

# Ontogeny of the human pointing gesture

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The canonical pointing gesture emerges toward the end of the first year of life and is predictive of the development of linguistic communication (e.g., Carpenter et al., 1998; Iverson & Goldin-Meadow, 2005). Experimental findings from the past decade have revealed the communicative and cognitive complexities underlying prelinguistic infants' pointing when it has just emerged (Liszkowski, 2018). However, much less is known about the processes of its very emergence.

I present recent and new evidence from cross-cultural (Salomo & Liszkowski, 2013) and longitudinal studies to show that social-interactional experience has a profound and predictive effect on the very emergence of the human pointing gesture and its subsequent development. In two longitudinal studies from 8-13 months (N=29; N=40) with monthly assessments in the lab and home environments, we find on the caregiver-level that parent pointing at 8 months predicts the age of emergence of infant pointing. Further, parents of 6-month-olds point significantly less than parents of 8-month-olds. On the child-level, we find that show-gestures at 9 months, point-following, and whole-hand pointing predict the age of emergence of pointing.

The findings reveal that prelinguistic infant pointing is not just foundational to linguistic communication. Infant pointing is as much an outcome of social-interactional practices in the first year of life. These early social-interactional practices likely start out simple in routines of object transpositions, which scale up through the choices of objects to include offers, rejections, and requests of these, and so referential exchange. They build on directed activity and attentional processes paired with a uniquely human, deeply social motivation to join activities (Liszkowski & R  ther, in press).

## References

- Carpenter, M., Nagell, K., & Tomasello, M. (1998). Social Cognition, Joint Attention, and Communicative Competence from 9 to 15 Months of Age. *Monographs of the Society for Research in Child Development*, 63(4), 1–174.
- Iverson, J. M., & Goldin-Meadow, S. (2005). Gesture Paves the Way for Language Development. *Psychological Science*, 16(5), 367–371. <https://doi.org/10.1111/j.0956-7976.2005.01542.x>.
- Liszkowski, U. (2018). Origins and complexities of infant communication and social cognition. In A. Newen, L. d. Bruin & S. Gallagher (Eds.), *Oxford Handbook of Cognition: Embodied, Embedded, Enactive and Extended*. Oxford: Oxford University Press.
- Liszkowski, U. & R  ther, J. (in press). Ontogenetic origins of infant pointing. In: Lock, A., Sinha, C., Gontier, N. (eds). *Oxford Handbook of Human Symbolic Evolution*. OUP.
- Salomo, D. & Liszkowski, U. (2013). Sociocultural settings influence the emergence of prelinguistic deictic gestures. *Child Development* 84(4), 1296-1307.