Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

WORKSHOP SERIES

Cross-cultural studies on shyness:
Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025
ULB, WBO meeting room, Av. A. Depage, 1 – 1050 Bruxelles

WASEDA University

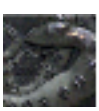
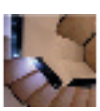
Cross-cultural studies on shyness:
Multimodal communicative behavior of preschool-aged children in a child-robot interaction

This workshop provides a platform for interdisciplinary exchange on the role of shyness in early communicative development. Organised through collaboration between Paderborn University in Germany and Waseda University in Japan and the event addresses how children's temperament, and in particular their shyness, shapes both verbal and nonverbal communication across cultures.

Shyness is a prevalent temperamental trait that influences how children approach or withdraw from social situations. While often studied as a constraint on participation, it also manifests in specific multimodal behaviours such as reduced gesture use, gaze aversion, or self-adaptors. These behaviours are culturally patterned and can be interpreted differently in Japanese and European contexts. For example, reserved behaviour may be seen as socially adaptive in Japan, whereas in many Western contexts expressiveness is valued as a sign of competence. Exploring these cultural contrasts requires expertise across psychology, psycholinguistics, anthropology, and human–robot interaction, which this workshop aims to bring together.

The programme combines keynote presentations with interactive data sessions. Topics include multimodal communication in assessment settings, the role of self-adaptors as potential indices of shyness, and broader phenomena such as gestalts and backchannels. Data sessions will allow participants to jointly examine empirical material on children's and adults' adaptor behaviours, fostering collaborative interpretation. On the second day, sessions will highlight the role of adaptive technologies, particularly child–robot interaction, in providing controlled contexts for studying shy children's responses.

In addition to showcasing current findings, the workshop will serve as a forum for developing hypotheses for the CULSHY project and identifying future research directions. By situating shyness within cultural and technological contexts, the event aims to deepen understanding of how temperament interacts with communicative behaviour and to promote sustainable international collaboration. Ultimately, the workshop seeks to advance developmental science while strengthening networks that link Germany and Japan.



SCHEDULE

WEDNESDAY OCTOBRE 1st

09:00	Welcome coffee
09:30 - 10:30	Nils TOLKSDORF (Heidelberg University) : *'Multimodal communicative behaviours in shy children in assessment situations'*
10:30 - 11:30	Kazuki SEKINE (Waseda University): *'Can self-adaptors be an index of shyness?'*
11:30 - 11:40	Coffee Break
11:40 - 13:00	Data session 1: Adaptors in children
13:00 - 14:00	Lunch
14:00 - 15:00	Angela GRIMMINGER (Paderborn University): *'Multimodal Gestalts'*
15:00 - 16:00	Stefan LAZAROV (Paderborn University): *'Multimodal backchannels'*
16:00 - 16:20	Coffee Break
16:20 - 18:00	Data session 2: Adaptors in adults

THURSDAY OCTOBRE 2nd

09:00	Welcome coffee
09:30 - 10:30	Katharina ROHLFING (Paderborn University): *'Situatedness and shyness'*
10:30 - 11:30	Valeriia TYKHONENKO (Paderborn University): *'Child-robot interaction and shyness'*
11:30 - 11:40	Coffee Break
11:40 - 13:30	Discussion: Hypotheses for CULSHY-DFG Project
13:30 - 14:30	Lunch
14:30 - 16:00	Future topics in small groups: Development, presentation, discussion

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Speaker

Nils TOLKSDORF (Heidelberg University)

Bio

Dr. Nils F. Tolksdorf is a postdoctoral researcher at the SMARTcognitionLab at Heidelberg University in Germany. He received his Ph.D. from Paderborn University in 2023. His research explores how children's language learning and communicative development unfold in interactions with different social partners, such as caregivers, social robots, and peers. A key focus of his work centers on individual differences, particularly those related to temperament and shyness, and how these characteristics influence communicative behavior and learning outcomes. He is further interested in variability in interaction, multimodal communication, and designing child-centered, ethical AI for educational settings.

Title

'Multimodal communicative behaviours in shy children in assessment situations'

Abstract

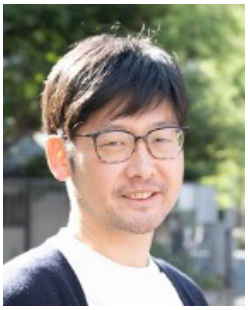
Shyness influences how children communicate in assessment and socially evaluative contexts not only affecting their verbal behavior, but also their use of other modalities, such as gaze, gestures, and their proxemics. Notably, these multimodal behaviors reflect children's strategies for adapting to novel situations, unfamiliar partners, and evaluative demands. Research indicates that shy children often rely on subtle cues, and their behavior changes dynamically when contexts allow for familiarity or less overt evaluation. Such findings call for a broader understanding of communicative behavior that acknowledges the situational complexity of children's communicative repertoire. This talk will synthesize current insights into the dynamics of shy children's multimodal communication, emphasizing their adaptive and context-sensitive nature, and point to key open questions that future research will need to address.

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Seminar Organizer



Kazuki SEKINE (Waseda University)

Bio

Kazuki Sekine, Ph.D., is an Associate Professor at the Faculty of Human Sciences, Waseda University, Japan. He is a psycholinguistic researcher whose work centres on multimodal communication, especially the relationship between gesture, speech, and cognition. His studies explore how co-speech gestures, self-adaptors, and other bodily actions contribute to lexical retrieval, attention regulation, and interactive meaning-making across languages and cultures. He has directed and co-directed several national and international research projects, including cross-cultural investigations of gesture–speech integration, child–robot interaction, and the creation of multimodal corpora. In collaboration with colleagues in Europe and Japan, he develops open-science resources and annotation schemes that enable fine-grained analyses of communication in both experimental and naturalistic settings.

Dr Sekine's research employs behavioural, corpus-based, and neurocognitive methods such as MEG and EEG, and has been published in journals including Brain and Language, Gesture, and Frontiers in Psychology. His recent projects address developmental differences in children's gesture use, the neural mechanisms of gesture–speech integration, and cross-cultural variations in visual communication such as comics. Alongside research, he teaches courses on multimodal communication and psycholinguistics and contributes to international joint teaching modules. His broader goal is to advance understanding of how language and the body jointly shape human cognition and interaction

Title

'Can self-adaptors be an index of shyness?'

Abstract

Self-adaptors, such as touching one's face, hair, or body, have often been regarded as minor and unconscious behaviours. Recent evidence, however, indicates that they may systematically support communication and cognition. This presentation asks whether self-adaptors can serve as an index of shyness by drawing on three strands of research.

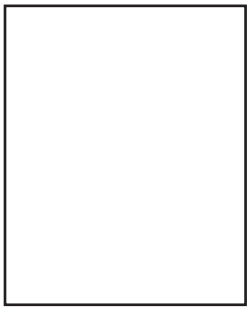
First, experimental findings on lexical retrieval show that self-adaptors appear particularly during tip-of-the-tongue states. These behaviours are not random but help regulate cognition, suggesting a compensatory role in speech production. Second, psychophysiological evidence demonstrates that self-adaptors can reduce stress. Measures such as cortisol and heart-rate variability indicate that self-touch buffers the impact of demanding tasks, functioning as an embodied coping strategy. Third, developmental observations highlight children's use of self-adaptors. In child–adult and child–robot interactions, shy children display self-touch more frequently than their peers, pointing to the potential of these behaviours as early indicators of shyness.

Taken together, these findings suggest that self-adaptors are not merely habitual gestures. Instead, they are functionally linked to lexical access, stress regulation, and personality. By integrating cognitive, affective, and developmental perspectives, the presentation considers how self-adaptors may provide a multimodal behavioural index of shyness.

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Speaker  Angela GRIMMINGER (Paderborn University)

Bio Angela Grimminger is a senior researcher in the Psycholinguistics research group at Paderborn University. She has a background in Clinical Linguistics, and received her PhD degree in psycholinguistics from Paderborn University in 2017. She works on multimodal communication in children with typical and with delayed language development, focusing on gesture development and gaze behavior, on parent-child interactions in different settings (incl. joint book reading), on developing and investigating animated digital books for preschool-aged children, and on multimodal behavior in adult explanatory interactions.

Title ‘Multimodal Gestalts’

Abstract In this talk, I will present a recent theoretical framework on multimodal language processing in human communication (Holler & Levinson, 2019), which proposes that some co-occurring multimodal signals from individual articulators (such as eyes, face, head, or hands) are processed as whole ensembles (based on Gestalt-like principles) conveying communicative meaning. According to Holler and Levinson (2019), humans use these multimodal ensembles in interaction to make predictions about the interlocutor’s utterances and their meaning, and to plan their own contribution accordingly. This view on multimodal processing explains how adult humans can manage the relatively fast turn-taking. Empirical work using this framework has shown that temporal gaps are even shorter following multimodal utterances compared to speech alone.

After presenting this framework, I want to open the discussion on how to investigate such multimodal ensembles from a developmental perspective.

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Speaker

Stefan LAZAROV (Paderborn University)

Bio

Stefan Lazarov is doctoral researcher within the TRR 318 Constructing Explainability and a member of the psycholinguistics research group at Paderborn University. During his affiliation within project A02 "Monitoring the understanding of explanations", he investigated adaptations of adult explainers' verbal and gestural explaining behavior in relation to the presence of different adult explainees and their multimodal feedback behavior. In September 2025, he defended his cumulative dissertation entitled "The reflection of interactional monitoring in the dynamics of verbal and nonverbal explaining behavior" under the supervision of Angela Grimminger (Paderborn University) and Geert Brône (KU Leuven).

Title

'Multimodal backchannels'

Abstract

Together, head gestures and vocal backchannels constitute a form of multimodal feedback characterized by close temporal and functional relations (Allwood & Cerrato, 2003). Both modalities express conventional polarity, and they are used by addressees for signaling attention, agreement, or understanding (Allwood & Cerrato, 2003; Gardner, 2001; McClave, 2000; Park et al., 2017; Włodarczak et al., 2012; Yngve, 1970). During the process of monitoring addressees' feedback (Clark & Krych, 2004), speakers often fail to interpret the addressees' feedback in correspondence with the addresses' actual state of understanding (Gander & Gander, 2020). The same situation accounts for explanatory interactions, in which a more knowledgeable explainer has the task to increase the understanding of a less knowledgeable explainee about an entity or a process (Rohlfing et al., 2021). A recent study has demonstrated that when explainees provide false positive backchannels while they experience troubles in understanding, their voice becomes breathy (Türk et al., 2025). This raises the question not only how backchannels are used while signaling cognitive processing or understanding, but also how these signals are monitored and interpreted by the explainers.

To answer this question, I will present a method of applying retrospective video recall (Lazarov et al., 2025) for analyzing the differences between signaling understanding and monitoring understanding regarding the explainees' head gestures and vocal backchannels. The video recall method was applied in a post hoc procedure, in which each explainer and explainee watched the recorded explanations and annotated moments of the explainees' levels of understanding, based on self-recognition of events. The dataset from the video recall method resulted in a wide range of moments of understanding recognized either by both interlocutors, or only the explainer or the explainee. These moments are going to be related to the explainees' head gestures and vocal backchannels and proceeded in further statistical analysis.

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Speaker

Katharina ROHLFING (Paderborn University)

Bio

Katharina J. Rohlfing received the Master's degree in linguistics, philosophy and media studies from the University of Paderborn in 1997. She received the Ph.D. degree in linguistics from the Bielefeld University in 2002. In 2006, with her interdisciplinary project on the Symbiosis of Language and Action, she became a Dilthey Fellow (VolkswagenStiftung). Since 2015, she is full professor of psycholingustics at the Paderborn University investigating multimodal social interaction, especially the process of scaffolding the interaction partner, and how robotic partners can achieve it. Being intrigued by different demands that communicative tasks imply, she currently focusses on the process of explaining.

Title

'Situatedness and Shyness'

Abstract

Children make sense of a situation in which an interaction takes place. However, even in a simple observation, we see temperamental differences with which children enter in a dialog. In the presentation, we propose to see the sense-making as an interplay of the situation, task, partner, and dialog. We will enfold the interplay along an analysis of a study, in which we assessed children's gestures and how they are related to the parental report on their shyness. For this cross-cultural study, we investigated children interacting with a puppet and a social robot. It was conducted with German and Japanese learning children at the age of 4 to 6 years. We observed deictic and iconic gestures that are performed by children. Children reported to have a rather shy temperament were found to make more use of situational and contextual resources. We interpret these findings in terms of shy children being different in their task model as well interaction model. Linking to research suggesting that shy children are more sensitive to the situation (Mink, Henning, & Aschersleben, 2014), we suggest that research on shy children can inform us about the various models that vary individually and need to interplay for making sense of a situation.

Waseda University Brussels Office
早稲田大学 ブリュッセルオフィス

Cross-cultural studies on shyness: Multimodal communicative behavior of preschool-aged children in a child-robot interaction

Wednesday 1 & Thursday 2 October 2025

Speaker

Valeriia TYKHONENKO (Paderborn University)

Bio

Valeriia Tykhonenko holds an MA in Philology (English Language and Literature, 2005) from Dnipropetrovsk National University, Ukraine. Following graduation, she worked for 17 years as a lecturer and senior lecturer in English for Specific Purposes at Dnipro University of Technology.

Since 2023, she has been a researcher at the Institute for German Language and Comparative Literature, Paderborn University, working on her PhD dissertation within the interdisciplinary project SAIL (Sustainable Life-Cycle of Intelligent Socio-Technical Systems), funded by the Ministry of Culture and Science of North Rhine-Westphalia.

Her research lies at the intersection of child development, communication, and human–robot interaction, with a particular focus on temperamental shyness in preschool-aged children. Within SAIL, she investigates contingency patterns in child–robot interactions, examining how shy and less shy children differ in their communicative behaviors and adaptation to novel settings. She also explores how robot-assisted warm-up activities can support shy children in educational and assessment contexts.

Title

'Child-robot interaction and shyness'

Abstract

As social robots become more common in educational and clinical settings, their potential to support children during cognitively demanding activities is gaining research interest. One important area of focus is how temperamental traits, such as shyness, influence the quality of interaction between children and artificial communicative partners. This work explores how temperamental shyness shapes preschoolers' behavior during child–robot interaction (cHRI), particularly with the humanoid robot NAO. Shyness, often expressed as hesitation or withdrawal in unfamiliar social contexts, can affect how children respond to robotic prompts, especially in structured tasks such as learning or assessment. Understanding these individual differences is essential for designing interactions that are both effective and emotionally supportive. Our recent research suggests that shy children tend to show longer responses, particularly in unfamiliar settings or when engaging in new tasks. However, these children also tend to become more comfortable and responsive with repeated exposure. Predictable, nonjudgmental robot behavior may reduce initial anxiety, improving engagement. Currently, we are focusing on how robot-assisted warm-up activities can help shy children feel more at ease before formal cognitive assessments. The warm-up phase is often overlooked in test preparation, yet it may be especially beneficial for children with higher levels of shyness across educational, clinical, and cross-cultural settings.

Waseda University Brussels Office

Avenue Antoine Depage, 1 - 1050 Brussels Belgium
https://www.waseda.jp/inst/brussels-office/news-en/

Contact:
Jean-Louis Moortgat
+32 476 538 320
jean-louis.moortgat@ulb.be