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Childrens Understanding of Relational Vocabulary for Ordinal and Magnitude Relations

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Abstract

Although substantial work investigates childrens understanding of ordinal and magnitude-based relations, little work has investigated childrens understanding of the vocabulary used for these relations and how relational language knowledge may be constrained by symbolic number knowledge. In the current study, children were asked which of two numbers was bigger/smaller than or before/after five. On close trials, the correct answer was 4 or 6 (one away from 5) and on far trials, the correct answer was 3 or 7 (two away from 5). We hypothesized that 4- to 6-year-olds understanding of ordinal relations (before/after) are initially constrained to refer to numbers immediately before/after (i.e., close values), but that this is not the case for bigger/smaller comparisons. Preliminary results suggest this to be the case, with children performing better on close trials than far trials for ordinal relations, but not magnitude relations.