Does parents' mentalistic style affect children's theory of mind development differently?

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Theoretical Background

- Language exchange in social interaction provides an important opportunity for children to learn about internal mental states and is thus crucial for their theory of mind (ToM) development (e.g., Slaughter & Peterson, 2012).
- Especially elaborating on mental states is correlated with children's ToM development (e.g., Peterson & Slaughter, 2003).
- However, mixed results are found with regard to cultural and SES differences in parental (mental) language input and children's individual path of ToM development.

Research Questions

- Are there cultural and subcultural differences in preferences for elaborating on mental states in German and English speaking parents of preschoolers?
- Do parents' preferences for elaborating on mental states relate differently to children's ToM development
    a) in German vs. English speaking families
    b) in German middle vs. lower SES families
- Are there different effects of parents' mentalistic style on children's later ToM depending on the family's SES?

Sample

	Australian Middle SES	German Middle SES	German Lower SES	p
	N = 46	N = 45	N = 42	
Mean child age in months	54.62 (8.06)	56.13 (1.95)	56.59 (1.96)	.15
Gender (% male)	51.1%	46.7%	47.6%	.91
Living with both parents	98.0%	97.8%	76.2%	< .01
Mother's education score	3.60 (0.82)	3.82 (1.35)	1.66 (0.82)	-
Highest ISEI of the family	-	68.16 (9.74)	40.00 (8.31)	< .01

Note. Education Score: For the Australians: 0 (less than 10 years of highschool education) to 5 (university masters or PhD degree), For the Germans: 0 (no school degree) to 5 (university degree), education scores were not statistically compared as they are not identical; ISEI = International Socioeconomic Index.

Measures

Maternal Mental State Input Inventory (MMSII)

- Four vignettes of the MMSII (Peterson & Slaughter, 2003)

Example Vignette 1: 'In the Kitchen'
Yesterday, Mum promised Joyce, age 4 years, that the two of them would bake a cake together. They went shopping this morning. But Mum had left her shopping list behind, and completely forgot to buy eggs, and there are no eggs at home. Now Joyce is asking if they can bake the cake soon. Mum says:
(#a) "Joyce there are no eggs. Lets bake shortbread instead of a cake because shortbread tastes yummy and we do not need eggs to make it."
(*b) "Joyce, I forgot to buy eggs. Lets bake shortbread instead of a cake because shortbread tastes yummy and we do not need eggs to make it."
(**c) "Joyce, I have a terrible memory! I forgot to buy eggs! I was thinking 'we need eggs' when we were at home in the kitchen, but at the shops that thought was all gone. It must have slipped out of my mind! Let's bake shortbread instead of a cake because shortbread tastes yummy and we do not need eggs to make it."
(##d) "Joyce, I have a great idea! Let's make shortbread instead of a cake. We don't have any eggs. But that won't matter. Shortbread doesn't need eggs, and is much more fun to make, anyway! It is like playing in the sand at the beach. We get to mash up the butter and then stir in the sugar, until it feels all crumbly and soft — just like the sand at the beach when we are digging and building castles."

- ✓ **Elaborated Mental State (EMS)****: mother explicitly articulates and elaborates on mental states
- ✓ **Non Elaborated Mental State (NEMS)***: mother explicitly mentions mental states, but no further discussion about it
- ✓ **Two non mental options** as distractors, one comparable in length to the NEMS (#) and an elaborated one comparable to the EMS (##)
- → Parents had to rank the verbal reactions to each given everyday situation (4 points were assigned to the highest rank, 1 point for the lowest rank)

Theory of Mind

Age	Australian Group	German Groups
4;6 years	2 changed location tasks 1 unexpected content task (self) 1 knowledge access task (self)	1 changed location task 1 unexpected content task (self & other) 1 knowledge access task (self & other)
5;2 years	-	1 unexpected content task (self & other) 1 second order task (including first and second order knowledge access and second order false belief)

Results I (German & Australian Sample)

Cultural and Subcultural Differences in Mental Language Input
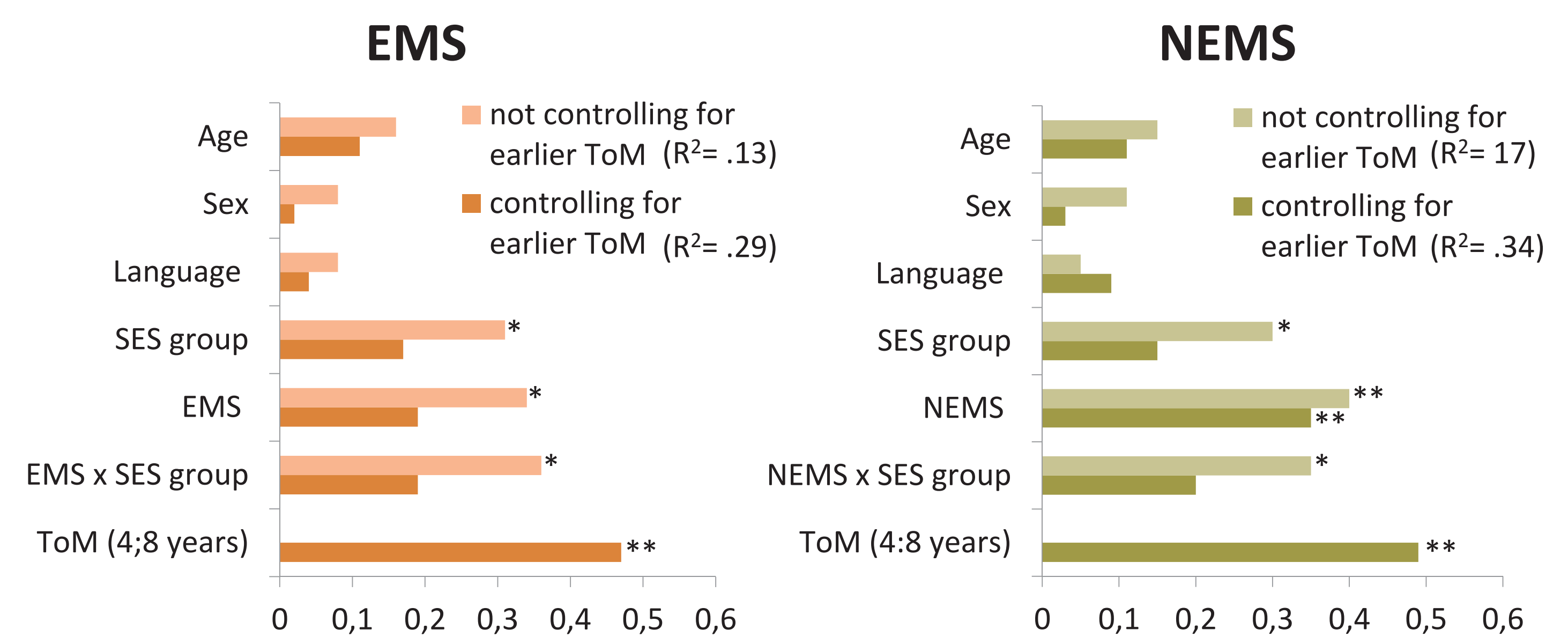

$F_{(4, 260)} = 1.07$, $p > .05$
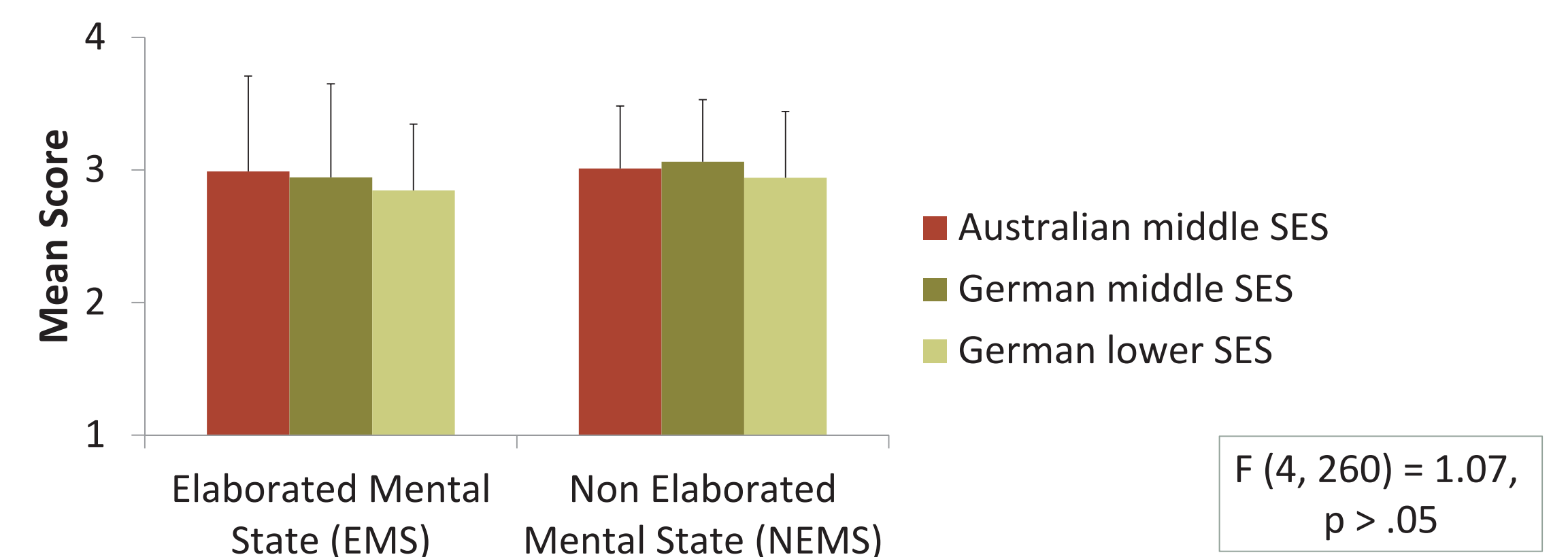
Correlations Between Parents' Preferences for Mental States and Children's Theory of Mind

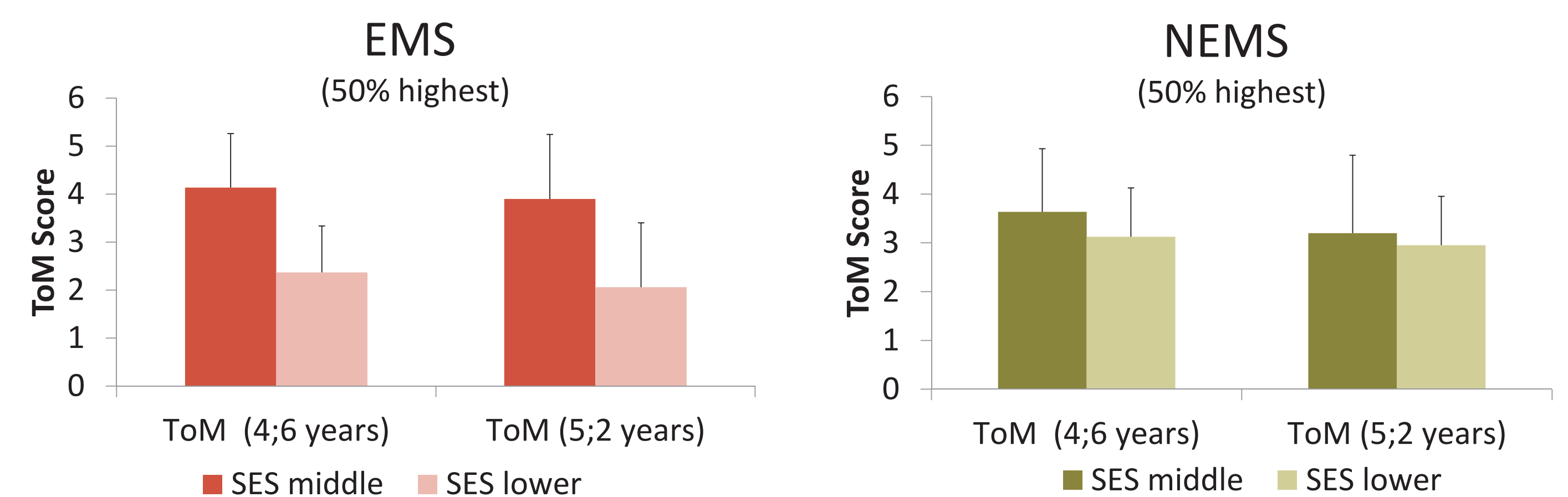|	Australian Middle SES	German Middle SES	German Lower SES
	Theory of Mind		
Elaborated Mental State (EMS)	.38**	.23	-.18
Non Elaborated Mental State (NEMS)	.01	-.37*	.12

Results II (German Sample)

Predicting Theory of Mind at 5;2 years
Standarized β (absolute value)

Theory of Mind at 5;2 Years According to SES and Parents' Mental State Language

Summary & Discussion

- No cultural and subcultural differences in preferences for elaborating on mental states in German and English speaking parents
- Positive relation between preferences for elaborated mental states (EMS) and ToM only for middle SES groups, especially Australian group
- Effect of EMS and NEMS on later ToM, but only NEMS has an effect even after controlling for earlier ToM, i.e. has an effect on the change of ToM
- Effect of mentalistic style on ToM development depends on SES
    - ✓ Middle SES group: positive effect of preference for EMS talk
    - ✓ Lower SES group: profits from preference for NEMS talk
    - → Differences in ToM between the SES groups are smaller when parents of the lower SES group prefer NEMS instead of EMS
- ➢ Lower SES parents may have problems in answering the MMSII due to its verbal demands and/or may be unable to use the specified elaborated mental state language in real life because of everyday life stress
- ➢ Children from lower SES families and thus with lower language and ToM skills may profit from encountering mental states in verbal interactions, but may be overburdened by an elaborated mentalistic language style