

# Brain responses to facial expressions by adults with different attachment-orientations

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Behavior studies demonstrate that the attachment-orientation difference is a powerful predictor for emotional processing in children and adults, with anxious individuals being hyperactive and avoidant individuals being deactive to emotional stimuli. This study used the event-related potential technique to explore brain responses to facial expressions by adults with anxious, avoidant, or secure attachment-orientation. Differences were found in N1,

N2, P2, and N400 components between the groups of participants, suggesting that adults with different attachment-orientations have differences in both earlier, automatic encoding of the structural properties of faces and later, more elaborative retrieval of emotional contents. *NeuroReport* 19:437-441 © 2008 Wolters Kluwer Health | Lippincott Williams & Wilkins.

**Keywords:** attachment-orientation, backward masking, emotional processing, event-related potential, facial expression

## Introduction

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**Methods**  
Participants

$(2,27)=1.31, P>0.1,$   
 $(4,54)=2.13, P>0.1,$   
 $(4,54)=4.3, P<0.05.$   
 $(-5.67 \mu), (-7.87 \mu),$   
 $(-8.5 \mu),$   
 $(P>0.1).$

**The P2 component**

$(2,54)=17.58, P<0.001,$   
 $(3.12 \mu)$

W  
(-2.75 μ, -1.55 μ) (7.33 μ, 8.53 μ) (-7.33 μ, -6.43 μ) (-5.35 μ, -4.45 μ)

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