

Figure 1. Experimental design. In Exp. 1 and 2, segmentation cues were shown 300 ms prior to stimulus onset. The cues consisted of four colored rectangles (color was used to increase their saliency; here shown in gray because the colors depended on the experiment; see Fig. 2) and a yellow occluder, implying segmentation of the display into two rectangles. In Exp. 3, no segmentation cues appeared before stimulus onset. Two horizontal (depicted here) or vertical photographs from four categories (beach, desert, field, and forest) appeared for 100 ms on the screen, followed by a mask. Due to the yellow occluder, however, the participants saw just the parts of images and were informed that there were in fact only two photographs presented. To encourage the participants to actively try and combine the four images in the correct way, they were asked to provide only two categories when responding. In the congruent condition, the segmentation cues supported the correct organization of the four images into the original two photographs. In the incongruent condition, the segmentation cues suggested the wrong organization of the screen. (Cue and image orientation was counterbalanced.)

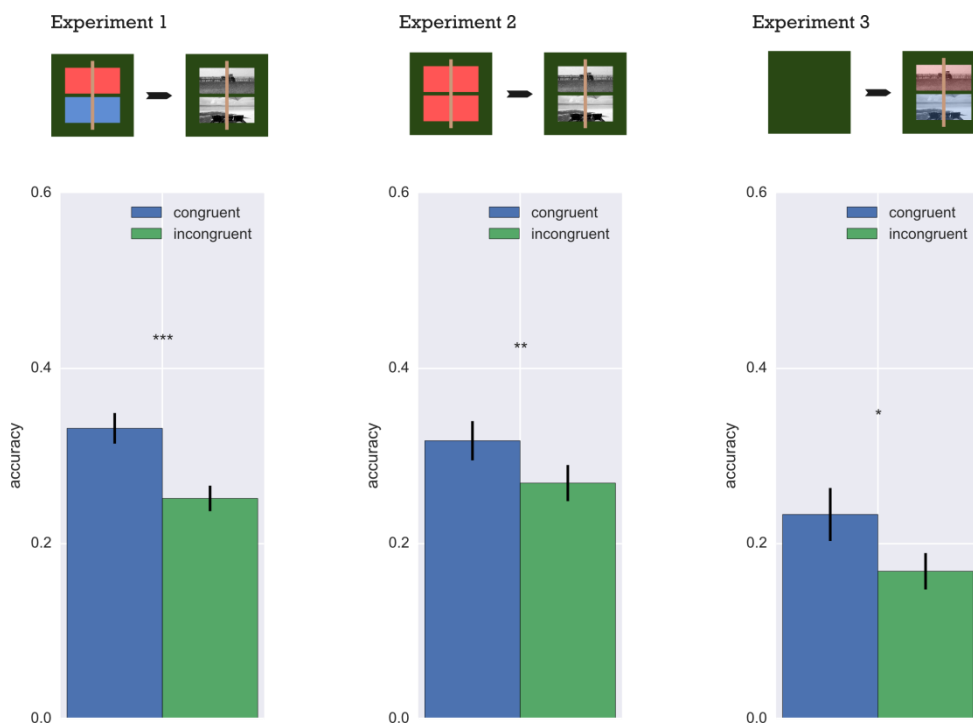


Figure 2. Participant accuracy (correct response means that responses in all four quadrants are correct). *Experiment 1:* Segmentation cues appeared 300 ms prior to stimuli, one red, one blue ($t(9) = 5.76, p < .001$). *Experiment 2:* Segmentation cues appeared 300 ms prior to stimuli, both red ($t(9) = 4.11, p < .01$). *Experiment 3:* Segmentation cues appeared together with the stimuli, one stimulus was slightly red, the other was slightly blue ($t(9) = 3.05, p < .05$). Note that colors are more saturated here for display purposes. Error bars indicate the standard error of the mean across participants ($n = 10$). The number of participants was determined a priori from a pilot experiment by conducting a power analysis with $\alpha = .05$ and $power = .8$.