

It's your turn: Conversational turn-taking in father-child interaction and child executive function development

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Background

Theory and evidence suggest that executive function and language development may be closely intertwined.

Aspects of child-directed speech (e.g., vocabulary diversity and language complexity) may support child development of EF.

No previous research has examined the role of fathers' language in child EF development.

Fathers' communicative style may provide unique challenges and opportunities for conversation to young children.

Beyond exposure to parental speech input, engaging children in conversation may be important for their development.

Theoretically, conversational turn-taking engages the 3 core components of EF.

Working memory

Children must relate incoming verbal information to previously heard speech

Inhibitory control

Children must wait their turn to speak

Cognitive flexibility

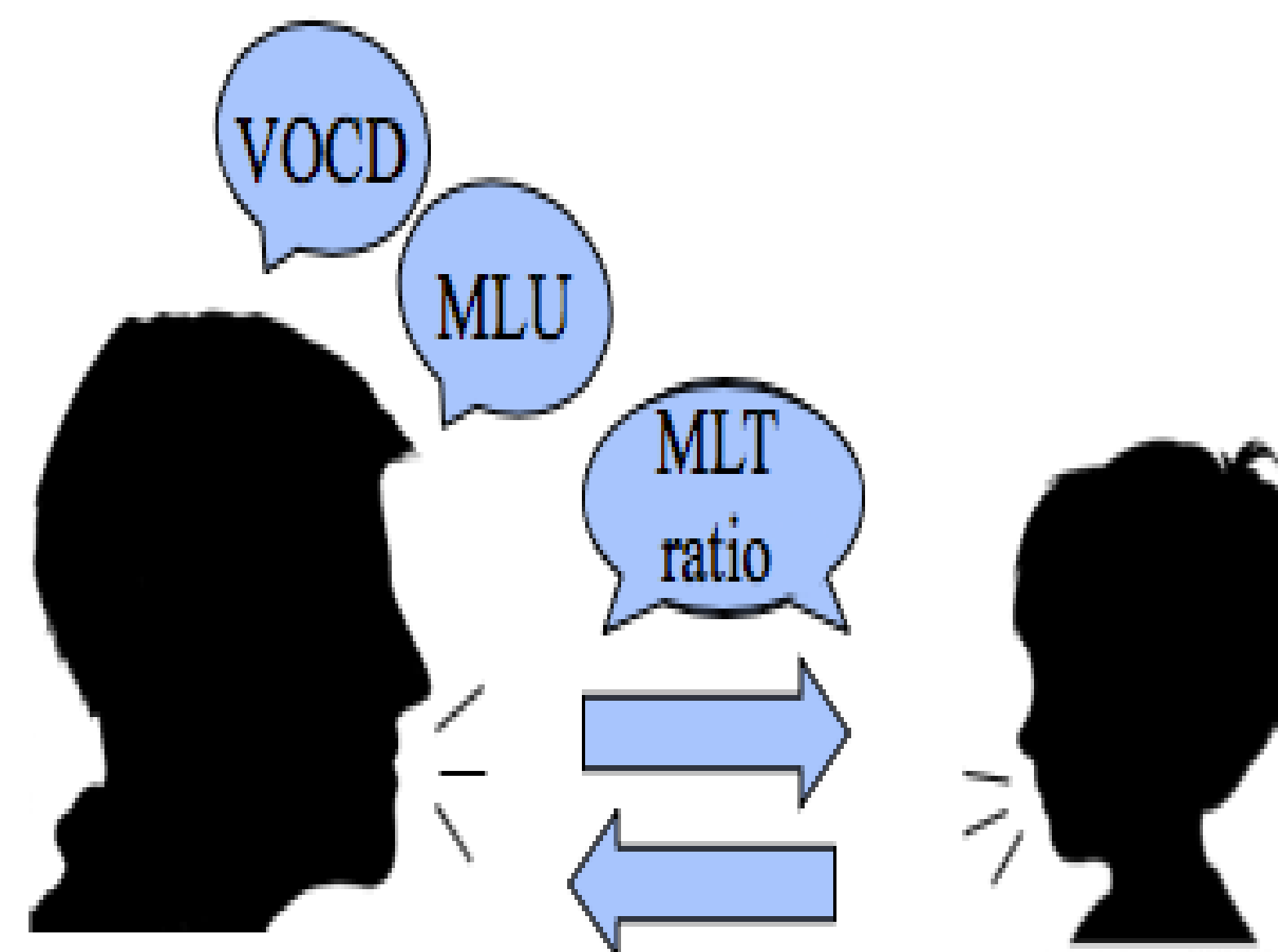
Children must continuously switch from the role of speaker to listener

Method

Linguistic data was drawn from video-recordings of 20 two-year old children and their fathers performing a problem-solving task.

Fathers' vocabulary diversity (VOCD) and language complexity (MLU), and balance in child-father conversational turn-taking (MLT ratio) were calculated. Child language and EF abilities were measured at age 2 using the Bayley Scales of Infant Development (BSID) and Behaviour Rating Inventory of Executive Function Preschool Version (BRIEF-P), respectively.

Child EF was measured at age 4 using the Dimensional Change Card Sort (DCCS).



Higher
MLT
ratio at
Time 1

Higher EF
at Time 2

Lower
MLT
ratio at
Time 1

Lower EF
at Time 2

Figure 1. Associations between MLT ratio and child EF development

Discussion

The findings of the present study indicate how features of the child's interactive environment are associated with development of EF during the preschool period.

Greater balance in conversational turn-taking between fathers and their children during a problem-solving task at age 2 was positively associated with performance on a measure of EF at age 4.

This study presents a new perspective on the relation between pragmatics and cognitive development during the preschool period.

In addition, this study contributes to the emerging literature demonstrating the importance of fathers for child EF development.

Research questions

1. Are paternal vocabulary diversity and language complexity associated with child EF development?
2. Is balance in conversational turn-taking during father-child interaction associated with child EF development?
3. Does balance in conversational turn-taking differ between father-daughter and father-son interaction?

Results

MLT ratio was positively associated with child EF at age 4 ($r_s = .564, p < .01$).

No significant correlations between father's MLU or VOCD and child EF at age 4 years were observed.

No associations between child EF or verbal ability at age 2, and EF at age 4 were observed.

Child-father MLT ratio did not differ significantly between father-daughter and father-son interaction.



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