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# Acquisition of polarity items in Czech children: An experimental study

**Abstract.** The Czech polarity items *i* and *ani* are traditionally treated as English even. This paper deals with the acquisition of these polarity items in Czech children. These focus/scalar particles are specific for their sensitivity to probability. We aim to find out whether Czech children at primary school (junior school age) have already acquired *i/ani* and whether they are able to connect them correctly with alternatives on the scale of probability. The research was conducted with children from the second and the fourth grade at primary school. The paper represents an initial insight into this area since no similar research has been done in the Czech language so far.

**Keywords:** language acquisition; focus particles; scalar particles; experimental linguistics; language teaching.

## 1. Introduction

The particle *even* has been studied for its polarity and unlikelihood properties for a long time in several languages. Although many issues and questions concerning the behaviour of *even* still remain, it has been consistently shown that *even* is sensitive to the polarity of a sentence. Namely, there is *even* that can appear only in negative

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sentences, and therefore it is called Negative polarity item (NPI). In contrast, another *even* so-called Positive polarity item (PPI) may occur only in positive sentences (Krifka 1995). It is tough to detect this distinction in English since there is only one lexical item for *even*, see (1). However, there are two (or more) lexical items corresponding to *even* in many languages, e.g. German and Slovenian, among others. The Czech language also belongs to the group of languages where positive *even* and negative *even* are distinguished lexically.

- (1) a. Even Charles came to the party.
- b. Even Charles didn't come to the party.

Moreover, *even* is a focus sensitive particle that is associated with an F-marked expression. Polarity items, as well as focus sensitive particles, introduce alternatives (Rooth 1985). Basically, there is a set of alternatives, and the particle *even* picks out one alternative.<sup>4</sup> The set of possible alternatives for the example (2-a) (repeated from (1-a) is in (2-b)). Note that the focused expression is highlighted in capital letters. The particle *even* chooses the one alternative in a certain way. The principles under which *even* selects an alternative are introduced in section 1.1.

- (2) a. Even CHARLES came to the party.
- b. the set of alternatives:
- {Charles}
- {Jane}
- {Richard}

We have dealt with polarity and focus properties of *even*. In the next section we focus on *even* in Czech, we describe two main “*evens*” and show how they differ from each other. In section 3 we introduce two experiments on child acquisition of English *even* and in section 4 we present the experiment on child acquisition of Czech *even* and discuss the results.

## 2. Theoretical background

English *even* corresponds to (at least) two lexical expressions in Czech, namely *i* and *ani*.<sup>5</sup> These two items are nicely divided according to their polarity properties. The first Czech

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<sup>4</sup> Note that there is a requirement for the alternatives to be of the same semantic type.

<sup>5</sup> In addition, the particles *i* and *ani* may function as conjunctions and also marginally interjections. We leave these two other usages of the expressions aside and deal with *i* and *ani* as particles only.

*even* is *i*, and it is considered to be PPI since *i* may occur only in affirmative sentences, and it is ungrammatical in negative sentences, see (3-a) and (3-b), respectively.

- (3) a. Na večírek přišel **i** Richard.  
to party come.3SG.PST even Richard  
‘Even Richard came to the party.’
- b. \*Na večírek nepřišel **i** Richard.  
to party NEG.come.3SG.PST even Richard.  
‘Even Richard didn’t come to the party.’

The second Czech *even* is *ani*. Historically, *i* is claimed to be the basic, whereas *ani* is the modified version of *i* in such a way that *ani* contains the basic *i* and the negative element *-n*. (Lamprecht et al. 1986). This pattern nicely explains that *ani* is a negative counterpart of positive *i*. Since *ani* is NPI, it behaves in exactly the opposite way than *i*; it can appear only in negative sentences and it is ungrammatical in positive sentences, see (4-a) and (4-b), respectively.

- (4) a. Na večírek nepřišel **ani** Richard.  
to party NEG.come.3SG.PST even Richard  
‘Even Richard didn’t come to the party.’
- b. \*Na večírek přišel **ani** Richard.  
to party come.3SG.PST even Richard.  
‘Even Richard came to the party.’

Both *i* and *ani* exhibit the same focus properties as English *even*. Unlike in English, Czech *i/ani* have to occur immediately before the F-marked expression in a sentence. Since the occurrence of *i/ani* is sensitive to the polarity of sentences, they belong to the group called polarity items. Therefore, they introduce alternatives just like English *even*.

We do not go into details of the complicated theory of alternatives (for more details see Rooth 1985) but some background is needed for understanding our experiment. Concerning alternatives introduced by *even* the likelihood and entailment play a role. For simplification, only a closed set of alternatives are taken into account. Since *even* is generally considered to work with the likelihood, the alternatives are ordered on the probability scale, i.e. it is given by the context that one alternative is more likely or less likely than the other. Consequently, one alternative entails the other.<sup>6</sup> Consider the following example:

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<sup>6</sup> Note that there is no entailment relationship between alternatives in some alternative sets, but still, the alternatives are ordered by probability because there is a likelihood relationship between them.

- (5) Richard přečetl **i** pět knih.  
 Richard read.3SG.PST even five books  
 ‘Richard has read even five books.’

We can easily imagine that Richard is a student and he has to read books for an exam. The alternative set is restricted by the context where the maximum number of books he is supposed to read is five. Of course, many students do not read all the required books. The use of *i* in (5) indicates that Richard has read the maximum number of the required books, and this is considered to be a significant achievement. The alternatives and their entailment and likelihood relationship are schematically captured in (6).

- (6) a. the alternative set: {1 book, 2 books, 3 books, 4 books, 5 books}  
 b. the entailment relationship: read 5 books → read 4 books → read 3 books → read 2 books → read 1 book  
 c. the likelihood relationship: read 5 books < c read 4 books < c read 3 books < c read 2 books < c read 1 book

There is the closed set of alternatives in (6-a), and the alternatives are in entailment relationship in such a way that the proposition *Richard has read 5 books* entails the proposition *Richard has read 4 books* and so on but not vice versa. Consequently, the alternative *5 books* is the strongest alternative from the given set of alternatives since *read 5 books* entails all the other alternatives. At the same time, the alternative *5 books* is the least likely alternative because reading *5 books* is the most unlikely situation (again from the given alternative set).

We conclude that *i* always associates with the least likely alternative and, simultaneously, the strongest alternative from the alternative set given by the context. Let's focus on *ani* and check whether it associates with an alternative of the same type. Now, consider the example with *ani*.

- (7) Richard nepřečetl **ani** jednu knihu.  
 Richard NEG.read.3SG.PST even one book  
 ‘Richard hasn't read even one book.’

We imagine the same context, but Richard is a lazy student now. The alternative set remains the same. However, we observe that *ani* associates with a different alternative

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Since we use only alternative sets where there were both entailment and likelihood relationships between alternatives, we leave the alternatives without entailment relationship aside.

than *i*. Let's first analyze the entailment and likelihood relationships between the alternatives before we make a conclusion.

- (8) a. the alternative set: {1 book, 2 books, 3 books, 4 books, 5 books}
- b. the entailment relationship: not read 1 book  $\rightarrow$  not read 2 books  $\rightarrow$   
not read 3 books  $\rightarrow$  not read 4 books  $\rightarrow$  not read 5 books
- c. the likelihood relationship: not read 1 book  $<$  c not read 2 books  $<$   
c not read 3 books  $<$  c not read 4 books  $<$  c not read 5 books

The proposition *Richard hasn't read 1 book* entails the proposition *Richard hasn't read 2 books* and so on, but not vice versa.<sup>7</sup> And, at the same time, the alternative *not read 1 book* is the least likely alternative because *read 1 book* is the minimum you can do. Imagine that a student wants to pass an exam. Then, it is more likely (and highly recommended) to read 2 books than only 1 book. Consequently, the alternative *not read 1 book* is the strongest alternative since it entails all other alternatives and it is also the least likely alternative from the contextually given alternative set.

The fact that *ani* associates with the strongest and the least likely alternative as well as *i* is caused by the presence of negation in sentences containing *ani*. Negation intervenes between the F-marked expression and *even* and works as a scale reversing operator. In other words, negation reverses the scale of entailment and likelihood (for more technical details and formalizations see, e.g., Karttunen & Karttunen 1977 and Crnič 2011). Therefore, both *i* and *ani* associate with alternatives of the same type concerning entailment and likelihood, but the alternatives differ lexically.

The unified type of alternatives concerning entailment and likelihood for both *i* and *ani* is well theoretically justified. Moreover, Šafratová (2018) focused on adults and their perception of structures with Czech *even* and showed that Czech adults treat *i/ani* precisely as would be expected. Since *even* works with probability, which is part of pragmatics, the question that comes to mind is how and when adults learn how to use particles such as *even*. To solve this question we turned our attention to children and experimentally tested whether Czech children at a certain age have already acquired the particles *i/ani*. Note that the acquisition of *i/ani* is not affected by Czech language education because according to two main education programs for primary education in Czech (Rámcový vzdělávací program pro základní vzdělávání, Školní vzdělávací program), no explicit attention is paid to the particles in primary education. However, there is no study

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<sup>7</sup> We are aware of the fact that this is not true since the proposition *Richard hasn't read 1 book* may, of course, mean that *Richard has read 2 books*. However, this is not relevant for explaining how the entailment and likelihood work for the particle *even*. For more details, we refer readers to the theory of scalar alternatives (Sauerland 2004; Fox & Hackl 2006; Spector 2007, among others).

about the acquisition of polarity items in Czech children we could build our research on. That is why we follow two relevant experimental research studies on child acquisition of English *even* that are introduced in the next section. Our experiment is presented in section 4.

### 3. Child acquisition of English *even*

As far as we know there are only two experimental research studies on child acquisition of English *even*, and interestingly, the two research studies came to different results. Both experiments tested English *even* in both affirmative and negative sentences. To avoid confusion we call *even* in positive sentences simply *even*, and *even* in negative sentences *not even*.

#### 3.1. Kim's experiment

The first experiment was run by Kim (2011). She experimentally tested English *even* in two syntactic positions, namely the pre-subject position (9-a) and the pre-object position (9-b). We focus only on the results of *even* in the pre-object position since we tested Czech *even* in this syntactic position.

- (9) a. Even Petr ate chocolate.  
b. Petr ate even chocolate.

Kim tested 30 English speaking children aged 4-5 using a “guess who game”. There were three pictures with *even*, and three pictures with *not even*, i.e. six tested pictures in total. Besides, there were six filler sentences and six control sentences to distract the children. The children were asked to listen to stories with pictures in such a way that the last sentence of a story contained *even/not even*. There were always three characters differing in size (the smallest one, the biggest one and a character of the middle size), and the task was to show the appropriate character in the picture based on the story. For instance, there was a picture of three different-size bears trying to reach a biscuit. Based on the pragmatic feature (height), children should have been able to recognize that the biggest bear has the greatest chance to reach the biscuit since the tested sentence contained *not even*.

Kim concludes from the experimental results that English children aged 4-5 have not acquired English *even/not even* yet. Moreover, the middle characters (options) did not appear as an answer at all. The number of children who answered correctly to each item and the total percentage of correct answers is in Table 1 (taken from Kim 2011: 96).

**Table 1. The correct answers**

	<b>Total</b>
Affirmative even	41/90 45.6 %
Negative even (not even)	42/90 46.7 %

The question that comes to mind is why do English children have a problem with the usage of *even*? There are (at least) three possible answers or their combination: (i) The problem is lexical. Children have to learn the semantic meaning of *even*. (ii) The problem is syntactic. English *even* can stay quite freely in a sentence, unlike in Czech. (iii) The problem is pragmatic. *Even* has an unlikelihood presupposition and children have to count with the likelihood. Before we try to answer the question let's have a look at the second experiment on English *even* and compare the results from both experiments.

### 3.2. MIT experiment

Following Kim (2011), Newman et al. (2018) asked the following research questions: (i) How do children think when considering sentences with *even*? (ii) Why did none of the children choose middle options? (iii) What happens when we change scalar types when choosing different options?

They tested English speaking children aged 3–6. There were 88 children participating in the experiment in total. The experiment included four different scales: reaching stories, lifting/wight stories, fitting stories, and filling/capacity stories. The scales are presented in more detail in section 4. The authors also used a “guess who game” by telling stories and pictures. There were four pictures with affirmative *even* and four pictures with negative *even* (*not even*), therefore eight pictures in total. Moreover, the experiment contained four sample filler stories.

The experiment shows the polarity effect between *even* and *not even*. Children were more successful in tested sentences with *not even*, see Figure 1 taken from Newman et al. (2018).

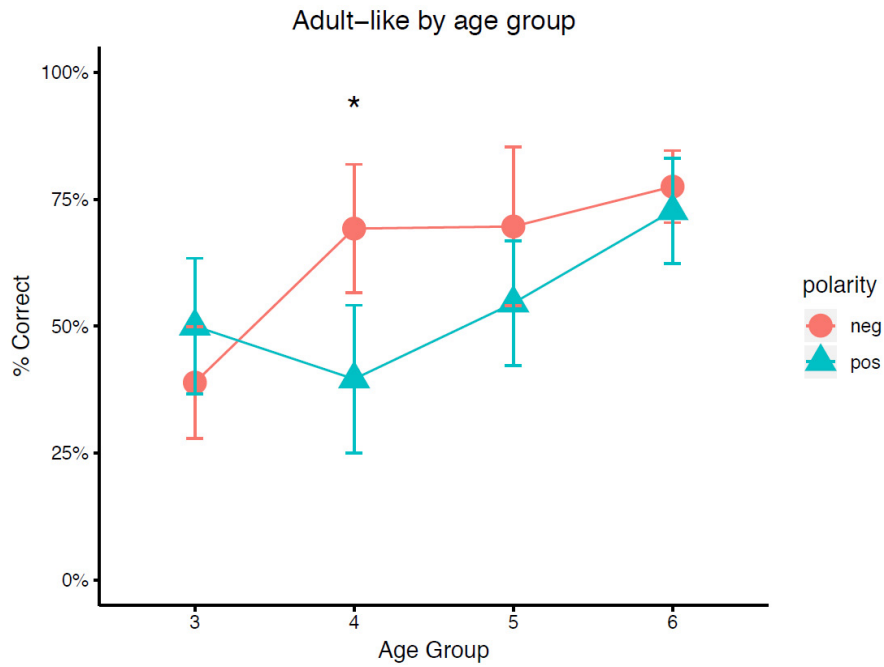


Figure 1. A plot of the rate of adult-like responses by age group, separated by polarity

Surprisingly, middle responses appeared in the results of the experiment, unlike the results of Kim’s experiment. The results of MIT’s experiment show that children answered not only the left or right option but also the middle option. Middle responses also show the polarity effect, but the opposite, i.e. middle responses, appeared more in tested sentences with *even*, see Figure 2, taken from Newman et al. (2018).

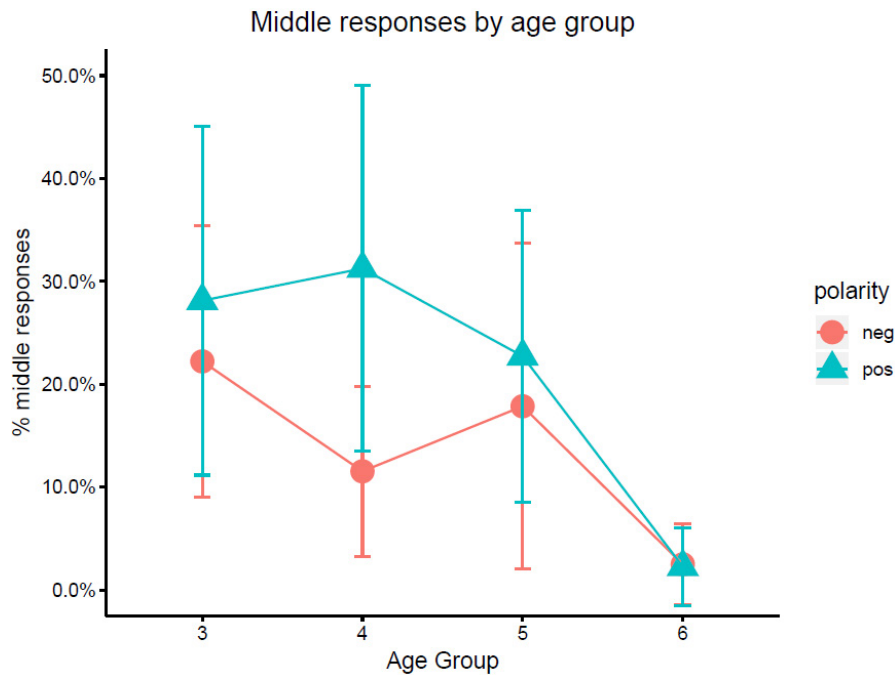


Figure 2. Middle responses decrease with age, and they decrease faster for negative *even* than positive *even*



Overall experimental results show that:

1. children were more successful in tested sentences with *not even*;
2. middle responses appeared more in tested sentences with *even*;
3. children consider the likelihood, i.e. the unlikelihood presupposition, for *even/not even*;
4. children's usage of *not even* is close to the adults' usage of it;
5. children acquire *not even* at around 4 years of age, whereas they acquire *even* at around 6 years of age.

It is evident that Newman et al. (2018) gained different results than Kim (2011). However, we follow both experiments in our research, especially concerning the design of the experiment. We were aware of the fact that the experimental results of Czech *i/ani* could differ from the results of English experiments because *i* and *ani* are lexically distinguished as opposed to only one lexical item *even* in English. To the best of our knowledge there is no research on children acquisition of Czech scalar particles *i/ani*, and therefore the experiment was designed as a “mapping territory” project.

## 4. Experiment

The main focus of our experiment was to find out whether children aged 7–10 have already acquired the *i/ani* particles in their scalar function. 20 children from grade 2, and 20 children from grade 4 took part. As stated above, when designing the experiment, we followed similarly oriented research, in particular the study by Kim (2011) and with the kind permission of the authors also the experiment developed by MIT linguists Newman et al. (2018).

Four hypotheses were stated:

- children in grade 2 will not have adult-like or similar understanding of *i/ani* expressions;
- children in grade 4 will have acquired *i/ani* expressions fully;
- there will be middle variants of the responses, especially in grade 2 children;
- there will be a difference in the acquisition of *i* and *ani* expressions.

### 4.1. Procedure and participants

We ran the experiment in two phases. In phase 1 we tested 20 adults to see whether our tasks are well designed and comprehensible and also to check whether the language phenomena we studied were fully acquired by adult speakers. In phase 2 we carried the experiment out with children (20 children age 7–10 from grade 2 and 20 children age 9–10 from grade 4). Children were chosen randomly by their teachers, parents had to provide their consent. The testing ran according to the same scenario as with the adults. Before the beginning they were informed about the form of the experiment – the pictures of animals in three different sizes and the task – to choose to which animal

the text relates to. The participants were not aware of the fact that they are taking part in research on scalar particles *i/ani*, neither were shown any training pictures so that they were not biased. The accompanying text was read aloud, however, children could also read it for themselves. Their answers were noted down into answer sheets without stating explicitly to the participants whether their answers were correct or not so that their answers were not influenced by this information. One experiment with one person took approximately 10 minutes.

## 4.2. Design and material

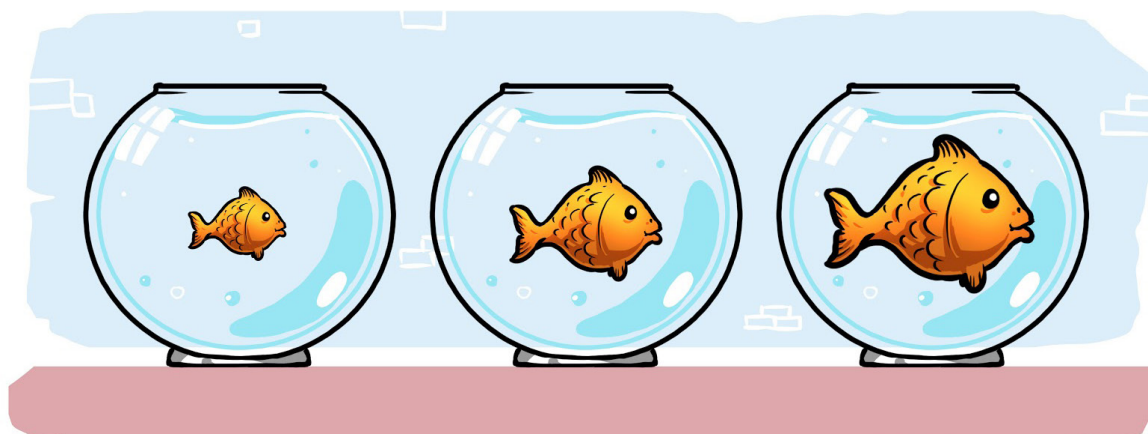
We adapted thematic story areas created by Newman et al. (2018) and used the same number of items. Furthermore, we profited from their experience with testing and thus avoided possible problems. We created our own unique illustrations (Bukovjan 2019) and texts including the tested expressions *i/ani*. The experiment consisted of two parts – the first part were stories testing *i/ani*, the second part were filler stories that were meant to distract the participants' attention.

The individual pictures depicted animals of three different sizes in the given contextual situation (in the given thematic story) in the first experiment part. The context provided a pragmatics feature ensuring that only one animal should be chosen assuming that children interpret the sentences with *i/ani* pragmatically correctly.

The thematic story areas were as follows:

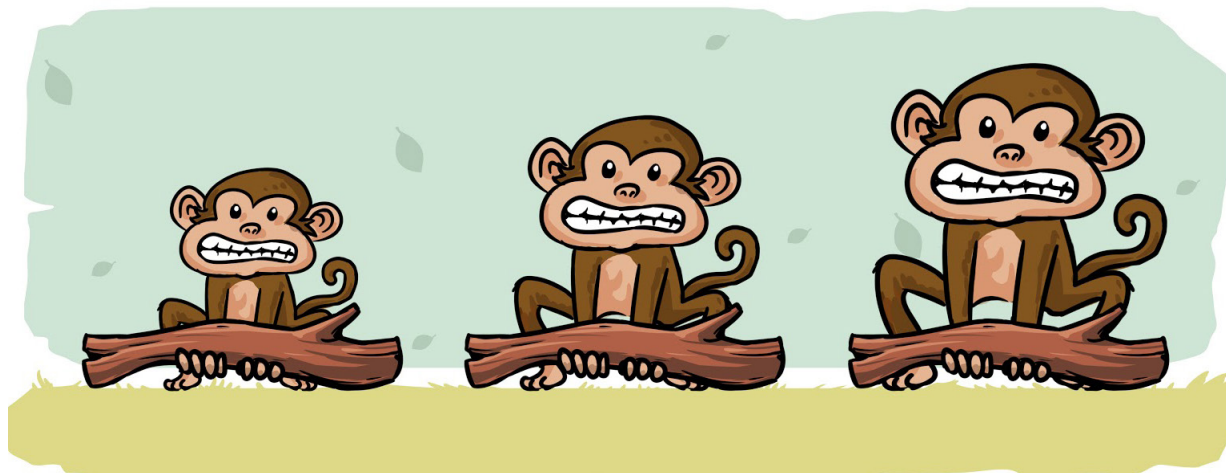
- Reaching stories: the motive is the effort to reach for something/somewhere;
- Lifting/weight stories: the motive is to try to pick up something;
- Fitting stories: the motive is to fit somewhere;
- Filling/capacity stories: the motive is an effort to fill something (e.g. a basket).

Every story area contained one picture testing the *i*-expression and one picture testing the *ani*-expression, there were 8 tested pictures together. An example of the illustrations and texts can be found below in Picture 1 and Picture 2.



Picture 1: V prodejně rybiček zkoušeli, jak velká rybka se vejde do skleněného stolního akvária. Bylo tak prostorné, že se do něj vešla i Dona. Poznáš, která rybka je Dona?

‘In a fish shop they tried how big a fish could fit into a glass table aquarium. It was so spacious that even Dona could fit into it. Do you know which fish is Dona?’



Picture 2: Opice se vsadily o trs banánů, že ze země zvednou velikou těžkou kládu. Kláda byla ale tak moc těžká, že ji neuzvedl ani opičák Rocky. Poznáš, která z opic je Rocky?

‘Monkeys bet a bunch of bananas that they will be able to lift a large, heavy log from the ground. But the log was so heavy that even Rocky didn’t lift the log. Do you know which monkey is Rocky?’

In both examples of the test pictures, the accompanying text referred to the biggest animal (i.e. the biggest fish, the biggest monkey) because it is clear from the context that it is the least probable alternative (and with these the scalar particles bind). Generally speaking, the correct answers, however, were not only the biggest animals but also the smallest or the middle ones in the case of fillers. This is how we prevented the participants from guessing or seeing through the experiment.

In addition to tested pictures, we used four sample filler stories in the second part of the experiment. To prevent the children from observing a pattern in which the experiment works and find their own algorithm according to which they would answer, we ordered the pictures randomly so that two pictures of the same story category did not appear next to each other. All together there were 12 pictures accompanied by texts, i.e. 8 tested pictures and 4 filler pictures.

### 4.3. Results

The whole experiment was evaluated by several means ranging from the most ordinary descriptive statistics to proper statistical analyses using programming language R in RStudio. The responses were modeled in lmerTest, which is not a part of RStudio but it is a standard model and it was added as a package into the RStudio. By using such a wide range of statistical tools we tried to get as many pieces of information as possible. As to the results of the research carried out on adults – they were successful in completing

the task in almost 100%. Only in one case did an adult make a mistake probably due to lack of concentration rather than linguistic incompetence.

In children the results were as follows:

1. in the case of 100% success in all items testing *i/ani* as well as the fillers, the results were:
  - grade 2: only 25% of children were 100% successful (5/20)
  - grade 4: 55% of children were 100% successful (11/20)
2. the results of 100% success in tested *i/ani* items (all together):
  - grade 2: 30% of children were 100% successful
  - grade 4: 60% of children were 100% successful.

From this perspective it seems that children in grade 4 were two times more successful than children in grade 2. We also had a look at the number of mistakes made by children. Some of them made only one mistake which might have been caused by lack of attention or hesitation. In case we recalculated the results and included also the “1 mistake children” the success rate would increase a lot (especially in grade 2):

- grade 2: 60% of children with almost 100% success
  - grade 4: 75% of children with almost 100% success
3. Success rate was further analysed for every *even*-variant separately – *i*-variant and *ani*-variant. The results showed a higher success rate in items testing understanding *i*-variant in children from both grades. Both variants – *i/ani* – were easier for children from grade 4, which might mean that they understand these expressions better. Nevertheless, the *i*-expression success rate was 65% in grade 2, which already proves a very good understanding. On the other side, understanding *ani*-expression was in grade 2 only 40%, which could mean that this expression is more difficult to acquire and is thus acquired later.

a) Results of items with *i*:

100% successful: a child correctly understood all items with *i*

- grade 2: 65% of children were 100% successful (13/20)
- grade 4: 80% of children were 100% successful (16/20)

b) Results of items with *ani*:

100% successful: a child correctly understood all items with *ani*

- grade 2: 40% of children were 100% successful (8/20)
- grade 4: 65% of children were 100% successful (13/20).

4) We also compared the results according to their success rate in individual story areas. Every picture was evaluated as to the success rate separately for *i*- and *ani*-expressions. This comparison showed a high success rate for both expressions and children in both grades seem to understand these two expressions well. Even though the partial results showed a difference between the two classes as well as the two expressions, the children responded correctly in about 80%.

**Table 2.** The success of children in each story in sentences with *i*. Story 1 = reaching stories, story 2 = lifting/weight stories, story 3 = fitting stories and story 4 = filling/capacity stories.

	<b>story 1</b>	<b>story 2</b>	<b>story 3</b>	<b>story 4</b>	<b>in total</b>	<b>%</b>
grade 2	17/20	17/20	16/20	18/20	68/80	85 %
grade 4	19/20	17/20	18/20	20/20	74/80	93 %

**Table 3.** The success of children in each story in sentences with *ani*.

Story 1 = reaching stories, story 2 = lifting/weight stories, story 3 = fitting stories and story 4 = filling/capacity stories<sup>8</sup>

	<b>story 1</b>	<b>story 2</b>	<b>story 3</b>	<b>story 4</b>	<b>in total</b>	<b>%</b>
grade 2	12/20	15/20	20/20	16/20	63/80	79 %
grade 4	15/20	18/20	20/20	16/20	69/80	86 %

The preliminary summary is the following:

1) Children make fewer mistakes in sentences with *i*.

2) It is easier for children to understand sentences with *i*. Several possible explanations may affect the understanding of *i*. First, since *ani* interacts with negation, it might make *ani* more complex to understand. Second, the interaction with negation causes the reverse scale of likelihood and therefore both *i* and *ani* associate with the least likely alternative. Third, the correct understanding of *i* and *ani* depends on pragmatic abilities of children.

3) Children in both grade 2 and grade 4 have acquired both expressions *i* and *ani*.

For getting a more detailed analysis we processed the obtained data in programming language RStudio. Answers were modified as follows:

- 1 – the expected responses (the least likely alternative)
- 0.5 – the middle option
- 0 – the opposite end of the scale (the most likely alternative).

To model the data we constructed a mixed linear model that tested whether the subjects' answers can be predicted from a condition (fixed effect) and whether the conditions differed in their statistical significance. There were following conditions:

- 1) 2-i: sentences with *i* in grade 2
- 2) 2-ani: sentences with *ani* in grade 2

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<sup>8</sup> The attentive reader may notice that there is a relatively large difference between the success in story 1 and story 3. Looking at success in the stories, we see a big drop between story 1 and other stories. There is not much difference in success between other stories. Since only story 1 seems to be problematic for children, we blame this story 1 for failure. Even though story 1 was based on the same principle as the other stories, children may have seen a difference between story 1 and others or children just did not like the story. Thanks to an anonymous reviewer for raising this point.

- 3) 4-i: sentences with *i* in grade 4
- 4) 4-ani: sentences with *ani* in grade 4.

The success rate of responses depending on the conditions is between 0–1. The statistical differences between sentences with *i* and sentences with *ani* were modeled in *lmerTest*. The model had one predictor, i.e., the reference level condition: 2-ani. The success of the other conditions was measured against the reference level condition. The output of the model is reported in Table 4. The *t-value* states how big the difference between two conditions is, the *p-value* says how likely it is that the difference between the two conditions is random. As we can see from the results, no fixed effects were statistically significant.

Table 4. The statistical output

<b>Fixed effects:</b>					
	<b>Estimate</b>	<b>Std. Error</b>	<b>df</b>	<b>t value</b>	<b>p value</b>
(Intercept)	0.80000	0.05601	10.35250	14.283	3.81e-08 ***
Condition 2-i	0.06875	0.07754	9.60427	0.887	0.397
Condition 4-ani	0.06875	0.05028	291.00007	1.367	0.173
Condition 4-i	0.13125	0.07754	9.60427	1.693	0.123
--- Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Box plots of the individual conditions are shown in Figure 3. Means and medians of each condition are in Table 5.

Figure 3. Detailed graph: means of conditions

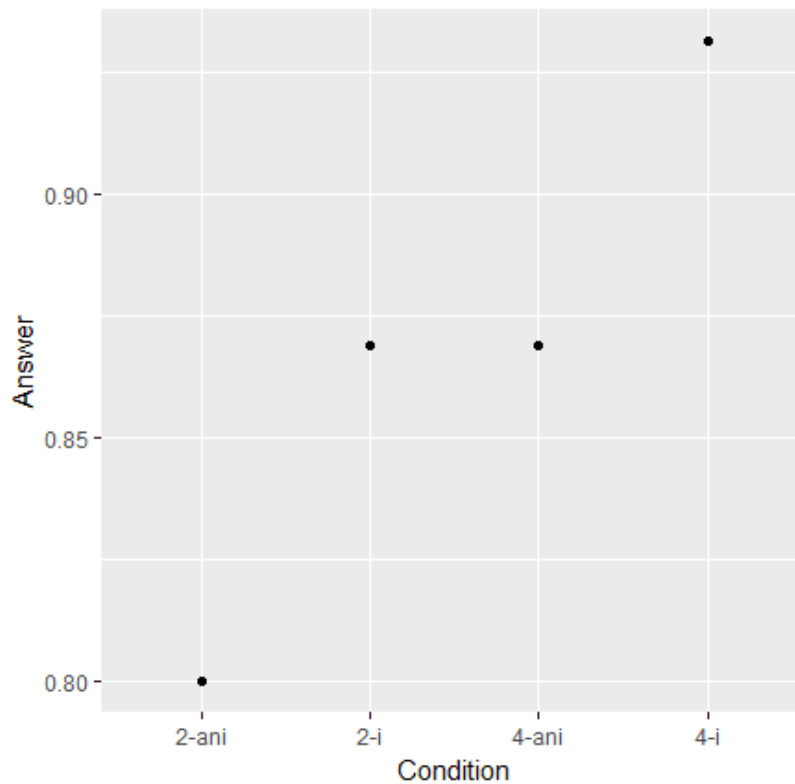


Table 5. Means and medians of conditions

Condition	Means	Medians
2-ani	0.80000	1
2-i	0.86875	1
4-ani	0.86875	1
4-i	0.93125	1

The statistical analysis shows (i) that the mean success rate of tested sentences with *i* and *ani* was very high, (ii) that there is no statistical difference between grade 2 and grade 4 in sentences with *i*, (iii) that there is no statistical difference between grade 2 and grade 4 in sentences with *ani*, and last but not least (iv) that children aged 7-10 have already acquired both expressions *i* and *ani* and they understand the scale of likelihood (the pragmatic aspect).

## 5. Summary and conclusion

The experimental results show a tendency of children aged 7-10 to have already acquired *i/ani*, which was proved by statistical analysis. Our initial four hypotheses were not confirmed. The experimental results show that children in grade 2 understand scalar expressions. Both *i* and *ani* are acquired approximately at the same time, although

children made fewer mistakes in sentences with *i*. The middle options were marginal, which corresponds to Kim's (2011) finding. Even though there is only one lexical item *even* in English as opposed to Czech *i/ani*, children have to learn the pragmatic aspect, i.e., the likelihood, in both languages. Moreover, children have to learn how the likelihood changes with respect to positive/negative sentences.

Since the particles are generally marginally included in the methodological plan for language education at primary schools, we assume that the acquisition of expressions *i/ani* depends on the individual development of the child's cognitive and pragmatic competences independently of language education. Getting to know how language is acquired is crucial for many areas connected to child development. In the current Czech linguistic environment and renewed interest in child language the main attention has been paid to pre-school age language acquisition, e.g. Smolík & Bláhová (2017); Smolík & Seidlová Málková (2014); Saicová Římalová (2013); Doleží (2014); Mertins et al. (2014). It might seem that once children enter school there are not many things going on linguistically speaking. Opposite is the case, though. With our study we tried to contribute to the understanding of how later phases of acquisition work and support it by concrete results and analyses and not impressions. The results might have interesting implications for mother tongue as well as second or foreign language teaching in understanding whether, when and how to teach or confront children with particular linguistic phenomena so that they can master them fully. To see when and how exactly the *i*- and *ani*-expressions are acquired by Czech children we have to pay attention to younger children and carry out further research with first grade and pre-school age children.

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