

Letter to the Editor

Reply to letter to the editor

Dear Editor:

We are appreciative of the Letter-to-the-Editor written by Dr. Bauer and his comments regarding our research on sex differences in mental rotation task performance and parietal laterality. It appears to us that the main point of Dr. Bauer's letter is his suggestion of a specific 2-Dimensional task (Bauer and Jolicoeur, 1996) that may serve to disentangle our reported associations among gender, parietal laterality, and 2-D rotations. We have read this paper and examined the drawings of the mental rotation tasks. Indeed, the particular 2-D task used by Bauer and Jolicoeur may serve a role in further examination of gender differences in parietal laterality.

It appears to us, however, that the key difference between Dr. Bauer's research program and our own is that the primary goal of his research is to explore the subtle differences in the way mental rotation figures are presented and the resulting reaction times and accuracies. The primary goal of our research is to understand sex differences in behavior, and the brain systems that may be related to these behavioral differences. For our purposes, mental rotation tasks are useful because they usually result in sex differences in performance (Voyer et al., 1995).

Perhaps our 2-D task more closely resembles the 2-D tasks described by Voyer et al. (1995) in their meta-analysis than does the 2-D task used by Bauer and Jolicoeur. Our task is a 2-D figure rotated on one plane. In this sense, our task is similar to the Cards Rotation Test and other traditional 2-D rotation tasks. The 2-D task suggested by Dr. Bauer contains stimuli that were created using 3-D blocks similar in construction to those used by Shepherd and Metzler (1971), but all of the cubes are in a single plane.

We have continued our own research in this intriguing area of inquiry and have recently completed data collection on a study examining gender and parietal laterality during multiple rotation tasks, including mental rotations of 2-D and 3-D stimuli of varying difficulty levels. This was a project we suggested in our discussion section of our *IJOP* paper (Roberts and Bell, 2003; p. 244, right hand column,

middle paragraph). We did not utilize the 2-D task highlighted in Dr. Bauer's letter, so we will be unable to comment on the utility of this task regarding parietal laterality. With respect to this latest project, however, our behavioral data look promising and we are just now beginning to examine our EEG data.

Again, we thank Dr. Bauer for his interest in our research program and for his insights into possible tasks for our future studies.

Sincerely,
Jonathan E. Roberts and Martha Ann Bell

References

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Further reading

- Bauer, B., 2005. Roberts and Bell, 2003. (Letter to the editor). *International Journal of Psychophysiology*.

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