

**SVEUČILIŠTE U ZAGREBU
FILOZOFSKI FAKULTET**

ODSJEK ZA ANGLISTIKU

**DIPLOMSKI STUDIJ ANGLISTIKE
SMJER: LINGVISTIČKI**

Tamara Kranjčić

BABY TALK IN ADULT-TO-ADULT COMMUNICATION

Diplomski rad

Mentor:

dr. sc. Damir Kalogjera, prof. emeritus

Zagreb, rujan 2016.

TABLE OF CONTENTS

1. INTRODUCTION	2
2. FEATURES OF BABY TALK	3
2.1. Neurological Activities during Exposure to Baby Talk	3
2.2. Universal Properties of Baby Talk	4
3. BABY TALK IN ADULT-TO-ADULT COMMUNICATION.....	7
3.1. Affection Exchange Theory	7
3.2. Gender Differences.....	9
4. RESEARCH TOPIC AND METHODOLOGY	10
4.1. Research – purpose and expectations	12
4.2. Informants.....	12
4.3. Survey.....	13
5. RESULTS AND DISCUSSION	14
6. CONCLUSION AND FURTHER DISCUSSIONS	17
7. WORKS CITED	19
8. APPENDICES	
8.1. Appendix 1: The Complete List of Research Questions and Answers in Croatian Language.....	21
8.2. Appendix 2: The Complete List of Research Questions and Answers in English Language.....	23
ABSTRACT.....	25

1. INTRODUCTION

The properties of what in linguistics is labelled as infant-directed (IDS), child-directed speech (CDS) or motherese/fatherese have been investigated and examined since the mid 20th century. It is a type of speech which adults use automatically when speaking to children. Since infants and children have limited communicative competence, adults' behaviour is modified to accommodate children's needs, and modifying the voice is the most significant strategy (Broesch and Bryant 2015: 1). In this paper, the terms *IDS* and *baby talk* will be used interchangeably, meaning that baby talk does not refer solely to onomatopoeic and repetitive or idiomatic expressions, but to the vocal apparatus as well, or, in Brosch and Bryant's terms, it covers the two basic elements of the usual understanding of IDS: simplified speech register and acoustic modification of speech (2015: 2). As Ferguson noted in 1977, in comparison to adult-directed speech (ADS), IDS or baby talk is characterized by a drastically altered vocal pitch, amplitude and speech rate, vocabulary is simplified and melodic patterns are noticeable (Broesch and Bryant 2015: 1).

The same alteration of speech is also used in adult-to-adult communication. But, if adults have full language competence, why do their adult co-speakers simplify their manner of speaking? The contexts in which baby talk between adults is used may give us an explanation of why adults use baby talk among themselves. It is assumed that intimate relationships (both friends and family members) and romantic relationships are the most approving of such manner of speaking. Unfortunately, not much research has been done on this topic to give us a clear insight into the reasoning of this phenomenon, but the basic assumptions are that baby talk makes people feel loved and cared for, and, via baby talk, adults project childhood's positive emotions into adulthood. This is the manner of speech used by caregivers; therefore it signals intimacy and closeness between adults, just as it did between the caregiver and a child. Also, another hypothesis is that this speech register serves one's displacement in uncomfortable but intimate conversations.

This paper will not provide reasoning of baby talk in adult-to-adult communication, but rather examine adults' attitudes towards it and investigate when using baby talk is appropriate (with whom, in which situations), both in Croatian and English. The inspiration for this type of research is found in Bombar and Littig's 1996 "Baby talk as a communication of intimate attachment: An initial study in adult romances and friendships". Prosodic features of baby talk will be outlined, as well as the cerebral activities included in listening and

responding to baby talk. They are universal, implying that baby talk as such is universal, which is confirmed by a number of researches dealing with cultural and linguistic differences, as well. Several specific uses of baby talk will also be mentioned to show that baby talk is not reserved for children, thereby grasping the scope of the baby-talk phenomenon. Finally, the research and results will show what the attitudes on using baby talk among adults are, as well as the most appropriate contexts for it.

2. FEATURES OF BABY TALK

When with infants and/or children, adults almost instantly change their manner of speaking. Although this type of vocal modification is called motherese/fatherese, it is not reserved for parents only. Adults slow down their speech rate, resulting in slow utterances, and separate them by longer pauses, making them clearer and more distinctive. As opposed to the average adult-directed speech (ADS), their voice becomes higher in pitch, it has a wider pitch range and the pitch contours are exaggerated (Naoi et al. 2012: 1735). Baby talk serves much more than a cosmetic purpose – although adults tend to have prejudice towards baby talk for sounding funny or too childish, these radical vocal changes enable children to master the language puzzles: exaggerated prosody highlights boundaries between words, phrases and clauses and also marks topic words, which tend to appear at the end of the utterances. The utterances are short, which lightens the memory load imposed by utterances (Traxler 2012: 338). All of this has an explanation on the neurological basis.

2.1. Neurological Activities during Exposure to Baby Talk

Naturally, each type of speech evokes certain neural areas, both when speaking and listening. Regarding baby talk, there have been studies confirming that people respond differently to it; that is, reactions to baby talk in the brain are more intense.

Children show greater attention to baby talk than regular ADS, which is proven by the greater activation in the bilateral temporal area (4 – 13 months infants) (Naoi et al. 2012: 1739). Neural activation is bilateral since phonemes are predominantly processed in the left temporal lobe, and suprasegmental features of any utterance preferably in the right temporal lobe. In addition, baby talk also triggered stronger reactions in the infants' right temporal lobe due to emotional prosody of baby talk. In this respect, there is a significant difference between baby talk and ADS (Naoi et al. 2012: 1740). The mentioned strong neural

activations in the left and right temporal lobe are independent of the familiarity of a speaker. The most positive neural response to baby talk occurs when mothers speak to their children. In this case, frontal areas are activated, alongside the bilateral temporal areas (Naoi et al. 2012: 1741). Increased neural activity has been noted while producing IDS in mothers, too. Matsuda et al. (2011) came to a conclusion that baby talk is use-dependent and mothers of small infants who use baby talk extensively have developed advanced neural mechanisms for baby talk. It is assumed that left frontal activation is related to the processing of positive emotion and positive interactions between mothers and infants (Naoi et al. 2012: 1741). These affective and attentional functions evoked by baby talk are related to its physical features - the fundamental frequency, to be more precise.

2.2. Universal Properties of Baby Talk

As opposed to the ADS, there are more musical rhythmic elements in baby talk. In 1989 Fernald noted that its fundamental mean frequency (F0) is overall higher, the F0 range is wider and intensity contours are exaggerated (Bryant & Barrett 2007: 746). These acoustic modifications of F0 height and its range are associated with attentional and affective functions (Xu et al. 2005: 374). It is suggested that heightened pitch range is "related to gaining the audience's attention and is found in speech directed to audiences with limited attentional abilities" (Xu et al. 2005: 374). Higher mean F0 is related to "the communication of positive affect to the audience" (ibid.). Baby talk captures the attention of infants and children, it evokes positive responses, meaning that it is a powerful motivational booster for language learning. The fact that it is spoken slower than ADS utterances also has a significant role in facilitating the language acquisition.

There are a few explanations of why IDS is spoken in a slower speaking rate. Most likely, it helps the child with the processing of linguistic information by giving them more time. Slower rate also helps capture the child's attention, and insert more cues which could help with the determining of phonetic and syntactic constituents (Ko 2012: 843-844). Children whose mothers spoke more clearly were proven by Liu et al. (2003) and Thiessen et al. (2005) to discriminate between similar sounding words better than the children whose mothers used regular ADS. Moreover, depressed mothers who did not use typical IDS caused the setback in their children's speech-processing abilities at early stages, in comparison to their peers. Their children learned new words at a slower rate. However, the same children listening to non-depressed mothers proved to have the same ability to learn, meaning that

baby talk facilitates the children's language learning, thanks to its prosodic cues and hints, but its lack does not diminish the ability to learn (Traxler 2012: 338).

As children grow older or as their linguistic development becomes more sophisticated, mothers also modify their speech. The more words a child knows, the more working memory is free for new linguistic forms; therefore mothers use more complex forms, changing their pitch towards a more neutral one, minimizing exaggeration. This was confirmed by Eon-Suk Ko in 2012, who proved that there is an abrupt shift in mothers' speaking rate when the child starts using more complex phrases and sentences. This confirms that mothers constantly monitor a child's linguistic development and adapt their speech to facilitate it (Ko 2012: 855). If this claim can be generalized and applied to all mothers, or even parents, it means that baby talk is the part of the innate "human language-learning machinery". This is Gleitman's term, who claims that none of the human languages is innate, since there are too many different existing languages (a Chomskyan theory, descending from UG); nevertheless, they all have very slight rules of organization and "learners are prepared by nature to expect the language they hear to partake of just these formal and substantive properties and are able to acquire languages of this well-defined sort effortlessly during the natural course of maturation" (Gleitman 1993: S14). Moreover, features of baby talk are inscribed in the *bioprogram* which guides the language acquisition (ibid.). Even though the vocabulary is different among languages, the base (prosody and physical properties of an utterance) is the same overall. Jenkins will agree by saying that language is experienced, but our capacity for it to be learned is innate: different languages are merely instantiations of one biological language which can be called Human (2000: 79).

Universality of baby talk can be supported by a number of cross-cultural and cross-linguistic studies showing that infants respond quite similarly to physical properties of baby talk, regardless of the language which it is spoken in. As Naoi pointed out, baby talk as a specific manner of speech has been investigated, recorded and examined since the second half of the twentieth century by different linguists: Fernald and Simon in 1984, Snow and Ferguson in 1977; Stern, Spieker, Barnett and MacKain in 1983; Grieser and Kuhl in 1988; Kitamura, Thanavisuth, Burnham and Luksaneeyanawin in 2002; Papousek and Hwang in 1991; Shute and Wheldall in 1989, Broesch and Bryant in 2015, and many others (Naoi et al. 2012: 1735). Some of these studies showed that different language families share prosodic properties of IDS.

Firstly, in 1992 Fernald found that communicative intentions have similar pitch contours across several languages:

"For example, prohibition utterances are often characterized by low F0, narrow F0 range, and staccato-like bursts. In contrast, approval vocalizations generally have high average F0, wide F0 range, and a prominent F0 rise-fall contour. These acoustic configurations modulate infants' attention and subsequent behavior in expected ways without relying on verbal commands that are not readily understood." (Bryant & Barrett 2007: 746)

Bryant & Barrett expanded their research to prove that the semantic properties of an utterance are not crucial in conveying intentions via speech. This can be done by using solely acoustic properties of IDS across language families. In their work "Recognizing intentions in Infant-Directed Speech: Evidence for Universals" they examined whether basic intentions can be communicated through an unknown language. The Shuar, the indigenous people of Ecuador, were exposed to American-English utterances. Even though they did not speak nor understand the language, they could discriminate between prohibition, approval, attention and comfort. These intentions were recognized more clearly in IDS than ADS, which confirms several assumptions. Firstly, baby talk provides clear vocal cues on intention and emotion, and this principle is valid cross-linguistically. Secondly, since no semantic cues were used to discriminate between intentions, one can conclude that "vocal emotional communication manifests itself in similar ways across disparate cultures" (Bryant & Barrett, 2007). Vocal expressions of emotions seem to be universally recognizable (Broesch and Bryant 2015: 10). Finally, these conclusions go in favour of Jenkins' and Gleitman's hypothesis about the universal innate Human language. Seemingly, this innate Human language enables humans to reliably identify intentions from non-semantic vocal cues, regardless of semantic information (Bryant & Barrett 2007: 750 – 751).

Ferguson summarized data of vocal modification in adults in 1977, gathering the data in fifteen different languages and 23 societies, in which he noted that there is a difference in adults' speech register when addressing children (Broesch and Bryant 2015: 2). Moreover, Watson-Gegeo and Gegeo in 1986 claimed that caregivers from Melanesian Solomon Islands modify their speech register when communicating to children, as well (ibid.); however, no recordings were made to support the claim. In another Broesch's and Bryant's research, mothers from two traditional societies were recorded when producing IDS, and it was found

that pitch changes were very similar to those from the data in other languages. They also produced IDS in a slower speaking rate (Broesch and Bryant 2015: 9).

Prosodic features of baby talk seem to be universal. They facilitate the acquisition of language and evoke positive reactions in children, serving as a motivational booster. I suggest that the latter role of the baby talk's prosody can be used to explain why baby talk is used in adult-to-adult communication.

3. BABY TALK IN ADULT-TO-ADULT COMMUNICATION

Baby talk facilitates language acquisition and evokes positive emotions when used with children. When used with adults (in adult-to-adult communication), I argue that these positive emotions are projected via baby talk. In accordance with the suggestion from the introduction, in the adult environment, baby talk is referred to as both idiomatic and onomatopoeic expressions and expressions characterized by exaggerated prosody. Since adults have full language competence, it is assumed that baby talk is used to capture attention and transfer or evoke positive emotions, rather than to provide linguistic cues. It signals closeness between people in close relationships, improves mutual emotional connection, psychological bonding or secure attachment (Bombar and Littig 1996: 138), and is recognised as the means of communicating affection from both sides of a communication channel. There have been records of using baby talk not only with children, but also pets (Hirsh-Pasek & Treiman, 1982; Levin & Hunter, 1982), plants, and older and/or disabled people (e.g., Caporael, 1981; Caporael & Culbertson, 1986; Caporael, Lukaszewski, & Culbertson, 1983) (Bombar and Littig 1996: 140). In the latter case, baby talk is used to make language simple, but in all three cases it is used to communicate caring and loving emotions.

3.1. Affection Exchange Theory

Communicating affection can be achieved through gestures, mimics, body language, but also through language itself, and there are benefits to it: it can elicit reciprocation of affectionate feelings or help maintain or establish a significant relationship (Floyd 2006: 3). Many studies have confirmed that baby talk is above language: it has universal physical characteristics which can be recognised regardless of a language it is spoken in. Recorded neural activities support this claim. As a result, communicating affection by means of baby talk in both adult-to-children and adult-to-adult communication may also be generalized as a

fact. Although there is a lack of scientific research dealing with reasons why adults use baby talk when speaking to other adults, the affection exchange theory (Floyd 2006) may serve as a theoretical basis.

According to Floyd, affection exchange theory treats communication as a type of behaviour that serves human evolutionary goals: survival and procreation, which he calls *superordinate human motivations* (2006: 160). Humans are naturally motivated to meet these goals (ibid.). Having accepted this as a postulate, to help fulfil the inborn need for affection, a "neurally grounded structure" called *ontogenetic bonding system* "operates to promote social interaction toward the development or maintenance of dyadic relationships" (Floyd 2006: 161-162). The social interaction is characterized with feelings of safety and warmth, which are, on a neurological basis, conveyed by oxytocin, vasopressin, prolactin, dopamine, norepinephrine, serotonin, opioids, and cannabinoids (ibid.). The activity in these neurotransmitter systems induces the mentioned feelings, which makes "bonding behaviours rewarding" (ibid.). This claim serves as an additional postulate of the affection exchange theory: the affectionate behaviour benefits both the sender and the receiver (Floyd 2006: 164). Affection exchange may also be achieved through linguistic communication. Therefore, this may be an explanation why adults use baby talk with other adults: to express and transfer affection.

In order to confirm the affection exchange theory, in 2003, Floyd and Ray conducted research examining relationships between speakers' vocal characteristics and listeners' perception and recognition of affection, and it was moderately supported. In a face-to-face interaction, 48 previously unacquainted young adults engaged in a verbal communication, and in each interaction there was an independent *judge*. Speech was recorded, speakers were given instructions on how to produce utterances, listeners reported what they had perceived from speakers' manner of speaking, as did the judge, for the sake of being objective. According to the results, speakers' F0 was linearly related to observers' and receivers' perception of affection level. Moreover, the perception was influenced by speakers' sex. Men's voices "are perceived to be more affiliative and less dominant or aggressive when they are lower in pitch, whereas women's voices are perceived to be more affiliative and less dominant when they are higher in pitch" (Floyd and Ray 2003: 68). The implication is that men and women have slightly different apparatus for exchanging affection.

3.2. Gender Differences

Reports on gender differences regarding the production and perception of baby talk are somewhat contradictory. Bombar and Littig state that the level and variability of pitch is sometimes higher in men's baby talk (1996: 139). However, men tend to stop baby talking to toddlers sooner than women (ibid.). Bell, Buerkel-Rothfuss, and Gore conducted a research in 1987, examining the use of idioms in heterosexual romantic couples, the most common function of which was confirmed to be expressing affection (Floyd 2006: 37-38). They reported that men had greater tendency to invent idioms of affection, but for both sexes the number of idioms was linearly related to levels of love, closeness and commitment (ibid.).

The fact that men invent idioms for expressing affection more often may be in connection to the displacement hypothesis. Verbal communication is a direct expression of one's thoughts. In western cultures, it is common to think that expressing emotions is feminine, as well as being emotional, for that matter. On the other hand, certain situations in relationships (romantic or friendly) in which revealing private information is required may simply make one feel uncomfortable. Once something is said, it exists and it cannot be taken back – therefore the anxiety of expressing emotions directly. Luckily, language can be manipulated in the manner such that it displaces us from ourselves. This is something dealt with in some circles in philosophical anthropology. If one accepts the assumption that a person can shift between two spheres of life – the sphere of severity and the sphere of play (Helmuth Plessner 2010), the notion of displacement is easily explained. Since language is used to 'mask' one's self, the same mechanism can be applied to baby talk. It is used in a relationship as a tampon-zone. It enables the speaker to play a different role, displace them from their selves, but simultaneously, since it is described as a warm and emotional manner of speaking, it soothes the listener, communicates affection, and possibly prevents conflicts. So, when men use idioms, they still succeed in communicating affection, but do not expose themselves directly.

However, men-to-men communication is less affectionate, as Shuntich and Shapiro reported in their research in 1991 (Floyd 2006: 39). Men seem to be less affectionate in same-sex interaction, but not in opposite-sex interaction. The same pattern emerged in Bombar and Littig's 1996 research; "men and women did not differ from each other in their likelihood of using baby talk with opposite-sex friends, but women were more likely than men to use it with same-sex friends" (Floyd 2006: 39). Moreover, women react differently to different male

co-speakers, according to results from Montepare and Vega's 1988 research. Women manifested more feminine and babyish vocal qualities when talking to intimate friends, as opposed to casual friends, and the *judges* were able to recognize that. In these cases, women were perceived as more approachable and submissive. Both Bell and Healy (1992) and Bombar and Littig (1996) came to the conclusion that both men and women are more likely to use baby talk in a private setting than in a public one (Floyd 2006: 49).

4. RESEARCH TOPIC AND METHODOLOGY

In the study *Baby talk in Adult-to-adult Communication*, baby talk is referred to in two senses. Firstly and more specifically, baby talk is understood as a modified speech pattern characterized by a wider pitch range, higher pitch, the utterances are slower, with longer pauses and exaggerated pitch contours. For the purpose of this research, the term baby talk is broadened, and is understood, not only as a speech pattern, but also includes idioms and childlike expressions, mostly diminutives and nicknames, utterances of which may not be necessarily characterized by the typical baby-talk prosodic properties. Adult-to-adult communication is the oral exchange of information between two or more adult persons, exceeding the age of 18. In this research, three basic types of relationships between adults are taken as frameworks within which baby talk is studied: friendships, parental and grandparental and romantic relationships. The division of the survey itself is done according to these types of inter-adult relationships.

This paper is an elaboration of research of the same topic done three years ago. Some qualitative research precedes the survey, as well as some personal notes. The former were three interviews done with three 22-year-old adult Croatian native speakers, two males and a female. One male was single at the moment of the interview (Informant 1), while the other one (Informant 2) had been involved in a romantic relationship with the interviewed female (Informant 3) for a year and 9 months. Each one of them was interviewed alone. The interviews lasted up to twenty minutes, and the subjects were asked the same questions, with the addition of complementary questions serving as guidelines if needed. The introductory question required the subjects' opinions on baby talk, which was followed by asking them in which situations they heard it. Interestingly enough, none of them mentioned adult-to-adult conversations as ones in which baby talk was used without the additional question which explicitly required them to comment on baby talk among adults. At some points, the subjects

were asked to give their own examples of baby talk, which was described as *weird*, since this information was not being given to the partner. This embarrassment can be reasoned by the fact that this type of communication is reserved for intimate spheres only. Bombar & Littig report that adults do use baby talk (three quarters of their respondents), mostly in romantic relationships (68.3%) (1996: 145). The information gained from the interviews corresponds to this data. However, close friendships are not excluded, although the percentage of the baby talk use is lower. The male informants did mention that the vocabulary (phrases and idioms) used when communicating with their best friends differs from other types of communication. So when one of the informants invites his best friend to have a drink with him, he says "Mangupe, jesi li za piće?" ('Hey rowdy, are you up for a drink?') (Informant 1) or, as the other informant said, "Dragi, 'očemo na pivicu?" ('Hey dear, shall we go for a beer?'; 'pivica' = Croatian diminutive of 'beer') (Informant 2). This type of baby talk in male friendship was characterized as the way of being silly and entertaining. Bombar & Lawrence reported that baby talk was mostly used for "expressing affection" and "being silly, fooling around, [and] having fun". "The next most typical intentions were 'asking for a favor [or] trying to get [the partner] to do something,' 'seeking mutual affection,' and 'asking for affection'" (Bombar & Lawrence 1996: 151). Indeed, using baby talk when asking for favors was mentioned by informants. This way of baby talking was used in communication with their parents, although they are all 22-year-olds. Baby talking for favors is mostly used by parents asking them to clean up their rooms or to go to the market, no matter whether they are speaking to sons or daughters. Some of my personal notes made while spending time in my family home show the same. Regardless of sex and the manner of communicating (oral or written), asking for favors was one of three contexts in which baby talk was used. My mother would leave me notes writing *mici* (dim., 'a small cat' in literal translation; it can be replaced by 'honey') when asking me to prepare lunch, but I have noted that she had used it in oral communication, too. The use of nicknames has also been noted. A friend complained to me that her colleague lawyer calls her *Anči* (nickname for Ana) whenever she needs her to check her case files at court, in spite of having a non-friendly relationship. Interestingly enough, baby talk was extensively used when family members were talking about our pet among each other, or when they were discussing regular non-pet-related topics while holding the dog in their arms. The third context in which baby talk was used was when grandmother prepared a meal or made coffee for any of us – she would present it to us in a baby-talk manner ('vujčo' is used instead of 'ujo', which is the regular form of the word 'uncle', although she is speaking to her son; again the use of nicknames). Most recent casual conversations with

friends discovered that they actually can think of situations in which they use baby talk with adults, but only after my mentioning of several possible contexts. It seems that this use of baby talk cannot be related to the level of education or, how Labov would say, social stratification. Apparently, even doctors tend to baby talk to adult patients in order to sooth them. Lawyers baby talk to their romantic partners, an artist baby talks to his dog, a photographer baby talks to almost everyone, because he seems more approachable to his clients. Even I can think of baby-talk moments with my partner – it is used often when one (or the other, for that matter) expresses feelings, or just for the sake of fooling around. These contexts provide research opportunities for investigating why adults use baby talk with other adults, and why sometimes they can't control it. Unfortunately, this is not what the survey was set up for.

4.1. Research – purpose and expectations

The purpose of the survey was to investigate what the adults' attitudes towards baby talk in specific situations are. The goal was to gather the data which would show if there is any difference in attitudes between using baby talk with children and using baby talk within adults' social environment. Based on the assumption that the mentioned difference exists, it was investigated what type of inter-adult relationship among the three suggested (friendships, parental and romantic relationships) is the most approving of baby talk. I expected romantic relationships are the most approving of baby talk. Also, one of the assumptions was that parents and grandparents baby talk to their children and grandchildren regardless of age, due to their initial familial relations and difference in generation. Furthermore, it is assumed that romantic partners use baby talk as a tool for expressing emotions, given that the altered manner of speaking serves as a displacement from one's self. The answers to the final question (*List 3 - 5 expressions which could be qualified as baby talk*) were used to show which word classes are used in baby talk.

4.2. Informants

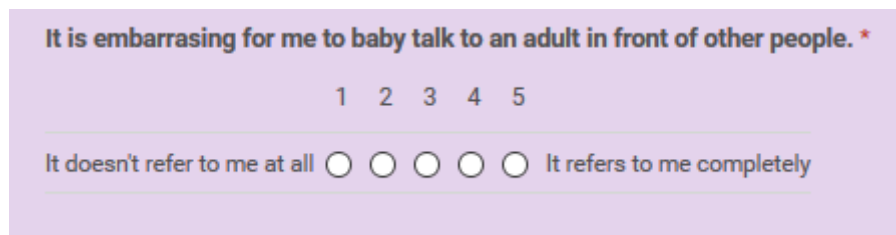
This quantitative research was constructed as an electronic online survey in English and Croatian language (*Tepanje u komunikaciji odraslih*)¹, targeting native English and Croatian speakers. Being active since 07 January 2015, the survey was completed by 216 informants, out of whom 202 informants were Croatian native speakers, nine were English native speakers, and five were Croatian native speakers who completed the English version

¹ The complete versions of research questions in Croatian and English language are appended (p. 21).

by mistake. These informants' answers were not analyzed. The survey was anonymous, gender and age were required. The condition was that the informant was at least 18 years old. It is important to mention that the informants were random, without any criteria. The survey was launched online, and shared on the social network to reach native speakers. The sample is small (215 informants), and can be expanded for further research.

4.3. Survey

Both versions of the research consisted of 29 questions, once the questions on age and gender are subtracted. The questions were formulated as statements expressing attitudes towards baby talk in a certain situation. On the scale of 1 – 5, informants were asked to grade the extent to which the specific attitude refers to them (see the example 1 below).



The image shows a screenshot of a survey question. The statement is "It is embarrassing for me to baby talk to an adult in front of other people. *". Below the statement is a 5-point Likert scale with radio buttons. The scale is labeled "1 2 3 4 5" above the buttons. The first button is selected, and the text "It doesn't refer to me at all" is visible on the left and "It refers to me completely" is visible on the right.

Example 1: Exemplary statement and a scale

The research was divided into three major units: *General attitudes* (containing nine statements), *Baby talk in adult-to-adult communication* (containing eleven statements), and *Baby talk in intimate relationships* (containing 8 statements and a fill-in question). The *General attitudes* section served to examine whether the informants could distinguish between regular speech and baby talk, and what their opinion on baby talk was when it is directed to children and pets, since, stereotypically, those are the situations in which it is used the most.

The second section, *Baby talk in adult-to-adult communication*, investigated the informants' experience of the baby talk usage among their adult friends (both male and female) and older family members. It was particularly assumed that grandparents would use baby talk more often than parents.

The final section was based on the assumption that baby talk is the sign of affection and intimacy. It was investigated whether romantic couples use it in everyday communication and how it makes them feel. Some of the attitudes were aimed at investigating whether this

type of speech helps people express their emotions or makes them feel calmer, since it is used in a surrounding which encourages intimacy.

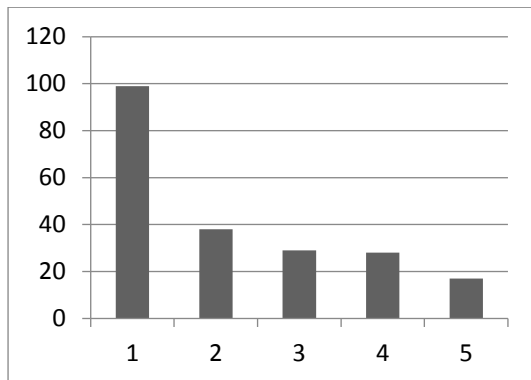
5. RESULTS AND DISCUSSION

When speaking about general attitudes on baby talk, most informants' answers imply that they do not feel comfortable using baby talk in front of other people (34.59 %), nor hearing it being used. A difference between Croatian and English speakers may be noted: English speakers seem to be more comfortable hearing other people baby talk. However, only the total of 13.74 % informants clearly marked baby talk as immature behaviour when used among adults. It is acceptable to baby talk to children (27.96 %), but when it comes to estimating their own baby talking to children, there are no large differences in percentages (16.11 % answered *It doesn't refer to me at all*, 19.9 % answered *It refers to me completely*). This can be explained by the fact that people are not often in contact to children, or have prejudice towards baby talk. On the other hand, baby talking to pets is significantly acceptable and done (46.92 %). Such speech is of similar character as child-directed speech; owners think of their pets as of children, beings who need their care and love.

Attitudes on using baby talk with adult female and male friends correspond to the initial negative results in the *General attitudes* section. Similar results are obvious when it comes to (grand)parents baby talking to their (grand)children (see Chart 1), which disproves the initial assumption. However, more positive attitudes are noted towards using baby talk when joking with friends (Chart 2).

Chart 1

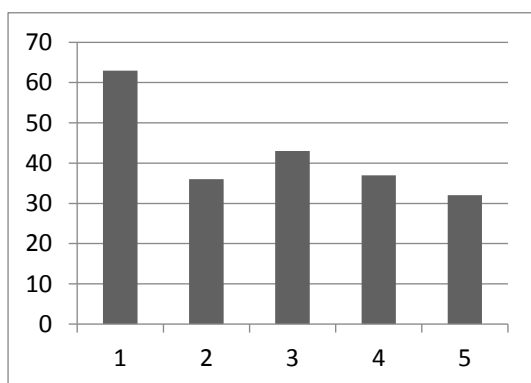
Although I am an adult, my parents baby talk to me.



It doesn't refer to me at all:	1	99	46.92 %
	2	38	18 %
	3	29	13.74 %
	4	28	13.27 %
It refers to me completely:	5	17	8.06 %

Chart 2

I use baby talk the most when joking with my friends.

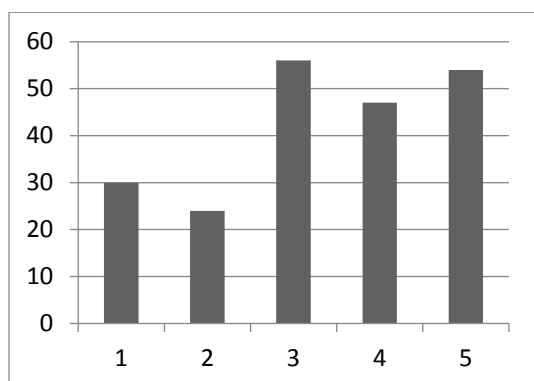


It doesn't refer to me at all:	1	63	29.86 %
	2	36	17.06 %
	3	43	20.38 %
	4	37	17.54 %
It refers to me completely:	5	32	15.17 %

Also, in correspondence to general attitudes from the initial section, according to the results, the majority of informants does not use baby talk in communication with their romantic partners (question 21: 67.29 %); however, they have mostly positive attitudes towards it (question 23: 21.8 %). They also confirm that baby talk is a sign of closeness and intimacy, not only in intimate relationships, but also in general (Chart 3).

Chart 3

Baby talk between partners is a sign of intimacy.



It doesn't refer to me at all:	1	30	14.22 %
	2	24	11.37 %
	3	56	26.54 %
	4	47	22.27 %
It refers to me completely:	5	54	25.59 %

When it comes to expressing emotion, the informants did not find baby talk relevant in these situations. Although differences in results are not as wide, they reported that baby talk is not used as a tool to express emotions, making the assumption of using language as a tool for displacement wrong.

Interestingly enough, results from the English native speakers do not differ from the Croatian native speakers' answers. This confirms that baby talk is a widely spread phenomenon in Western cultures. When it comes to gender differences, both men and women will most likely feel embarrassed to baby talk in front of other people (valid for both languages). This result is in accordance with Bombar and Littig's and Bell and Healy's results. Interestingly enough, 29.73 % of male informants report that baby talk is a sign of intimacy between partners, 24.85 % of female informants report the same. Small differences between female and male attitudes show that baby talk is not gender conditioned, but rather universal.

Croatian native speakers have provided 214 different expressions which they personally would classify as baby talk. Expressions with distorted consonants, which could be classified as one of the important characteristics of baby talk (especially in written form), were rarely noted:

<i>jubavi</i> (from <i>ljubavi</i> ; my love)	6
<i>vojin te</i> (from <i>volim te</i> ; I love you)	4
<i>bjavo</i> (from <i>bravo</i>)	3

<i>djagi</i> (from <i>drag</i> ; my dear), <i>dobro</i> (from <i>dobro</i> ; good/well), <i>epa</i> (from <i>lijepa</i> ; pretty, beautiful), <i>faja</i> (from <i>hvala</i> ; thank you), ...	1
---	---

The most often noted expressions were most usually nouns referring to flowers or animals in irregular diminutive forms:

<i>bubica</i> (dim., a small bug)	35
<i>ljubica, ljubice</i> (viola)	28
<i>ribica, ribice</i> (dim., a small fish)	23
<i>Micek</i> (dim., a small tomcat)	18
<i>micica</i> (dim., a small cat)	18
<i>Beba</i> (baby)	14

In English, 16 different expressions were provided. Due to a small number of informants (nine) and poor results (*baby* and *honey* were noted twice, which is the best result), we lack any credible generalization.

6. CONCLUSION AND FURTHER DISCUSSIONS

The data provided by both Croatian and English native speakers confirmed that speakers don't have quite positive opinion of baby talk in inter-adult communication. However, as it was expected, romantic relationships are the most approving of baby talk, followed by friendships. It was reported that baby talk is used in verbal communication between a (grand)parent and an adult child, but informants had negative attitudes towards it. In romantic relationships, it was confirmed that baby talk signals intimacy and closeness. Interestingly enough, the informants seemed to approve of baby talking to pets, more than to other adults.

The limitation of the research is a small sample of native English speakers' results, meaning that the initial assumptions can only be slightly confirmed, but the data cannot serve as firm evidence. No prosodic features were recorded nor measured. Therefore, the prosody of baby talk in adult-to-adult communication cannot be distinguished from IDS or CDS, if such difference exists. Investigating in which contexts couples or close friends use baby talk,

and how its prosodic patterns differ from those in the infant-directed speech or child-directed speech is one of the suggestions for further analyses, as well as measuring cerebral activities in adults when listening or responding to baby talk (especially in Croatian, due to the lack of available data). By using the quantitative data, one may more easily conclude how this manner of speaking can be used in order to manipulate listeners (evoking certain emotions or intentions).

Another disadvantage of the research is the lack of the objective observer or the *judge*. Informants were supposed to evaluate themselves and recall past situations and their used expressions, which may lead to sustained and subjective answers, due to shame or inadequate recollection of a situation. Nevertheless, since this research was created as an online quantitative research, it would be impossible to insert an objective observer for each informant. Due to such difficulty, one must consider a different type of methodology.

7. WORKS CITED

- Bombar, Meredith L., and Lawrence W. Littig. "Baby talk As A Communication Of Intimate Attachment: An Initial Study In Adult Romances And Friendships." *Personal Relationships* 3.2 (1996): 137-158. *SocINDEX with Full Text*. Web. 16 May 2013.
- Broesch, Tanya L., and Gregory A. Bryant. "Prosody in Infant-Directed Speech Is Similar Across Western and Traditional Cultures." *Journal of Cognition And Development* 16(1) (2015): 31 – 43. *Academic Search Complete*. Web. 05 July 2016
- Bryant, Gregory A., and H. Clark Barrett. "Recognizing Intentions In Infant-Directed Speech: Evidence For Universals." *Psychological Science (Wiley-Blackwell)* 18.8 (2007): 746-751. *Academic Search Complete*. Web. 16 May 2013.
- Floyd, Kory. *Communicating Affection: Interpersonal Behaviour and Social Context*. Cambridge University Press: 2006. Web. 05 July 2016
- Floyd, Kory, and George B. Ray. "Human affection exchange: IV. Vocalic predictors of perceived affection in initial interactions." *Western Journal of Communication* 67 (1) (2003): 56-73. *Academic Search Complete*. Web. 05 July 2016
- Gleitman, Lila R. "A Human Universal: The Capacity to Learn a Language." *Modern Philology* 90, Supplement (1993): 13 – 33. JSTOR. Web. 27 January 2013
- Jenkins, Lyle. *Biolinguistics: Exploring the Biology of Language*. Cambridge University Press: Cambridge, 2000. Web.
- Ko, Eon-Suk. "Nonlinear development of speaking rate in child-directed speech." *Lingua* 122 (2012): 841 – 857. *ScienceDirect*. Web. 05 July 2016
- Montepare, Joann M., and Cynthia Vega. "Women's Vocal Reactions to Intimate and Casual Male Friends." *Personality and Social Psychology Bulletin* 14(1) (1988): 103 – 113. *Academic Search Complete*. Web. 05 July 2016

- Naoi, Nozomi, Yasuyo Minagawa-Kawai, Ai Kobayashi, Koji Takeuchi, Katsuki Nakamura, Jun-ichi Yamamoto, Shozo, Kojima. "Cerebral responses to infant-directed speech and the effect of the talker familiarity." *NeuroImage* 59 (2012): 1735 – 1744. ScienceDirect. Web. 05. July 2016
- Plessner, Helmuth. *Smijeh i plač : istraživanje granica ljudskog odnošenja*. Naklada Breza: Zagreb, 2010. Print.
- Traxler, Matthew J. *Introduction to Psycholinguistics: Understanding Language Science*. Wiley-Blackwell: 2012. Web. 25 August 2016
- Xu, Nan, Burnham Denis, Kitamura Christine and Ute Vollmer-Conna. "Vowel Hyperarticulation in Parrot-, Dog-, and Infant-Directed Speech." *Anthrozoös* 26(3) (2015): 373 – 380. Academic Search Complete. Web. 05 July 2016

8. APPENDICES

8.1. Appendix 1: The Complete List of Research Questions and Answers in Croatian Language

Statement		Answers				
		1	2	3	4	5
Općeniti stavovi	1.) Mogu jasno razlikovati tepanje od uobičajenog govora.	3	3	2	26	168
	2.) Neugodno mi je tepati dok me drugi slušaju.	20	23	49	39	71
	3.) Smiješno mi je kada drugi ljudi tepaju.	21	25	66	49	41
	4.) Tepanje između odraslih je nezrelo.	50	40	54	31	27
	5.) Tepanje djeci je normalno.	22	31	47	45	57
	6.) Tepam djeci.	34	35	43	51	39
	7.) Sasvim mi je prihvatljivo da ljudi tepaju djeci.	17	27	50	45	63
	8.) Sasvim mi je prihvatljivo da ljudi tepaju životinjama.	12	22	32	49	87
	9.) Tepam kućnim ljubimcima.	29	18	20	41	94
Tepanje u komunikaciji odraslih	10.) Kada razgovaram s prijateljicama, ponekad si tepamo.	77	43	30	33	19
	11.) U razgovoru s prijateljima ponekad si tepamo.	80	48	29	31	14
	12.) Najviše tepam u šali s prijateljima.	58	36	42	36	30
	13.) Nikad ne tepam u nepoznatom društvu.	18	14	24	22	124
	14.) Iako sam odrasla osoba, roditelji mi tepaju.	91	37	29	28	17
	15.) Kada me nešto trebaju, roditelji mi tepaju.	117	35	24	18	8
	16.) Osjećam se bolje kada mi roditelj tepa.	127	24	23	11	17
	17.) Baka i djed mi tepaju.	115	22	28	18	19
	18.) Baka i djed tepaju samo unucima, ne i svojoj djeci.	62	29	57	31	23
	19.) Smeta mi kada mi baka ili djed tepaju.	98	20	45	17	22
Tepanje u intimnim odnosima	20.) Stariji članovi obitelji mi tepaju kada mi uručuju poklone.	119	35	39	5	4
	21.) U ozbiljim razgovorima s partnerom pričam djetinjasto.	136	26	22	11	7
	22.) Glas mi se promijeni prema djetinjastom kada s partnerom razgovaram o osjećajima.	73	39	44	30	16
	23.) Tepanje između dvaju odraslih partnera je uobičajeno.	21	31	55	50	45

24.) Tepanje između partnera je znak prisnosti.	28	23	55	44	52
25.) Smeta mi kada mi partner tepa.	90	56	26	14	16
26.) Ljudi koji tepaju odraslima nemaju poteškoća s izražavanjem osjećaja.	37	39	80	26	20
27.) Ljudi koji tepaju odraslima teško izražavaju svoje osjećaje normalnim govorom.	47	40	66	32	17
28.) Tepanje općenito signalizira osjećaj prisnosti.	30	21	55	58	38
29.) Navedite 3 – 5 izraza koje kvalificirate kao tepanje.					
			bubica		35
			ljubica/e		28
			ribica/e		23
			micik		18
			micica/o		18
			beba		14
			miš/u		14
			Mišiću		14
			ljubav(i)		13
			bebica		12
			ljubi		12
			slatkica		12
			Miško		11
			Mica/o		10
			srčecko		10
			Srećica		10
			srećo		10

8.2. Appendix 2: The Complete List of Research Questions and Answers in English Language

Statement		Answers				
		1	2	3	4	5
General attitudes	1.) I can easily distinguish baby talk from usual speech.	1	1	1	0	11
	2.) It is embarrassing for me to baby talk in front of other people.	1	3	3	2	5
	3.) I find it funny when other people baby talk.	1	3	3	2	5
	4.) Adults using baby talk is immature.	4	2	1	3	4
	5.) It is normal to baby talk to children.	1	1	6	3	3
	6.) I baby talk to children.	2	3	3	3	3
	7.) I find it completely acceptable when people baby talk to children.	1	3	5	3	2
	8.) I find it completely acceptable when people baby talk to animals.	2	1	2	2	7
	9.) I baby talk to pets.	5	0	1	1	7
Baby talk in adult-to-adult communication	10.) When talking to my girlfriends, we sometimes baby talk to each other.	7	3	2	2	0
	11.) When talking to my boyfriends, we sometimes baby talk to each other.	6	1	3	2	2
	12.) I use baby talk the most when joking with my friends.	7	2	1	2	2
	13.) I never use baby talk in company of strangers.	2	3	3	1	5
	14.) Although I am an adult, my parents baby talk to me.	11	1	0	1	1
	15.) My parents baby talk to me when they need something.	12	0	1	1	0
	16.) I feel better when my parent baby talks to me.	11	2	1	0	0
	17.) My grandparents baby talk to me.	11	1	1	0	1
	18.) My grandparents baby talk to their grandchildren, but not children.	7	2	2	1	2
	19.) It bothers me when my grandparents baby talk to me.	9	1	0	2	2
	20.) Older family members baby talk to me when giving me presents.	10	2	1	1	0
Baby talk in intimate relationships	21.) I talk in a childlike manner when having serious conversations with my partner.	11	1	2	0	0
	22.) My voice changes into childlike when I talk to my partner about feelings.	7	1	4	1	1
	23.) Baby talk between adult partners is common.	4	3	2	4	1

	24.) Baby talk between partners is a sign of intimacy.	4	4	1	3	2
	25.) It bothers me when my partner baby talks to me.	6	4	2	1	1
	26.) People who baby talk to other adults can easily express their emotions.	6	2	4	2	0
	27.) People who baby talk to other adults have problems with expressing their emotions by using regular speech.	3	2	4	4	1
	28.) In general, baby talk is a sign of intimacy.	4	2	3	4	1
	29.) List 3-5 expressions which could be qualified as baby talk.					
				baby		2
				honey		2
				bae		1
				boo boo		1
				bootje		1
				bubu		1
				Cutie pie		1
				honey booboo		1
				kido		1
				my baby		1
				my dear		1
				my little mouse		1
				Sugar		1
				sweetie		1
				sweety		1
				you're so cute		1

ABSTRACT

Baby talk (IDS) is a modified use of language used by adults in communicating with children. Research shows that it is used almost instinctively when speaking to children, especially infants, and its reception evokes increased temporal and frontal neural activities. Children respond to it with more attention than to regular speech, and it has been confirmed that children whose mothers use baby talk in order to provide linguistic cues learn to distinguish between similar sounding words better than the children whose mothers used regular ADS (Liu et al. 2003, Thiessen et al. 2005). Baby talk in adult-to-adult communication hasn't been investigated in terms of neural activities, but this paper shows that the phenomenon exists in different social contexts. For the purposes of this research, baby talk is understood as a speech pattern, but also includes idioms and childlike expressions, mostly diminutives and nicknames, utterances of which may not be necessarily characterized by the typical baby-talk prosodic properties. The electronic survey was conducted, designed separately for English and Croatian native speakers, consisting of 29 statements regarding the informants' attitudes on baby talk in adult-to-adult communication. The answers of 215 informants confirmed the hypothesis that there is a difference in attitudes between using baby talk with children and using baby talk within adults' social environment. It was also investigated what type of inter-adult relationship among the three suggested in the survey (friendships, parental and romantic relationships) is the most approving of baby talk. Informants reported that they are uncomfortable with using baby talk in front of other people (34.8 %), and 13.8% mark baby talk as immature behaviour. Baby talking to children (31 %) and pets (47.1%) is acceptable, and, although not used as extensively, baby talking to romantic partners is acceptable and considered to be a sign of intimacy (21.9 %). Small differences in results between English and Croatian native speakers confirm that baby talk is a widely spread phenomenon in Western cultures. Present results also indicate that baby talk is not gender conditioned.

Keywords: Baby talk; IDS; CDS; ADS; Adult-to-adult communication; Romantic communication; Expressing affection; Affection communication theory