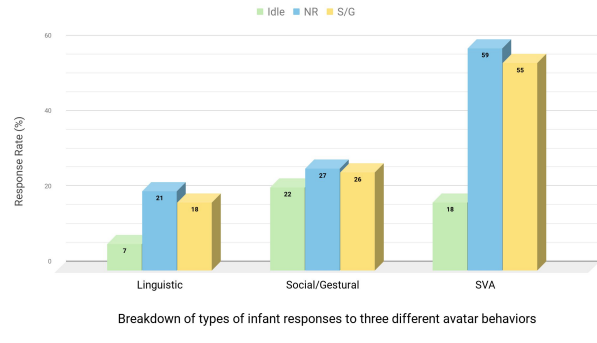**Figure 2. Rate of babies different responses to Avatar behaviors.**
Babies produce different behavioral responses to the Avatar's different types of productions, suggesting that they "see" the differences
Babies produce higher linguistic and sustained visual attention responses when the Avatar is producing Linguistic ASl Nursery Rhymes (even though they do not understand the meanings)
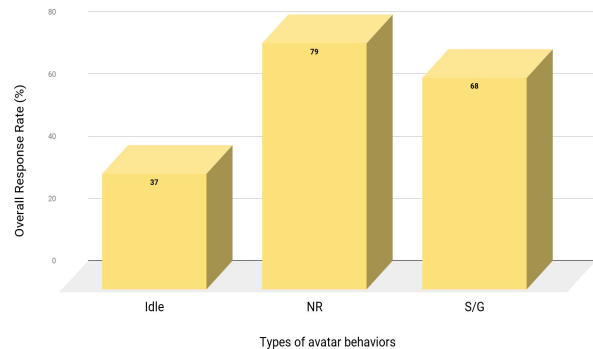

Figure 3. Rate of babies' responses to different avatar behaviors.
Babies respond most to the Avatar when it was producing Linguistic Nursery Rhymes

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References
1. Petitto, L. A., Holowka, S., Sergio, L., & Ostry, D. (2001). Language rhythms in baby hand movements. Nature, 413, 35-36.
2. Petitto, L.A., Holowka, S., Sergio, L.E., Levy, B., & Ostry, D.J. (2004). Baby hands that move to the rhythm of language: Hearing babies acquiring sign languages babble silently on the hands. Cognition, 93, 43-73.
3. Petitto, L.A., Langdon, C., Stone, A., Andriola, D., Kartheiser, G., & Cochran, C. (2016). Visual sign phonology: Insights into human reading and language from a natural soundless phonology. WIREs Cognitive Science. doi: 10.1002/wcs.1404.
4. Nasihati Gilani, S., Traum, D., Sortino, R., Gallagher, Aaron-Lozano, K., G., Padilla, C., Shapiro, A., Lamberton, J., & Petitto, L.A. (2019). Can a virtual human facilitate language learning in a young baby? Extended Abstract of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Montreal, May 2019.
5. Nasihati Gilani, S., Traum, D., Merla, A., Hee, E., Walker, Z., Manini, B., Gallagher, G., & Petitto, L. (2018). Multimodal Dialogue Management for Multiparty Interaction with Infants. In refereed published Paper in the Proceedings of the 20th Association for Computing Machinery/ACM International Conference on Multimodal Interaction, Colorado, October 2018.
6. Scassellati, B., Brawer, J., Tsui, K., Nasihati Gilani, S., Malzkuhn, M., Manini, B., Stone, A., Kartheiser, G., Merla, A., Shapiro, A., Traum, D.,& Petitto, L.A. (2017). Teaching Language to Deaf Infants with a Robot and a Virtual Human. In refereed published Paper in the Proceedings of the 2018 Conference on Human Factors in Computing Systems/CHI (pp.553; 1-553:13). New York, NY, USA: ACM. ISBN 123-4567-24-567/08/06. DOI: http://dx.doi.org/10.475/123_4.
7. Kuhl, P.K., Tsao, F-M., and Liu, H-M. (2003). Foreign-language experience in infancy: Effects of short-term exposure and social interaction on phonetic learning. Proceedings of the National Academy of Sciences 100, 15, 9096–9101. arXiv:http://www.pnas.org/content/100/15/9096.full.pdf.
8. Merla, A. (2014). Thermal expression of intersubjectivity offers new possibilities to human–machine and technologically mediated interactions. Frontiers in psychology 5, 802.
9. Meltzoff, A.N., Brooks, R., Shon, A.P, and Rao, R.P.N. (2010)."Social" robots are psychological agents for infants: A test of gaze following. Neural networks 23, 8-9, 966–972.