

**ZMATH 2014c.00139**

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**Mental rotation ability in relation to self-perceptions of high school geometry.**

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Summary: The study examined relations among mental rotation ability, mathematics achievement and mathematical self-perceptions among 113 high school students. Each participant completed a mental rotations test, an assessment of self-perceptions of geometry and self-perceptions of algebra. Geometry and algebra grades along with a standardized geometry test were used as measures of mathematics achievement. Significant relations emerged between mental rotation and both geometry grades and the standardized geometry measure; no significant relation emerged between mental rotation and algebra grades. A significant relation also emerged between mental rotation and self-perceptions of doing well in geometry and algebra, but not between mental rotation and self-perceptions of either liking geometry or algebra. Implications pertaining to the improvement of spatial thinking as they relate to encouraging students' interests in mathematical and scientific careers are addressed.

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*Keywords:* mental rotation ability; geometry; mathematical self-perceptions; spatial thinking; STEM  
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