

# Neuroskeptic

None more neuro

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## The Voodoo Strikes Back

Just when you thought it was safe to compute a correlation between a behavioural measure and a cluster mean BOLD change...



[The fMRI voodoo correlations controversy](#) isn't over. Ed Vul and colleagues have just responded to their critics in a new article ([pdf](#)). The critics appear to have scored at least one victory, however, since the original paper has now been renamed. So it's goodbye to "Voodoo Correlations in Social Neuroscience" - now it's "Puzzlingly high correlations in fMRI studies of emotion, personality and social cognition" by Vul et. al. 2009. Not quite as catchy, but then, that's the point...

Just in case you need reminding of the story so far: A couple of months ago, MIT grad student Ed Vul and co-authors released a pre-publication manuscript, then titled *Voodoo Correlations in Social Neuroscience*. This paper reviewed the findings of a number of fMRI studies which reported [linear correlations](#) between regional brain activity and some kind of measure of personality. Vul et. al. argued that many (but by no means all) of these correlations were in fact erroneous, with the reported correlations being much higher than the true ones. Vul et. al. alleged that the problem arose due to a flaw in the statistical analysis used, the "non-independence error". For my non-technical explanation of the issue, see [my previous post](#), or go read [the original paper](#) (it really doesn't require much knowledge of statistics).

Vul's paper attracted a lot of praise and also a lot of criticism, both in the blogosphere and in the academic literature. Many complained that it was sensationalistic and anti-fMRI. Others embraced it for the same reasons. My view was that while the paper's style was certainly journalistic, and while many of those who praised the paper did so for the wrong reasons, the core argument was both valid and important. While not representing a radical challenge to

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