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A 20 A 2007

Abstract

P f f (SI SII), (ACC), . SI SII - f ACC ff - f . T f f . S f (fMRI) f . S f f f C . R , SII, , f , f f . O - ff - f f .
2007 E B.V. A .

Keywords: A ; fMRI; I ; P ; R

1. Introduction

I . R f ACC . T f (SI SII), f (ACC), f ACC . I , f ACC - , f - , . [1,2]. T ACC N SI SII - ff - f . [3 5] M f f (-) [6]. . H N f - , f ' f SI . F , SII [7] SI f . T , . I , f - ff - f f . O . f ACC f .

[8]. T SI SII - f . R f ACC . [9,10], - [11] [12 15] . [9]. ff - f . M f f . H - f ' f SI . F , SII [7] SI f . T , . I , f - ff - f f . O . f ACC f .

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[16]. T

. O

. A

. W

(fMRI). B

C

ACC

W

f C

2. Method

2.1. Subjects

T (3 7 f) 20 27 (± S.D. = 21.6 ± 2.01) . A . A , . I f f . T f D f P P U .

2.2. Stimuli and procedure

T LCD , . T . V f 40 C . H f f (. ., ,) (. ., , TV). T 27 f f (f f 6.47 0.48, , 9 8 = f , 0 = , $t = 33.11$; $p < 0.001$). H f f C f C . E f 1.5° × 1.5° f 90 .

A - . E fMRI . E f : (1) f f ; (2) f C f (3) f C . T , f f . T 1 3 - , 2 3 f - . E f 3 , (. ., f C) f f . T 20 f . E f 500 , f 2500 . T f f 2000 (f / f f /), . A f 7 f f . T f . T f .

2.3. fMRI data acquisition

S f 3T S T - B MRI C f B R . T - f f (64 × 64 × 32 3.4 × 3.4 × 4.4 , TR = 2000 , TE = 30 , FOV = 220 , = 90°). A 3D T1- (256 × 256 × 176 0.938 × 0.938 × 1.3 , TR = 1600 , TE = 3.93). S , f f .

2.4. fMRI data analysis

SPM2 (W D f C N , UK) f . T f f . T - f f . A 2 × 2 × 2 M N I (MNI) T [17] . F G f - f (FWHM) 8 . T - f . C f , f f , f . S ff ff . R ff f f . A - t- f ff . S f $p < 0.0001$ ( ) f p f 0.05 (f). T SPM f f MNI T f . W - f- (ROI) , f , ff . T ROI f f f f . T f f 6 , M B R, f f . T BOLD f (ANOVA).

3. Results

3.1. Behavioral performance

T ff f f (46.5 ± 10.42% 53.5 ± 10.42%, $t(9) = 1.062$; $p > 0.05$) . E f f C - 1.0%.

3.2. fMRI results

R f , f ,

T 1
B

B	BA	x	y	z	Z-	V
-						
R		34	10	1	4.90	147
R MFG	9	46	23	25	4.39	444
L IFG	45/46	−38	33	8	4.27	151
L STG	22/42	−42	−32	20	5.13	1123
L SII	4/3	−57	−12	26	4.57	363
L MOG	18	−28	−74	4	3.99	139
R P		22	−7	6	3.58	146
-						
R		38	−9	8	4.67	456
R MFG	9	46	21	23	3.63	115
L STS	22/42	−46	−44	8	4.23	111
L SMA/MI	6	−16	−21	42	4.46	345
L MI	4	−50	−14	32	3.89	97
R SII	2	48	−16	23	4.71	456
L SII	2	−61	−15	17	4.25	110
L MOG	17/18	−28	−73	9	4.89	247
-						
N						

: R ; : ; : ;
BA: B ; R: ; L: ; MOG:
; MFG: ; IFG: ; STG:
; MI: ; SMA:
SII: . V
p 0.0001, >20; $p<0.05$.

, , ,
SII, (T 1). S , -
, , , SII , , (T 1). W . H , . .

T -
, , .
T ROI ANOVA (-) . T
($F(2, 18)=16.94$ 34.85; $p<0.01$). P ($p<0.01$; F . 1) -
($p>0.05$).

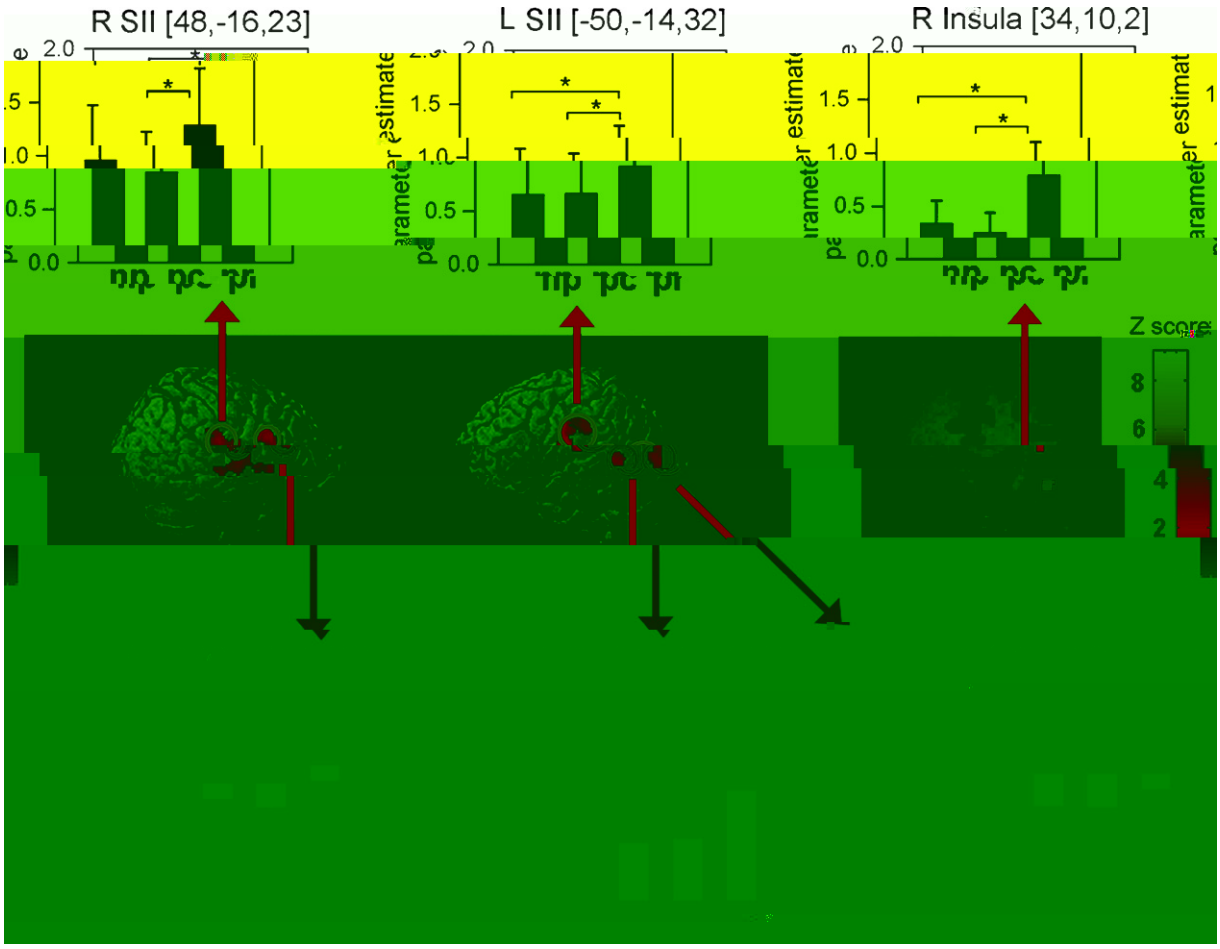
T 2
B

B	BA	x	y	z	Z-	V
C - -						
R		34	10	2	4.49	177
R MFG	9	46	23	23	4.49	131
L STS	22/42	−44	−44	10	4.50	91
L SII	3	−50	−14	32	4.66	157
R SII	2	48	−16	23	5.15	143
L MOG	18	−28	−74	4	4.94	89

: ; : ; :
BA: B ; R: ; L: ; MOG:
; MFG: ; IFG: ; STG:
; MI: ; SMA:
SII: . - W
- p 0.05,
p 0.0001, >20; $p<0.05$.

4. Dicsussion

T . I , .
. SII, , . B . , , , , , fMRI .
O - (. ., SII) - . T fMRI - SII [15,18]. R TMS [19] [20,21]. O . T . - . SII [1] [2]. H , , , SII - . O . I



F . 1. B v f v f v f . T f ROI v f . A (*) ff ($p < 0.05$) f v v .

. T , -
f .
I , f f
f ACC. ACC f
[8] -
[7,32].
ACC f ' [33]
' [12 15,34]. M f -
f
ACC -
[1,2]. I f
f -
ff f f
f . E f
f ff -
f f f
[16]
ACC. O f
, , f ACC. A ,
ACC . H ,
f . I
, f ACC
f f
. I , f
SII , f ACC -
f f
. S -
f - (f
-) f
. T f ACC
ACC ff
ff -
f .
F , f -
f f f
f - . C -
f C f
f
S ff [35]. H ,
. P f f
f
. T -
f
- [32,36].
I , fMRI
f f
- ff -
f . I ,
f
f SII f ACC.

Acknowledgement

T N N S F -
f C (30630025).

Appendix A

L f -
f C .

P f	N
C	T
P	W
S	W
S	C
S	W
C	M
C	E
F	W
L	L
F	L
W	W
B	L
C f	R
B -	H
S	D
A f	W TV
H	S
C	N
P	P
T	D

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