

# ON THE RELATIONSHIP BETWEEN CULTURAL CONTEXT AND MINDREADING SYSTEM

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Project's title: The involvement of language, culture-specific factors and folk intuitions in mindreading activity and social cognition

## RESEARCH QUESTION

We attempt to discuss the extent to which mindreading capability is culture-dependent, and to determine if cultural differences impose systematic differences in the trajectory of mindreading development and the functioning of that capability in adulthood. The account we are building up here focuses on the issue of whether culture-specific factors (esp. language, narrative practices or social scripts) function as an inner mode of mindreading (perspective taking, attribution and understanding of mental states).

## A MAP OF MINDREADING

Mindreading is linked to an ordinary understanding of the mind and to the construal of people as psychological beings (Apperly 2011; Nichols & Stich 2003; Wellman, Cross & Watson 2001). Within the framework of modern psychological research, *mindreading* is most frequently a quasi-technical term used to describe a complex ability thanks to which we interpret both ourselves and others as psychological creatures, and thanks to which we are able to "mentalize" and reason about mental states (Wellman et al. 2001). Taking into account several dozen years of experience of research into capacities for reading mental states, "mindreading" is broadly defined as (Apperly 2012, p. 826):

"the ability to reason about mental states, such as beliefs, desires, and intentions, and to understand how mental states feature in everyday explanations and predictions of people's behavior"

In this sense, authors who recognize that an acquisition of mental concepts ("intention", "desire", "belief", etc.) is bound to the possession of a corpus of folk psychological theory—will also recognize that the best explanation of the human ability to predict and explain others' actions is explained by the fact that humans possess "theory of mind" (Davies & Stone 1995). This trend of associating the ability to mind-read and mentalize with having something like a naïve theory has become dominant, being a point of reference for most further analyses (Flavell 2004; Perner 1991).

## Current Perspective

Current debates over the basis of **social cognition** and **epistemic intuitions** provide convincing arguments in favor of the hypothesis of the key cognitive capacities being determined by social and linguistic factors. Numerous **philosophical, anthropological and psychological studies** (e.g. Bond 1996; Markus & Kitayama 1991; Nakamura, 1964/1985) show that comparative analyses with regard to Eastern Asians (e.g. Chinese) and Westerners—as two distinctive language and cultural systems—are particularly informative and instructive (Greenfield et al. 2003; Tomasello 1999).

Research on cultural variations in mindreading is to some extent inspired by:

- cognitive comparative research** (between East Asians and Westerners) in the scope of such cognitive processes as perception, memory and categorization, and the logic of thinking,
- research into cultural diversity** in the aspect of epistemic intuitions and understanding knowledge and morality, which are revealed in cognitive evaluations (e.g. Nisbett 2007; Nisbett et al. 2001, Gut 2015; 2016 et al. ).

Searching for cultural variations in mindreading is compatible with a generally established opinion that the concept of "mutual constitution" of culture and mind (coined by cultural psychologists) should be understood more broadly and cannot be limited to interactions between culture and mind, but rather embrace "interactions among culture, genes, and the brain" (Chiao & Ambady 2007, p. 238). An increasing number of neuroscience experiments show that both the structure and functions in the developing human brain are shaped by environmental and cultural factors.



A. The systemic view of cognition stresses the embodiment and situatedness of the subject; cognition is not seen as a subject-world relation but rather as a phenomenon emergent in a multi-relational system where the organism and aspects of the world are elements/subsystems. It is impossible on this view to separate any element or any relation of two elements from the dependencies of the whole structure. Neither is there a pre-set developmental plateau towards which the system progresses, but rather constant readaptation of the system in response to changes in its parts.

B. In cognitive developmental psychology, this means that cognition and development can be construed as happening within the structure of six subsystems or "constraints" - ecological, social, cultural, evolved, and embodied and the one of past experience (Nelson 2007).

The systems approach is promising for the studies on mindreading. The data currently available is rich and complex, and poses an interpretative challenge that has proved too much for various theoretical accounts. It is our view that by adopting a pragmatic approach, one can obtain a coherent and adequate understanding of what ToM is and how it comes to be. Here we present cross-cultural evidence that confounds other theories, but is easily explained by the systems approach we espouse.



In keeping with the pragmatic understanding of concept acquisition, children's use of mental utterances mirrors that of their mothers (Furrow et al. 1992), number of siblings that arguably provides more conversational experience also relates to FB understanding. Moreover, other aspects of mother-child interaction also have their effect, although much weaker with no mental talk considered (Ruffman et al. 2002), which suggests that using language to represent the mental is central and indispensable for proper formation of the concept of the mind. And Tafreshi, Racine's (2016) results and argumentation support the significance of the collaborative nature of concept formation (Tafreshi, Racine 2016, p. 68).

Cross-culturally, the mental talk of Samoan parents is said to be greatly affected by the dominant opacity ideology (Ochs 1988; Mayer, Trauble 2012) Further, parents from China are said to exhibit parental practices that are shaped by distinctive Confucian-Chinese meaning systems and differ from those of parents from the Europe and North America (Wellman et al. 2011, p. 782). As Nelson has it "child-rearing practices are designed, consciously or not, to impart aspects of the culture" (Nelson 2007 Gut et al. 2016, Gut and Afek 2017).

## CROSS-CULTURAL VARIATIONS IN MINDREADING

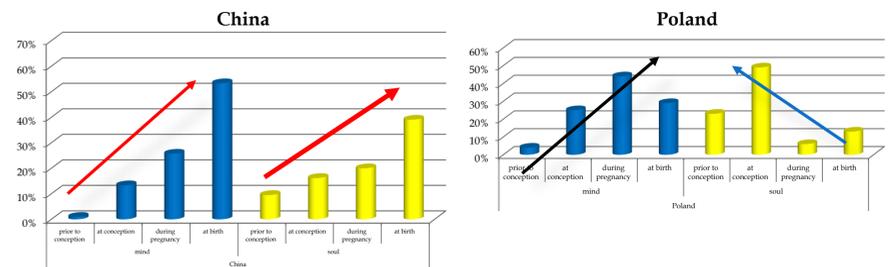
### 1. Example 1 Cross-Cultural Research on Mind and Soul: Dualism vs. Holism

#### OBJECTIVE

----- to discover the implicit, or folk, ways of understanding and conceptualizing mental concepts (especially soul and mind) within two cultural groups West (Poland) – East (China)  
----- whether differences between conceiving of the mind and the soul found in various cultural texts (e.g. philosophical writings of the West and the East) are reflected in folk (implicit) ways of thinking among lay people.

#### Research based on Questionnaire

- Taking into consideration the two general conflicting views present in the West and East on the explicit level (in philosophical tradition), we created a psychological questionnaire to study folk intuitions. Our aim was to find out whether the different ways of thinking that permeate China (holism) and the West (dualism) are reflected in folk intuitions at the level of implicit heuristics.
- The questionnaire contains an array of **ontological, functional, social and ethical** questions. There is also a hidden measurement of internal and external religiousness. The central point of the questionnaire is that the same questions are asked in reference to the soul and the mind.
- Ontological question: the category of time. When does the mind/soul begin to exist?**  prior to conception  at conception  during pregnancy  at birth
- Questions about function.** We asked the following questions, in the "if" form. *If I had lost my mind/soul, I would have lost... my ability to think:*  no  rather not  not sure  rather yes  yes



### Example 2. Comparative experiments involving children from different cultures

Wellman et al. (2006), and Shahaieian et al. (2011), applying a five-grade rating scale meant to determine stages of the development of the theory of mind (the scale shows progress in acquiring mental concepts), revealed that American kindergarteners reach the stages in the theory of mind development in the following sequence: *diverse desires* (DD), *diverse beliefs* (DB), *knowledge access* (KA), *false beliefs* (FB) and finally *hidden emotions* (HE). In turn, the experiment involving Chinese children revealed a different sequence as the children who spoke only Chinese first passed the knowledge task testing the understanding of sources of knowledge, and later—the diverse beliefs task which tests how beliefs and perspectives are differentiated

Recent Research (POLAND and HONG KONG)

- Unexpected content (deceptive box) traditional FBT:** Packet of chips containing Lego blocks (verbal or sticker) and Pencil case containing keys (verbal or sticker)
- Appearance-reality test [deceptive object]:** Rock-and-Sponge Version (verbal or sticker) and Lollypop-rubber' version (verbal or sticker)
- Intensionality Task Fork-and-Spoon Version** (verbal or sticker) and Car-pen version (verbal or sticker)
- False Belief Second Order** Chocolates box) containing crayons (verbal or sticker) and Cola can containing marbles (verbal or sticker)

**Conclusion:** The above differences may result from

- the fact that in Asian cultures people are more likely to attribute human action to contextual or relational factors than Westerners who tend to attribute it to individual's internal causes, and they may find it more difficult to solve problems that chiefly concern how the mind works independently of contextual or behavioral cues (cf. Lillard 1998); 2/ behavioral practices both in the aspect of social patterns and school structure. Many studies support that Chinese children experience collectivist and interdependent cultural practices, i.e. those where "many parents teach filial respect, emphasize the acquisition of well-established knowledge, and encourage children's conformity to the cultural models, rules, and traditions conveyed by their elders rather than self-assertive expression of their own independent points of view" (Shahaieian et al. 2011); 3/ the fact that Chinese parents often discourage their children or they do not give them a chance to express their own opinions, but rather endorse opinions that are commonly shared and accepted; 4/ the fact, that Chinese mothers of preschoolers from Hong Kong applied an authoritarian parental style toward their children more often as compared to mothers from Europe.

### Example 3. On cultural concepts of creativity – similarities and differences among experts and laypeople from Poland and China

MAIN GOALS:

- studying the ways of **understanding** of the concept of creativity by laypeople from Eastern and Western cultures (mainly Chinese and Polish)
- comparing laypersons' concepts of creativity with the ones proposed by experts in the field of creativity diagnostics

Questions: 1. The author of which drawing is the most creative? 2. Why – in your opinion – is the **author** of this drawing; the most creative one? 3. The author of which drawing is the least creative? 4. Why – in your opinion – is the **author** of this drawing the least creative one?



## Two Possible Options

•**Weak interpretation.** Children's experience in daily sociocultural contexts could affect their understanding of other people's mental states. If so, culture specific factors have their effect only at the level of performance and use of mindreading ability. Consequently, language—as part of cultural system—is not strictly a prerequisite for the development of the mindreading system.

•**Strong interpretation.** Early children's universal concepts and a universally structured theory of mind system are later replaced by culture-specific concepts and the culture-specific theory of mind system. According to this proposition, children's exposure to their daily sociocultural context and language specific factors affect their very corpus of knowledge and understating of mind. Cultural and language-specific factors are implicated in, at least, the explicit system of mindreading.

Tewis 2006; Nelson et al. 2003). Familiarization with culture's social and narrative practices is a part of the development of cognitive system that is constitutive of a mindreading system.