

Dr Barbora Skarabela

Baby talk words

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Isabella Melking: This is Forward Thinking. I'm Isabella Melking. Should we really be using baby talk words with toddlers? Linguists at the University of Edinburgh have been researching the use of baby talk words, and Dr Barbora Skarabela is one of them. Barbora and her colleagues recently did a study which found that words like 'choo-choo' help toddlers pick up language quicker than adult language alone. Let's talk to Barbora and find out a little bit more about this research into children's language development. Hi Barbora, welcome to the Forward Thinking podcast!

Barbora Skarabela: Hello Isabella, thank you for having me on the show.

Isabella Melking: So I was just wondering, could explain a little about your background and how you got into the field of language development?

Barbora Skarabela: So my - I guess my initial interest in language development probably started in my childhood experience, growing up in Czechoslovakia, and hearing Slovak, Czech Slovak in the environment, Polish on the radio, on TV, learning Russian in school, later English, hearing songs in English, German, Italian, French on TV, radio, so there there were many opportunities to hear different sounds. And I was always interested in hearing noises I did not understand, trying to guess the meaning.

Isabella Melking: It sounds a lot more diverse than what you hear here in the UK -

Barbora Skarabela: Indeed!

Isabella Melking: on the radio and TV, wow!

Barbora Skarabela: And I wonder whether that is why most Czech speakers would find it pretty common to learn another language. So there were many opportunities, plus as a speaker of a small nation, you don't expect that others would learn your language, so we would learn other languages to connect with the outside world, especially at the time when I was growing up. But, I think going back to the question of specifically language development, I think that this childhood experience stayed with me, and led me to study linguistics. And as a postgraduate student at Boston University, I discovered the field of language development, language acquisition, with all the theories and data, but ultimately, I think what got me hooked on child language specifically, child language development, was the discovery of language with my children at home. Witnessing the process live, day by day, and the hard work and practice that came with it, because that was very different from what I read in books on language acquisition.

Isabella Melking: Did they present in a more kind of linear simplistic way in academic texts, compared to what you experienced with your children in real life?

Barbora Skarabela: Er, language acquisition is typically described as fast -

Isabella Melking: Oh, OK

Barbora Skarabela: and effortless, and while it might be effortless for children, there is a lot of practice. It takes a while for them to become the fluent speakers that we tend to focus on when we do linguistics, and I've started viewing the journey as much more bumpy. And more influenced by what children hear around them in the environment.

Isabella Melking: So recently you co-authored a study on baby talk, showing that words like 'bunny' and 'choo-choo' actually help babies build their vocabulary more quickly. So was this a surprising finding, or do you think that parents have always suspected this?

Barbora Skarabela: That's a good one, because there are two parts to the answer here. One, er, me as a parent, and one as a - as a researcher. So to answer the question, I'll take you back to when my daughter, who is now in high school, was 9 months old, and we were in a playground in Victoria Park in Edinburgh, having a nice day out, and a friend of mine, also Czech, made a comment about my use of baby talk words. So, you know, why I would be using words like 'doggie' or 'woof-woof', or 'choo-choo', instead of the grown-up, proper words.

Isabella Melking: Yeah, so like 'train' for 'choo-choo'.

Barbora Skarabela: That's right, well done, yes! [laughs] And, well, this friend of mine commented and said 'well, you should be using proper words, this is not good'. And that caught me by surprise for two reasons. One, I wasn't aware that I was using these words with my daughter, and two, it had never occurred to me that I would not be doing the right thing for my daughter, when I was talking to her, and using these words. And so, this really triggered my interest in the topic, because as a linguist, even though I was, you know, [finished? 05:23] linguist, I didn't know much about what else there was, what other researchers, what other linguists would think about baby-talk words.

Isabella Melking: Mm. So it was just something that came naturally to you as a parent, like using baby-talk words, without you realising you were saying 'a doggie' -

Barbora Skarabela: Exactly. I never - I never questioned the way I was talking to my daughter. I was just trying to be loving and interactive, and that's what came out, these words were part of the interaction. And so, I started looking into the literature, I started asking other people what they thought about baby-talk words, and, er, we found many opinions, particularly in magazines, parent magazines from North America, that baby-talk words are indeed detrimental for your child's language development. But when we were sieving through everything, we realised that people were just expressing their opinions, and there was not much research done on the topic, and so it seemed like -

Isabella Melking: There was a bit of a gap there.

Barbora Skarabela: That's right, gap in the market, and we thought this was a great opportunity to look into it, definitely peaked by my interest as a parent. So I wanted to know if I was harmful for my children.

Isabella Melking: So did you start researching baby-talk when your daughter was young, when she was, you know, around 9 months old?

Barbora Skarabela: Yeah, so - [laughs]

Isabella Melking: Or shortly after? Or how long did it take you?

Barbora Skarabela: Oh, it took - well, er, she is 12 now [laughs] and we are talking about it. So it was a long process, we started exploring different ideas and collecting all sorts of evidence of what there is available, why people have these very strong reactions either for or against using baby-talk words.

Isabella Melking: So who were you working with at that time?

Barbora Skarabela: I was initially - the project started with Mits Ota and this has grown into team that eventually Nicola Davies Jenkins joined as a researcher, once Mits got a grant to really get the study going, with the support of an ESRC grant.

Isabella Melking: So all Edinburgh-based researchers?

Barbora Skarabela: Yes, Edinburgh-based researchers.

Isabella Melking: And so how did it develop from there, once you started - once you found these people that wanted to collaborate on this research?

Barbora Skarabela: So Mits is a speaker of Japanese. I'm a speaker of Czech. We knew of baby-talk words in English and in these languages. We discovered that baby-talk words look suspiciously similar. So in English you have 'choo-choo', and many repetitions like 'mama', 'mummy', 'papa', and 'poo-poo' and 'pee-pee', and in Czech too there is 'pee-pee' with a very different meaning, we use it to refer to a bird. A word like 'papu' can refer to food, otherwise the adult version would be something like 'yidlo'. So we realise that these words are pretty much in all the languages we asked people about. And we realised that they are only a small pocket of them, between 20 to 60 conventionalised words, so words that other speakers of that language community would recognise. Not necessarily use, but recognise. And at the same time, there were some papers coming out showing that newborn babies are so highly attracted to sounds with repeated syllables, that these kind of sound combinations where you have sound repetition, they leave memory traces, even in newborns as young as 3 to 5 days. And so we thought 'OK, so this looks interesting'. We have these repeated sound combinations that are used as words instead of the adult alternatives of - across the different languages.

Isabella Melking: And does it also help that they sound like the word?

Barbora Skarabela: Ah!

Isabella Melking: So, like 'choo-choo' is like that's what the sound that the train makes -

Barbora Skarabela: Well, that's what you think in English! [laughs]

Isabella Melking: Ah, OK!

Barbora Skarabela: But there's a hypothesis, or some researchers point out that these sound-symbolic, onomatopoeic words, do indeed reflect in some ways what the words stand for.

Isabella Melking: So that would help them to build the vocabulary.

Barbora Skarabela: We can come back to this later, because it turns out that it's not as straightforward for these kind of words.

Isabella Melking: So how do we know that baby-talk words are OK?

Barbora Skarabela: So, let's go back to the study, so what we did, we ran a few experimental studies in our lab with babies who were 9 months and then babies who were 18 months, testing whether or not there is indeed something special about words that have repeated syllables that look like, you know, 'mama', 'dada'. And, er, in both of these projects we did find that at 9 months, babies did find them easier to detect in short stories, and remember. And we didn't ask them for their opinions at 9 months. [laughs] What we did, we used the method called central fixation, where babies sit on their parent's lap in our laboratory, in a sound-treated room, and they are looking at a TV screen with a centrally presented image. The image we use is this, what we describe as a pulsing green ball, and the idea is that if the babies look at the ball, at the central image, then it signals that there is something interesting they are listening to, so they are listening to different kind of audio stimuli.

Isabella Melking: So this - they respond to the visual stimuli if -

Barbora Skarabela: That's right

Isabella Melking: they are interested in what they are hearing?

Barbora Skarabela: That's right. So there's a link between they're listening to, and what their eyes are doing. So we are not asking them to verbalise, we are in fact not asking them anything, we are just monitoring their eye gaze, and what it is they are focusing on.

Isabella Melking: Mm hm, and that's how you come to the conclusion that they're interested in baby-talk words?

Barbora Skarabela: Yes, specifically in words that have repeated syllables. So whether they would prefer made-up words, like 'nee-nee', compared to another made-up word where it would be something like 'nee-foo', but not 'nee-nee'. And in - in the older children that we tested, at 18 months, there we actually focus on the question of are these words with repeated syllables easier to learn? So to learn a word you're not just learning the sound, we also learn the meaning behind it, and the way we did that was that we introduced some again made-up sounds. Two groups of sounds, words - one that had repeated syllables, the other one that didn't have repeated syllables. And we showed these 18-month-old toddlers, babies, novel images and we were measuring after a few trials, after they saw each sound combination with a new novel image, whether or not they learned what they meant.

Isabella Melking: So they didn't see the green pulsing ball?

Barbora Skarabela: This was a different paradigm. This is what we call the referential looking paradigm.

Isabella Melking: OK

Barbora Skarabela: Where they, in the testing trials, they're looking at two images, and they either hear 'can you see the nee-nee?' or 'can you see the nee-foo?' And then again we are measuring their eye gaze, what it is that they are focusing on on the TV screen.

Isabella Melking: But it'll just be a random image?

Barbora Skarabela: They wouldn't be random, it would be novel, so something that we would introduce to them in what we called a familiarisation session.

Isabella Melking: OK

Barbora Skarabela: So we trained them.

Isabella Melking: Ah, so they'll recognise this.

Barbora Skarabela: So, the question was would they?

Isabella Melking: Oh OK, yeah.

Barbora Skarabela: Or were there one particular sound combination, one particular word that would be easier to learn after two or three minutes of exposure, in a lab environment with no help from parents. So in other words we were testing are some words easier to map to meanings than other words? And again what we found here was that this kind of word learning was easier with reduplicated words, or words with repeated syllables, like 'nee-nee'.

Isabella Melking: OK. So they are easier for the babies to grasp?

Barbora Skarabela: Yes.

Isabella Melking: Yes. And that way they could expand their vocabulary faster in theory, or is this a step too far?

Barbora Skarabela: So this was, this was done in another study, um, this is where Nicola Davies Jenkins steps in, which is our remarkable research assistant, who co-ordinated and collected data from families - 50 families in Edinburgh, over a long period of time. We started with the families when they had a baby who was 9 month old, then Nicola visited the families again when their baby was 15 month old, and then again at 21 month. And she would clip little microphones to the parents and we would record short interactions between the parents as they are talking to their babies, at these 3 different time points. And then we had an amazing group of - we still do, of students who are helping to transcribe this data. We've had an amazing group of undergraduate students, some of them have graduated, and are now pursuing their degrees in speech pathology, but others are still here and still transcribing.

Isabella Melking: So this is an opportunity for students at PPLS, so could they get involved in Wee Science research?

Barbora Skarabela: There is an opportunity for students to join Mits Ota and the team in the Edinburgh Laboratory for Language Development, and that's part of the Wee Science consortium.

We have more data to transcribe, there is data to code, and - yeah, everyone participates. And, at some point, students are trained and encouraged to help us with running experiments, recruit participants. All the different tasks that are involved in running a research project.

Isabella Melking: That's good that they can be involved in transcribing data, you know, that ultimately becomes published papers - that's really good.

Barbora Skarabela: Oh, it's - it's very exciting! It is also boring at times [laughs] because there are many files and lot of data. On the other hand, I think it's a great learning opportunity, because you do hear how parents and infants, you can really monitor how the interactions change, to what extent there is variation between different families.

Isabella Melking: So what did you find from the 50 - the 50 babies that you studied?

Barbora Skarabela: The babies who heard more baby talk words, or maybe baby talk-like words, from their parents at 9 months, had larger vocabularies at 21 months. So this was an indication that baby-talk words might not be detrimental and harmful for babies of this age, but in fact they might help on vocabulary growth. And the idea - so going back to the hypothesis we were testing, was not only whether baby-talk words are easier to learn, but in fact whether baby-talk words might function as an anchor to learning other kinds of words.

Isabella Melking: So basically something to help them -

Barbora Skarabela: Exactly

Isabella Melking: learn more words?

Barbora Skarabela: That's right.

Isabella Melking: Yes.

Barbora Skarabela: So, not only that you will learn, and you will understand 'mama', but it might also help you to discover words of a different kind.

Isabella Melking: Mm hm. So like 'papa'? But [laughs] that would not - that's not a good example because that's also a baby-talk word.

Barbora Skarabela: Yeah, so - so parents never use only baby-talk words. In fact, what we found in our corpus is that words with repeated syllables, and diminutives like 'doggie', and similar types of words, constitutes 2 to 4% of the input. So these are really -

Isabella Melking: It's very small.

Barbora Skarabela: really small, tiny pocket of vocabulary. Er, so it's kind of funny that people actually have these emotional reactions and worries about them, because obviously we supply loads of other kinds of words to young infants, it would be tough going having a conversation in baby-talk words only. [laughs] Er, so the idea is that toddlers or infants learn not only diminutives about 'doggies' and 'tummies' and 'choo-choos', but also other kinds of words, including words like 'train' and the adult alternatives.

Isabella Melking: So what are diminutives, just to clarify?

Barbora Skarabela: Diminutives are words - so you have the grown-up version 'dog', usually when we talk about the animal with other adults we use the word 'dog'. But then we can also use a word like 'doggie'.

Isabella Melking: Basically it's baby-talk - baby-like words, but you could call it that?

Barbora Skarabela: Yeah, well, it's - it's not - I mean we do use the word 'doggie' when it's a small dog, for example. [laughs]

Isabella Melking: So not strictly just words that you would use with babies?

Barbora Skarabela: But very often with babies.

Isabella Melking: Very often. Yeah, OK.

Barbora Skarabela: Yeah, so there are some specific diminutives that we found in our Edinburgh corpus, like we had parents who would, instead of 'blanket' they would use the word 'blankie'. I don't know how common that is for adults, er, but -

Isabella Melking: No [laughs] I don't think it's as common!

Barbora Skarabela: Yeah. So - or 'brekkie' for breakfast. So these would be words with this 'ee' ending, and the idea with them is that these are kind of helpful words because they signal a word boundary.

Isabella Melking: Mm hm. And so just to finish up our talk here, based on your research that you've been involved in, what advice would you give to parents - so new parents wishing to boost their baby's vocabulary?

Barbora Skarabela: Oh, I think I would just say talk to them! [laughs]

Isabella Melking: Yeah [laughs] don't ignore them!

Barbora Skarabela: Don't - yes, they love attention. I think that paying attention, engaging them, whether or not you use baby-talk words, I think that it's really the interaction that drives their learning. Books help, rhymes and songs, and if you do use baby-talk words, you don't have to worry.

Isabella Melking: Great! Alright, thank you so much Barbora for joining us at the Forward Thinking podcast.

Barbora Skarabela: Thank you for having me.

Isabella Melking: Thanks!

Barbora Skarabela: Thanks!

Isabella Melking: If you want to know more about the topics discussed in this podcast, follow the links on the Forward Thinking blog at forwardthinking.pbls.ed.ac.uk. You can also subscribe to our podcast on iTunes for more research news and views from Philosophy, Psychology and Language Sciences, here at the University of Edinburgh.

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