire theory of mind

- definition: an understanding that both beliefs and desires influence people's choices and actions
  - young children understand mind to be copy of reality
  - no such thing as false belief
- framing questions
  - when does theory of mind develop?
  - how does it develop (mechanism)
  - how do some people become as advanced as Kennedy was?

6

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## false belief task

Wimmer & Perner, 1983

classic research paradigm

“Sally-Anne” task

presented to children

task now 30 years old

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## false belief task

Wellman et al (2001) meta-analysis, 178 studies

- pass = “Cartman’s ride”
- requires
  - memory
  - understanding that other people can have false beliefs
  - shield oneself from own knowledge
- What age group is the youngest to typically pass the test (i.e. more than 50%)
  - A. 6 year olds
  - B. 5 year olds
  - C. 4 year olds
  - D. 3 year olds

age (years)	percent of kids that pass
3	25%
4	60%
5	75%
6	85%

8

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# mechanism

why do 3 years fail and 4 year olds pass?



- 3 year olds have conceptual deficit
- **theory of mind module**
- on or off (**discontinuous** development)

Sue Birch



- general human memory & processing bias
- **curse of knowledge** (Birch & Bloom, 2007)
- more or less (**continuous** development)

Paul Bloom



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do adults (partially) fail false belief tasks?

- Birch & Bloom (2007)
- $N = 150$  undergrads at Yale
- experimental design: **irrelevant knowledge**
  - no irrelevant knowledge condition
  - extra irrelevant knowledge condition
- very sensitive false belief task
- can adults fully shield themselves from their own knowledge
- or are they "cursed" by their own knowledge?



Sue Birch



Paul Bloom

10

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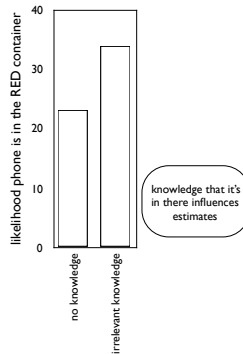
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Birch & Bloom (2007)

## results: advanced false-belief task

control & experimental conditions

- both conditions: Gaga knows only that the boxes have moved
- estimates of likelihoods should be based only on what Gaga knows
- irrelevant knowledge: participant's private knowledge that the phone moved to the red box biases their judgment
- conclusion: even typical adults seem unable to shield themselves from their own knowledge (the curse)



11

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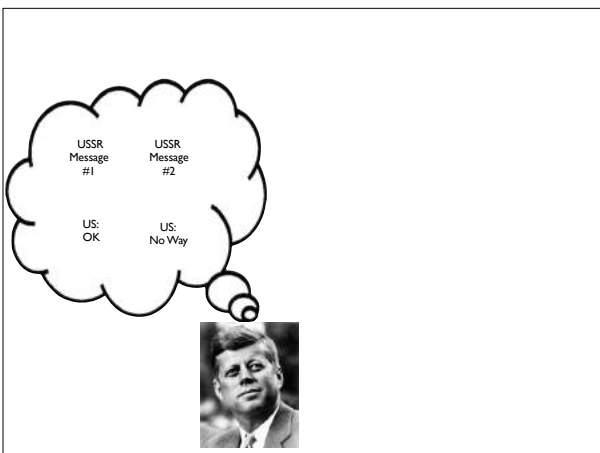
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