Right up there: Hemispatial and hand asymmetries of altitudinal pseudoneglect.

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Abstract

**BACKGROUND:** Pseudoneglect is a normal left sided spatial bias observed with attempted bisections of horizontal lines and a normal upward bias observed with attempted bisections of vertical lines. Horizontal pseudoneglect has been attributed to right hemispheric dominance for the allocation of attention. The goal of this study was to test the hypothesis that the upward bias in vertical line bisection may also relate to right hemispheric dominance for the allocation of attention and/or action-intention.

**METHODS:** Twenty right handed healthy adults were asked to bisect vertical lines presented in the midsagittal plane (center space) and in sagittal planes to the left and right of the midsagittal plane (left and right hemispace) when using a pen held in either the right or left hand.

**RESULTS:** Vertical line bisections were biased upward in all three sagittal planes and higher in left than right hemispace. However, bisections made with the left hand were lower than those made with the right hand.

**DISCUSSION:** Whereas these results suggest a left hemispace-right hemispheric visuospatial attentional upward bias and a relative left hemispheric-right hand upward action-intentional bias, further studies are needed to document this intentional versus attentional bias and to understand the brain mechanisms that produce these biases.

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