

Investigating the Effect of Executive Functions on Young Children's Drawing of Familiar and Unfamiliar

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Abstract : This study was inspired by previous studies with young children that found (a) that they need both inhibitory control and working memory when drawing an unfamiliar subject (e.g., animals) by adapting their schema of the human figure and (b) that when drawing something familiar (e.g., a person) they use inhibitory control mediated through fine motor control to execute their drawing. This study, therefore, systematically investigated whether direct effects for both working memory and inhibitory control and/or effects mediated through fine motor control existed when drawing both familiar and unfamiliar subjects. Participants were 95 children (41-66 months old) required to draw both a man and a dog, scored respectively for how representational they were and for differences from a human figure. Regression and mediation analyses showed that inhibitory control alone predicted drawing a recognizable man while working memory alone predicted drawing a dog that was not human-like when fine motor control, age, and gender were controlled. Contrasting with some previous studies, these results suggest that the roles of working memory and inhibitory control are sensitive to the familiarity of the drawing task and are not necessarily mediated through fine motor control. Implications for research on drawing development are discussed.

Keywords : child drawing, inhibitory control, working memory, fine motor control, mediation, familiar and unfamiliar subjects

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