



**Alexandra Brestovičová**

<https://orcid.org/0000-0001-9528-4656>

University of Presov, Slovakia

Faculty of Education,

Centre of Research into Children Language and Culture

e-mail: [brestovicova@gmail.com](mailto:brestovicova@gmail.com)

## Most Frequent Lexical Units in Mother–Infant Communication in Slovak Language

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### Abstract

The basis for the research was transcripts of 24 hours of monthly video recordings of three mothers speaking to their infants (for a period of eight months in each mother–infant dyad). In the frequency lexicon compiled from the mothers' speech, the 20 most frequently used words were "be," "right," "well," "self," "yes," "go," "you," "this," "and," "what," "give," "still," "here," "well," "have," "already," "on," "there," "want," and "where," which underline the situational nature of mothers' topics ("this," "here," "still," "already," "what," and "where") and their positive attitude towards the child ("right," "yes," "you," and "well"). Moreover, the most often used nouns were the proper names of the infants in the diminutive form and an appellative "mom"; the most frequent adjectives were "little," "good," "big," "pretty," "beautiful," and "clever," while the most frequent adverbs were "nicely," "beautifully," and "well done." Many of these words show a supportive and encouraging manner of infant-directed speech from mothers in infants' preverbal stage of development.

*Keywords:* frequency lexicon, mother–infant communication, Slovak language, motherese

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## Introduction

When mothers and other adults interact with children, they adapt to the behavior and a degree of cognitive development of their recipients. They evaluate the situation as one in which the specificity of children's perceptions should be taken into account. They interact with children verbally and non-verbally within a specific register called child-directed speech. In the context of Anglo-American linguistics, the terms babytalk, parentese, motherese, fatherese, caregiver talk, and nursery language are also used more or less systemically. There is extensive literature in world linguistics that essentially addresses the language qualities which are characteristic of this type of communication: starting with the papers by C. Ferguson and C. Snow (1977), R. Wodak and M. Schultz (1986), there are at present hundreds of studies. The issue of child-directed speech is addressed in Slovakia especially by D. Slančová (1999), S. Zajacová (2012), and the author of this paper (Brestovičová, 2018).

We will focus in this paper on mother–infant communication, while studying the infant-directed speech of Slovak mothers, so-called motherese. Motherese seems to reflect the faith and values of a particular culture. What is chosen and what is emphasized in the speech is likely specific to each culture. Through this speech, mothers integrate the child into a certain culture, at an early age and in situations that are stereotyped. Mothers teach children what to say in each situation, and by example they give them an adequate model of communication skills. Mothers interact within the communication register, which is characterized as the specific open register with internal dynamics and variability (Slančová, 1999), the form of which may vary with respect to individual languages or intra-linguistic regional variants of a particular language due to the social affiliation and intellectual aspirations of parents and depending on the intellectual development of the child. According to M. Ološtiak (2011, p. 268), the communication register can be characterized as a “set of means of expression, whose existential motivation is the connection with certain more or less repetitive, unified, ritualized communication situations, in which the means are used preferentially.”

Motherese is a characteristic microsocial communication register which, according to D. Slančová and S. Zajacová (2007, p. 154) represents the “conventionalized linguistic and non-linguistic behavior of people linked to social status, social role, and social distance.” Fulfilling the social role of a mother requires language modification and code switching within the mother’s child-directed speech register. Motherese is understood as a specific type of simplified register with a high level of redundancy and an enhanced expressive component (Slančová, 1999, pp. 29–30). It is determined by pragmatic factors of the given communication situation, namely, the mutual intimacy of mother and child, the privacy of the family environment, spoken speeches, the mother’s communication intentions and strategies, and in particular the degree of common knowledge of both communication partners on the external subject.

According to R. Wodak and M. Schultz (1986), child-directed speech may also represent the combination of various registers as 1) an expressive register that is used, e.g., between lovers or when communicating with pets or babies; 2) a clarifying register used in contact with people who have problems with language perception; 3) an educational register; 4) a social register, which is used when we want to encourage others to speak; and 5) an authoritative register adopted by people who hold a superior position in relation to communication partners, in which they may exercise various factors of power. According to D. Slančová (1999) the nature of the child-directed speech register is determined by the biological, cognitive, psychological, and social status of the child as the central participant in adult–child communication.

We will focus in this paper on lexical level in our linguistic characteristics of this special register, namely, on the most frequent lexical units in mother–infant interaction.

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## Materials and methods

The starting material for our research was video recordings<sup>1</sup> (also stored on DVDs) of spontaneous communication of mothers with their children in the preverbal stage of development in the home environment in standard situations (feeding, changing diapers, bathing, playing, and sleeping). In a longitudinal study, we analyzed the language of three mothers directed towards their own infants, two girls and one boy. All three families were of higher socioeconomic status and the university-educated mothers used only Slovak in the household. Two of them are speech therapists and one of them is a Slovak language teacher.

Qualitatively, the decisive factor for us was the appearance of the child's first words, around the age of one year, which set the final limit of our material. The transcription was done using the CHAT transcription system (CHILDES), where the descriptions of situations and activities are also recorded, i.e., it is not deprived of the situational context.

Quantitatively, this is a set of nearly 66,000 actually used words. The research material captures 24 hours of mother-to-child communication once a month for eight months. The sample is equally distributed; i.e., for each of the three mothers we worked with eight hours of recording. From the transcripts, we compiled a frequency vocabulary of the speech of individual mothers; in the final phase, we combined the three frequency vocabularies into the final frequency lexicon, which contains 3,300 lexical units. The final frequency lexicon is sorted by relative frequency ( $f$ ), which we counted according to the formula published by J. Mistrík (1969) by multiplying the absolute frequency ( $F$ ), obtained by mechanically counting the words from the three frequency vocabularies, by the coefficient of A. Juillard, called dispersion ( $D$ ):  $f = F \times D$ . Sorting by relative frequency helped us to select a lexis unique to only one mother and to objectify data lexicographically processed into the final frequency lexicon.

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### Most frequent lexemes in the lexicon

The encouraging and supportive attitude of mother–infant communication is also shown in the 20 most frequently used words by mothers. These words, based on relative frequency (given in parentheses), are as follows: “be” [“*byť*”] (2,145), “right” [“*tak*”] (2,133), “well” [“*no*”] (1,782), self-reflexive particle [“*sa/si*”] (1,622), “yes” [“*áno*”] (1,406), “go” [“*ísť*”] (1,339), “you” [“*ty*”] (1,322), “this’” [“*to*”] (1,228), “and” [“*a*”] (906), “what” [“*čo*”] (834), “give” [“*dať*”] (751), “still” [“*ešte*”] (699), “here” [“*tu*”] (653), “have” [“*mať*”] (616), “well” [“*dobre*”] (613), “already” [“*už*”] (510), “on” [“*na*”] (493), “there” [“*tam*”] (385), “want” [“*chcieť*”] (345), and “where” [“*kde*”] (324). Those are not only constructive, grammatical words, as stated in J. Mistrík’s (1969, p. 50) frequency lexicon of Slovak language, but representatives of the most often used parts of speech in the whole corpus material, where in the speech of mothers the number of words represented the individual parts of speech as follows: verbs (14,500), pronouns (12,200), nouns (11,100), particles (11,100), interjections (7,900), adverbs (4,000), prepositions (2,000), adjectives (1,600), numerals (700), and conjunctions (650). Verbs, pronouns, nouns, particles, interjections, and adverbs were predominantly used in infant-directed speech. The high degree of predictability within this register is evidenced by the fact that the above-mentioned 20 most frequently used lexemes make up 42% of all words actually spoken by the mothers in the research material, while in M. Šimková’s research the 20 most frequent words in the spoken version of the Slovak national corpus (prim-5.0 SNK) represent only 19% of all used words (Šimková, 2011, p. 326).

In the following sections we will focus on these most frequent words according to their ranking among individual parts of speech within the Slovak morphological system.

#### **Verbs**

Verbs accounted for 22% of all words spoken within 24 hours in child-directed speech, confirming their dominant position in relation to other parts of speech. If we rank them by relative frequency, the 10 most

prevalent verbs (“be,” “go,” “give,” “have,” “want,” “feed,” “look,” “know,” “show,” and “like”) represented up to 70% of all verbs uttered by mothers. They represent a “steep distribution” in language (Sandhofer et al., 2000, p. 578). Mothers interact with their children preferentially with basic universal concepts or elementary semantic units described by A. Wierzbicka (as cited in Vaňková, 2005, p. 40) as a set of “semantic primes.” The author of the term further stated that “there is a link between these basic atoms of meaning and the first concepts adopted by children” (Vaňková, 2005, p. 40).

The verb “to be” (2,145) has a central function in mothers’ communication, with a communication use of 18% of all spoken verbs within our corpus. It was used in the third-person singular present tense 70% of the time. If we look at the speech of mothers in depth, we notice that it is quite limited. Most often it describes what the child does, feels, and wants and what is going on around him/her. Child-directed speech is almost always tied to a particular situation. Frequently asked questions include “Where are you?,” “What is this?,” “What color is it?,” “What sound is it?,” and others. R. Wodak and M. Schultz (1986) wrote that speech addressed to young children is in a way simplified (e.g., due to the child’s limited perceptual capacity, the adult language message must be reasonably short), but it is also more complicated, as adults have to add to their verbal contact with a child certain contextual information or they have to use transparent language structures. This clarification and simplification of the communication of mothers is ensured by short sentences with the verb “to be,” by which the mother describes objects, the properties of the objects, and the circumstances, for example, “Where is your teddy bear?” or “Where is the duck?”

The second-most frequently used verb is “to come” (1,336), which was used as an action verb in 4/5 of its occurrences. It was in the second-person singular imperative in 46% of cases, e.g., “come to mom,” “come here,” or “come give me your hand!” The verb “to go” was used in 15% of its occurrences in the form of a symbiotic plural. Symbiotic plurals are one of the main features of this register which express the closeness and mutual emotional commitment of communication partners. It is characterized by the use of the first-person plural in ritualized situations, such

as changing, feeding, or bathing. Plurals are used in situations where the speaker comments on an activity performed only by their communication partner or where the speaker is the only active person, but also grammatically includes their partner (Zajacová, 2012): “we’re going in a stroller,” “we’re going nicely in the tub,” or “we’re going to change the diaper.” One-fifth of the occurrences grammatically indicated the near future as in the last example.

The third most often used verb is “to give” (751). It was used in the symbiotic plural form in 36% of its occurrences, e.g., “we’ll give you a clean diaper.” The second-person imperative accounted for 27% of its use, e.g., “give it to mommy!”

The verb “to have” (616) also occurs within the top 20 verbs in the frequency lexicon, mostly used in the second-person singular in the present tense (41% of cases). Mothers comment on the child’s body parts and possessions using this verb: “you have such chubby cheeks,” “How many teeth do you have?,” and “you have a nice box here.”

Verbal lexemes in the diminutive form represented 10% of all verbal lexemes in the frequency lexicon. Only 6% of all verbs were in the negative mode; the most often used were “don’t cry,” “don’t be afraid,” and “it doesn’t matter,” which are positive from a pragmatic point of view.

### ***Pronouns***

The personal pronoun “you” (1,322) is the seventh-most often used word according to relative frequency in the lexicon. It strongly points out that the direction and theme of the proto-dialogue (the child cannot communicate verbally yet) is child-centered. The pronoun “you” can be evaluated as a means of universal contact by which we turn to the individual partner of the dialogue (Kesselová, 2003, p. 26). The hypertrophy of the personal pronoun “you” emphasizes the operational nature of motherese and the focus on the child.

From demonstrative deictic pronouns, the most frequent were “this/that” (a single word in Slovak), “here” (653), and “there” (385). All are prototypical units of spatial deixis. “This” and “that” (1,228) are moreover means of object deixis, e.g., “What is this?” or “Will you take that?” The topic

of mothers' speech is explicitly expressed by the deixis, whose meaning is derived only from the current situation: "you" – "that" – "here" – ("now") – "there." It confirms the focus of communication on the child and on current events, objects, and people in his/her nearby environment (here), or on more distant, yet visible surroundings (there). "Here" and "there" are the most general expressions of the space in which communication takes place. They focus the topic of the proto-dialogue on subjects and events immediately present in the visual field of the child and his/her mother, thus strengthening its situational nature, e.g., "look what ladybug is here" or "Are there some little boys?"

The interrogative pronouns "what" and "where" are used in a large number of questions in mother–infant communication. Their function is to attract the infant's attention and to involve him/her in a dialogue even though the infant is unable to do it verbally: "What are you doing now?," "What is the matter with you?," "What are you looking for?," "What are we going to do then?," and "Where is your tongue hidden?" or "Where is the footie hidden?"

### ***Nouns***

The children's proper names are the most frequently used nouns in individual frequency vocabularies of mothers. They represent from 12% to 24% of all noun occurrences in an individual mother's speech. They are in diminutive forms. The second-most frequent noun is the naming of the mother in a notional or diminutive form. The naming of the mother within motherese represents approximately 9% of all nouns used. Mothers use words to create a positive and safe atmosphere in contact with a small baby. As the frequency analysis showed, the two most frequently used nouns in motherese named the participants of the existentially most important relationship: it was the child's proper name (in a diminutive form) and the appellative name of the mother – "mommy" or "mom."

In further analysis we found that half of the mothers' noun input included the proper name of her child, a denomination of the mother, and names for the child's body parts. Moreover, 70% of all uttered nouns were in diminutive and euphemistic forms. A high proportion of those



words showed an emotionally positive attitude of the mothers towards their infants.

### **Particles**

The most frequently used words were particles, which are connective means without informative value. However, in motherese they are used as “register markers of authority” and they fulfill a contact or expressive function in an initial position. Prototypical particles in motherese are the discourse markers “right” (2,133) and “well” (1,782), used with a positive, pragmatic function as shown in intonation and with the affirmative “yes” (1,406) to praise as well as to join the children in the proto-dialogue. Their frequent use indicates an emotional-affective dimension of motherese.

The particles “right” [“*tak*”] and “well” [“*no*”] were especially used by the mothers during routine events, such as bathing and dressing the child, and were more frequent in the first recordings. When the child was already feeding with a spoon, mothers used “right” [“*tak*”] in this communicative situation as an expression of completion, when responding positively to the activities of the children as if to encourage them using special intonation, pause, and emphasis.

The affirmative “yes” was the fifth-most often used word. In addition to the pragmatic function of giving consent to a situation or activity, it also fulfills a regulative-pragmatic function of contacting and appealing to the child when mothers structure the replicas as if they expect an answer, e.g., “So, would you like to drink by yourself? Yes?” or “Then we’ll go outside, yes?” In doing so, they teach infants the structure of a dialogue months before the children can make meaningful verbal responses (Slančová, 1999). The particle used in this way has an appeal/challenge function, since mothers call on the child to adopt a mutually consistent attitude. The fact that “yes” is the fifth-most frequently used word in motherese is testimony to the fact that for this kind of talk to express positive emotions an accepting attitude is essential. Mothers often agree with their child’s activities, with his/her attempts to make contact. They also affirm the fact that the child is in their presence and confirm that he/she has the right to be there. “Yes” in the challenge position also gives

the child some space to express himself/herself in the mother–child dialogue, first non-verbally, then verbally.

The overall positive orientation of this communication and the positive emotional verbal effect on the child is reflected in the use of dominant particles – “right,” “well,” “yes,” – which are pronounced with special intonation to show a positive affect. At the same time, these particles function as register markers of authority, thus pointing to an instrumental function of motherese.

### ***Adverbs***

The adverbs of time “still” (699) and “already” (613) emphasize the situational character of motherese. They name different chronological phases of activities. In the motherese examined in our study, the adverb “still” predominantly occurred in the sense of duration of an event or condition, e.g., “Are you still looking at the flowers?” or “Are you still hungry?” and in the sense of repeating an activity. Repetition can be seen in examples such as “drink again,” “try to open your mouth once more,” or “again, ham.” Very frequently, the adverb “still/again” is associated with the importance of multiplying the number of things or increasing the activity: “we still have something here,” “straighten up again,” “call me mama again.” The Slovak word “ešte” is used in all of these examples.

The adverb “already” appears with the meaning of completion, the end of an activity, as in “he’s already come,” “our socks have already fallen,” or “so everything’s already fine.” However, in motherese there is an additional meaning of completion that has not yet been expected. In these utterances, mothers express positive surprise and appreciation of the child’s accomplishments: “you’re already a big girl,” “you’re already banging on it,” or “you’ve already undressed yourself.”

By the frequent adverbs “well” (615), “nicely” (101), and “beautifully” (92), mothers positively evaluate their child by ascribing a positive value to the activities that are directed to him/her, e.g., “so we’ll comb your hair nicely, yes?” or “let’s sit down nicely” or to the activities of the child, e.g., “grab a cup nicely,” “so you can eat so beautifully?,” “how beautifully you drink!” or “well we’ve finished sewing nicely.”

### **Adjectives**

The most commonly used adjective was “little” (109), followed by the positive evaluative adjectives “good” (101), “big” (71), “pretty” (48), “beautiful” (31), and “clever” (25).

The adjective “little” is used in both quantitative and qualitative terms. Quantitatively, the word means comparatively small, e.g., “beautiful for that little mouth,” “we shall moisturize this little body,” or “well you have little hands.” It was used in the sense of denoting someone juvenile or young, e.g., “you’re a grumpy little baby” or “this is how a little girl dances.” However, the adjective “little” was mostly used qualitatively in an emotional sense, when the mother expressed tenderness towards the child. Thus, the quantitative function of this adjective was limited because it not only expressed smallness, but also a positive quality, such as tenderness, popularity, or subtlety. It means that in motherese qualitative evaluations clearly outweigh quantitative ones. Especially if the child is named expressively and not by his/her proper name, mothers express their positive feelings in connection with this adjective, e.g., “our little froggie,” “you’re such a little punk singer,” and “Who is this little naked baby?”

The adjective “good” was used to describe expected positive sensory experiences, especially in connection with the taste of food – “good milkie,” “good soup,” or “good porridge,” – or with the taste of an object in the child’s mouth: “good thumb,” “good footie,” “good pacifier,” or “good spoon.” The mothers also described the expected pleasant haptic experience of the child during bathing, e.g., “good water,” “good cream,” “good olive oil.”

The adjective “big” could be also used as a means of appreciation, e.g., “Ninka is already a big girl” or “she’s already bathing in the big tub.” The mothers evaluated the appearance of the children explicitly: “Who’s going to be so pretty?,” “you’re pretty in the mirror,” or “well look what beautiful little boy you are.” The positive impressive adjective “clever” was used especially for praising and encouraging the child, e.g., “you’re a very clever little girl” and “but you’re a clever boy since you can get up by yourself.”

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## Conclusion

This article presented the outcome of a quantitative and qualitative longitudinal study of the infant-directed speech of three Slovak mothers and focused on the 20 most frequently used words in the frequency lexicon compiled from their speech. The situational character of the motherese was indicated by the most frequent verbs, pronouns, and adverbs, which focused on the child and the present situation: “be,” “go,” “give,” and “have”; “you,” “this,” “here,” “there,” “what,” and “where”; “still” and “already.” The emotional aspect of infant-directed speech was shown in the most frequent nouns, which were the proper names of the children in a diminutive form and the appellative “mom” also in the diminutive form, by which the emotional and existential connection of a mother with her infant was emphasized. The positive character of motherese was pointed out by the fact that affirmative “yes” and the particles “well” and “right,” with the positive pragmatic function shown in intonation, were among the five most frequently used lexemes of the frequency lexicon. The most frequently used adjectives and adverbs in the mothers’ speech – “little,” “good,” “clever,” “pretty,” “nice,” “well,” and “beautifully” – also created a positive language picture of the child himself/herself. Further analysis of lexical units showed that motherese is positive, encouraging, supportive, and affectionate. We found that 70% of all the nouns used were in a diminutive or euphemistic form. Moreover, only 6% of the verbs uttered were used in a negative form, and these were in fact positive from a pragmatic point of view: “don’t cry,” “don’t be afraid,” and “it doesn’t matter.” We can conclude that mothers create a safe and positive social environment for their infant by using these words in their speech, or as Kaye (1980) wrote, “what each mother does in different ways is make the baby into a person and herself into his best friend”.

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