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Is time travel possible? Childrens intuitive theories about the nature of time

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Abstract

Humans form and revise theories about the world throughout the lifespan. While intuitive theories of the physical and biological world have been explored, the domain of time is understudied. We explored childrens theories about time by asking 4- to 6-year-olds ($n = 38$) and adults about the reality or possibility of temporal phenomena. We also asked them to rate their confidence in their answers. All children agreed that clocks and aging are real. However, judgements about time travel, getting younger, seeing the future, and the past and future themselves, changed. While 6-year-olds gave adult-like responses to most questions, 5-year-olds were less sure. Unlike older children, 4-year-olds said seeing the future and time travel are possible, but the past is not real. These results suggest that children converge on adultlike theories about time between 4 and 6 years of age. Future work will explore factors driving the formation of these theories.