# Revision of a parental questionnaire assessing infants' early communicative abilities at the age of 8 to 10 months — the German *Baby-Komm*

**PADERBORN UNIVERSITY**
**SPRACHSPIELLABOR**

**UNIVERSITY OF PORTSMOUTH**

## Silke Fischer[1], Iris Nomikou[2], & Katharina J. Rohlfing[1]

[1]Paderborn University, Germany    [2]University of Portsmouth, UK

## Background

From birth, human infants interact with their caregivers. In everyday interactions, they continuously learn conventionalised forms of communication (Tomasello et al., 2005). While a large body of research focuses on children's early use of words or gestures (review in Rohlfing et al., 2017), existing research suggests a rather gradual growth of communicational abilities that emerge from early experiences in multimodal interactions.

Against this background, we have developed *Baby-Komm* (Fischer, Nomikou, Grimminger, & Rohlfing, 2018) — a parental questionnaire that aims at assessing infants' early communicative abilities in German.

The questionnaire captures communicative behaviour in everyday situations (e.g., while changing the baby's diaper, or saying good-bye), applying the notion of "situatedness" (Rohlfing, Rehm, & Goecke, 2003). By this approach, the parents' judgment will gain more reliability. Ecological validity is ensured by improved pragmatics of the questionnaire.

However, this instrument has now been profoundly revised.

## Objectives of the Revision

Several major adjustments have been made:

a) The **goal** has been defined and extended: *Baby-Komm* captures infants' *communicative abilities (competence vs. generalisation)* as well as their *communicative style*. Therefore, the scale has been changed from dichotomous into an ordinal scale.

b) Dimension 2 "conventionalised content" now differentiates additionally between **non-conventionalised (often bodily) behaviour** and a **pre-stage of conventionalised behaviour.** The pre-conventionalised items contain behaviours that are either conventionalised in a limited arena, like games (cf. Bruner, 1983), therefore rather representing routinised communication forms, or these behaviours are relevant pre-stages of conventionalised communication like speech sounds.

c) A **sixth scale** has been recognized (*initiative 1*): The infants' initiative by looking expectantly is now represented – parents recognize this form of gaze and usually interpret it as conveying a certain wish on which they react.

### Evaluation

The items are captured in a 4-scale answer format ("never"-"seldom"-"often"-"always"). Most items display multiple possible answers representing different communicative behaviours. These answers are assigned to two different scales with three stages (cf. **Fig. 1**).

## Goals

The aim of the *Baby-Komm* is to assess infants' early **communicative abilities** *and* **communicative style** in everyday situations. Precisely, three measures of communication are to be identified:

(A) The ability to show a *particular behaviour* in a *specific context.*

**(A) COMPETENCE**    **(B) GENERALISATION**

(B) The ability to show a *particular behaviour* in *different contexts.*

**(C) COMMUNICATIVE STYLE**

The infants' *communicative style* is captured by measuring **which behaviours (responsive vs. initiative)** are chosen **how often** in communicative situations. This way, a communicative temperament is described.

## Central Ideas: Dimensions of Communication

The *Baby-Komm* seeks to asses infants' communicative behaviour along two dimensions: The first dimension captures the child's ability to initiate activities vs. responding to them (cf. Mundy et al., 2007). The second dimension captures the infant's ability to communicate in ways conventionalised within the culture the infant develops (Tomasello et al., 2005).
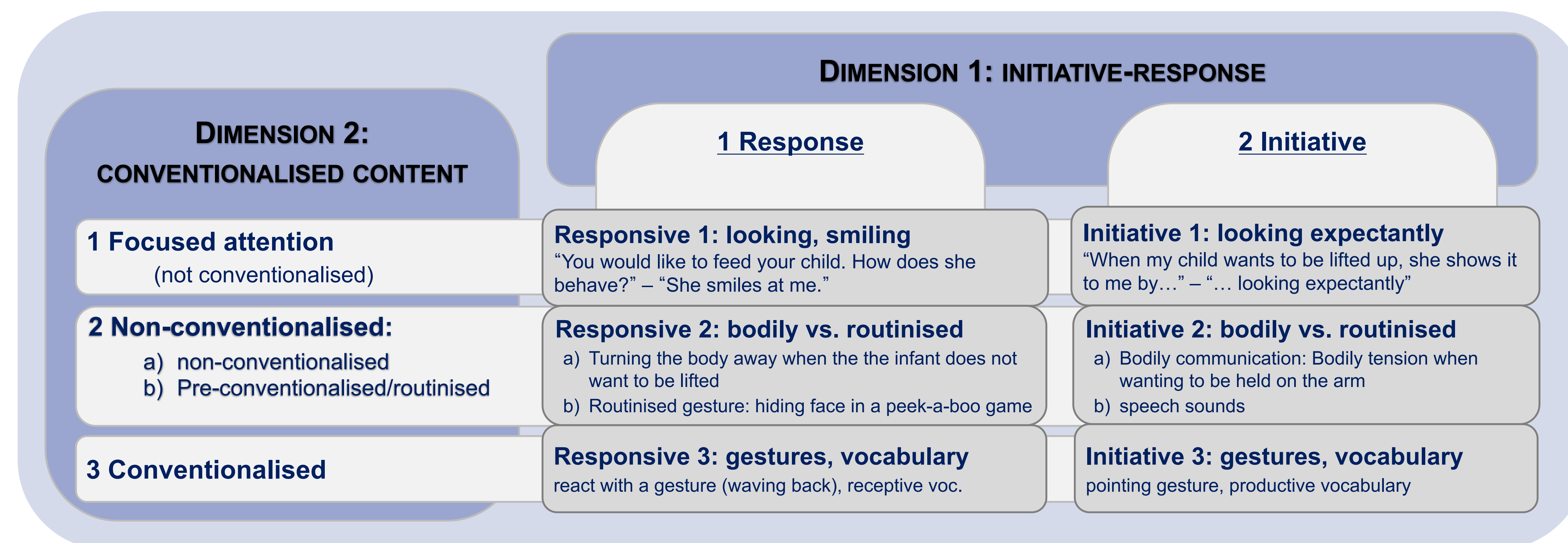
**DIMENSION 1: INITIATIVE-RESPONSE**

**DIMENSION 2: CONVENTIONALISED CONTENT**

**1 Response**    **2 Initiative**

**1 Focused attention**
(not conventionalised)

**Responsive 1: looking, smiling**
"You would like to feed your child. How does she behave?" – "She smiles at me."

**Initiative 1: looking expectantly**
"When my child wants to be lifted up, she shows it to me by…" – "… looking expectantly"

**2 Non-conventionalised:**
a) non-conventionalised
b) Pre-conventionalised/routinised

**Responsive 2: bodily vs. routinised**
a) Turning the body away when the the infant does not want to be lifted
b) Routinised gesture: hiding face in a peek-a-boo game

**Initiative 2: bodily vs. routinised**
a) Bodily communication: Bodily tension when wanting to be held on the arm
b) speech sounds

**3 Conventionalised**

**Responsive 3: gestures, vocabulary**
react with a gesture (waving back), receptive voc.

**Initiative 3: gestures, vocabulary**
pointing gesture, productive vocabulary

*Figure 1: **Two dimensions and six communication scales of the** Baby-Komm:*
**r1**: focused attention/participation, **r2a**: non-conventionalised responsive, **r2b**: pre-conventionalised responsive, and **r3**: conventionalised responsive
**i1**: focused attention, **i2a**: non-conventionalised initiative, **i2b**: pre-conventionalised initiative, and **i3:** conventionalised initiative communicative behaviour

## Divergent and Convergent Validity

Construct validity of the *Baby-Komm* will be determined. Therefore, we will examine the infants' behaviour with two different instruments, in the first step: The Early Social Communication Scales (ESCS, Mundy et al., 2003) and ELFRA-1 (Grimm & Doil, 2006).

We expect <u>convergent</u> validity with the responsive and initiative scales of the ESCS (joint attention, behavioural requests and social interaction) and the corresponding scales of the *Baby-Komm*. However, *Baby-Komm* not only assesses the ability of responsive and initiative behaviour. It <u>diverges</u> from ESCS in capturing additionally the infants' predisposition to either react on or to initiate communication. Moreover, two different underlying methodological approaches will be compared – parents' reports (*Baby-Komm*) on the one hand and infants' test behaviour against experimenters (ECSC) on the other hand.

With ELFRA we will determine the relationship between *Baby-Komm* (stages of 'conventionalised content') to conventional language measures.

## Discussion

These ideas represent a revision of the first parental questionnaire assessing **infants' communicative abilities and communicative style** at the age of 8–10 months, based on preliminary item analyses (Fischer, Nomikou, & Rohlfing, 2018).

Problems of the questionnaire have been fixed, and, even more important, this instrument gained depth as a result of profound theoretical development.

## Future Prospects

The revised version of the *Baby-Komm* will be filled in by a new sample of parents of 7-12 month-olds (*n*=100). These data will represent a solid basis for a confirmatory factor analysis to examine the connection between our empirical results and theory.

Furthermore, the questionnaire will be validated by other instruments as ESCS and ELFRA in order to assess the construct validity of the *Baby-Komm*.

This way, the *Baby-Komm* will be the first parent questionnaire to describe communicative abilities and the first instrument to asses infants' communicative style at this young age of 8–10 months. An instrument for research and of clinical relevance may be established.

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