

# Individual Differences in Mental Rotation : Piecemeal vs Holistic Processes

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**Abstract:** Although there is good evidence that mental rotation is an analog process, the question of whether objects are rotated holistically or piecemeal has remained controversial. This study examined differences in mental rotation strategies between good and poor imagers, defined by accuracy on the Shepard and Metzler (1971) mental rotation task. In two experiments, participants performed the mental rotation task with either complete or fragmented figures (figures with some missing cubes). Poor imagers performed similarly on fragmented and complete figures. Good imagers were more accurate and faster in general, but had longer reaction times on fragmented figures than on complete figures. These results suggest that good imagers use holistic mental rotation strategies, while poor imagers use piecemeal strategies.