Infants reduce their movements when their partner sings

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QUESTION

It is commonly assumed in developmental research that infants are early stakeholders during the interactions established with their caregivers (e.g., Goldberg, 1977).

Tools that are available to the infant so as to interact with others vary from visual contact to smiling or vocalizing, but also involve motor activity. Surprisingly, very few studies have explored so far how young infant's motor activity is enacted according to the nature and context of social interactions.
Thirty years ago, Thelen (1981) had yet showed that infant rythmical stereotypies changed according to the context.

The present research investigated the properties of infants motor activity during interactive episodes

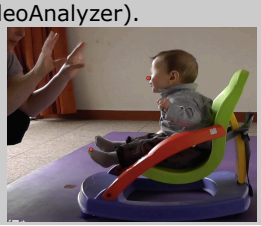
METHOD

Procedure : Six contrasted interactive episodes (i.e., in the passive presence of, or engaged in interaction with, either the mother or a stranger singing a nursery rhyme)

	Episode
1	**Mother Silent(45s)** The mother sits near a table and reads a magazine (3 m)
2	**Mother Singing Near (45s)** The mother comes close to the child and sings a rhyme with hand movements
3	**Mother Singing from Afar (45s)** The mother sits near the table and sings the comptine without hand movements at distance (3 m)
	Infant alone (45s)
4	**Stanger Silent (45s)** The stanger sits near a table and reads a magazine (3 m)
5	**Stanger Singing Near (45s)** The stanger comes close to the child and sings a rhyme with hand movements
6	**Stanger Singing from Afar (45s)** The stanger sits near the table and sings the comptine without hand movements at distance (3 m)

N= 11 infants aged between 5 and 9 months (m=6,91; S=1,13)

Material and analysis: Camera on the infants' left side. Displacements in the sagittal plane of 2 body landmarks (nose and foot) were calculated offline during 8 seconds of each sequence, at 5 Hz frequency, with a dedicated software (VideoAnalyzer).

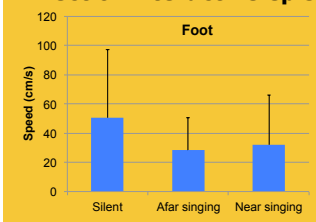


VD: Speed (cm/s) and Spatial Dispersion (AU) of the body landmarks.

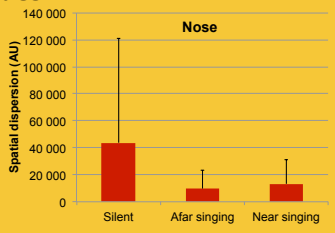
Statistics : MANOVA

RESULT

Effect of interactive episodes



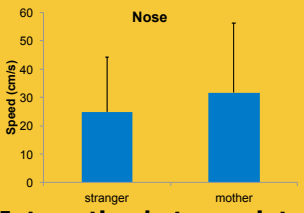
F(1,10)=5,9; p=0,03



F(1,10)=4,1; p=0,03

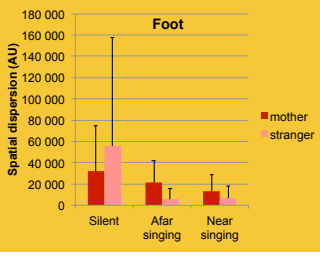
Motor activity decreased during song interactive episodes in both the "mother" and the "stranger" conditions; the speed of foot movements and the spatial dispersion of nose movements were significantly lower than outside of interactive episodes.

Effect of interlocutor



Head movements measured by the speed of nose movements were significantly slower in the "stranger" than in the "mother" condition.
F(1,10)=3,39; p=0,05

Interaction between interlocutor and song episodes



There was a tendency for the spatial dispersion of foot movements to be wider in the "stranger" than in the "mother" condition when the adult was silent, and to be wider in the "mother" than in the "stranger" condition when the adult was singing.
F(1,10)=3,32; p=0,05

CONCLUSION

These preliminary results indicate that head (i.e., face) motor activity may vary as a function of the interlocutor. Infants were more active with their mother than with the stranger.
Foot movements, which might be less functional in interactive episodes, are significantly lower during song interactive episodes than outside of interaction.

Theses result are in line with those reported by Thelen (1981) and by Nakata and Trehub (2004) and confirm the relevance of using motor activity to delineate the early forms of interactive episodes in infants. Slowdowns in activity might reveal the selective attention paid to others.

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