



Inferring what others know: How social perspective taking influences learning and development

KEYNOTE SPEAKER: Dr. Susan Birch
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A LOT OF THE CREDIT GOES TO...



Gurvir Dhutt, Aksh Aggarwal, Siba Ghrear, Allegra Passacantilli, Charlotte Stewardson, Sue Birch, Taeh Haddock, Carolyn Baer

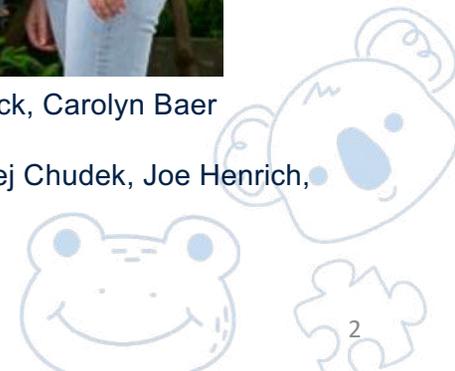
Not pictured: Naz Akmal, Adam Baimel, Paul Bloom, Patricia Brosseau-Liard, Nicole Cai, Tracy Cassels, Maciej Chudek, Joe Henrich, Vivian Li, Sarah Mathews, Rachel Severson



Social Sciences and Humanities
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Talk Outline

- What is social perspective taking? Why is it important?
- Role in learning and development
- A limitation in social perspective taking
- Ways to foster social perspective taking

Social Perspective taking

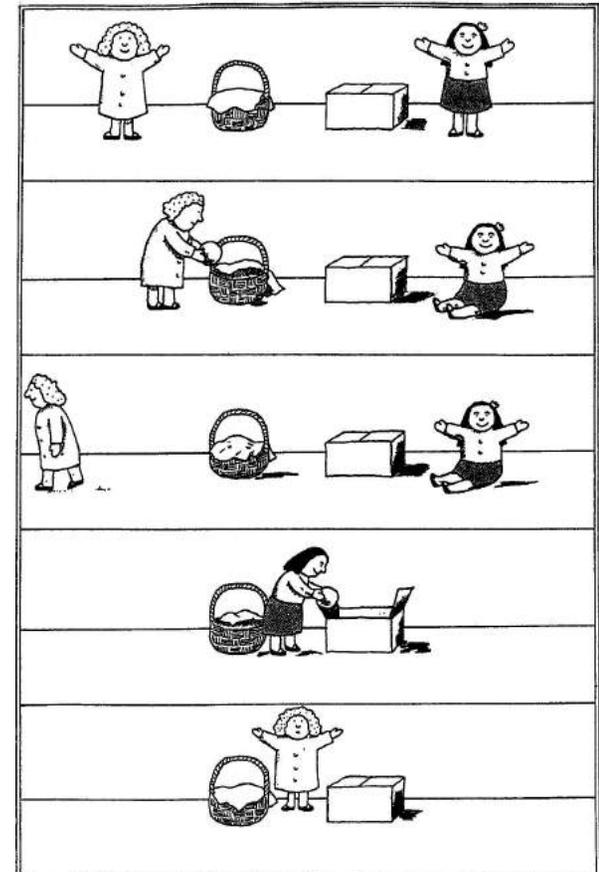
Reasoning about other people's mental states, or perspectives

- E.g. intentions, desires, beliefs, thoughts, emotions, [knowledge](#)
- [A.k.a. 'theory of mind' \(ToM\)](#)



Measuring Perspective-taking

- Complex and multifaceted; no single test
- Developmental Progression
 - Inferring Goals (first year of life)
 - Differing Desires (by ~18 months)
 - False Beliefs (~age 4; maybe even in infancy?)
 - Subtleties and nuances (throughout life)
- Vast Individual Differences



Social Perspective taking



Prosocial Behaviour
(e.g. Imuta et al., 2016)



Satisfying Relationships
(e.g., Petrocchi, 2021)



Academic Achievement
(e.g., Lecce et al., 2014)

Why is social perspective taking important?

- Interpreting behavior



“Do you know something I don't know?”

Why is social perspective taking important?

- Interpreting behavior
- Predicting behavior
- Manipulating behavior (e.g. deception)
- Communicating to someone (e.g. teaching)
- Avoiding injuring?
- Deciding who to learn from





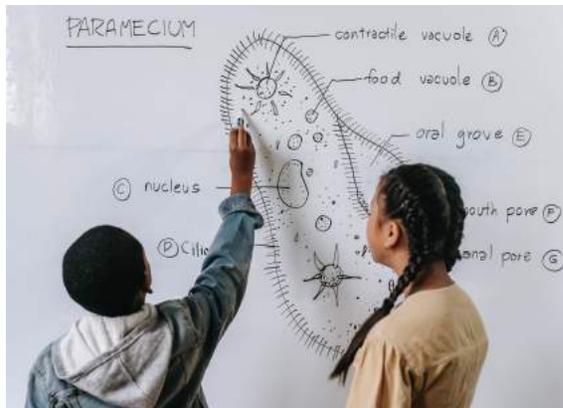
Social Learning is essential

Some info is impractical or dangerous to learn first hand

E.g. what's safe, location of your kidneys

Some info can only be learned socially

e.g. language, history, science, cultural traditions



Social Learning is efficient



It's important to be selective social learners

Since people...

- convey misinformation
- provide info even when uncertain
- differ in their overall knowledge
- differ in their areas of expertise
- offer opinions, not just facts

How do children decide
who is the most
knowledgeable source?

Young children tend to learn from...

- Those who explicitly claim to be knowledgeable
- Adults over children (topic-dependent)
- Those with the best track-records of accuracy
- **Those others attend to**
- **Those who appear confident**
- **But not those who are over-confident**

See Chudek, Brosseau-Liard, Birch, & Henrich (2013) for a review

People others attend to ('Prestige')



- 3 & 4-year-olds
- 2 Models
- 3 Bystanders



Children tended to learn from Mijke

- Bystanders leave
- Each model makes a choice
- Child is then given a choice

Young children tend to learn from...

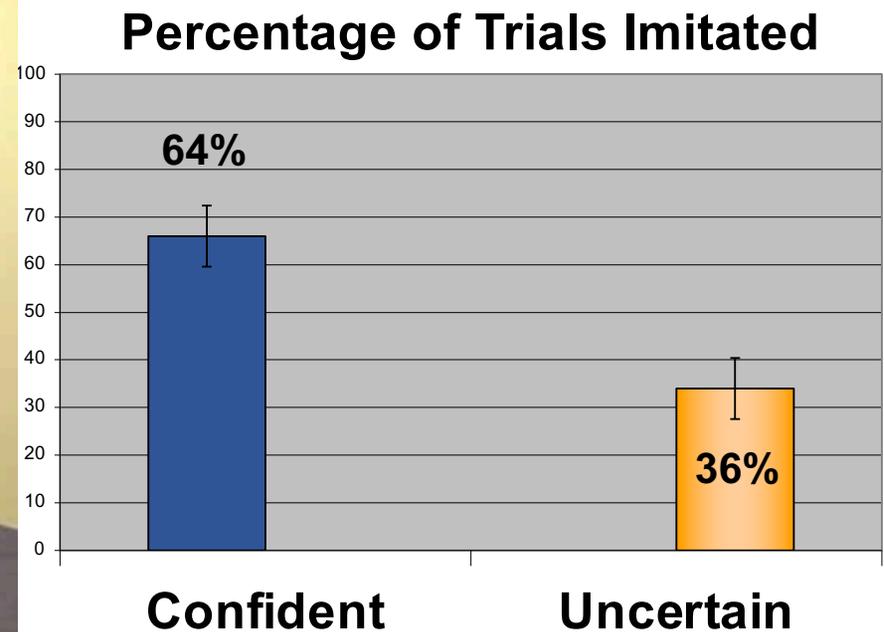
- Those who explicitly claim to be knowledgeable
- Adults over children (topic-dependent)
- Those with the best track-records of accuracy
- **Those who others look to**
- **Those who appear confident**

People who appear confident in their actions



- 2-4 year-olds
- 1 Confident Model & 1 Hesitant Model
- Nonverbal cues

People who appear confident in their actions



As young as age 2 they imitate the more confident person

Young children tend to learn from...

- Those who explicitly claim to be knowledgeable
- Adults over children (topic-dependent)
- Those with access to the info
- Those with the best track-records of accuracy
- **People others attend to**
- **Those who appear confident**
- **But not those who are *over*-confident**

See Chudek, Brosseau-Liard, Birch, & Henrich (2013) for a review

Not people who are overconfident

- 4 & 5 year olds
- 2 models: 1 hesitant but accurate; the other overconfident...repeatedly



Not people who are overconfident

That's a
paddlefish!



That's...a...
lanternfish?



5-year-olds avoid learning from the overconfident model

Brosseau-Liard, Cassels, & Birch, 2014, *PLOS ONE*

See also Birch, Severson, & Baimel (2020), *Child Development*

Part 1: Conclusions

- Young children are savvy, selective, social learners!
- Many cues help young children infer who's most knowledgeable

Talk Outline

- What is social perspective taking? Why it's important!
- Role in learning and development
- A limitation in social perspective taking

The 'Curse of Knowledge' Bias

The tendency to be biased by one's own knowledge when reasoning about a more naïve perspective

3 Manifestations:

1. Another person's perspective
2. How widely known
3. One's own earlier perspective
(aka knew-it-all-along or hindsight bias)



This Bias is Pervasive!

It's been demonstrated in...

- Business Settings
- Medical Decision-making
- Legal and political settings
- Education

This Bias is Pervasive!

- It occurs across cultures

The Curse of Knowledge in Turkana children of Kenya

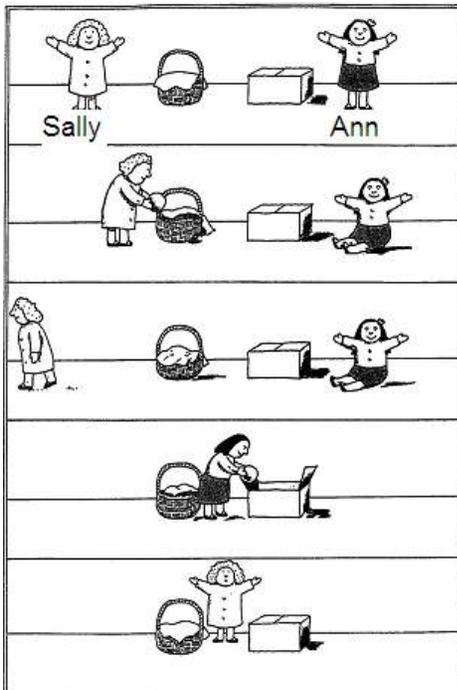


- ▶ Nomadic Pastoralist Society
- ▶ Unique socio-cultural upbringing (e.g. no electricity or formal education)

This Bias is Pervasive!

- It occurs across cultures
- But, it's malleable
- And, it declines with age (until old age)

Is the Classic False Belief Task *Cursed*?



- The bias declines between 3 & 5 years
(Birch & Bloom, 2004, Psych Science)
- The bias impairs adults' false belief reasoning
(Birch & Bloom, 2007, Psych Science)
- Prediction: Remove the Curse, Improve Performance

Is the Classic False Belief Task *Cursed*?

230 3- to 6-year-olds

This is Sally and Ryan.

Sally was playing with her ball, then she put her ball in here [*purple*], and went home.

When Sally was gone, Ryan hid Sally's ball in a different spot!

He may have hid it here, or here, or here" [*yellow, red, & blue*].

Outcome Known (Cursed): "*But we know that he hid it here [pointing to red].*"

Outcome Unknown: "*But, we don't know where he hid it.*"



Results

- Young children can reason about false beliefs when they do not know the specific outcome
- 3 year-olds were *as good as* 5-year-olds when not cursed
- Implications for research linking false belief to various outcomes
 - We suspect the link is with the curse of knowledge

Not all knowledge is a curse

4 to 7-year-olds

- 3 Groups

Unknown	Familiar	Unfamiliar
	A <u>crow</u> is the smartest bird.	A <u>jackdaw</u> is the smartest bird

How many children will know which kind of bird is the smartest?

Ghrear, Fung, Haddock & Birch (2021)

Not all knowledge is a curse

4 to 7-year-olds

- 3 Groups

Unknown	Familiar	Unfamiliar
	A <u>crow</u> is the smartest bird.	A <u>jackdaw</u> is the smartest bird

The curse of knowledge only occurred for *familiar* information.

Ghrear, Fung, Haddock & Birch (2021)

Can you improve perspective taking?

- Practice!
- Awareness is the first step to debiasing the curse of knowledge
- Implement Strategies
 - recall your own experience
 - recognize the role of familiarity

Can you improve perspective taking?

YES! Through practice and exposure

- Role-taking (e.g. imaginative play)
- Use of mental state talk
- Discussions and elaborations



Ensor, et al 2014; Bianco, Lecce, & Banerjee, 2016; Tompkins, 2015; Tan & Taumoepeau; 2021
Francies, Apperley, & Devine, 2021; For reviews see: Haddock et al; 2017

Take home messages

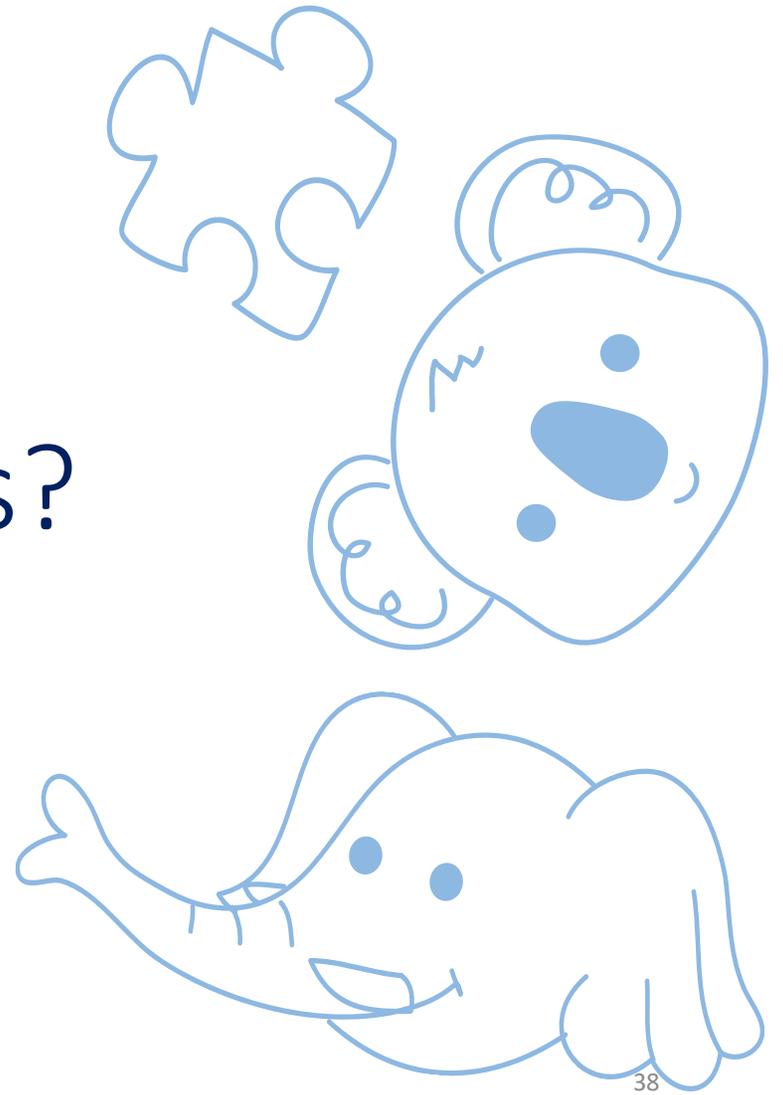
- Social perspective taking promotes healthy development in many ways
- And, there are many ways to promote social perspective taking



<https://kidlab.psych.ubc.ca>



Questions?



PARTICIPATE IN OUR ONLINE STUDY

Help with Science AND win a \$50 gift card!

In this 20–40 minute survey, you will be asked questions about your social functioning and social emotional health.

We are also interested in how changes resulting from the pandemic may impact you (and your child, if applicable).

This study is confidential and results may be used to guide future research aimed at identifying ways to support and promote well-being.

PARTICIPANTS WILL BE ENTERED IN A DRAW FOR A 1 IN 25 CHANCE OF WINNING A \$50 GIFT CARD!

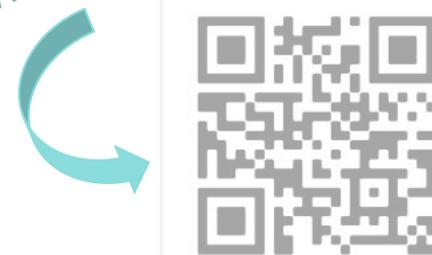


THE UNIVERSITY OF BRITISH COLUMBIA

Principal Investigator: Dr. Susan Birch
H17-01103 | Version 1: 3 July 2020



Scan me!



<https://tinyurl.com/SocialHealthSurvey>



WONDER KIDS

