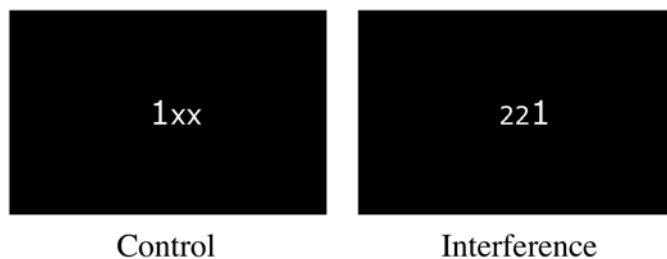


## Multi-Source Interference Task Sample Stimuli

The task is to identify the number that is different from the others.



## Results From the Second Run of the Multi-Source Interference Task

We ran analyses on fMRI and behavioral data from the second run of the Multi-Source Interference Task and found that the pattern of findings was generally the same as in the first run. (Note that one P– pair had no fMRI data from the second run, and one P+ and one P– pair had no behavioral data from the second run; thus their data could not be included in the following analyses.)

With regard to fMRI data in the second run, a main effect of PTSD Diagnosis showed that the P+ pairs had greater dACC activation (in the IvN contrast) than the P– pairs, although this group difference was no longer significant ( $z=2.36$ ). As was the case for the first run data, the other contrasts of interest (i.e., the main effect of Exposure and Exposure by PTSD Diagnosis interaction) showed no significant findings in any a priori region of interest. Averaging across all subjects, the magnitude of dACC activation in the IvN contrast was smaller in run 2 relative to run 1. This was fully anticipated based on previous findings in the literature (Bush et al., 2003, 2006) and indeed was the reason we chose to focus on the first run in the main report.

With regard to behavioral data from the second run, the findings were nearly identical to those from the first run. There was a trend for a main effect of PTSD Diagnosis ( $F[1,22]=3.73$ ,  $p=0.08$ , two-tailed), with the P+ pairs tending to have greater response time difference scores (I–C) than the P– Pairs. When one P+ twin pair was temporarily removed due to civilian PTSD in the co-twin, the main effect of PTSD Diagnosis became significant,  $F(1,21)=4.88$ ,  $p=0.04$ , two-tailed. No other effects were significant with regard to response time difference scores or error rate difference scores ( $p$  values  $>0.51$ ). Averaging across all subjects, response time difference scores were smaller in Run 2 relative to Run 1,  $F(1,48)=10.38$ ,  $p=0.003$ , as was expected based

on the findings of previous studies using the Multi-Source Interference Task. Error rate difference scores were also smaller in Run 2 versus Run 1,  $F(1,48)=18.06$ ,  $p<0.0001$ .

It should be noted that although some subjects participated in a third run of the Multi-Source Interference Task, not enough subjects had done so to permit analyses of data from that run.

### **Correlations Between Behavioral Measures and dACC Function**

Response time difference scores did not significantly correlate with activation in the dACC (extracted from individual subjects' regions of interest) across all subjects or within any of the four groups. However, the correlations between response time difference scores and dACC activation were significant in the P- twin pairs as a group,  $r(24)=0.45$ ,  $p=0.02$  (two-tailed), but not in the P+ twin pairs,  $r(20)=-0.15$ ,  $p=0.52$  (two-tailed). These two correlations are significantly different from each other ( $p=0.04$ , two-tailed).

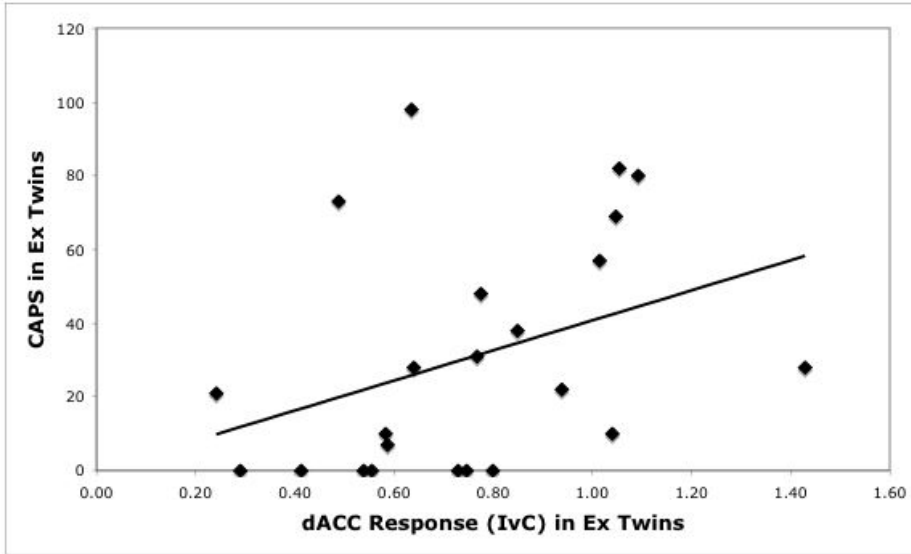
### **Temporarily Excluding Subjects**

Although it involves a substantial loss of power, we re-ran (1) the voxelwise group analyses and (2) the analyses on extracted data from individual subjects after temporarily removing data from several twin pairs with potential confounds such as comorbid major depressive disorder, psychiatric medication use, and left-handedness. In the former analyses, the main effect of PTSD Diagnosis fell below the 3.09 z-score threshold (i.e., when removing 1 pair with PTSD in Ux  $z=2.98$ ; removing 5 pairs with major depressive disorder,  $z=2.17$ ; removing 9 pairs taking medications  $z=2.52$ ; removing 3 pairs with left-handed individuals  $z=2.81$ ). In the latter analyses, the main effect of PTSD Diagnosis remained significant ( $p$  values  $<0.05$ ) when the above subjects were removed.

[Scatterplots appear on the next page.]

## Scatterplots

Scatterplot showing the relationship between fMRI data extracted from the dACC of individual combat exposed subjects (ExP+ and ExP-) and their own CAPS symptom severity scores.



Scatterplot showing the relationship between fMRI data extracted from the dACC of individual combat-unexposed subjects (UxP+ and UxP-) and their combat exposed co-twins' CAPS symptom severity scores.

