Dynamic spatial performance: sex and educational differences

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Abstract

A set of two dynamic tests were developed for measuring spatial orientation and spatial visualization (SODT and SVDT). These dynamic spatial tests were designed for computer administration. A printed battery including reasoning and spatial tests was also administered to a sample of 602 university graduates, 300 females (mean age=27.17) and 302 males (mean age=28.41). The participants were applicants for an air traffic control training program. Therefore, they were highly motivated to do their best. The present study is based on three main questions: (1) do the new dynamic spatial tests measure the same ability irrespective of sex?; (2) are performance differences between the sexes negligible for spatial tasks that closely resemble 'real' spatial orientation activities?; and (3) is type of education related to dynamic spatial performance? (to our knowledge, a question not directly addressed in the previous literature). The findings suggest that: (1) the factor structure is the same for both sexes; (2) males have an overall higher dynamic spatial performance than females; and (3) neither males’ nor females’ type of education makes any difference to their dynamic spatial performance. When males and females have the same type of education, dynamic spatial performance is still higher in males.

Keywords: Spatial orientation; Spatial visualization; Dynamic spatial ability; Educational differences; Sex differences.

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