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Abstract

Space helps us understand abstract math concepts (Winter et al., 2015). Mental rotation is often studied for its predictive role in math development (Casey et al., 2015; Geer et al., 2019). The association between spatial location knowledge and math development remains overlooked despite the significance of left-right body space encoding in numbers (SNARC effect, Dehaene et al., 1993). This ongoing study investigates the link between preschoolers' mental rotation skills, spatial location knowledge, and various mathematical abilities (symbolic, non-symbolic, counting). Preliminary analyses (N= 20; Mage= 4;6) using R showed a significant relationship between spatial location knowledge and symbolic math (r= .43; p= .05) and counting skills (r= .51; p= .02), while no such association is found between mental rotation skills and mathematical abilities (all ps> .05). These findings demonstrate a strong link between spatial location knowledge, but not mental rotation, and development of preschoolers' mathematical skills.

Keywords: space; number; preschoolers