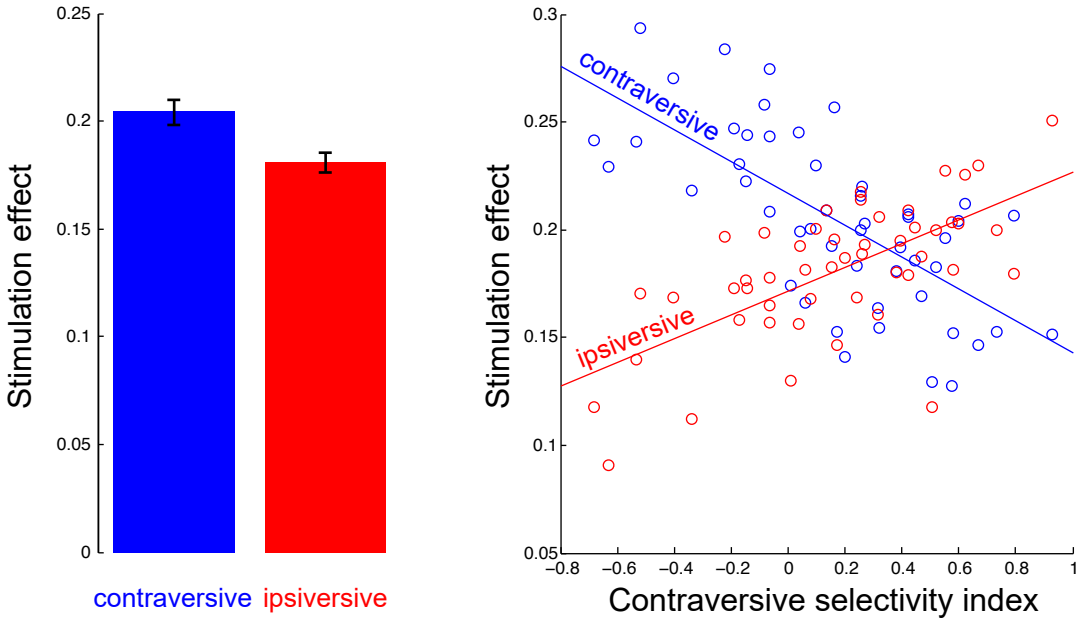

Figure S30. A simple qualitative model of additive microstimulation enhancement scaled down by the initial response amplitude reproduced the "X-shaped" interaction between the task condition-specific stimulation effect and contraversive selectivity, across ROIs. *Left panel:* average stimulation effect for contraversive and ipsiversive task conditions, across ROIs. *Right panel:* stimulation effect per ROI as a function of initial contraversive selectivity in control trials, for the two task conditions.

Simulation parameters:

```
RA_noise_level          = 0.25;
Stim_effect_contra      = 0.25;
Stim_effect_ipsi        = 0.2;
Stim_effect_noise_level = 0.02;
RA_c_contra             = randn(50,1)*RA_noise_level+[0.4]; % control contraversive
RA_c_ipsi               = randn(50,1)*RA_noise_level+[0.15]; % control ipsiversive
RA_s_contra = RA_c_contra + Stim_effect_contra*(1 - 0.5*RA_c_contra) + randn(50,1)*Stim_effect_noise_level;
RA_s_ipsi   = RA_s_ipsi   + Stim_effect_ipsi*(1 - 0.5*RA_c_ipsi)   + randn(50,1)*Stim_effect_noise_level;
```