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Touch Interaction for Children Aged 3 to 6 Years: Experimental Findings and Relationship to Motor Skills

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Abstract

Our present understanding of young children's touch-screen performance is still limited, as only few studies have considered analyzing children's touch interaction patterns so far. In this work, we address children aged between 3 and 6 years old during their *preoperational stage* according to Piaget's cognitive developmental theory, and we report their touch-screen performance with standard tap and drag and drop interactions on smart phones and tablets. We show significant improvements in children's touch performance as they grow from 3 to 6 years old, and point to performance differences between children and adults. We correlate children's touch performance expressed with task completion times and target acquisition accuracy with sensorimotor evaluations that characterize children's finger dexterity and graphomotor and visuospatial processing abilities, and report significant correlations. Our observations are drawn from the largest children touch dataset available in

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