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**THE RELATIONSHIP BETWEEN SPATIAL ABILITY  
AND MATHEMATICAL ABILITY**

A thesis presented in partial fulfilment  
of the requirements for the degree  
of Master of Science in Psychology  
at Massey University

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## **Abstract**

The purpose of this study was to examine the relationship between spatial ability and general mathematical ability. Many researchers have assumed that a positive correlational relationship exists between mathematics and spatial ability. However, a review of the literature shows that the relationship is not as simple as thought, partly because there is disagreement among researchers on a definition of spatial ability. In the present study general mathematical ability was indexed by the Progressive Achievement Test: Mathematics. A group of 50 high ability and a group of 50 low ability children completed five tests relating to spatial ability from the Kit of factor Related Cognitive Tests. Results from a discriminant function analysis supported the hypothesis that a positive correlational relationship exists between spatial ability and general mathematical ability. This result is important because it provides new evidence to support the argument that there is a relationship between spatial ability and general mathematical ability. The potential for spatial ability tasks to aid in the understanding of mathematics is discussed. However, it is argued that there is a need for greater refinement of the spatial ability construct before more research using it as a factor is conducted.

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