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ORIGINAL ARTICLE

Differential modulations of reward expectation on implicit facial emotion processing: ERP evidence

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1 INTRODUCTION

(., B , , , & , 2011; , & , 2011). (& , 2005; , , & , 2000),

2013; , 2017,). 2004; , 2013) ; 2011) , 2005). , 2011; , 2012).

, 2013; , 2014; , 2017; , 2014; , 2016). (. .,) , 2015; , 2014; , 2016; , , , 2014).

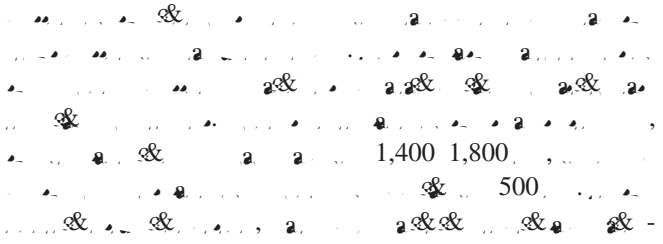
(2013) (2016, 2) , 3 (300 380) (2017) :

, B & & B , 2015; , 2013; & , 2017), (-)& E 1, & E 2.

2 METHOD

2.1 Participants

2.2 Design and materials



[illegible]

3 RESULTS

3.1 Behavioral results

[illegible]

(M = 474) (M = 485 ; p = 0.005); (M = 481). F(2, 38) <1. 2 F(1, 19) = 57.84, p < 0.001, 2 = 0.75, (538) (604). (–E F (2, 38) <1).

. E 1 F(2, 38) = 11.38, p < 0.001, 2 = 0.38. B (4.0%) (6.5%; p = 0.007) (7.5%; p = 0.001). . E 2 .

F(1, 38) = 23.56, p < 0.001, 2 = 0.38, E 1 E 2 (480 . 571), F(1, 38) = 97.61, p < 0.001, 2 = 0.72, (501 . 550). F(1, 38) = 11.31, p = 0.002, 2 = 0.23, E 2 E 1 (66 . 32).

F(1, 38) = 6.44, p = 0.015, 2 = 0.15, E 2 E 1 (3.8% . 6.0%) F(2, 76) = 7.30, p = 0.001, 2 = 0.16. B (3.9%) (5.1%; p = 0.032) (5.7%; p = 0.007). F(2, 76) = 6.36, p = 0.003, 2 = 0.14. E 1, E 2.

3.2 ERP results

3.2.1 Experiment 1

2 E ,

1. 3 (3.35 . 2.38), F(1, 19) = 15.64, p = 0.001, 2 = 0.45, (−1.52 . −0.79), F(1, 19) = 6.52, p = 0.019, 2 = 0.26.

3 ( ) E , 2 4 ( ) 2 5 ( ) E , 170 E, , 170, 2,E, , E , 2, 2& E , 2 2 E , 2 170, 2, E, 1.

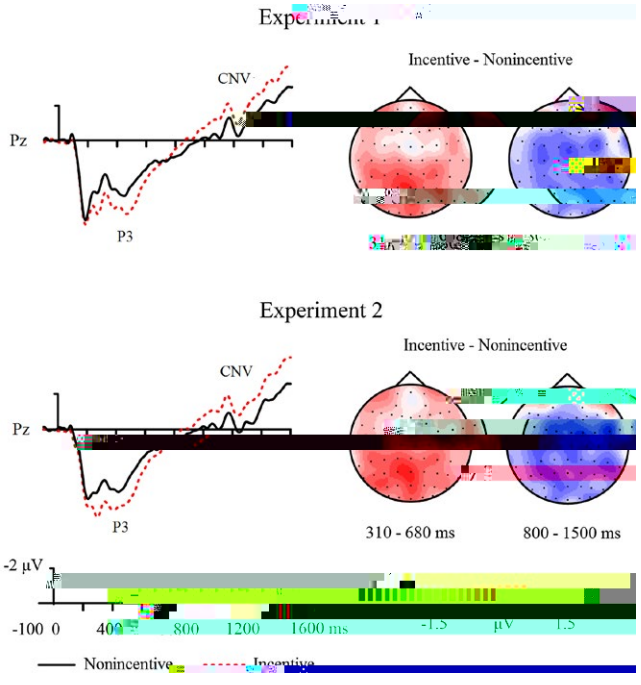


FIGURE 2

E , &
& (, , : 6.36 . 5.48 ,

3 ( ) & E , & a & , , a . 2& , a 4 ( ) & a . 2 a 5 ( ) & E , & a & . 170 a E, . & . a & - a, & a & E , . 2,E, . , a , & . 2 & - a a a a & . , . 2 & , & E , a & a a & & & . & a . ' a a - . 170, ' , , , 2,E, . , a , & , E 2 a a 2 ( ).

. 2 a & a, B & & a & a a & & E , & a a a (3.02 . 1.88 ' , $p = 0.001$, a 3.02 . 2.04 ' , $p < 0.001$). B & a . 2& a & a , $F(2, 38) = 4.53$, $p = 0.017$, $\eta^2 = 0.19$, , & a a & . a & & a & , $F(2, 38) = 20.21$, $p < 0.001$, $\eta^2 = 0.52$, a . 2 a & (2.90 ') a a a & (1.44 ' , 1.22 ' ; $p < 0.001$); & a & & , $F(2, 38) = 2.41$, p 0.1.

3.2.3 Overall analysis of Experiments 1 and 2

& & . ' & & , 3 a & a . & - a a a & a, & & F (1, 38) <1. & a a & & , & & a – E & & & & . , & . ' . 170, ' , , , E, . , 2, a , , & . . 170, a & a

, $F(2, 76) = 4.21$, $p = 0.018$, $\eta^2 = 0.10$, 1 2 (0.88 . 0.11), 1 2 (0.60 . 0.13),

. 2 , , $F(2, 38) = 19.83$, $p < 0.001$, η^2 / 200 0.001, 2 : 0.018,

TABLE 2 [illegible] 170, [illegible] 2, [illegible] 1 [illegible] 2

			N170 (140–200 ms)	VPP (140–200 ms)	N2 (200–280 ms)	EPN (240–320 ms)	LPC (500–700 ms)
[illegible] 1	[illegible]	F	5.47	8.66	17.59	7.22	26.82
		p	0.03	0.008	<0.001	0.015	<0.001
		η_p^2	0.22	0.31	0.48	0.28	0.59
	[illegible]	F		11.79	27.76		8.32
		p		<0.001	<0.001		0.001
		η_p^2		0.38	0.59		0.30
	[illegible] – [illegible]	F			8.96		
		p			0.001		
		η_p^2			0.32		
	[illegible] – [illegible]	F			3.58		
		p			<0.001		
		η_p^2			0.16		
	[illegible] – [illegible]	F			8.64		
		p			<0.001		
		η_p^2			0.31		
	[illegible] – [illegible] – [illegible]	F			1.99		
		p			0.002		
		η_p^2			0.10		
[illegible] 2	[illegible]	F			6.14	4.38	29.27
		p			0.023	0.05	<0.001
		η_p^2			0.24	0.19	0.61
	[illegible]	F			16.50		
		p			<0.001		
		η_p^2			0.47		
	[illegible] – [illegible]	F			4.53		
		p			0.017		
		η_p^2			0.19		
	[illegible] – [illegible]	F					
		p					
		η_p^2					
	[illegible] – [illegible]	F			2.20		
		p			<0.001		
		η_p^2			0.10		
	[illegible] – [illegible] – [illegible]	F					
		p					
		η_p^2					

Note. [illegible]: [illegible], $df = (1, 19)$; [illegible], $df = (2, 38)$. [illegible] 170 [illegible]: [illegible], $df = (1, 19)$; [illegible], $df = (2, 38)$. [illegible] 2, [illegible]: [illegible], $df = (14, 266)$; [illegible], $df = (28, 532)$.

[illegible] 2. [illegible] 1 [illegible] 2 [illegible]

[illegible]

ACKNOWLEDGMENTS

PSYCHOPHYSIOLOGY

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