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Indexing visual working memory capacity in infancy

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Abstract

Working memory (WM), central to later-developing executive function, is available to infants from birth. The present study examined individual- and age-related differences in infant WMC utilizing a range of methodologies to quantify WM in a sample of 70 6-12-month-olds. We compared performance across a battery of WM tasks varying in levels of cognitive load. A range of delay durations were introduced within each task to determine maximum delays that infants may successfully tolerate and still yield above-chance performance. Overall results suggest WM abilities may be readily assessed as early as 6-months. As task difficulty increased, age-related improvements in WM performance increased accordingly. Additionally, average performance across tasks and delays significantly increased from 34% at 6-months to 46% at 12-months. Investigation of individual differences across tasks, delays and modalities will be discussed. Outcomes of this study help to better understand and quantify infant WM and how it matures throughout early development.