Brain scans used to predict behavior

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Washington University scientists in St. Louis say they can predict whether people will win or lose a brief visual game by analyzing their brain scans.

The subjects' brain activity can be used to predict with about 70 percent accuracy whether a subject will give a correct or an incorrect response, said lead author Ayelet Sapir, a postdoctoral research associate in neurology.

Eleven seconds before volunteers played the game -- discriminating the direction of a field of moving dots -- scientists showed them a hint: an arrow pointing to where the moving dots were likely to appear.

After the hint and prior to the appearance of the moving dots, researchers scanned the volunteers with functional brain imaging, which reveals increases in blood flow to different brain areas indicative of increased activity in those regions.

Based on the brain activity patterns, scientists found they could frequently predict whether a volunteer's response would be right or wrong before the volunteers even had a chance to play the game.

Results appear online in the Proceedings of the National Academy of the Sciences and in the journal's Dec. 6 print edition.

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