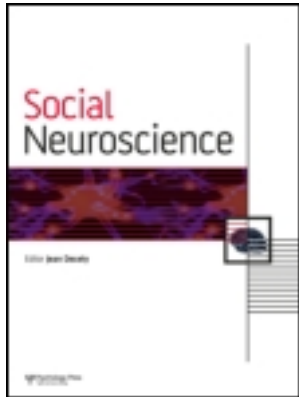


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Publisher: Routledge

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Social Neuroscience

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/psns20>

Accessible cultural mind-set modulates default mode activity: Evidence for the culturally situated brain

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Version of record first published: 13 Mar 2013.

To cite this article: Chenbo Wang, Daphna Oyserman, Qiang Liu, Hong Li & Shihui Han (2013): Accessible cultural mind-set modulates default mode activity: Evidence for the culturally situated brain, *Social Neuroscience*, 8:3, 203-216

To link to this article: <http://dx.doi.org/10.1080/17470919.2013.775966>

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RESULTS

Behavioral performance and self-construal measurement

Behavioral performance was significantly higher in the priming condition than in the control condition for the independent condition ($F(1, 20) = 10.5, p < .01, \eta^2 = .34$), but not for the interdependent condition ($F(1, 20) = 0.1, p > .05, \eta^2 = .00$). Self-construal measurement revealed that participants in the independent condition had a higher independent self-construal score ($M = 1.8, SD = 0.4$) than those in the interdependent condition ($M = 1.2, SD = 0.3, t(20) = 3.2, p < .01, d = .58$).

Neural activity associated with self-construal priming

Neural activity associated with self-construal priming was examined using a whole-brain analysis. Significant clusters were found in the posterior cingulate cortex (PCC) and medial prefrontal cortex (MPFC) for the independent condition compared to the interdependent condition.

TABLE 1

Effect of priming on percent accuracy and wakefulness score

	(D)	
	1	2
Accuracy (%)	78.5	75.2
Wakefulness score	1.2	1.1
Control (%)	75.1	72.8
Control Wakefulness score	1.1	1.0

TABLE 2

Brain regions showing increased activity in the priming vs. calculation tasks

Region	I		(BA)	Z	k
	B	BA			
PCC	10	10	31	4.5	10
MPFC	10	10	9	4.2	10
Control	10	10	31	4.5	10

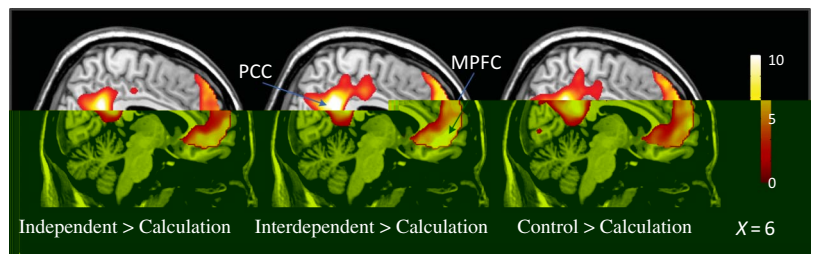


Figure 2.

Brain activity maps showing independent > calculation, interdependent > calculation, and control > calculation. The maps show significant clusters in the PCC and MPFC. A color scale indicates activity levels from 0 to 10, with a threshold of $\chi = 6$.

TABLE 3
Differences in brain activations between priming conditions

B	I	
	BA	() -

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TABLE 4
Brain activation correlated with independent self-construal score

C	m			
	()	I	I	C

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Regional homogeneity during the resting state

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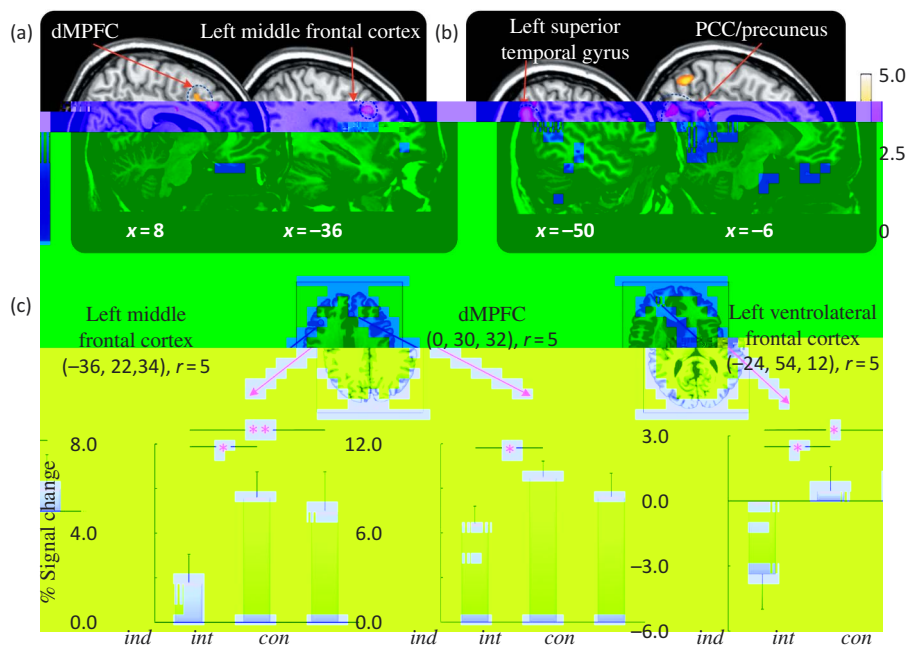


Figure 4.

Functional connectivity during the resting state

TABLE 5
Differences in ReHo during the resting state between each
two priming conditions

<i>B</i>	<i>BA</i>	<i>I</i>	
		()	-
$\frac{1}{2} > \frac{1}{3}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{4}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{6}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{12}$	$\frac{1}{2}$		
$\frac{1}{3} > \frac{1}{4}$	$\frac{1}{3}$		
$\frac{1}{3} > \frac{1}{6}$	$\frac{1}{3}$		
$\frac{1}{3} > \frac{1}{12}$	$\frac{1}{3}$		
$\frac{1}{4} > \frac{1}{6}$	$\frac{1}{4}$		
$\frac{1}{4} > \frac{1}{12}$	$\frac{1}{4}$		
$\frac{1}{6} > \frac{1}{12}$	$\frac{1}{6}$		
$\frac{1}{2} > \frac{1}{3}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{4}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{6}$	$\frac{1}{2}$		
$\frac{1}{2} > \frac{1}{12}$	$\frac{1}{2}$		
$\frac{1}{3} > \frac{1}{4}$	$\frac{1}{3}$		
$\frac{1}{3} > \frac{1}{6}$	$\frac{1}{3}$		
$\frac{1}{3} > \frac{1}{12}$	$\frac{1}{3}$		
$\frac{1}{4} > \frac{1}{6}$	$\frac{1}{4}$		
$\frac{1}{4} > \frac{1}{12}$	$\frac{1}{4}$		
$\frac{1}{6} > \frac{1}{12}$	$\frac{1}{6}$		

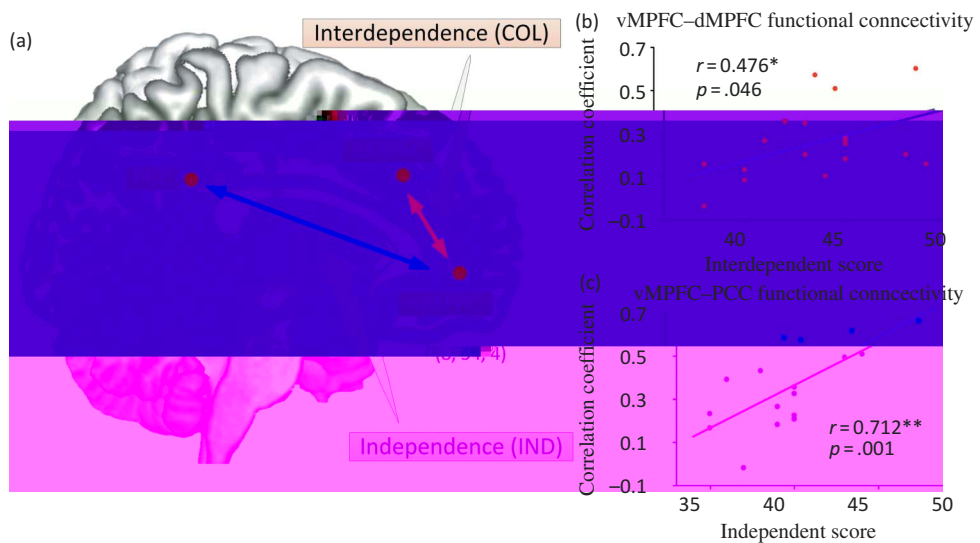


Figure 6. Functional connectivity between vMPFC and dMPFC (b) and vMPFC and PCC (c) is associated with interdependent and independent scores, respectively. The correlation coefficients and p-values are shown in the plots. The brain slices in (a) show the regions of interest (ROIs) for the connectivity analysis. The ROIs are defined based on the anatomical landmarks and are shown in blue (interdependence) and pink (independence). The coordinate (6, 54, 4) is shown in the brain slice.

DISCUSSION

The present study investigated the functional connectivity between vMPFC and dMPFC (b) and vMPFC and PCC (c) in relation to interdependent and independent scores, respectively. The results showed that vMPFC-dMPFC functional connectivity was positively correlated with interdependent scores ($r=0.476^*$, $p=.046$), while vMPFC-PCC functional connectivity was positively correlated with independent scores ($r=0.712^{**}$, $p=.001$). These findings suggest that vMPFC-dMPFC connectivity is associated with interdependence, while vMPFC-PCC connectivity is associated with independence. The brain slices in (a) show the regions of interest (ROIs) for the connectivity analysis. The ROIs are defined based on the anatomical landmarks and are shown in blue (interdependence) and pink (independence). The coordinate (6, 54, 4) is shown in the brain slice.

1. The first part of the text discusses the general principles of the theory, including the basic concepts and the main results. It covers the introduction of the model and the derivation of the equations of motion. The text also includes a detailed discussion of the boundary conditions and the initial conditions. The results are presented in a clear and concise manner, with a focus on the physical interpretation of the findings.

2. The second part of the text focuses on the numerical analysis of the model. It describes the methods used to solve the equations of motion and the results of the simulations. The text includes a discussion of the convergence of the numerical solutions and the accuracy of the results. The numerical results are compared with the analytical results to validate the model.

3. The third part of the text discusses the physical implications of the results. It explores the relationship between the model parameters and the physical quantities of interest. The text also includes a discussion of the limitations of the model and the directions for future research.

4. The fourth part of the text provides a summary of the main findings and conclusions. It highlights the key results and the significance of the work. The text also includes a list of references and an appendix with additional technical details.

5. The fifth part of the text is a concluding statement, summarizing the overall contribution of the work and the authors' hopes for the future of the field.

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