

Mail that we sent out:

Dear all,

At the Max Planck Institute for Evolutionary Anthropology, we are planning to design a test battery that reliably measures individual differences in social cognition in children between 2 and 5 years of age. As a first step in this process, we are reaching out to the community of developmental psychologists. Your input will help us to decide on which aspects of social cognition to focus on.

We designed a short (5-minutes) survey and we would very much appreciate your input. Here's the link: https://www.soscisurvey.de/soc_cog/ [PLEASE NOTE: LINK IS NOT ACTIVE ANYMORE]

In addition to the survey, we are searching the literature for studies that looked at individual differences in children's social cognition. This will point us to the established tasks that "work" (i.e., produce meaningful variation).

Thank you very much for your time. If you have any feedback, we would be very happy to receive it.

Best,

Julia Prein, Manuel Bohn and Daniel Haun

Data collection period: November – December 2020

Screenshots of the online survey:

Page 1:



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FOR EVOLUTIONARY ANTHROPOLOGY

Thank you for your interest in our survey on “Defining Social Cognition”.

The goal of this survey is to understand how scientists define “Social Cognition”. The survey takes approximately 5 minutes.

There are no known risks associated with the content of this survey; however, as with any online related activity, the risk of a breach of confidentiality is always possible. Your participation and your answers to the questions in this survey are completely voluntary and you can withdraw at any time by closing the browser window or tab. Personal information will be kept confidential.

This survey is conducted by Julia Prein, Manuel Bohn and Daniel Haun from the Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany. If you have questions about this project, please contact Julia Prein (julia_prein@eva.mpg.de; see imprint).

By clicking “Yes, I agree” below, you are indicating that you are at least 18 years old, have read and understood this consent form, and agree to participate in this survey. Please print a copy of this page for your records.

No, I do not agree (do not participate in this survey).
 Yes, I agree (participate in this survey).

Next

Julia Prein, Max Planck Institute for Evolutionary Anthropology – 2020

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Page 2:



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Welcome to our online survey!

Social Cognition is often used as an umbrella term to refer to a wide range of cognitive processes and abilities. In this survey, we are particularly interested in Social Cognition from a developmental and individual differences perspective. First, we will ask some questions about how you define Social Cognition as a psychological construct. Next, we will ask your opinion on which aspects of Social Cognition are likely to vary between children of the same age.

We want to use this survey to inform the design of a new set of tasks to measure individual differences in Social Cognition in children. Your expert opinion will help us to select the most important aspects of Social Cognition to focus on.

Thank you for taking the time to help us!

Next

Julia Prein, Max Planck Institute for Evolutionary Anthropology – 2020

14% completed

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We searched the literature for definitions of Social Cognition. Below you can find a (non-exhaustive) list.*
Which definition do you most agree with?

Social cognition...

- is the process by which actors, at individual or collective levels, decode and encode their social world, using mental models, knowledge structures and cultural understandings to process information, extract meaning and determine appropriate action [1]
- is the ability to attribute mental states to oneself and others [2]
- is the sum of those processes that allow individuals of the same species (conspecifics) to interact with one another [3]
- encompasses all the information-processing mechanisms that underlie how people capture, process, store, and apply information about others to navigate social situations [4]
- concerns the various psychological processes that enable individuals to take advantage of being part of a social group [5]
- is the ability to construct representations of the relations between oneself and others, and to use those representations flexibly to guide social behavior [6]
- concerns learning about what matters in the social world [7]
- is concerned with the study of the thought processes, both implicit and explicit, through which humans attain understanding of self, others, and their environment [8]
- can be constructed as the process by which individuals develop the ability to monitor, control, and predict the behavior of others [9]
- refers to the skills we use to think about others and ourselves in psychological terms [10]
- other:

* You can find the references for these definitions on the last page of the survey.

Next

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Social Cognition is a multi-faceted construct with many dimensions. Here is a (non-exhaustive) list of the dimensions that reoccurred in our literature search. Please note that we do not want to focus on the areas in which you can use Social Cognition. Rather, we are interested in what Social Cognition is (i.e., which different psychological subprocesses make up Social Cognition).

Please think about situations in which you discuss or write about Social Cognition. Which dimensions do you mention most often (choose five)?

- beliefs
- knowledge
- emotions
- goals
- desires
- reasoning
- perspective-taking
- attention
- pretense
- intentions
- Please enter what you think is missing
- Please enter what you think is missing
- Please enter what you think is missing

[Next](#)

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We are primarily interested in individual differences in the development of Social Cognition. After an extensive literature review, we created the following list of aspects of Social Cognition.
Which aspects would you expect children of the same age to vary?

The left side of the scale means that the presented term would not vary at all, while the right side of the scale means that the aspects would vary a lot between individuals. You are free to skip any item for which you don't have a strong opinion.

Children of the same age vary in how likely they are to...



take another's perspective	<input type="radio"/>
understand the subjectivity of knowledge states	<input type="radio"/>
learn from others	<input type="radio"/>
manipulate emotions	<input type="radio"/>
understand intentions	<input type="radio"/>
distinguish goal-directed from non-purposeful behavior	<input type="radio"/>
direct attention	<input type="radio"/>
recognise others as agents	<input type="radio"/>
play pretense	<input type="radio"/>
deceive others	<input type="radio"/>
simulate others' reasoning processes	<input type="radio"/>
attribute beliefs to others	<input type="radio"/>
remember one's own previous knowledge states	<input type="radio"/>
read facial expressions	<input type="radio"/>
recognise goals	<input type="radio"/>
follow gaze	<input type="radio"/>
understand diverse desires	<input type="radio"/>
share attention	<input type="radio"/>
recognise emotions	<input type="radio"/>
attribute knowledge and ignorance	<input type="radio"/>
imitate actions	<input type="radio"/>

Did we miss something? Can you think of other aspects of Social Cognition that are likely to vary between children of the same age? Please enter them below.

If you have a reference in mind for the aspect(s) that we missed, we would love to have it. Thank you!

Next

Page 6:

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If you have any comments, thoughts or suggestions, we would love to hear them!

[Next](#)

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71% completed

Page 7:

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Finally, we would like to ask for some personal information. Answering these questions is voluntary.

You are a ...

You work in ...

Do you conduct studies with children?

You currently live in the following country ...

If you feel comfortable, you can tell us your name.*

* This will allow us to link your responses to your name. We would like to have your name to read up on your views. Your name will be kept strictly confidential and will not be published in any form.

[Next](#)

Julia Prein, Max Planck Institute for Evolutionary Anthropology – 2020

86% completed

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Thank you for completing this questionnaire!

Your answers were transmitted, you may close the browser window or tab now.

In our first question of the survey, we listed some definitions of social cognition. Here is the list of references.

[1] is the process by which actors, at individual or collective levels, decode and encode their social world, using mental models, knowledge structures and cultural understandings to process information, extract meaning and determine appropriate action. Glynn, M.A., & Watkiss, L. (2016). Social cognition. In M. Augier, D. Teece (Eds.), *The Palgrave Encyclopedia of Strategic Management*. Palgrave Macmillan, London. https://doi.org/10.1057/978-1-349-94848-2_614-1

[2] is the ability to attribute mental states to oneself and others. Dzibek, I., Fleck, S., Kalbe, E., Rogers, K., Hassenstab, J., Brand, M., . . . & Convit, A. (2006). Introducing MASC: A movie for the assessment of social cognition. *Journal of Autism and Developmental Disorders*, 36, 623–636. <https://doi.org/10.1007/s10803-006-0107-0>

[3] is the sum of those processes that allow individuals of the same species (conspecifics) to interact with one another. Frith, C. D., & Frith, U. (2007). Social cognition in humans. *Current Biology*, 17 (16), R724–R732. <https://doi.org/10.1016/j.cub.2007.05.068>

[4] encompasses all the information-processing mechanisms that underlie how people capture, process, store, and apply information about others to navigate social situations. Decety, J. (Ed.). (2020). *The Social Brain: A Developmental Perspective*. MIT Press.

[5] concerns the various psychological processes that enable individuals to take advantage of being part of a social group. Frith, C. D. (2008). Social cognition. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 363(1499), 2033–2039. <https://doi.org/10.1098/rstb.2008.0005>

[6] is the ability to construct representations of the relations between oneself and others, and to use those representations flexibly to guide social behavior. Adolphs, R. (2001). The neurobiology of social cognition. *Current Opinion in Neurobiology*, (11), 231–239. [https://doi.org/10.1016/S0959-4388\(00\)00202-6](https://doi.org/10.1016/S0959-4388(00)00202-6)

[7] concerns learning about what matters in the social world Higgins, E. T. (2000). Social cognition: Learning about what matters in the social world. *European Journal of Social Psychology*, 30 (1), 3–39. [https://doi.org/10.1002/\(SICI\)1099-0992\(200001/02\)30:1::AID-EJSP987>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1099-0992(200001/02)30:1::AID-EJSP987>3.0.CO;2-I)

[8] is concerned with the study of the thought processes, both implicit and explicit, through which humans attain understanding of self, others, and their environment. Moskowitz, G.B. (2013). Social Cognition. *obo in Psychology*. <https://doi.org/10.1093/obo/9780199828340-0099>

[9] can be constructed as the process by which individuals develop the ability to monitor, control, and predict the behavior of others. Rochat, P. and Striano, T. (1999). Social cognitive development in the first year. In Rochat, P. (Ed.), *Early Social Cognition: Understanding others in the first months of life*, pp. 3–34, Lawrence Erlbaum Associates Publishers.

[10] refers to the skills we use to think about others and ourselves in psychological terms Lewis, C., & Carpendale, J. (2014). Social cognition. In P. K. Smith & C. H. Hart (Eds.), *Wiley Blackwell handbooks of developmental psychology. The Wiley Blackwell handbook of childhood social development* (p. 531–548). Wiley Blackwell

Preliminary Results

N = 100

- Research Position**
- 23 graduates
 - 18 postdocs
 - 26 assistant professors
 - 26 professors
 - 7 other / missing

- Research Type**
- 81 basic research
 - 8 applied research
 - 11 other / missing

- Childhood Research**
- 74 yes
 - 21 no
 - 5 other / missing

- Typically studied Population**
- 11 infants
 - 10 toddlers
 - 27 preschoolers
 - 13 school age
 - 39 other / missing



Social Cognition...

33%

“...is the process by which actors, at individual or collective levels, decode and encode their social world, using mental models, knowledge structures and cultural understandings to process information, extract meaning and determine appropriate action.”

Glynn & Watkiss (2016)

21%

“...encompasses all the information-processing mechanisms that underlie how people capture, process, store, and apply information about others to navigate social situations.”

Decety (2020)

10%

“...is concerned with the study of the thought processes, both implicit and explicit, through which humans attain understanding of self, others, and their environment.”

Moskowitz (2013)

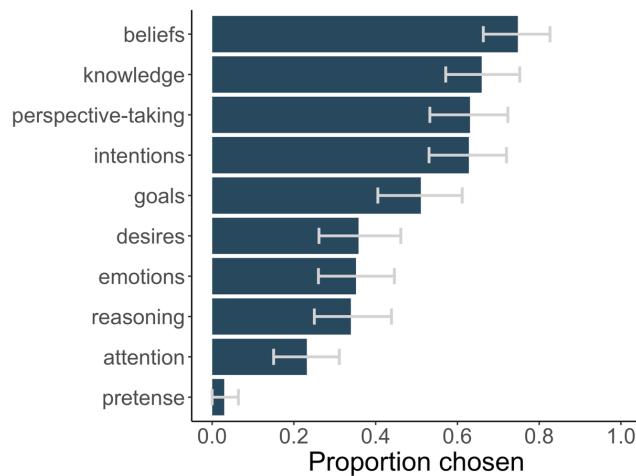
N = 100, 10 definitions (+ possibility for own definition)

Participants' own definitions of Social Cognition

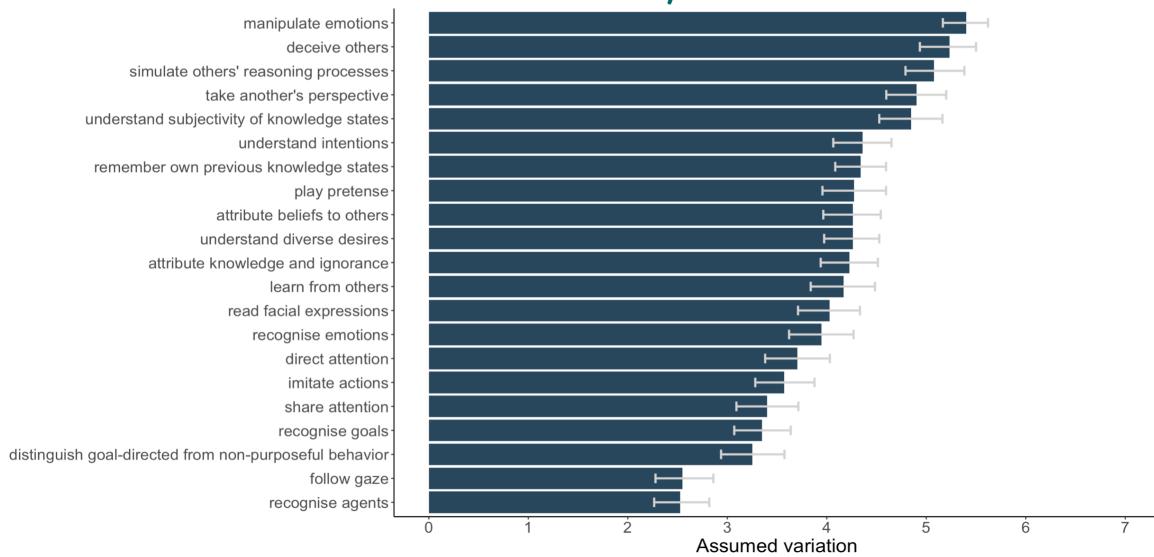
- “Cognition about social matters ranging from individuals (others and one self) and their subjective perspectives, feelings, etc. via groups to institutions”
- “Is the set of computations and representations specifically devoted to deal with conspecifics and their interactions”
- “Social cognition is the process by which we adopt or recognise a shared or non-shared perspective with other people”



Please think about situations in which you discuss or write about Social Cognition. Which dimensions do you mention most often (choose five)?



Children of the same age vary in how likely they are to...



Expected Variation in Social-Cognitive Abilities

