



Using Maternal Mental State Language to Predict Toddlers' Outcomes: The Different Influences of Talking About Desires and Thoughts



Miranda Goodman*, Emily K. Newton*, and Ross A. Thompson
University of California, Davis

Introduction

There has been considerable research on mothers' use of mental state language and preschoolers' social and emotional outcomes, but less research on this influence with younger children.

Mental state language is not a unified concept, but refers to discussions of a range of states including desiring, thinking, and knowing. Even for young children, these different mental state references may be associated with different outcomes depending on their referential context and relevance to the child's activity.

The purpose of this research was to examine the relationship between different types of maternal mental state language and social and emotional outcomes in toddlers, including toddlers' prosocial behavior and self-efficacy.

The study was also designed to investigate differences in prosocial responding in different conditions. Research by Warneken and Tomasello (2006) has shown that toddlers will respond prosocially to an unfamiliar adult showing neutral emotion in need of assistance. We manipulated this task to include neutral and sad affective expressions by the experimenter. In these analyses, we explore differences in prosocial responding due to the manipulation as well as whether or not maternal mental state language differentially predicts prosocial behavior in each affective condition.

Research Questions:

- Will children respond differently to an experimenter expressing sad versus neutral affect in the helping tasks?
- Do different types of maternal mental state talk (e.g. talk about desires and thinking/knowing) differentially predict toddlers' prosocial behavior in sad and neutral conditions?
- Do different types of maternal mental state talk (e.g. talk about desires and thinking/knowing) differentially predict toddlers' self-efficacy on a challenging task?

Method

Participants

- 36 18- to 20-month-olds and their mothers (17 males)

Maternal Mental State Language

Mothers' use of mental state language was assessed during a book reading task. The two wordless books used in this task contained images of children displaying specific emotions or mental states along with images suggesting the cause of those states. All maternal talk was reliably coded for a variety of mental state language references to the characters' states, the mother's states, and her child's states. For the purposes of this analysis we are only reporting data on maternal talk about her child's **desires** and **thoughts/knowledge**.

Prosocial Behavior

In two **neutral trials**, the experimenter performed a helping task while expressing neutral/confused affect (straight mouth, furrowed brow, and non-word vocalizations such as "hmm"). In two **sad trials**, the experimenter performed a helping task while expressing sadness (down-turned mouth, wide eyes, and non-word vocalizations such as "aww"). Each trial lasted for 30 seconds.

Prosocial behavior was coded on a 5-point scale with a score of 1 indicating no attention to the experimenter and a 5 indicating that the child helped the experimenter reach her goal (instrumentally helped). Children's prosocial scores were summed for neutral and sad trials separately.

Self-Efficacy

Children's self-efficacy was assessed as the number of seconds the child played independently with a challenging novel toy (a rigged peg and hammer toy) without seeking the assistance of the mother or abandoning the task.

Method

Table 1. Descriptions of Helping Tasks.

Task	Description	Behavior indicating need for help
Marker	The experimenter reaches for her marker in order to draw a picture and knocks the marker to the floor.	The experimenter reaches for the marker.
Clothespin	The experimenter drops a clothespin as she attempts to clip a cloth to a clothesline.	The experimenter reaches for the clothespin.
Basket	As the experimenter attempts to put her story book inside a basket, she knocks the basket to the floor.	The experimenter reaches for the basket.
Tape	The experimenter drops her roll of tape as she attempts to affix a poster to the wall.	The experimenter reaches for the tape.
Cabinet	The experimenter attempts to put a stack of magazines into a cabinet, but the cabinet doors are closed and her hands are full.	The experimenter bumps the magazines into the door of the cabinet.
Cupboard	The experimenter attempts to put a heavy bowl into a small cupboard, but the cupboard door is closed and her hands are full.	The experimenter bumps into the door of the cupboard with the bowl.
Bin	The experimenter attempts to put a blanket into a plastic bin, but the lid is on the bin and her hands are full.	The experimenter bumps into the lid with the blanket.
Drawer	The experimenter attempts to put a bulky sweater into a drawer, but the drawer is closed and her hands are full.	The experimenter bumps into the face of the drawer with the sweater.

Results

We replicated the findings of Warneken and Tomasello (2006) that 18-month-olds instrumentally helped the experimenter without external reward. Specifically, children helped in 36% of the trials.

A paired-sample t-test examined differences in prosocial behavior in the sad and neutral conditions. There were no significant differences in the rate of prosocial behavior in the sad and neutral conditions ($t(35) = -.56, p = ns$).

Correlational analyses indicate that mothers' talk about their children's desires positively related to their children's self-efficacy, but mothers' talk about children's thinking/knowing showed the opposite pattern. In addition, maternal talk about thinking/knowing had negative associations with children's prosocial behavior in both affect conditions (Table 2).

Results

Table 2. Correlations between maternal mental state language and toddler outcomes.

	Maternal Talk about Children's Desires	Maternal Talk about Children's Thinking/Knowing
Self-Efficacy	0.34*	-0.34*
Prosocial Behavior in Neutral Conditions	0.04	-0.34*
Prosocial Behavior in Sad Conditions	0.13	-0.31*

* $p < .05$, * $p < .1$

Conclusions

These findings suggest that different types of mental state references by mothers are not comparably associated with young children's social and emotional outcomes. Specifically, mothers' talk about thinking and knowing negatively related to their children's prosocial behavior in multiple conditions and their self-efficacy. In contrast, mothers' talk about desires positively related to their children's self-efficacy.

We think that the differences found may be due to the ways in which mothers used these types of mental state words with their toddlers. Mothers labeling desires may be more accurate in their references to their children's mental states than mothers labeling thinking or knowing. Although this can not be coded from the present study, the authors have observed that mothers using desire language are doing so in the context of asking their children open-ended questions, such as "That baby has ice cream. Do you want ice cream?" but that mothers using thinking/knowing language were assigning thoughts to their children that may or may not be accurate. The veridicality of mothers' statements with children's own mental states may account for their different correlates.

Researchers must be careful in future studies to distinguish between different types of mental state language rather than assuming there is a single **cohesive construct**.

* The first two authors contributed equally to this work and are both to be considered first authors. To contact the first authors, please email mgoodmanwilson@ucdavis.edu or eknewton@ucdavis.edu.