

SPATIAL ABILITY AND VISUAL IMAGERY PREFERENCES: AN EMPIRICAL STUDY AMONG TERTIARY STUDENTS

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Spatial ability has long been recognized as an important component of human intelligence, and its vital importance in different jobs is reflected in the curricula of engineering students and pre-service teachers of drawing and visual communication. Besides the importance of reaching an appropriate level of spatial ability, several questions concerning the factors that may affect spatial ability have been raised in the literature. *Massa, Mayer and Bohon* (2005) revealed that gender role beliefs (a factor mainly associated with the affective sphere of personality) influence spatial ability performance. The gender differences in spatial ability have been addressed in several investigations.

The aim of the current study is to reveal what type of connections exist between spatial ability and visual imagery preferences. People's visual imagery preferences and experiences might explain individual differences in spatial ability. According to *Blajenkova, Kozhevnikov and Motes* (2006), engineers tend to be spatial imagers (i.e., they tend to represent spatial relation schematically) whereas visual artists tend to be object imagers (i.e., representing objects as colourful, high-resolution images). They developed a questionnaire (Object-Spatial Imagery Questionnaire, OSIQ) that aimed to provide a tool for selecting high imagery skill participants.

The participants in the study were 114 students of five universities in Hungary. Two measurement tools were administered to them: (1) The OSIQ questionnaire (30 items, 15 items on object imagery, and 15 on spatial imagery), and (2) A and B versions of the spatial ability test developed by *Séra, Kárpáti and Gulyás* (2002). The reliability of the tests proved to be appropriate for the purposes of the current study. Students' scores on the object imagery items proved to be significantly higher than on the spatial object items ($t=3.69$; $p<0.001$), and these two subscales of the OSIQ questionnaire proved to be not correlated with each other ($r=-.13$; $p=.18$). The score achieved on spatial imagery items has a significant correlation with performance on the spatial ability test ($r=.46$; $p<.001$), while the score on the object imagery items has a neutral correlation with spatial ability ($r=-.07$; $p=.46$). The strength of correlations between imagery type scores and spatial ability show between-institution differences, but not gender-related differences. The OSIQ questionnaire proved to be a reliable measure of a spatial ability-related psychological construct with predictive validity potential on spatial ability.

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