REPLY TO RUBIO-FERNÁNDEZ ET AL.:

Different traditional false-belief tasks impose different processing demands for toddlers

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Setoh, Scott, and Baillargeon (1) propose that children may fail a false-belief task for one of two reasons: They may lack sufficient skill at one or more of the processes involved in the task, or they may be capable of executing each individual process but lack sufficient information-processing resources to handle the task's total concurrent processing demands.

This account fits well with prior findings that 3.5- to 4-y-olds often perform below chance in traditional "high-inhibition" tasks (e.g., an agent's apple is moved from location A to location B in her absence, and children are asked where she will look for it when she returns) but perform above chance in traditional "low-inhibition" tasks, where inhibitory-control demands are reduced (e.g., the apple is moved to an undisclosed location). These and related results (2–8) suggest that these children fail high-inhibition tasks primarily for the first reason described above: They lack sufficient inhibitory control to suppress the strong prepotent response evoked by the test question.

Unlike 3.5- to 4-y-olds, children age 3 y and younger typically perform only at chance in low-inhibition tasks, despite their reduced inhibitory-control demands (7–9). We speculated that this failure might stem from the second reason described above: Perhaps these children possess sufficient inhibitory control to suppress the weaker prepotent response triggered by the test question but cannot handle the task's total processing demands. This speculation predicted better performance with further reductions in these demands. Our results supported this prediction: 2.5-y-old toddlers succeeded at a low-inhibition task when response-generation demands were reduced via practice trials (experiments 1 and 2) but reverted to chance performance when these trials were rendered less effective (experiments 2 and 3).

The preceding summary hopefully clarifies our arguments and findings. Contrary to what Rubio-Fernández et al. (10) suggest, we have never claimed that reducing either inhibitory-control or response-generation demands in a high-inhibition task should improve 2.5-y-olds' performance. Indeed, such a position would contradict prior findings: In a study by Yazdi et al. (8), 3-y-olds performed below chance in a high-inhibition task that included several "where" questions before the test question, thereby reducing response-generation demands. We confirmed this finding with 2.5-y-olds (experiment 4), providing further evidence that inhibitory-control and response-generation demands are not interchangeable and have different impacts on children's performance.

We also have never claimed that inhibitory-control demands are similar in traditional and nontraditional tasks. In traditional tasks, it is the direct test question that triggers a prepotent response that must then be inhibited. When children are asked no such questions or merely overhear such questions, inhibitory-control demands are much less significant (11).

Finally, Rubio-Fernández et al. (10) suggest that our where practice questions prompted toddlers to point to the apple's last location in the test trial. However, it is unclear why our young toddlers would have adopted this solution when given practice trials with two pictures (experiment 1) but not one picture (experiment 2), making this alternative explanation unlikely. We hope that future research using this new elicited-prediction task will prove fruitful in shedding light on young children's false-belief understanding.

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