

Nils Frederik Tolksdorf

Curriculum Vitae

Last updated June, 2024



I am a postdoctoral researcher in the area of children's language development and learning in interaction with humans or digital technologies such as social robots. I completed my Ph.D. within the Digital Society Research Program funded by the State of North Rhine-Westphalia, Germany, under the supervision of Prof. Dr. Katharina Rohlfing. My research lies at the intersection of psycholinguistics and child-robot interaction, with a focus on cognitive development and language learning. I am experienced in language acquisition research, with a particular focus on multimodality, cross-situational word learning, and pragmatics. In addition, my research focuses on how temperamental traits influence children's interaction and learning behaviors with different social partners. Regarding social robotics, my experience focuses on dialogue design, ethical and child-friendly implementation of the technology, and long-term interactions.

Paderborn University
Warburger Str. 100
33098 Paderborn
Germany

Faculty of Arts and Humanities
Psycholinguistics
nilstolksdorf@uni-paderborn.de
+49 5251 605705

 [nilstolksdorf](#)

 <https://go.upb.de/tolksdorf>

 [nilstolksdorf](#)

Education and qualifications

09/2023 –

Postdoctoral Research Associate

- [SprachSpielLabor](#), Psycholinguistics, Faculty of Arts and Humanities, Paderborn University
- Research group of [Katharina J. Rohlfing](#)

02/2018 – 08/2023

Ph.D., in Psycholinguistics (*Passed with Distinction*)

- Faculty of Arts and Humanities, Paderborn University, Multidisciplinary PhD Program supported by the Digital Society research program, funded by the State of North Rhine-Westphalia, Germany.
- PIs: [Katharina J. Rohlfing](#) (Paderborn University) and [Kerstin Fischer](#) (University of Southern Denmark)
- Thesis: „*This is autumn red!* Morphologically complex word learning with social robots: The influence of a systematic variation of the pragmatic frame on long-term word learning in 4-5 year old children“.

2016 – 2018

M.A., Linguistics (02.02.2018, Degree: 1,7)

- Faculty of Arts and Humanities, Paderborn University
- Advisors: [Katharina J. Rohlfing](#) and [Nicole Wilk](#) (Paderborn University)
- Thesis: *Microanalytical observations of multimodal behavior during occurring dialogue pauses in child-robot interactions*

2013 – 2016

B.A., Linguistics

- Faculty of Arts and Humanities, Paderborn University
- Advisors: [Katharina J. Rohlfing](#) and [Nicole Wilk](#) (Paderborn University)
- Thesis: *Gestural behavior during narratives in comparison: preschool children and school children*

Professional / Research experience

2023 – 2025

Project CULSHY

- The project aims to take a cross-cultural perspective (Japan and Germany) on how children's temperamental shyness is reflected in their multimodal behavior in interpersonal exchanges, as well as how children's perceptions and interactions with shy peers differ across cultures.
- PIs: [Katharina J. Rohlfing](#) and [Kazuki Sekine](#) (Waseda University, Tokyo)

2018 – 2022

Project merits

- The project aims to explore how and whether the use of social robots enables educationally relevant experiences with central elements of digital technologies (digital media education) and is suitable for offering comprehensive language education at the elementary level through systematic ways of interaction.
- PIs: [Katharina J. Rohlfing](#) and [Isabel Zorn](#) (TH Köln)

2019 – 2021

Project **Influence of shyness as a temperamental trait on the interaction and language learning behavior of preschool children within child-robot interactions**

- The aim of this small-scale project, supported by the research fund of the Faculty of Cultural Studies of Paderborn University, is to investigate the role of the temperamental trait of shyness on the interaction and language learning behavior with a social robot.
- PIs: [Katharina J. Rohlfing](#) and [Nils F. Tolksdorf](#)

2015 – 2016

Project **Reading and reading aloud together at the school entry age**

- The aim of this study was to investigate the joint reading of stories and non-fiction books with first-graders and their caregivers and to evaluate this in terms of shared routines.
- Supported data collection and coding of the data
- PI: [Katharina J. Rohlfing](#)

2015 – 2018

Research assistant

- [SprachSpiellabor](#), Department of German Studies and Comparative Literary Studies, Faculty of Arts and Humanities, Paderborn University
- Research group of [Katharina J. Rohlfing](#)

Teaching

2022 - 2024

Paderborn University, Introductory module

- Lecture: *Introduction to linguistics*
- Prepared and gave lectures

2018 - 2024

Paderborn University, Advanced Module Linguistics

- Course: *Integration of language and nonverbal communication, Typical and atypical timing in social interaction*
- Prepared and gave seminar sessions; mentored team projects.

Grants

2023

European Commission Marie Skłodowska-Curie Actions, Application for a Doctoral Network

- Co-writing the application and coordinating the multinational project consortium of 14 academic and economic partners. Project: “*Holistic interaction design to empower children’s conversational information seeking in the digital age*“, under evaluation.
- Overall budget: EUR 2.716.200,00

2019

Research fund of the Faculty of Cultural Studies of Paderborn University to support young researchers

- Project grant written by me
- Overall budget: EUR 4.040

Monographs and book chapters

2024

- **Tolksdorf, N. F.** (2024). Word learning with social robots: The influence of a systematic variation of the pragmatic frame on the long-term learning of morphologically complex words in preschool children (1st ed.). Narr Francke Attempto.

2020

- **Tolksdorf, N. F., & Mertens, U.** (2020). Beyond words: Children’s multimodal responses during word learning with a robot. In K. J. Rohlfing & C. Müller-Brauers (Eds.), *International perspectives on digital media and early literacy: The impact of digital devices on learning, language acquisition and social interaction*. Routledge.

Journal articles

2022

- Rohlfing, K. J., Altvater-Mackensen, N., Caruana, N., van den Berghe, R., Bruno, B., **Tolksdorf, N. F.**, & Hanulíková, A. (2022). Social/dialogical roles of social robots in supporting children’s learning of language and literacy—A review and analysis of innovative roles. **Frontiers in Robotics and AI**, 9(971749), 1–15.

2021

- **Tolksdorf, N. F.**, Viertel, F. E., & Rohlfing, K. J. (2021). Do shy preschoolers interact differently when learning language with a social robot? An analysis of interactional behavior and word learning. **Frontiers in Robotics and AI**, 8(676123), 1–14.

2021

- **Tolksdorf, N. F.**, Crawshaw, C. E., & Rohlfing, K. J. (2021). Comparing the effects of a different social partner (social robot vs. Human) on children’s social referencing in interaction. **Frontiers in Education**, 5(569615), 1–12.

2021

- **Tolksdorf, N. F.**, Siebert, S., Zorn, I., Horwath, I., & Rohlfing, K. J. (2021). Ethical considerations of applying robots in kindergarten settings: Towards an approach from a macroperspective. **International Journal of Social Robotics**, 13(2), 129–140.

2019

- Siebert, S., **Tolksdorf, N. F.**, Rohlfing, K. J., & Zorn, I. (2019). Raising Robotic Natives?: Persuasive Potentials of Social Robots in Early Education. **The Journal of Communication and Media Studies**, 4(4), 21–35.

Peer-reviewed conference proceedings

2024

- Tykhonenko, V., **Tolksdorf, N. F.**, & Rohlfling, K. J. (in press). How turn-timing can inform about becoming familiar with a task and its changes: A study of shy and less shy four-year-old children. Proceedings of the Annual Meeting of the Cognitive Science Society.

2024

- **Tolksdorf, N. F.**, Wildt, E., & Rohlfling, K. J. (2024). Preschoolers' Interactions with Social Robots: Investigating the Potential for Eliciting Metatalk and Critical Technological Thinking. Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction, 1053–1057.

2022

- **Tolksdorf, N. F.**, Viertel, F., Hilton, M., Poole, K. L., & Kucker, S. C. (2022). Diversity in Children's Temperament: Perspectives on Shyness in Interaction. Proceedings of the Annual Meeting of the Cognitive Science Society, 22–23.

2022

- **Tolksdorf, N. F.**, Hönemann, D., Viertel, F. E., & Rohlfling, K. J. (2022). Who is that?! Does changing the robot as a learning companion impact preschoolers' language learning? Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction, 1069–1074.

2021

- **Tolksdorf, N. F.**, Viertel, F. E., Crawshaw, C. E., & Rohlfling, K. J. (2021). Do shy children keep more distance from a social robot? Exploring shy children's proxemics with a social robot or a human. ACM Interaction Design and Children, 527–531. **[Awarded Honorable Mention]**

2020

- **Tolksdorf, N. F.**, & Rohlfling, K. J. (2020). Parents' views on using social robots for language learning. 2020 29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), 634–640.

2020

- **Tolksdorf, N. F.**, Viertel, F., & Rohlfling, K. J. (2020). Do shy children behave differently than non-shy children in a long-term child-robot interaction?: An analysis of positive and negative expressions of shyness in kindergarten children. Companion of the 2020 ACM/IEEE International Conference on Human-Robot Interaction, 488–490.

Peer-reviewed extended abstracts and workshop papers

2022

- Viertel, F., **Tolksdorf, N. F.**, & Rohlfling, K. J. (2022). Comparing preschoolers' attentional patterns during long-term word learning with a human or humanoid robot in light of their shyness. EARLI SIG5 2022 Conference, Utrecht.

2022

- **Tolksdorf, N. F.**, & Rohlfling, K. J. (2022). Can a social robot advance children's long-term word learning of morphologically complex words by systematically varying the interaction? 15th Biannual Conference of the German Society for Cognitive Science, Freiburg.

2019

- **Tolksdorf, N. F.**, Siebert, S., Rohlfling, K. J., & Zorn, I. (2019). Parents' views on social robots for language learning. Proceedings of the 2019 Joint IEEE 9th International Conference on Development and Learning and Epigenetic Robotics (ICDL-EpiRob), 107–108.

2019

- **Tolksdorf, N. F.**, Mertens, U., & Rohlfing, K. (2019). When learning words with robots, children's answers are multimodal: A challenge for a dialogue design. International Conference on Human-Computer Interaction (HCI). International Conference on Human-Computer Interaction, Orlando, USA.

2019

- **Tolksdorf, N. F.** (2019). New opportunities for early education in the digital age? Examining the role of social robots. Digital Society – International Summer School 2019. Digital Society – International Summer School 2019, Duisburg.

2019

- **Tolksdorf, N. F.**, & Rohlfing, K. J. (2019). Reconceptualising early childhood literacy facing child-robot interaction. Reconceptualising Early Childhood Literacies: An International Conference, Manchester, UK.

2018

- **Tolksdorf, N. F.**, Mertens, U., & Rohlfing, K. J. (2018). Multimodal response behavior of children during word learning with a robot. Symposium on Robots for Language Learning. Symposium on Robots for Language Learning, Istanbul, Turkey.

2018

- Mertens, U., Bergmann, K., **Tolksdorf, N. F.**, & Rohlfing, K. J. (2018). Can the reduction of an iconic gesture aid long-term learning? A pilot child-robot-study. Conference of the International Society for Gesture Studies: Gesture and Diversity. Conference of the International Society for Gesture Studies: Gesture and Diversity, Cape Town.

Reviewing

- Frontiers in Robotics and AI, Frontiers in Psychology
- ACM/IEEE International Conference on Human-Robot Interaction
- IEEE International Conference on Robot & Human Interactive Communication
- ACM Interaction Design and Children (IDC) Conference.
- European Early Childhood Education Research Journal
- Computers & Education Journal
- Journal of Behavioral Robotics

Organization of academic events

2022

Symposia **Diversity in Children's Temperament: Perspectives on Shyness in Interaction.**

- Organization and Chair of the Symposia; organized with Franziska (Paderborn University), Matt Hilton (Maastricht University), Kristie Poole (Brock University), and Sarah Kucker (Southern Methodist University) at the **Annual Meeting of the Cognitive Science Society.**

2021

Workshop **Child-Robot Interaction for Beginners: Supporting New Researchers (CRIB)**

- Co-Organization of the Workshop with Denise Y. Geiskkovitch (McMaster University), Mafalda Samuelsson-Gamboa (University of Gothenburg), David Cameron (The University of Sheffield), and Rebecca Stower (KTH Royal Institute of Technology) at the **2021 IEEE International Conference on Robot & Human Interactive Communication.**

2020

Special Session **Stakeholders' Views on Social Robots in Education**

- Organization and Chair of the Special Session; organized with Matthijs Smakman (Utrecht University), Scarlet Schaffrath (TH Köln), and Rebecca Stower (KTH Royal Institute of Technology) at the **2020 IEEE International Conference on Robot & Human Interactive Communication**.

2019

Workshop **International Workshop on the ethical impact of robot tutors in early education**

- Organization of the workshop at Paderborn University together with Scarlet Schaffrath (TH Köln)

Media coverage

2021

Radio report at SWR2 Wissen about shy children

- For a half-hour radio report, I was interviewed together with Franziska Viertel about the research on the widespread temperamental characteristic of shyness and how shyness can influence the interactive behavior of children in different contexts. [\[link\]](#)

2019

Modern education - robots as learning partners

- Interviewed and documentary about the conducted research project by Westdeutscher Rundfunk Köln, WDR

2019

Hello, robot!": How artificial intelligence supports children in language acquisition

- Article by innovations-report [\[link\]](#)

2019

How artificial intelligence supports children in language acquisition

- Article by didacta digital

2018

Robots as playmates

- Article by Westfalen Blatt [\[link\]](#)

2018

Robots teach children language learning

- Article by Neue Westfälische [\[link\]](#)

Outreach

2022

Knowledge transfer from the merits project at the digital congress "DigitaleZukunft@OWL"

- I gave a flash talk at the event that focused on the potential of social robots in early childhood education. [\[link\]](#)

2020

GAMES ON!

- Participation at a kid's science day organized by the [Society for Media Education and Communication Culture](#)
- Organized and conducted interactive activities for families and friends to interact with a social robot, conduction of a pilot study
- Organized hands-on activities for children that promote understanding of AI concepts

2019

2018

2019

Social robots in kindergarten - is it too early?

- Organized lecture with experts from the field of child-robot interaction followed by a panel discussion
- Organized in cooperation with the world's largest computer museum, [Heinz Nixdorf MuseumsForum](#)

2019

Social robots as promoters of early childhood language learning

- Conducted workshop with educators that deals with the potentials and challenges of social robots in kindergarten settings

2018

Digital Participation On the use of social robots in early childhood education

- Conducted workshop with early education practitioners at the conference of the Diözesan-Caritasverband for the Archdiocese of Cologne