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Simple arithmetic development in school age: the coactivation and selection of arithmetic facts.

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Summary: We evaluated the possible inhibitory mechanism responsible for selecting arithmetic facts in children from 8 or 9 years to 12 or 13 years of age. To this end, we used an adapted version of the negative priming paradigm (NP paradigm) in which children received additions and they decided whether they were correct or not. When an addition was incorrect but the result was that of multiplying the operands (e.g., $2+4=8$), only children from 10 or 11 years of age onward took more time to respond compared with control additions with unrelated results, suggesting that they coactivated arithmetic knowledge of multiplications even when it was irrelevant to perform the task. Furthermore, children from 10 or 11 years of age onward were slower to respond when the result of multiplying the operands was presented again in a correct addition problem (e.g., $2+6=8$). This result showed the development of an inhibitory mechanism involved in the selection of arithmetic facts through formal education.

Classification: F32 F33 C32 C33
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