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# Handedness and Sex Effects: Bilateral Field Advantage and Task Complexity

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## **G. ANDREWS & D. KADEL. Handedness and Sex Effects: Bilateral Field Advantage and Task Complexity.**

Research suggested that a person's sex and handedness effect brain development and cognitive processing. Left-handed individuals were found more frequently in higher range intelligence groups and cognitive disability groups. Interhemispheric transfer time studies of persons with learning disabilities support predictions that left-handed participants would have slower response times (RT) and a higher bilateral field advantage (BFA) than right-handed participants on letter-matching tasks (LMT) and patternmatching tasks (PMT). Earlier studies suggested that women have more coordination of functioning between hemispheres than men. Research would predict that women would have higher BFA scores than men for LMTs and PMTs. In the current study, comparisons of manual RT and accuracy using a LMT and a PMT indicated that left-handed participants (11) were significantly slower on the LMT for unilateral presentations than righthanded (25) participants. There was no difference in accuracy between the groups. The BFA for left-handed participants for the LMT was significantly higher than for right-handed participants, but not for the PMT. These results indicate that the LMT was a more complex task, and lefthanded participants required greater coordination of the hemispheres to complete the task. Sex (male 5 21, female 5 15) did not significantly affect RT or accuracy for either of the stimulus tasks, nor was there a BFA difference between men and women. These results suggest that handedness influences processing of visual information, but sex does not impact performance on these decision-making tasks. Thus it will be important to evaluate handedness in studies involving bilateral field advantage.

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