Is vocal imitation influenced by understanding the intentions of a speaker?

**Method**
Three-year-old children were asked to copy sentences which were either grammatically correct or contained grammatical errors.

**Results**
Children copied grammatical sentences exactly but corrected ungrammatical sentences.

**Conclusion**
Vocal imitation is cognitively similar to action imitation in that it is influenced by understanding the intentions of a speaker.

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**INTRODUCTION**

The study of action imitation has a long history in developmental psychology (Want & Harris, 2002). Similarly, the importance of vocal imitation has been extensively discussed by psycholinguists (Clark, 1977). However, research from the two fields has not been integrated; vocal imitation has rarely been considered by researchers interested in the cognitive processes underlying imitation.

We investigated the cognitive similarities between vocal and action imitation. When asked to imitate an unsuccessful action, 18-month-olds reproduce the perceived goal rather than the precise motor pattern they observe (Meltzoff, 1995). We were interested in whether vocal imitation also relies on understanding the intentions of a model.

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**EXPERIMENT 1**

**Method**
Fourteen 3-year-olds heard a series of sentences which were either grammatically correct or contained ungrammatical repetitions (sentences taken from Slobin & Welsh, 1973), and were asked to copy them. Children’s responses were coded as either exact copies, alterations (to an alternative grammatically correct form) or another response (for example repeating only part of the sentence).

**Results**
Children in the grammatical condition were significantly more likely to repeat the sentences exactly. Children in the ungrammatical condition were significantly more likely to correct the sentences. Children corrected either by dropping the additional word or adding a function word.

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**EXPERIMENT 2**

Slobin and Welsh proposed that children may not notice word repetitions. In Experiment 2 we tested this hypothesis by comparing the accuracy with which children copied sentences with grammatical and ungrammatical repetitions.

**Method**
Children heard sentences with either grammatical repetitions (‘He was in a dark dark house’) or ungrammatical repetitions (‘It was dark dark outside’). Responses were coded as exact copies, alterations, or ‘other’ responses.

**Results**
Children in the grammatical condition were significantly more likely to repeat the sentences exactly. Children in the ungrammatical condition were significantly more likely to correct the sentences.

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**CONCLUSIONS**

Experiment 1 demonstrated that children copy the intentions behind speech rather than the specific words they hear. Experiment 2 ruled out the possibility that children corrected the ungrammatical sentences because they failed to notice the repetitions. These results suggest that vocal imitation, like action imitation, relies on understanding the intentions of a model. Future experiments will investigate how context influences children’s understanding of intentions during vocal imitation.