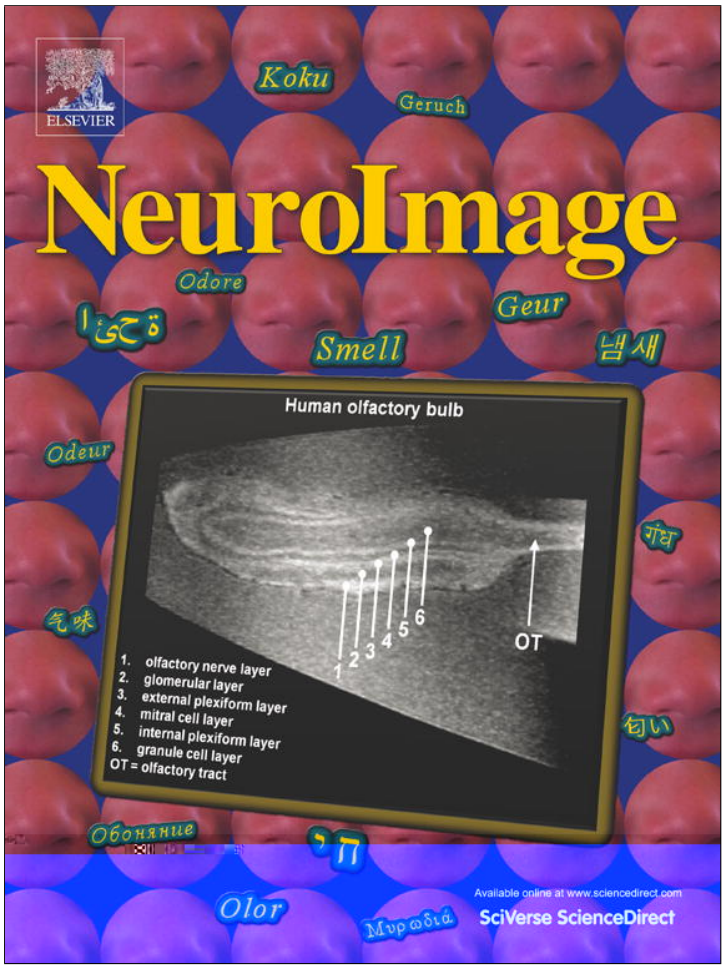

(This is a sample cover image for this issue. The actual cover is not yet available at this time.)

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Introduction

S -fl . T -fl (MRI) (, H N , 2009; H , 2011; N ., 2006) (((R ., 1977). I (BOLD) , (MPFC) (PCC), (F ., 2003; H ., 2008; H ., 2006; K ., 2002; M H , 2011; M ., ; M ., 2004; M ., 2006; ., 2007; ., 2002), 0 ((1)- H 8. S26( )-5( ); H 1 -338 .28211

E (EEG) - (. ., F K , 2012; M A , 2007; M H , 2010; S D , 2010; W D , 2007). U , M H (2010) - (ERP) 200–400 (P2) 400–1000 / (P3) . S D (2010) ERP - P2 . M A (2007) - . O , “ ” “ ” fi , . T fi - . S , M A (2007) fi - ERP fi ERP 100–1700 . F K (2012) / - . S - - . U (K –M , 1987), M H (2010) - – (TF) (5–7 H), (8–13 H), (14–27 H), (28–40H) . T , - (ERS) - 700–800 400–600 . I , - (ERD) - / 700–800 / 500–600 . T fi ERS ERD - . T - . T fi - - . I E

1, (F . 1). A , “ ,” “ ,” fi . S - , . V - (.) . W EEG . T - EEG - EEG - . V - T E 1 fl -, -, - , E 2 . T E 1, E 2, fi . S (M H , 2010), TF , . W - - . I ERD - - (S L , 1988) - (P 1992). A ERD fl . ERS fl (P , 1996). ERS (. .,) ERS (. .,) - (P L S , 1999). M H (2010) fi . H , ERS ERD - , . I , ERS - , ERD fl (M H , 2010), ERS ERD

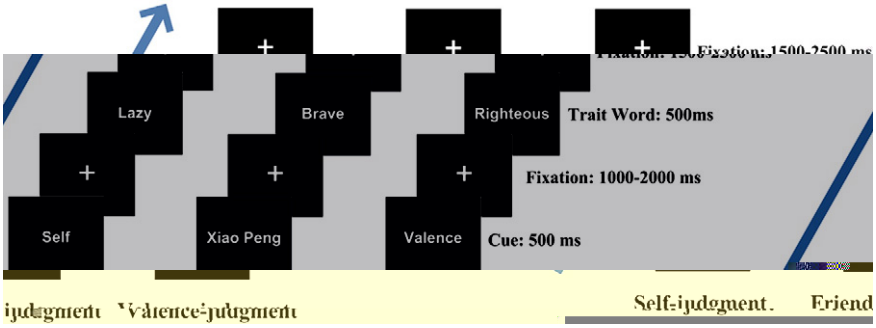

Fig. 1. I - E 1. E . B C .

T ERS ERD ( ). ( ). I MRI MPFC PCC MPFC (. ., M H , 2011), T (PLV) (L ., 1999). I T (R ., 1999), (B A , 2002), (M ., 2012). I (S ., 1998). W .

Materials and methods

Subjects

T (13 , 13 , 19 27) E 1. E (13 , 5 18 24) E 2. A I . T .

Stimuli and procedure

B C . E C . E C 2.0 2.0 80 . A 300 (L , 1990) E 1. T fi 10 30 ( ) . W .

T . I E 1, C ' ', ' ' 500 , fi 1000 2000 . A 500 fi 1500 2500 (F . 1). S . T (.) . S . T ' / '

. T 30 , 10 , 10 , 10 . T I E 2, ' ', ' ', C 120 . E . E 500 , fi 500 800 . S (,) . T fi (/ / fi) (/)

W NCW , - 119.7 1.3 H 2 H . T 19.9 8.0 H 80 H .

T TF fi - - - . T TF fi −200 0 (P A , 1979). C - , 50 20 0 1000 . T TF 50 H 50 H C . T : (2–4 H), (5–7 H), 1 (8–10 H), 2 (11–13 H), (14–26 H), 1 (28–40 H), 2 (60–80 H), - (M H , 2010). T - TF , – - : (: F , FC ; : C , CP ; : P , PO), (: F1, F3, F5, FC1, FC3, FC5; : F2, F4, F6, FC2, FC4, FC6), (: C1, C3, C5, CP1, CP3, CP5; : C2, C4, C6, CP2, CP4, CP6), (: P1, P3, P5, PO3, PO5, O1; : P2, P4, P6, PO4, PO6, O2).

T TF - , – (ANOVA) C (- . -) R (, , -) H ( ) - . T - , ANOVA C (- . -) R /H - . S ANOVA J (.) R / H - TF / T fi - , ANOVA S (/), T (/) R /H - . T TF E 1 , ANOVA TF E 2 C (- . - - . -) R - /H - . A P- ANOVA G –G .

Phase synchrony analysis

S (D ., 2008; G ., 2004; L ., 1999; L ., 2004; R ., 1999), M (TFOI) fi - - - - W - - (PLV) fi . T PLV - j k t f N :

$$PLV_{j,k,t}=N^{-1}\left|\sum_{N} i^{[\Phi_j(f,t)-\Phi_k(f,t)]}\right|$$

PLV 0 1. 0 1 - j k.

W 21 , 210 (21 20/2) (F3, F4, F), - (FC3, FC4, FC), (C3, C4, C), - (CP3, CP4, CP), (P3, P4, P), - (PO3, PO4, PO), (O1, O2, O) . T . T I - , P (K ., 2004; M O , 2007). T PLV 1000 . T - . T - 1000 – , 1000 T . A 1000 T , 95 - . T PLV T 95 (P<.05) fi .

Results

Behavioral performance

T ANOVA (RT) E 1 -

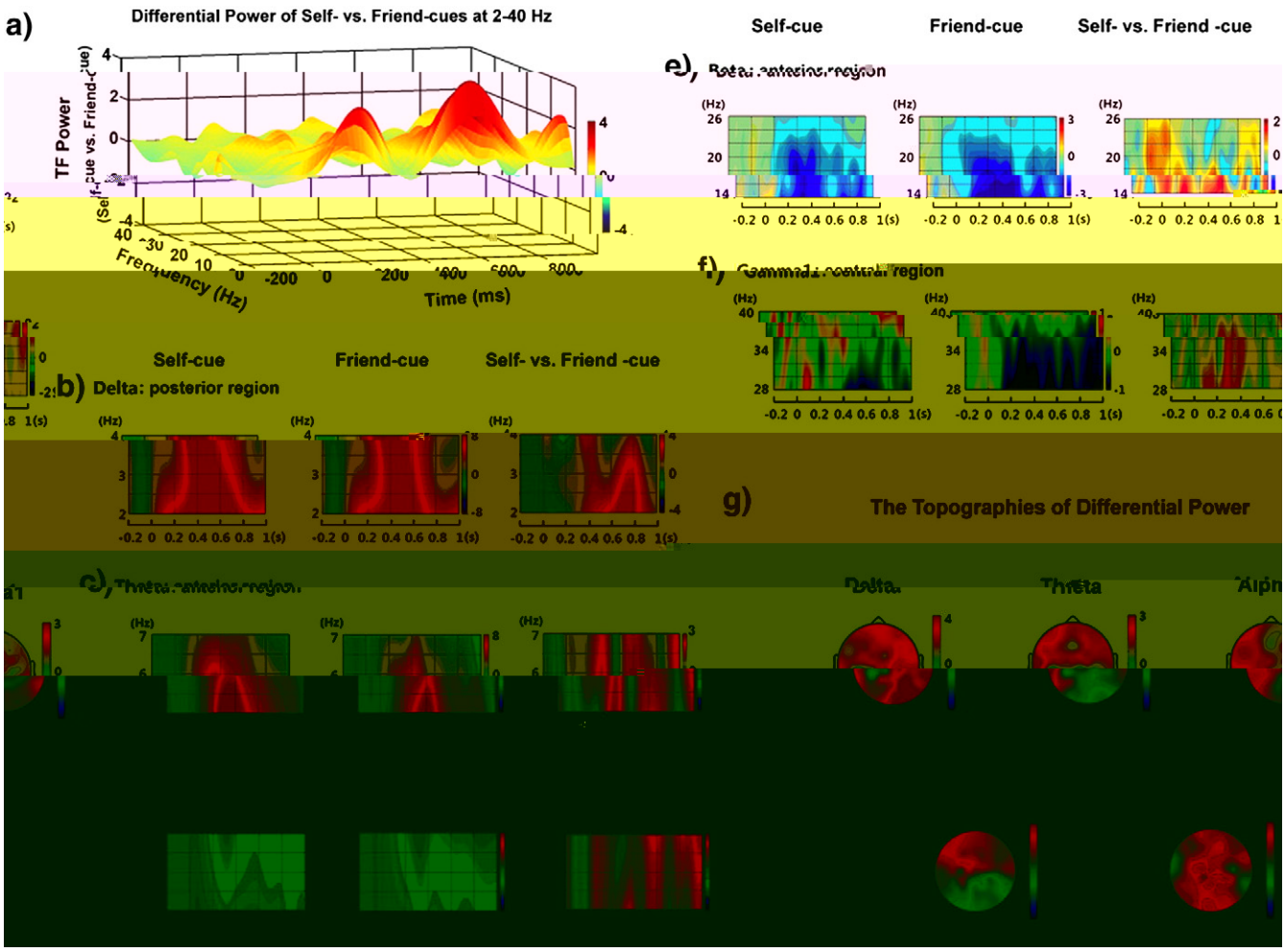

Fig. 2. T TF - .) T TF .) D P1. F5 2–40 H 0 1000) T F5.) A 1 CP3.) B F5.) G 1 C1.) T 50 . T TF . R .

S fi C R 1 300–400 ($F(2, 50) = 9.53$, $P<.01$, $\eta^2=.28$) 50–100 ($F(2, 50) = 5.783$, $P<.05$, $\eta^2=.19$). P - - 1 ($F(1, 25) = 5.32$, $P<.05$, $\eta^2=.18$) ($F(1, 25) = 5.55$, $P<.05$, $\eta^2=.18$). S - . - 2 2 ($P>.05$). ANOVA - - fi C H 600–1000 ($F(2, 50) = 8.61$, $P<.01$, $\eta^2=.24$). P - , - - , - - 600–700 ($F(1, 25) = 8.61$, $P<.01$, $\eta^2=.24$). T fi C H 1 700–900 ($F(2, 50) = 4.86$, $P<.05$, $\eta^2=.15$) 2 800–900 ($F(2, 50) = 7.15$, $P<.05$, $\eta^2=.20$). P - - . - (1, $F(1, 25) = 6.85$, $P<.05$, $\eta^2=.22$; 2, $F(1, 25) = 8.89$, $P<.01$, $\eta^2=.26$). N C C R fi ($P>.05$).

Desynchronous activity related to evaluation of one's own personality traits

N - fi . . R - , - (1: , $F(1, 25) = 6.25$, $P<.05$, $\eta^2=.20$ 300–400 ; , $F(1, 25) = 6.58$, $P<.05$, $\eta^2=.21$ 300–400 ; , $F(1, 25) = 7.47$, $P<.05$, $\eta^2=.23$ 300–500 ; : , $F(1, 25) = 7.79$, $P<.01$, $\eta^2=.24$ 200–500 ; , $F(1, 25) = 6.81$, $P<.05$, $\eta^2=.21$ 200–400 ; , $F(1, 25) = 6.32$, $P<.05$, $\eta^2=.20$ 200–300 ; 1: , $F(1, 25) = 4.55$, $P<.05$, $\eta^2=.15$ 300–400 , F . 3). I - . - 100–300 ($F(1, 25) = 5.33$, $P<.05$, $\eta^2=.18$). ANOVA - fi J ($P>.05$).

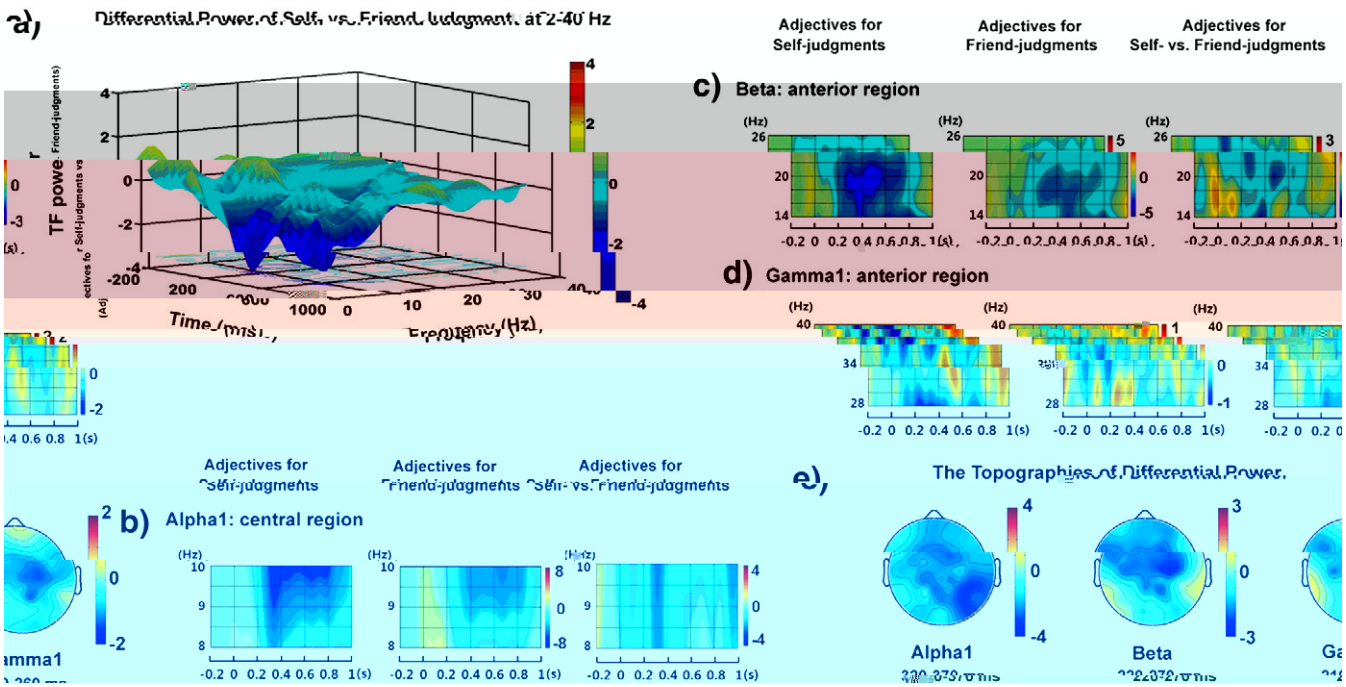

Fig. 3. T TF . .) T TF 5–40 H 0 1000 P5.) A 1 C1.) B . FC2.) G 1 C2.) T 1 50 . T . R

R , 1 (300–400 , F (1, 25) = 5.69, P<.05, η^2 = .19; 700–800 , F (1, 25) = 14.80, P<.01, η^2 = .37) (300–400 , F (1, 25) = 6.64, P<.05, η^2 = .21). N J H fi (P > .05).

Distinct patterns of neural oscillations to self-cue and self-related trait adjectives

T fi ANOVA S (.), T (.), R /H - . T fi S . I J . C 400–1000 (, F (1, 25) = 29.02, P<.001, η^2 = .54; , F (1, 25) = 46.86, P<.001, η^2 = .65; , F (1, 25) = 54.77, P<.001, η^2 = .69; , F (1, 25) = 69.56, P<.001, η^2 = .74), 900–1000 (, F (1, 25) = 14.04, P<.001, η^2 = .36; , F (1, 25) = 22.71, P<.001, η^2 = .48), 800–900 (, F (1, 25) = 4.66, P<.05, η^2 = .16). M , fi S T 300–400 (F (1, 25) = 5.42, P<.05, η^2 = .18, F . 4), 1 300–1000 (, F (1, 25) = 8.94, P<.01, η^2 = .26; , F (1, 25) = 5.42, P<.05, η^2 = .18, F . 4), (50–100 , F (1, 25) = 9.48, P<.01, η^2 = .28; 200–400 , F (1, 25) = 8.17, P<.01, η^2 = .25, F . 4) (200–400 , F (1, 25) = 6.04, P<.05, η^2 = .20), 1 (100–200 , F (1, 25) = 4.09, P = .05, η^2 = .14; 300–500 , F (1, 25) = 9.27, P<.01, η^2 = .27, F . 4). T fi .

P fi . R , (300–400 , F (1, 25) = 31.92, P<.0001, η^2 = .56), 1 (300–1000 , F (1, 25) = 14.84, P<.001, η^2 = .37) (300–1000 , F (1, 25) = 14.64, P<.001, η^2 = .37), (0–100 , F (1, 25) = 7.85, P<.01, η^2 = .24; 200–300 , F (1, 25) = 4.62, P<.05, η^2 = .16), 1 (300–500 , F (1, 25) = 6.60, P<.05, η^2 = .21). I , , (200–400 , F (1, 25) = 9.84, P<.01, η^2 = .28) (200–400 , F (1, 25) = 5.23, P<.05, η^2 = .17), 1 (100–200 , F (1, 25) = 4.57, P<.05, η^2 = .16). T (P > .05).

Phase synchrony of neural oscillations to self-cue

T TFOI fi . T PLV TFOI . . F . 5 fi . R , 300–400 ((25) = 3.08, P<.05) 1 300–400 ((25) = 2.92, P<.05). S

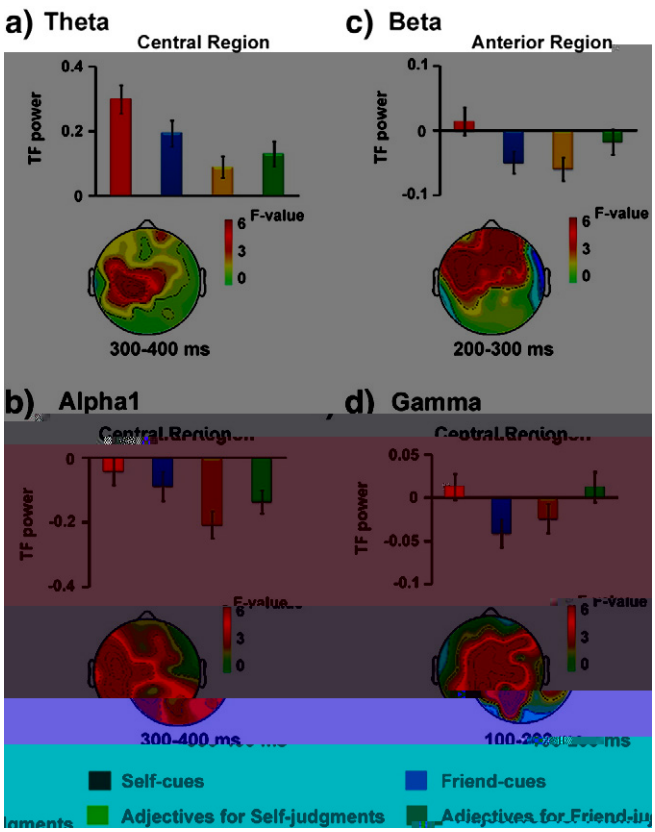

Fig. 4. I . E . T F fi S T) 300–400 ,) 1 300–400 ,) 200–300 ,) 100–200 .

400–500 1 ((25)=3.41, P<.05). H , fi TFOI - (P >.05).

Phase desynchrony of neural oscillations to evaluation of one's own personality traits

T , TFOI fi . R , 1 300–400 ((25)=−3.22, P<.05) 1 300–400 ((25)=−3.18, P<.05, F . 5). TFOI fi (P >.05). W . T 1 300–400 ((25)=2.88, P<.05).

Non-phase-locked neural activity in Experiment 2

T E 1 , TF E 2, . T fi (P >.05). W , , 400–700 (F (1, 17)=8.28, P=.01, η^2=.33) (F (1, 17)=8.53,

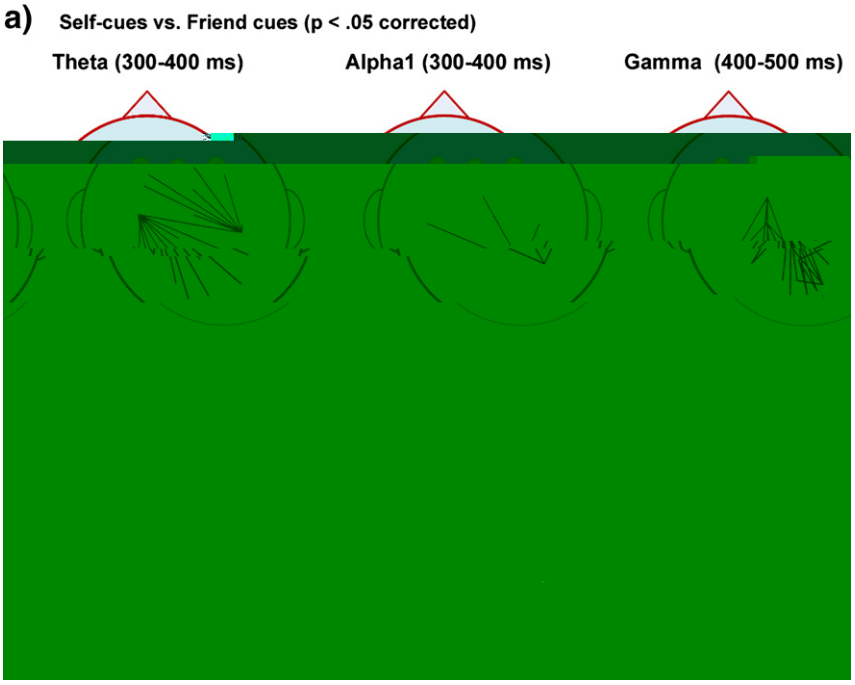

Fig. 5.) I (300–400), 1 (300–400), 1 (400–500) .) I 1 (300–400), 1 (300–400) .

P<.01, η^2=.33) , - 400–600 (F (1, 17)=5.20, P<.05, η^2=.23) (F (1, 17)=4.83, P=.04, η^2=.22) . TFOI fi - (P >.05).

Discussion

T . W fi - (R ., 1977) / . W . I , - . O fi - fl .

Neural oscillations and self-related attentional orientation

I fi .W - fl ? A K . (2002), , . T , I , . B fi - fl , , fi . I , , ' . I I 1 . I , - . A , 1 T E 2 - . A E 2 , , , , . H , ,

E 2. T fi - - . P EEG . A (F ., 1995; H ., 1996) (L ., 2007). I - (C ., 2003; O ., 2001), S , , - . O , I (. .) fi (B ., 2000). S (G ., 1999; H K , 2001; M ., 2000), (H ., 2000), (B A , 2002; T -B , 2009). B - . T -B . (1996, 1997) . O (. ., R ., 1999). T , (V ., 2001). I , . H , - . T fl - . U -/ - -/ - . B (F A , 2011), fi .

Neural oscillations of self-related evaluation

T fi - - . T , - . W - . T . I

(M H , 2010)

B (V ., 2001),

. F ,

(D ., 2003). S

(H ., 2004 , 2004). T

(H ., 2004 , 2004). W

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(M H , 2010),

(K ., 2002). I , .

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. R

(F A , 2011,). F

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(P K , 2009). E

(G ., 2001). I

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. T

(K ., 2002).

Conclusion

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EEG

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A

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EEG

. F MRI

fi

. F ,

(H

N , 2009; H ., ; M K , 1991),

fl .

Acknowledgments

T N B R P C (973 P 2010CB833903), N N S F C (P 30910103901, 91024032, 81161120539), C P S F (P 2011M500171, 2012T50006). W L L .

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