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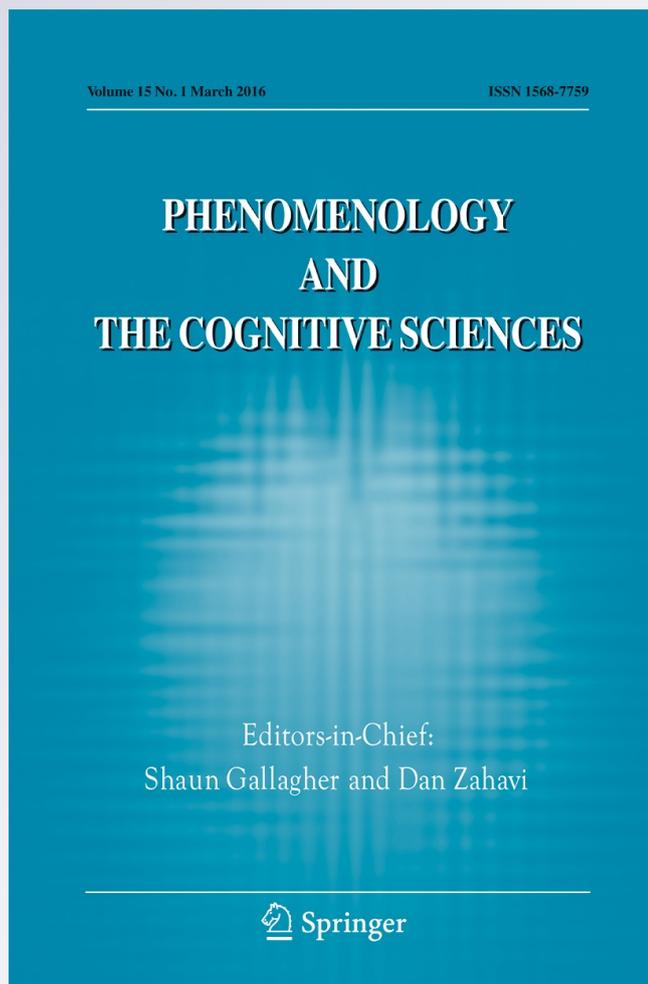
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# Narratives, culture, and folk psychology

Anika Fiebich

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**Abstract** In this paper, I aim to determine to what extent contemporary cross-cultural and developmental research can shed light on the role that narrative practices might play in the development of folk psychology. In particular, I focus on the role of narrative practices in the development of false belief understanding, which has been regarded as a milestone in the development of folk psychology. Second, I aim to discuss possible cognitive procedures that may underlie successful performance in false belief tasks. Methodologically, I distinguish between two kinds of narrative practices: ‘mentalistic narrative practice’ (which involves an explicit reference to another person’s mental states), and ‘behavioral-contextual narrative practice’ (which involves an explicit reference to the (normative) behavior of another person in a specific socio-situational context). Whereas the former is more prevalent in Western cultures than in Eastern cultures, the latter is predominantly used by members of Eastern cultures. Mentalistic narrative practices correlate with cultural divergences in the development of false belief understanding throughout ontogeny but do not seem to play the key role. The analysis shows that (i) conceptual change and the acquisition of mental state terms is essential for passing the false belief task, and that (ii) theory is likely to be the cognitive mechanism involved here such as proposed by Theory Theory. However, Hutto’s Narrative Practice Hypothesis trumps over Theory Theory to account for the varieties and ambiguities people typically meet when understanding each other in everyday life.

**Keywords** Narratives · Storytelling · Culture · Folk psychology · False belief task · Narrative practice hypothesis

## 1 Introduction

In everyday life, we are frequently engaged in narrative practices, i.e., story-telling activities. For example, we typically phrase our experiences in a narrative structure when we write a diary or when we tell other people what has happened to us in the past.

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When we read a novel or listen to an author's lecture, we enjoy the narratives that have been written by someone else.

A number of philosophers and developmental psychologists have defended the view that narrative practices play the central role in engendering our everyday understanding of what it is to act for a reason – aka our folk psychological competence (Hutto 2008a; Gallagher and Hutto 2008; Nelson 2009). In this paper, I discuss various cross-cultural and developmental studies in order to determine what role (if any?) narrative practices do play in the development of folk psychology. Doing so, I draw on a conception of 'folk psychology' as a set of psychological platitudes about the mind (see section 2). I start with investigating (from a cross-cultural perspective) the role that narrative practices might play in the development of false belief understanding (see section 3). Then I analyze which account of social understanding discussed in the current literature offers the best explanation of what the cognitive procedure is that underlies successful performance in false belief tasks. Moreover, I discuss whether this very procedure by which folk psychology is used in a specific domain (i.e., the experimental setting of the false belief task) is also capable of accounting for a domain-general use of folk psychology (see section 4). I end up with a summary and outlook for future research (see section 5).

## 2 Folk psychology and the false belief task

As pointed out by Ravenscroft (2010), the notion of 'folk psychology' can be understood in at least three different senses. 'Folk psychology' can refer to (i) a set of cognitive capacities that allows for behavior prediction and explanation, (ii) a theory represented in the brain, or (iii) a set of psychological platitudes about the mind. In the present investigation I make use of a linguistic interpretation of the third version of 'folk psychology' that presupposes the possession of linguistic concepts of mental states. On this notion, folk psychology is constituted by a variety of platitudes about what mental states such as beliefs and desires are and how they motivate agents to act.

Zimmerman (2007), for example, argues for four platitudes of attributing a belief to another person, which we can extract from our everyday practices and which play a crucial role in our behavior prediction and explanation: (1) The Platitude (s) of Cause (i.e., a subject S typically believes that p if (s) he has available undefeated epistemic reasons for believing p, and S will lose that belief if (s) he has available contrary evidence in regard of p); (2) The Platitude of Inference (i.e., if S believes that p, (s) he typically believes propositions that follow from p); (3) The Platitude (s) of Emotion (i.e., if S believes that p then (s) he will feel surprised if (s) he finds out that not p, and if S wants/hopes/wishes that p, (s) he will feel good upon coming to believe that it will be the case that p, and (s) he will feel bad upon coming to believe that it will not be the case that p); and (4) The Platitude of Effect (i.e., S typically believes that p, if p represents an available way X to satisfy S's desires and S is disposed to act in a way X).

As we will see in section 4, the notion of folk psychology as a set of platitudes is compatible with that cognitive procedure which is likely to underlie children's successful performance in linguistic versions of the so-called 'false belief task'. A variety of so-called 'false belief tasks' have been conducted since the early 80's to determine at which age children understand the false belief of another person about an object's

location ('false location task'), content ('false content task'), and identity ('false identity task') (see Wellman et al. 2001 for a review). For the sake of simplicity, I will only focus on the false location task in the present investigation. In one version of this task, children were presented with a story in which the protagonist Maxi puts a chocolate bar into cupboard x. Then Maxi leaves the room. In his absence, Maxi's mother displaces the chocolate bar from cupboard x into cupboard y. Maxi returns. The children were asked to indicate the cupboard where Maxi will look for the chocolate bar. Only when the children are capable of representing Maxi's false belief ('chocolate bar is in x') apart from their own belief ('chocolate bar is in y') do they succeed in pointing correctly to x (Wimmer and Perner 1983).

A brief analysis shows that the results of the false belief task can be used to support the interpretation of folk psychology as a set of platitudes. The platitudes proposed by Zimmerman to attribute a belief to another person (see above) serve as a fruitful means to illustrate this point. In order to pass the false belief task, children need to be able to use the platitudes of cause of attributing a (false) belief to another person, i.e., children attribute a (false) belief to another person because they assume that this person has good epistemic reasons for a particular belief about an object's location (e.g., Maxi has good epistemic reasons that the chocolate bar is in cupboard x, because he has seen it hidden there). In addition, to predict correctly that Maxi will search for the chocolate bar in cupboard x, children need to use the platitude of effect; they need to understand that Maxi wants to eat the chocolate bar and thinks the best way to satisfy this desire is to go to cupboard x where he (falsely) believes the chocolate bar being located.

Belief reasoning, i.e. understanding another person's behavior as being guided by beliefs, goes beyond understanding another person's behavior as being guided by emotions or desires since it presupposes a meta-representational understanding of mental states. There is a broad consensus among philosophers and psychologists that children have acquired a mature folk psychology (or 'theory of mind') once they are capable of understanding another person's behavior as being guided by beliefs, i.e. mental states that represent reality and hence may deviate from reality. That is, a full-blown understanding of another person's belief includes an understanding of another person's false belief, and passing the 'false belief task' has been regarded as a milestone in the development of folk psychology. Of course, the development of folk psychology does not end with the successful performance in false belief tasks (see Apperly 2011 for a discussion of folk psychology in adults). But since passing these tasks marks a milestone in the development of folk psychology, I will focus in my investigation of the role of narrative practices for the development of folk psychology on the role of narrative practices for the development of false belief understanding.

### 3 Folk psychology and development: a dip into cross-cultural research

In 'collectivistic' Eastern cultures such as China or Japan, self-understanding is driven by social roles in the society and they aim to downplay individual aims in favor of a harmonious togetherness ('interdependent self'). On the other hand, members of 'individualistic' Western cultures such as the US and Western European countries have a stronger tendency to focus on the individuals when making sense of actions ('independent self') (Markus and Kitayama 1991).

In this section, I address the question whether individualistic and collectivistic cultures differ in the development of folk psychology. In particular, I will focus on the development of false belief understanding. A number of studies have shown that children from individualistic cultures such as the US and West-Europe typically pass the false belief task by age 5 (see Wellman et al. 2001 for a review). Cultural-comparative studies of false belief understanding in children from individualistic and collectivistic cultures reveal similar developmental trajectories. However, there are wide variations in developmental timings in some countries. For the sake of simplicity I will only focus on Japan and China in the present investigation. In Japan, children pass the false belief task with a delay of about 2 years (Naito and Koyama 2006). In China, by contrast, successful performance in false belief tasks is location-dependent. As pointed out by Liu et al. (2008), children from Hong Kong pass the false belief task about two years delayed compared to children from the US (p. 527), whereas children from Beijing pass the false belief task at about the same time.

Why do children from (at least some) countries of collectivistic cultures pass the false belief task with a developmental delay? There are various impact factors that correlate with the development of false belief understanding. In a longitudinal twin study, Hughes et al. (2005) have shown that environmental rather than genetic factors play a central role for the development of folk psychology. This is consistent with various findings. I will discuss those factors that are discussed primarily in the literature (without claiming that there are no more): siblings, and pretend play (see section 3.1.), as well as language abilities and narrative practices (see section 3.2.). Aside determining the cognitive procedure that underlies children's successful performance of false belief tasks, one of the main aims of this paper is to discuss which role narrative practices play for the development of folk psychology, with a particular focus on false belief understanding (see section 3.3. for a discussion).

### 3.1 Siblings and pretend play

Being engaged in role-oriented pretend play in particular (Leslie 1987) and imaginative activities in general (Taylor and Carlson 1997) supports the development of false belief understanding. A number of studies also point to the importance of siblings in this development; infants who grow up with one or more siblings perform in general significantly better in the false belief task than do 'only' children (McAlister, and Peterson 2012). However, it is an open question if in these cases children's advanced performance in the false belief task depends on: (1) having siblings (Jenkins and Astington 1996), (2) having just one sibling rather than more (Perner et al. 1994), (3) having older siblings (Ruffman et al. 1998), or (4) being the middle-born (Lewis et al. 1996). According to Ruffman et al. (1998), p. 162), for example, older siblings are particularly supportive for the development of folk psychology, because they are engaged in pretend play in a special way: "pretend play with older children is markedly different from pretend play that takes place with younger siblings or with mothers. Although mothers make comments and suggestions to play, they tend to act more as spectators, whereas older siblings take a much more active role by setting out the rules and inviting the younger children to join in". Interestingly, in this study false belief understanding correlates with the presence of older siblings at home not just in children from the UK but also in children from Japan, which points to the possible universality

of this phenomenon. Notably, having sibling is not a necessary requirement for the development of false belief understanding.

### 3.2 Language abilities and narrative practices

Broadly, we can distinguish between two kinds of narrative practices: (i) mentalistic narrative practices that involve the explicit reference to another person's mental states such as emotions, beliefs and desires (e.g., "Laura went to the fashion boutique, because she wanted to buy the new Gucci dress and believed to find it there" in behavior explanation, or "Laura will go to the fashion boutique, because she wants to buy the new Gucci dress and believes to find it there" in behavior prediction), and (ii) behavioral-contextual narrative practices that involve the explicit reference to the behavior of another person within a given socio-situational context (e.g., "Laura went to the fashion boutique, because she worked there as a boutique assistant and had to open the boutique soon" in behavior explanation, or "Laura will go to the fashion boutique, because she works there as a boutique assistant and has to open the boutique soon" in behavior prediction).

Developmental research suggests that being engaged in narrative practices of the former though not the latter kind supports the development of false belief understanding. Ruffman et al. (2002), for example, have shown that a mother's use of mental state utterances in a story-telling activity when describing pictures correlates with later folk psychological competencies in her child: "this was true even when a number of mediators were accounted for, including children's own use of mental state language, their earlier theory-of-mind understanding, their language ability, their age, mother's education, and other types of mother's utterances" (p. 734). Likewise Taumoepeau and Ruffman (2006) found in a longitudinal study that maternal mental state talk to 15- and 24-month-olds correlated with the children's later mental state language and emotion understanding (see also Slaughter et al. 2007; Taumoepeau and Ruffman 2008 for similar findings). Further support for this correlation comes from studies that investigate theory of mind development in deaf children (see Garfield et al. 2001 for a review). Deaf children of hearing (but not of deaf) parents are ontogenetically delayed in the acquisition of theory of mind competencies that enable them to pass a pictorial theory of mind task, despite intact intellectual and linguistic capabilities (Peterson and Siegal 1995; Woolfe et al. 2002). This might be due to the fact that hearing parents communicate primarily with their children about topics in the immediate perceptible visual field and discuss each other's needs, emotions, and intentions at best rarely and perhaps not at all (Vaccari and Marschark 1997; Courtin and Melot 1998).

The same might hold true for children from Eastern cultures who experience primarily encounters with what I have called 'behavioral-contextual narrative practice', that is any kind of narrative practices in which people explicitly provide a description of the behavior of the agent within a concrete socio-situational context that often involves social norms and lacks the mention of mental state predicates. Cross-cultural research indicates divergences in the prevalence of this kind of narrative practices (Morris and Peng 1994). Individuals from Western countries such as the US tend to refer primarily to the other people's emotions, beliefs and desires in order to explain their behavior. Individuals from Eastern countries such as China, by contrast, are inclined to refer to the other people's behavior within a specific socio-situational context.

Differences in narrative practices are present already in early mother-child conversations. Caretakers from Western cultures seem to be engaged primarily in mentalistic narrative practices, whereas caretakers from Eastern cultures exhibit a preference for behavioral-contextual narrative practices. For example, when reading a picture book together with their child, European and American mothers have been found to refer to the mental states of the protagonist (e.g., “the bear is sad”) rather than to the embodied aspects of those states (e.g., “the bear has tears on his face”), contrary to Chinese mothers (Doan and Wang 2010). As pointed out by Wang (2001), these behavioral descriptions provided by Chinese mothers often involve comments on whether or not the protagonist’s behavior is normatively appropriate in the given context (see also Hutto 2008b for a discussion). For example, when talking with their 3-year-olds at home about shared past emotional events (e.g., a trip to a museum) that made the child feel happy, sad, scared, or angry, Chinese mothers are rather engaged in an ‘emotion-criticizing style’ to establish a socially acceptable behavior in their child than American mothers who tend to provide their child explanations of the experienced emotion. Moreover, American mother-child pairs were more likely to discuss personally focused events rather than events that were focusing on social themes. Adopting the behavior of their mothers, American children were more engaged in emotion-explaining narrative practices than their Chinese peers.

Similar findings have been observed in studies on early Japanese mother-child conversations. For example, Tamis-LeMonda et al. (1992) found that when talking about objects with their 13-month-old baby, American mothers are more information-oriented by using more often referential statements such as “That’s a ball” or asking questions such as “What’s that?” than Japanese mothers. Japanese mothers’ speech, in contrast, is more affect-oriented. Likewise, Bornstein et al. (1992) point out that in different cultures (Argentina, France, Japan and the US), mothers asked their 13-month-old more questions than their 5-month-old but overall, American mothers scored highest in asking questions, whereas “Japanese mothers were highest in the use of affect-salient speech, meaning that they used the most grammatically incomplete utterances and that they played with sounds in speaking to their babies, using nonsense, onomatopoeia, song, and the like, more than did mothers of the other cultures” (p. 600). Also in the social domain, the explanatory narrative style is more present in the US than in Japan (see Markus and Kitayama 1991 for a discussion), and Japanese children are more likely to refer to situations or social rules rather than to individual beliefs and desires (Naito and Koyama 2006).

The culture-specific preference for one kind of narrative practice over the other also becomes salient in the choice of bedtime stories. Japanese parents are engaged in telling their children bedtime stories as do West-European or American parents. In Western countries, stories such as Grimm’s Fairy Tales, such as, e.g., ‘Little Red Riding Hood’, are popular bedtime stories. As pointed out by Hutto (2008a; 2008b), Grimm’s Fairy Tales such as ‘Little Red Riding Hood’ often need to be embedded in a mentalistic framework to become comprehensible. On Hutto’s account, the fairy tale would be nothing but an unlinked sequence of events to the reader who lacks a mentalistic understanding. In Hutto’s view, children have already acquired individual mental states concepts and a basic narrative competence when they gradually find themselves in a position to appreciate that Little Red Riding Hood visits her sick grandmother with a basket full of treats, because she desires to make her grandmother feel better and thinks

the treats and her visit might help, or that Little Red Riding Hood is afraid when she realizes that it is the wolf who is lying in her grandmother's bed because she then knows it is a wolf and that wolves are frightening.

In Eastern countries such as Japan and China, Aesop's Fables have a long tradition (see Carnes 1992 for a discussion), such as e.g., 'The Ant and the Grasshopper'. Aesop's Fables transfer a particular moral of the story. In 'The Ant and the Grasshopper', for example, the grasshopper has spent the warm months singing whilst the ant has been busy with working and storing up food. When the winter arrives, the grasshopper, almost dying of hunger, has to beg the ant for food, who helps but rebukes the grasshopper for his idleness. The moral of that fable is 'To work today is to eat tomorrow' but it also highlights the interdependency of different types of individuals in a society (such as the industrious pictured by the ant opposed to the idlers pictured by the grasshopper). Aesop-type fables are still popular in Eastern countries. Some Japanese fables even bear the name of the moral they are intended to convey. For example, 'Envy Brings Suffering' tells the story about a man who is envious of his neighbor about his good fortune. The envious man tries to destroy the good fortune of his neighbor but fails and finally dies a horrible death (Alberti 2010). Moreover, some fables in Eastern countries such as, for example, 'The White Fox' in Japan (Alberti 2010), or 'The Legend of the White Snake' in China (Xuegang and Guoyun 2005) are about animal transformations and supernatural powers, which might point to the superstition that bad behavior leads to bad fortune.

So far, the analysis reveals that 'mentalistic narrative practices' support the development of false belief understanding. However, it remains an open question why children from Beijing perform better in false belief tasks than children from Hong Kong do – given that 'behavioral-contextual narrative practices' are prevalent in the whole country. Research on the acquisition of mental states in Chinese children might help to answer this question.

How are linguistic skills and false belief understanding interrelated? Astington and Jenkins (1999) found in a longitudinal study that children's language competencies foster successful performance in the standard false belief task. Moreover, without a certain level of linguistic ability, children were unable to pass the task at all. These findings are supported by more recent studies. In general, language abilities include semantics, syntax, as well as pragmatics. In particular, belief understanding does not only involve a semantic understanding of the meaning of 'belief' including the platitudes mentioned above (see section 2) but also the capability to master particular syntactic structures. As emphasized by Milligan et al. (2007), p. 628, *italics in original*),

A sentential complement is a tensed subordinate clause that is embedded under a mental or communication verb to form a complex sentence, for example: Maxi thinks [that] the chocolate is in the cupboard (*complement italicized*; the specific complementizer "that" is optional). This construction allows for a true report of a mistaken representation because the whole complex sentence, consisting of main and embedded clauses, can be true even though the embedded clause expresses a proposition that is false. That is, this syntactic structure provides the format needed to represent false beliefs.

Reviewing several studies, Milligan et al. (2007), p. 640 ff.) point out that individual mastery of such syntactic structures and dyadic conversation are two independent supportive and (at least in some Western cultures) necessary contributors to the development of false belief understanding.

As highlighted by Tardif and Wellman (2000), the distinction between finite complement clauses (e.g., “Maxi believes that the chocolate bar is in x”) and infinite complement clauses (e.g., “Maxi wants the chocolate bar to be in x”) maps onto a conceptual distinction (e.g., believing that vs. wanting to) in English (as well as in other West-European languages such as German, or French). However, this is not the case in Chinese languages such as Mandarin, which is spoken in Beijing, and Cantonese, which is spoken in Hong-Kong, where mental state terms are polysemous and include various meanings. Tardif and Wellman (2000) investigated the acquisition of mental state terms in Chinese children and analyzed at which age Mandarin-speaking and Cantonese-speaking make use of which meaning of a polysemous term. The results indicated that Chinese children refer to ‘wishing’ earlier than ‘thinking’ like children from Western cultures (Bartsch and Wellman 1989). However, Tardif and Wellman (2000) found that Mandarin-speaking children start to make use of the word ‘xiang3’ to mean thinking at about 24 months of age like their Western peers (p. 30). In contrast, Cantonese-speaking children do not refer to ‘thinking’ until 36 months of age, even though they made use of the polysemous word ‘soeng2’ (that means ‘thinking’ as well as ‘wishing’) to refer to ‘wishing’ already a couple of months earlier.

### 3.3 Discussion

Cross-cultural research has shown that ‘mentalistic narrative practices’ that refer to a person’s behavior as being guided by mental states such as desires and beliefs are prevalent in Western countries such as the US and West-Europe. In contrast, in Eastern countries such as China and Japan, people are more inclined to make use of ‘behavioral-contextual narrative practices’ that describe a person’s behavior within a concrete socio-situational context that often involves social norms. A number of studies conducted in Western cultures have shown that mentalistic narrative practices support the development of false belief understanding that is typically acquired by age 5. In some Eastern countries, by contrast, similar developmental trajectories but delays in the development of false belief understanding have been observed. It seems reasonable to assume that such delays are (at least partly) due to people’s lower usage of mentalistic narrative practices in Eastern opposed to Western countries.

However, the location-dependency (Beijing versus Hong Kong) in successful performance in false belief tasks that has been observed in Chinese children speaks in favor of mental state term acquisition being the primary impact factor for successful performance in false belief tasks. Of course, usage of mental state terms in parent–child conversations is necessary for the child’s acquisition of these terms. But in light of the cross-cultural research reviewed above, frequency of mental state usage does not seem to be the prevalent supportive factor for mental state term acquisition; even though Mandarin-speaking Chinese mothers refer significantly less to ‘thinking’ in conversations with their children than English-speaking American mothers do, their children acquire the concept of ‘thinking’ and refer to it at about the same time than their American peers (Tardif and Wellman 2000). Even so, Mandarin-speaking children are

not delayed in false belief task performance compared to children from Western countries. Yet, by contrast, Cantonese-speaking children from Hong-Kong are not only delayed in the acquisition and usage of the concept 'thinking', they also pass the false belief task 2 years later compared to children from Beijing and children from Western countries. Unfortunately, the meta-analysis of Tardif and Wellman (2000) does not include studies on the frequency of mental-state usage of Cantonese-speaking mothers when talking to their children.

Even though the findings reviewed above clearly indicate that conceptual change and the acquisition of mental state concepts play a key role in the development of folk psychology, future research needs to determine what precisely the impact factors on mental state acquisition are aside mentalistic narrative practices. In particular, future research is desirable to explain why Cantonese-speaking children acquire a concept of belief and pass the false belief task later than their Mandarin-speaking peers; such research might not only include measurements of the frequency of mental-state usage of Cantonese-speaking mothers in mother-child conversations compared to those of Mandarin-speaking mothers but also a meta-analysis on whether people in Beijing make use of narrative practices that do not only refer explicitly to an agent's behavior in a concrete socio-situational context but also implicitly to the agent's beliefs and desires that motivate the agent to act. As nicely pointed out by Malle et al. (2007), when explaining another person's behavior in terms of beliefs and desires, people can do so explicitly by referring to the person (as it is the case in mentalistic narrative practices) or to the situation (as it may though does not need to be the case in behavioral-contextual narrative practices). That is, people can make use of marked belief reasons ("She went to the café because she thinks they have the best cappuccino") or unmarked belief reasons ("She went to the café because [think] they have the best cappuccino"). Furthermore, people can mention the person ("He thought it would be cool") or the situation ("A project was due") when offering reason explanations (see Malle et al. 2007, p. 493). Of course, referring explicitly to a person's behavior in a concrete socio-situational context may but does not need imply understanding the person's behavior as being guided by beliefs and desires. As pointed out by Andrews (2012), p. 159), children start to refer to situations when explaining an agent's behavior long before they have acquired the concept of belief as a mental state that (mis) represents reality.

A more fine-grained investigation of the narrative practices in China may reveal that people in Beijing are more frequently engaged in mentalistic narrative practices that involve unmarked belief reasons compared to people in Hong Kong. Such narrative practices may support an understanding of mental states such as beliefs like other supportive factors, e.g. pretend play or having siblings (see section 3.1.). Moreover, Hutto (2008b) has proposed that the style of interaction may also play a crucial role. Finally, future research may determine how these factors together foster the development of false belief understanding. To sum up, the cross-cultural research reviewed above has shown that having siblings, pretend play, as well as 'mentalistic narrative practices' are supportive contributors for developing folk psychology and passing the false belief task. General linguistic capacities and mental state term acquisition revealed to be necessary prerequisites in order to pass explicit versions of the false belief task. In particular, the acquisition of a concept of 'belief' can be regarded as the key factor that determines successful performance in false belief tasks.

#### 4 Folk psychology in false belief tasks

There is a controversial debate on what the cognitive procedure is that underlies children's successful performance in linguistic versions of the false belief task. Two main schools need to be mentioned here: Theory Theory (TT) and Simulation Theory (ST).<sup>1</sup>

Theory theorists (e.g., Gopnik and Wellman 1992; Bartsch and Wellman 1989) propose that we understand other minds by means of folk psychological rules. For example, Maxi's belief about the location of the chocolate bar can be inferred from the folk psychological rule that 'people believe objects being located where they last saw them' and his behavior can be inferred from the rule 'if Maxi searches for the chocolate bar and believes that the chocolate bar is located in cupboard x, then *ceteris paribus*, Maxi will look for the chocolate bar in x'. According to TT, folk psychology is a theory that develops through conceptual change from a 'desire psychology' in 2-year-olds to a 'belief-desire psychology' in 5-year-olds. That is, successful performance in false belief tasks is primarily due to the acquisition of a representational understanding of 'belief'.

ST claims that we put ourselves imaginatively 'into the shoes' of another person and simulate the thoughts and feelings we would experience in her situation. According to one popular version of ST proposed by Goldman (2006), the attributor creates so-called 'pretend states' of the target. Then the attributor feeds these states into the own decision making mechanism and attributes the outcome to the target. Rather than lacking a representational understanding of the other person's belief, Goldman (2006), p. 74; *italics in original*) proposes that it is due to a failure of inhibitory processes<sup>2</sup> why children younger than age 5 typically do not pass the false belief task:

To answer a false-belief question correctly, a child must be able to juggle two competing beliefs about reality: the true state of affairs (as perceived by the child) and the state of affairs (as believed by the protagonist). The child has to inhibit an incorrect but compelling answer: the true location of the object. Inhibitory control is a facet of general executive functioning and is thought to be weak in younger children.

Goldman's proposal of inhibitory processes being required to perform successfully in linguistic versions of the false belief task draws on the assumption that true belief attribution is a default that needs to be inhibited. That is, false belief understanding is taken to presuppose true belief understanding and the latter is thought to be developed ontogenetically prior. However, this presumption has been challenged recently by developmental findings that demonstrate that a full-blown linguistic understanding of other people's 'belief' including an understanding of other people's true beliefs is not acquired until age 6 and that false belief understanding actually precedes true belief understanding in ontogeny (Fabricius et al. 2010). This urges us to rethink the relation between inhibitory control and false belief understanding.

<sup>1</sup> There are also other versions of TT and ST, which defend another notion of 'folk psychology' than it is used here. These versions are not discussed in the present investigation.

<sup>2</sup> The role of inhibitory processes has been emphasized not only by simulation theorists but also nativist theory theorists (see e.g., Carruthers 2013).

Fabricius et al.'s findings suggest that children pass theory of mind tasks by means of theorizing processes that become more sophisticated throughout ontogeny due to conceptual change. That is, the mentalistic concept 'thinking' or 'believing' develops gradually. This is consistent with the view defended by empiricist theory theorists such as Gopnik and Meltzoff (1998) that theoretical knowledge about one mentalistic term is defined by its interrelation to others and develops gradually throughout ontogeny; that is, one theory about what a particular mentalistic term comes to may be replaced over time by others. Notably, this empiricist theory theory is compatible with conceiving folk psychology as a set of platitudes (see section 2). For example, in linguistic versions of the true belief task, 3-year-old children's understanding of other people's 'thinking' (e.g., about an object's location) is determined by what the children themselves think, and they expect other people to act in ways that are congruent with this thinking ('Reality Reasoning'). Later on, at about age 4 and 5, children make use of a concept of 'thinking' in true belief tasks that is based on two simple folk psychological rules that 'seeing/not seeing leads to knowing/not knowing' and 'knowing/not knowing leads to getting it right/getting it wrong' ('Perceptual Access Reasoning'). Finally, by the 6th year of life, children have acquired a mature folk psychology and perform successfully in true belief tasks by 'Belief Reasoning' that involves a variety of folk psychological platitudes (Zimmerman 2007; see section 2 for a discussion). Intriguingly, 5-year-old children already seem to make use of Belief Reasoning in linguistic versions of the false belief task. As pointed out by Fiebich (*in press*), this can be explained by fluency (i.e., the subjective experience of ease when meeting a cognitive task) that may play a crucial role for the choice of one reasoning strategy in a specific situation of social understanding and the transition from one theoretical concept to another.

The results of the studies reviewed in section 3 point in the same direction. Cross-cultural research has shown that the acquisition of a concept of 'belief' can be regarded as the key factor that determines successful performance in false belief tasks.

Hutto (2008a, 2008b) proposes that the folk psychological knowledge about what mental states are, how they interrelate and motivate agents to act is not essentially theoretical in nature. Whereas the definition of a 'theory' is not always spelt out explicitly, Gopnik and Meltzoff (1998), p. 34–41 provide a broadly defined concept of 'theory' that seems to be shared among (at least most) proponents of TT. On this account, the functional features of theories are to allow for behavior prediction, interpretation, and explanation. The structural features of theories need to meet the following criteria of adequacy: (i) abstractness (i.e. theoretical constructs which appeal to a set of entities are phrased in a vocabulary that is different from the vocabulary of the evidence that supports the theory), (ii) coherence (i.e. the entities postulated by a theory are 'lawfully' interrelated with one another), (iii) causality (i.e. theories appeal to an underlying causal structure as being responsible for the superficial regularities that have been observed), and (iv) ontological commitment (i.e. the theoretical entities and law give information about 'what there is and what it must do', enabling not just predictions but also counterfactual claims). Since these structural features of a 'theory' are fulfilled when individuals use an abstract set of rules what mental concepts mean and how

they interrelate in order to pass the false belief task, I do not see any reason not to call it a 'theory' (in this specific domain). Finally, as we have seen above, a number of findings speak for conceptual change playing a key role in passing false belief tasks (dynamic feature of theories).

However, I believe that Hutto (2008b) makes an important point when he emphasizes that being engaged in narrative practices, which presuppose folk psychology and are used in various contexts of everyday life to predict or explain another person's behavior, should be regarded as a skill. On Hutto's (2007) account, folk psychology is a sophisticated skill that requires minimally "(i) a practical understanding of the propositional attitudes; (ii) a capacity to represent the objects that these take – propositional contents as specified by that-clauses; (iii) an understanding of the 'principles' governing the interaction of the attitudes, both with one another and with other key psychological players (such as perception and emotion); (iv) an ability to apply all of the above sensitively (i.e. adjusting for relevant differences in particular cases by making allowances for a range of variables such as the person's character, circumstances, etc.)" (p. 48). Notably, theory theorists do not account for the fourth point. Hence, we need to distinguish between the use of folk psychology in the specific domain of experimental settings such as the false belief task (which can be understood as the application of a theory) on the one hand and folk psychology being used flexibly in the various contexts of everyday life. As nicely pointed out by Hutto, we need to distinguish between understanding beliefs and desires, which is required in the experimental setting of the false belief task, and understanding reasons, which is required when people attribute belief-desire pairs in a domain-general matter by accounting flexibly for the significance of circumstantial or person-specific features in a given situation of social understanding. Hutto points to a developmental study conducted by Carpendale and Lewis (2004) that illustrates that even though 5-year-olds typically pass the false belief task, they fail to apply their false belief knowledge for inferences about their own or other people's perspectives. This is in line with the findings reviewed above on 5-year-olds failure to make use of Belief Reasoning in linguistic versions of the true belief task. Psychopathological research points in the same direction. People with autism, for example, exhibit typically difficulties to pass the false belief task but are capable of learning the folk psychological rules that are required to pass the task (Ozonoff and Miller 1995). This capacity, however, remains limited (that is, tight to the specific experimental setting of false belief tasks) and people with autism are not able to make use of their folk psychological knowledge flexibly in the various situations of social understanding in everyday life (see Klin et al. 2003 for a discussion).

## 5 Summary and suggestions for future research

The aim of this paper was twofold. First, I aimed to determine to what extent contemporary cross-cultural and developmental research can shed light on the role of narrative practices might be playing in the development of folk psychology. In particular, I focused on the role that the explicit mention of mental states terms in narrative practices plays in the development of false belief understanding, which has been regarded as a milestone in the development of folk psychology. Second, I aimed to discuss possible cognitive procedures that may underlie successful performance in false belief tasks.

To address the first leading question I distinguished methodologically between ‘mentalistic narrative practices’ that refer explicitly to another person’s behavior as being guided by that person’s mental states, and ‘behavioral-contextual narrative practices’ that refer explicitly to another person’s behavior as being guided by the given socio-situational context. The cross-cultural research reviewed in section 3 revealed that children’s encounters with mentalistic narrative practices are positively correlated with the development of false belief understanding. However, the location-dependency of Chinese children’s successful performance in false belief tasks speaks in favor of mental state acquisition being the main impact factor for successful performance in these tasks. Whereas Mandarin-speaking children from Beijing acquire a concept of ‘belief’ and pass the false belief task at the same age than their Western peers, Cantonese-speaking children from Hong-Kong and children from Japan are significantly delayed in mental state acquisition and successful performance of the false belief task.

The analysis reveals that the first leading question cannot be answered satisfactorily on the basis of contemporary research. Future research needs to explain the divergences in the development of false belief understanding in children from Hong Kong compared to children from Beijing. Since behavioral-contextual narrative practices are prevalent in whole China, it is an open question what - aside mentalistic narrative practices - may serve as a supportive factor for the concept acquisition of mental states in this country. Such research might not only involve a comparison between the frequencies of mental-state usage of Mandarin-speaking mothers compared to Cantonese-speaking mothers but also a meta-analysis on whether the behavioral-contextual narrative practices that people use in Beijing (contrary to those used in Hong-Kong) refer implicitly to the agent’s mental state that motive the agent to act. Moreover, future research needs to determine how multiple impact factors (narrative practices, having siblings, pretend play) together foster the development of false belief understanding.

With respect to the second leading question, the cross-cultural research reviewed in section 3 shows that conceptual change and concept acquisition of mental states play a key role for performing successfully in linguistic versions of the false belief tasks - such as proposed by empiricist theory theorists. Recent findings on children’s successful performance in true belief tasks point in the same direction, suggesting that the concept of ‘belief’ is developed gradually on the basis of conceptual change and that theory is likely to be the cognitive procedure used in these tasks (see section 4). Moreover, empiricist theory theory and the conception of folk psychology as a set of platitudes reveal to be compatible with each other.

As pointed out by Hutto, folk psychology used in everyday life presupposes not only representational capacities and an understanding of propositional attitudes as well as the principles that govern the interaction of these attitudes but also the ability to apply this understanding flexibly in across contexts. Future research may analyze what precisely the supportive (genetic and environmental) factors for the development of folk psychology are. Investigating the influence of narrative practices may be particularly interesting in this enterprise.

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