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The importance of stability in children's and adults' block-building

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Abstract

Block-building is an early-developing spatial skill in which multiple spatial actions unfold over time. The processes underlying block-building have eluded our understanding, but existing data show that children's and adults' construction paths are highly systematic and selective. In this paper, we investigate whether manipulating the stability of block models to be built affects the character of construction paths. We asked participants to build models with either strong or weak support. We measured the step-by-step actions taken and used eye-tracking to assess differences between adults and children in how they collect and use visual information while building. We find that children and adults are highly selective in their construction paths, but models with weak support are more difficult to build, reflected in the specifics of their paths and the eye movements made during building. These results suggest that the stability of a structure drives information-gathering and building strategies in block construction.