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COGNITIVE INTERPRETATION OF THE CONCEPT OF MOTHER IN ENGLISH

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Annotation. In this study, we investigated the relationship between mothers' psychological lexicon and children's cognitive and socio-emotive development as assessed through conceptual and semantic understanding tasks, in addition to the traditional tasks of theory of mind. Currently, there is considerable evidence to suggest that the frequency of mothers' mental state words used in mother-child picture-book reading is linked with children's theory of mind skills. Furthermore, mothers' use of cognitive terms is more strongly related to children's theory of mind performances than the mothers' references to other mental states, such as desires or emotions. Current literature has established that early maternal input is related to later child mental state understanding; however it has not yet clarified which maternal terms are most useful for the socio-emotional and cognitive development of the child, and which aspect of the cognitive development benefits from the mother-child interaction. The present study addresses this issue and focuses on the relationship between mothers' mental state talk and children's behavior in conceptual and semantic tasks, and in a theory of mind task. In this study fifty pairs consisting of mothers and their 3 to 6-year-old children participated in two sessions: (1) The mothers read a picture book to their children. To assess the maternal psychological lexicon, their narrative was codified according to the categories of mental state references used in literature: perceptual, emotional, volitional, cognitive, moral, and communicative. (2) After a few days, the conceptual and semantic skills of the children (tasks of contextualization and classification, memory, and definition of words) and their psychological lexicon were assessed. The results suggest close links between the frequency and variety of mothers' mental state words and some semantic and conceptual skills of children.

Keywords: psychological lexicon, shared reading, semantic development, children's temperament, mother's empathy

Mother-child talk about inner states and the development of theory of mind

There is an abundance of studies showing that language, and in particular, the use of it in social interactions, is at the core of the processes involved in mind understanding. “Primitive access to the social-cultural world is available through participation in its routines, but access to the ways in which the world semiotically structures concepts, ideas, frames, and theories is available only through language. Thus the cultural system reflected in adult ideas about others' mental states becomes

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more visible to children as they participate as language users in culturally constituted activities (games, routines, work, commerce, storytelling)" (Nelson, 1996, p. 312). Language constitutes systems of symbols conventionally used in constructions that convey meaning between people (Aitchison, 2012). People use, and children learn to use, varying systems for talking together in different settings.

Children can learn to think about their experience and to interpret it from the conversations with their mothers, and certainly, narratives about the past and the future in the children's experience incorporate talk about mental states. Parents tend to treat the children as social partners and conversationalists almost from birth, and children respond with attentive looks, gurgles, smiles. This practice is important to the children's entering into meaningful communicative exchanges (Astington and Jenkins, 1999; Nelson, 2005). A current cognitive development area of great current interest is children's theory of mind while the semantic domain corresponding to the purported theory is that of internal state terms. In studying the linguistic correlates of the theory of mind, particular attention has been devoted to psychological lexicon or mental-state language, a type of talk that several studies (e.g., Bretherton and Beeghly, 1982; Bartsch and Wellman, 1995; Camaioni et al., 1998) have classified in the following categories: physiological (e.g., to be hungry, to be thirsty, to be sleepy), perceptual (e.g., to hear, to see, to look, to observe, to recognize, to be cold, to be hot, to feel ill), emotional (e.g., to love, to enjoy, to be afraid, to be sorry), volitional (e.g., to want), cognitive (e.g., to know, to understand, to remember, to think), communicative (e.g., to say, to tell, to call), and moral (e.g., duty = to be obliged to do, power = to have the permission to be good to to be bad).

Children's language is important in assessing the development of their mental states (Rollo, 2007). The development of mental state words has been investigated by a number of researchers (Bretherton and Beeghly, 1982; Wellman and Bartsch, 1988; Wellman, 1991; Bartsch and Wellman, 1995) for clues to children's understanding of the mind, with the assumption that the use of such words (especially *know* and *think*) refers to internal states reflecting an organized theory of those states (Nelson and Kessler Shaw, 2002; Meins et al., 2006; Lecce et al., 2010).

Plenty of research conducted on children's development of social cognition has examined the relations between mother's mental state language produced during parent-child book reading, and children's psychological lexicon (Dunn et al., 1987; Dunn, 2002; Ruffman et al., 2002; Pons et al., 2003; Adrian et al., 2005; de Rosnay et al., 2004; de Rosnay and Hughes, 2006; Taumoepeau and Ruffman, 2006, 2008; Slaughter et al., 2007; Hughes, 2011; Ziv et al., 2013). Also examined was the connection between the children's mental state language and their performance on tests of theory of mind understanding (e.g., false-belief tasks, Wimmer and Perner, 1983).

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These studies have shown that mother-child conversations on inner states improves the children's understanding of the mind and their use of psychological lexicon.

Specifically, there is a growing body of evidence supporting a social interactionist framework in which parents input facilitates the development of children's social understanding (Ruffman et al., 2002; Taumoepeau and Ruffman, 2006, 2008; Rollo and Farris, 2012). Ruffman et al. (2002) explained the correlation between mothers' mental state utterances and children's theory of mind and "this relationship held even when many potentially mediating variables were accounted for, including the children's language ability, their initial social understanding (as manifested in their initial theory of mind and mental state language), their age and the mothers' educational background" (Rollo and Farris, 2012, p. 275).

Also, other studies found that it is a composite series of utterances that correlates with later children's theory of mind performance (psychological terms like *think, know, want, hope*). Whereas other aspects of a mothers' talk, like descriptive or causal words and links to a child's experience, seem to have a less influence on child's performances (Beeghly et al., 1986; Harris et al., 1989; Wellman and Woolley, 1990; Booth et al., 1997).

Ruffman et al. (2002), and Taumoepeau and Ruffman in two longitudinal studies (2006, 2008) showed that mothers refer most frequently to desire terms when the children are younger, whereas with older children they increase the use of belief and knowledge references. In particular, Taumoepeau and Ruffman (2006, 2008) found that maternal talk to 15-month-old children about the child's desires predicted children's mental state language and emotion task performance at 24 months. At 24 months of age mothers' reference to others' thoughts and knowledge was the most consistent predictor of children's later mental state language at 33 months.

Mothers' references to *think* and *know* increased with children's age. Thus, before 2 years of age, mother input about desire may be a mechanism by which children's emerging implicit understanding about mental life is made explicit. This mechanism can be conceptualized within the zone of proximal development (Vygotskij, 1934) such that mothers' use of specific types of mental state talk supports the child's social understanding (Rollo and Farris, 2012).

There is evidence that maternal input is linked to child mental state understanding, it has not yet been determined which maternal term is most useful for socio-emotional and cognitive development of the child, and which aspect of the cognitive development benefits the mother-child interaction.

The present study addresses this issue and focuses on the relation between mothers' mental state talk and children's performances in conceptual and semantic tasks and in a theory of mind task.

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Therefore, the aim of the present research was to look more closely at how beliefs, desire and emotion usage in maternal language contributes to the prediction of children's theory of mind. In this light, the language (and the mothers' narrative in particular) is considered the driving force not only for the development of the socio-cognitive understanding, but also for the semantic development (conceptual, lexical, and metacognitive level in semantic relationships; Ebert, 2015).

Factors related to mother-child narrative

Picture book reading poses an important context for promoting socio-cognitive understanding. For Fletcher and Reese (2005, p. 67) "within the picture book reading interaction, there are three components: an adult, a child and a book. Each component interacts with the other components to establish the social interaction." What parent characteristics influence the quality of picture book reading interaction? Studies have examined distal factors such as socioeconomic level (SES) and culture, but also more proximal factors such as maternal sensitivity, parenting styles and parental beliefs. The effects of SES and culture have been studied through a myriad of research works (Fletcher and Reese, 2005; Vernon-Feagans et al., 2008), however, no large-scale studies have examined the effect of maternal psychological characteristics on maternal talk. Specifically, we were interested in examining whether maternal empathy could play a role in the frequency and quality of mothers' mental state utterances during a task that involved a picture book.

Empathy as "a core component of social cognition, and involves operations aimed at detecting other's mental states and predicting their future behavior" (Preti et al., 2011, p. 51) is a psychological characteristic that may influence mother's psychological lexicon. Indeed the literature suggests that among the critical aspects of maternal sensitivity may be empathy-related behaviors, e.g., to treat the child as an independent person with his thoughts, emotions and feelings (de Rosnay and Hughes, 2006). We have not found previous studies that established whether mothers' empathy predicts maternal psychological language. However, we expect that the empathic concern, involving both emotional and cognitive processes, would prompt mothers to use a larger proportion of internal state words.

Similarly, children's temperament "defined as average emotional state across a representative sample of life situations" (Mehrabian, 1996, p. 261), influences theory-of-mind development (Wellman et al., 2011) and could play an important role in a performances of theory of mind, as the psychological lexicon.

While the relation between temperament and linguistic development has already been investigated (e.g., Usai et al., 2009; Garello et al., 2012), few studies have examined the direct link between child temperament and child psychological language. Although various other factors influence children's theory of mind, the temperament as

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constitutionally base of the individual differences in emotional, motor, and attentional reactivity, could contribute to children's acquisition of theory of mind insights (Wellman et al., 2011).

In summary, the literature on maternal variables involved in the development of children's theory of mind, does not take into account: (a) the variables related to individual characteristics that may influence the psychological lexicon of both mothers and children; (b) general aspects about the influence of mothers' language on children's conceptual development. Specifically, further investigations are needed to estimate the effect of both mothers' empathy and children's temperament.

The internal state words produced during the mother-child picture-book narratives were coded according to the categories of mental state references used in literature. The following 11 category code scheme was applied to the internal state words (Camaioni et al., 1998 and Ruffman et al., 2002 modified; Rollo and Longobardi, 2005) used by the mothers and children: (1) positive emotional words (e.g., to love, to enjoy, to be friends); (2) negative emotional words (e.g., to be afraid, to become angry); (3) cognitive words (e.g., to know, to understand, to remember, to think); (4) perceptual words (e.g., to hear, to see, to look, to observe, to recognize, to be cold, to be hot, to feel ill); (5) moral words (e.g., to forgive, to obey, to apologize, to repent, to be good, to be bad); (6) words referring to obligation (e.g., duty = to be obliged to do, power = to have the permission to do); (7) volitional words (e.g., to want, to look for, to wish); (8) ability state words (e.g., to be able, to attempt); (9) physiological words (e.g., to be hungry, to be thirsty, to be sleepy); (10) words referring to emotional displays (e.g., crying, smiling, laughing), although these utterances had strong links to emotions, they were coded separately because they described external manifestations; and, (11) communicative words (e.g., to say, to tell, to call, to ask).

During the mother-child narratives there were several categories of mental state utterances referring to the protagonist of the story as simple descriptions of a picture's contents (e.g., “The child is looking at the frog”). Therefore, we coded both the 11 categories and who they were related to: mother, child, mother-child pair or protagonists of the story.

Semantic development measures

VCS-Assessment of Conceptual and Semantic Development for preschoolers (Valutazione dello sviluppo Concettuale e Semantico in età prescolare, Bellacchi et al., 2010) was used in order to assess the definitional skills of the children.

The test consists of the following four sub-tests that assign different measures for the changes concerning semantic representations in preschool children:

1. contextualization task: assessed knowledge concerning objects or persons typical of certain places or situations;

2. classification task: evaluated the use of taxonomic relationships to categorize objects, providing two different scores, a score of classification (conceptual component = Classification) and a score of explanation of the criteria used to classify objects (metacognitive component = Explanation);
3. words memory task: assessed the use of different types of associative or semantic relationships between terms in supporting learning and retrieval from memory of links object-word (Associative, Taxonomic, or Arbitrary relationship);
4. definitional task: assessed the use of taxonomic and linguistic relations in defining words.

Specific material—stimulus and appropriate sheet of notation were available for each task. For the contextualization task, 36 figures showing various contexts/situations were given (e.g., Bathroom, Street, Playground, Farm, Sea, Circus, etc.). For this task, children had to match each object to the context it belonged to. The classification sub-test consisted of five series of images representing five categories of objects: Animals, Fruits, Furniture, Clothes, and Vehicles. Children had to indicate which object did not fit with the others. The word memory task consisted of 36 images-cue/target-words. All words were concrete nouns and the frequency of use was medium-high in the child lexicon. The child was required to remember a word associated in the presentation to a specific image. The definitional task presented, (in random order), 12 concrete words with high frequency of use: four names (cat, hat, chair, tree), four verbs (fall, eat, play, run), and four adjectives (bad, good, great, red). The child had to explain the meaning of each word, as if they had to explain it to a foreign person. After coded responses for each of the sub-tests were obtained the scores in: Contextualization task, Classification task, Explanation task, Words memory task, Associative relationship, Taxonomic relationship, Arbitrary relationship, and Definitional task (Orsolini et al., 2010).

References

1. Adrian J. E., Clemente R. A., Villanueva L. (2005). Parent-child picture-book reading, mother's mental state language and children's theory of mind. *J. Child Lang.* 32, 673–686. 10.1017/S0305000905006963 [PubMed] [CrossRef] [Google Scholar]
2. Aitchison J. (2012). *Words in the Mind: An Introduction to the Mental Lexicon*. Oxford: Wiley; Blackwell. [Google Scholar]
3. Astington J. W., Jenkins J. M. (1999). A longitudinal study of the relation between language and theory-of-mind development. *Dev. Psychol.* 35, 1311–1320. 10.1037/0012-1649.35.5.1311 [PubMed] [CrossRef] [Google Scholar]
4. Axia G. (2002). *Questionari Italiani per il Temperamento*. Trento: Erickson. [Google Scholar]