

Folk Psychologies and Social Cognition

Stephen A. Butterfill
< s.butterfill@warwick.ac.uk >

Friday, 27th May 2022

Contents

1	Notes and Slides	2
1.1	Convergent Validity	2
1.2	Disunity of Theory of Mind	2
	Glossary	3

1. Notes and Slides

1.1. Convergent Validity

There is evidence that in older children (3-year-olds) and adults, the many varieties of false belief task all test for a single underlying competence (Flynn 2006, p. 650; Wellman et al. 2001). This is significant because there are many variants of false belief tasks which differ, for example, in whether participants are observers or interaction partners, and whether the false belief concerns a location, a category or even essentially involves numerical identity.

Do we also have good evidence that the various false belief tasks designed for infants all test for a single capacity?

‘implicit tasks suffer from a lack of convergent validity. Decades of research with explicit ToM tasks have shown that tasks that differ dramatically in surface features but share the same meta-representational deep structure, such as various false-belief and other meta-representational tasks [...], systematically converge. Proficiency in the different tasks ontogenetically emerges in tandem, and performance on the tasks is highly inter-correlated. By contrast, no systematic correlations have been found between the different types of implicit tasks, nor even within different tasks of the same type, all of which are designed to tap the same underlying construct.’ (Rakoczy 2022)

Further, Poulin-Dubois & Yott (2017) find evidence for divergence.¹

1.2. Disunity of Theory of Mind

Warnell & Redcay (2019) investigated a range of mindreading tasks with children of different ages as well as adults. They found

‘no clear structure underlying ToM emerged for any developmental period. [...] ToM tasks were minimally correlated in early childhood, in middle childhood, and in adulthood [...] ToM is a diverse construct that likely intersects with an array of other social and cognitive abilities

[...] The sophisticated understanding of others’ minds that underscores mature human social cognition may be an emergent property of varied skills combined with certain social contexts. Critical examination of how and why we measure ToM will offer

¹ There are, however, studies which find a relation between performance on tasks suitable for infants and tasks used with older children (for example, Meristo et al. 2016).

insight [...] into cognition and behavior more broadly, as the lack of convergence among conventional ToM measures in the current study suggests that the best way forward in ToM research may be to take a step back.’ (Warnell & Redcay 2019)

See also Beaudoin et al. (2020, p. 15):

‘The lack of theoretical structure and shared taxonomy in ToM definitions and its underlying composition impedes our ability to fully integrate ToM in a coherent and comprehensive framework linking it to various socio-cognitive abilities, a pervasive issue observed across the domain of social cognition.’

Happé et al. (2017) and Beaudoin et al. (2020) both offer taxonomies for Theory of Mind.

Glossary

mindreading The process of identifying a mental state as a mental state that some particular individual, another or yourself, has. To say someone has a *theory of mind* is another way of saying that she is capable of mindreading.

According to an influential definition offered by Premack & Woodruff (1978, p. 515), for an individual to have a theory of mind its for her to ‘impute mental states to himself *and* to others’ (my italics). (I have slightly relaxed their definition by changing their ‘and’ to ‘or’ in order to allow for the possibility that there are mindreaders who can identify others’ but not their own mental states.) 2

References

- Beaudoin, C., Leblanc, É., Gagner, C., & Beauchamp, M. H. (2020). Systematic Review and Inventory of Theory of Mind Measures for Young Children. *Frontiers in Psychology*, 10.
- Flynn, E. (2006). A microgenetic investigation of stability and continuity in theory of mind development. *British Journal of Developmental Psychology*, 24(3), 631–654.
- Happé, F., Cook, J. L., & Bird, G. (2017). The Structure of Social Cognition: In(ter)dependence of Sociocognitive Processes. *Annual Review of Psychology*, 68(1), 243–267.

- Meristo, M., Strid, K., & Hjelmquist, E. (2016). Early conversational environment enables spontaneous belief attribution in deaf children. *Cognition*, 157, 139–145.
- Poulin-Dubois, D. & Yott, J. (2017). Probing the depth of infants' theory of mind: Disunity in performance across paradigms. *Developmental Science*, n/a–n/a.
- Premack, D. & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *Behavioral and Brain Sciences*, 1(04), 515–526.
- Rakoczy, H. (2022). Foundations of theory of mind and its development in early childhood. *Nature Reviews Psychology*, 1(4), 223–235.
- Warnell, K. R. & Redcay, E. (2019). Minimal coherence among varied theory of mind measures in childhood and adulthood. *Cognition*, 191, 103997.
- Wellman, H., Cross, D., & Watson, J. (2001). Meta-analysis of theory of mind development: The truth about false-belief. *Child Development*, 72(3), 655–684.