

Poster 3-051**ASSOCIATIONS BETWEEN THE ABILITY TO REGULATE HEART RATE AFTER AN EMOTIONAL EXPERIENCE AND EXPERIENTIAL AVOIDANCE**Klavdia Neophytou & Georgia Panayiotou
University of Cyprus*Descriptors: emotional regulation, heart rate, experiential avoidance*

Physiological reactivity during the experience of an emotion and the ability to appropriately reduce reactivity when the emotional stimulus is no longer present (recover) is an indication of good emotional regulation. This study aims to investigate the relationship between emotion regulation, as defined by degree of recovery after the presentation of emotional stimuli and levels of avoidance coping. It was predicted that individuals high in the tendency to use avoidant coping would show less appropriate recovery. Heart rate was assessed during a tone-cued emotional imagery during which 85 participants (47 females; 18–67 years old) had to imagine for 8-second periods normative scenarios describing joy, fear, sadness and relaxation. Experiential Avoidance and Avoidant coping were measured using the Acceptance and Action Questionnaire – II and Brief - COPE respectively. In general, avoidance predicted appropriate recovery (defined as the difference between the centered mean scores of HR during imagery and during ITIs) only for positive emotions. The difference score between imagery and baseline period was not statistically significant with regards to negative emotions. These results show that individuals with high EA may seem to present normal emotional regulation only for positive emotions. Findings provide preliminary evidence about the relationship between of the tendency to avoid emotional experiences and ability to adjust to changing emotional demands in the environment.

Poster 3-052**ATTACHMENT MODULATES THE PROCESSING OF FACIAL EXPRESSIONS OF EMOTION: N170 AND LPP EVIDENCE**Mariana Pereira¹, Diana Marques¹, Regina Abreu¹, Nuno Velho¹, Ana Rocha¹, João Peres¹, Eva Martins² & Fernando Ferreira-Santos¹
¹University of Porto, ²Maia University Institute – ISMAI/CPUP*Descriptors: facial expressions of emotion, ERP, attachment*

Attachment relationships influence the representations of the self and the others. This is thought to guide beliefs and perceptions, namely of emotional significant information as facial expressions of emotion (FEE). The goal of this work was to understand how attachment dimensions are associated with neural responses to FEE. Twenty-seven healthy adults saw anger and happiness FEE, matched for arousal, and filled the Adult Attachment Scale, that measures the subscales of Anxiety, Close (comfort with intimacy) and Depend (sense of availability of others to one's needs). A significant interaction between emotion and attachment showed that the 3 subscales were associated with N170 amplitude to happy, but not angry faces. Specifically, Anxiety scores predicted a reduction in N170 amplitude while Close and Depend scores predicted increased amplitudes to happy faces. An association was also found between the subscales and the LPP amplitude to both anger and happy faces in Anxiety (increased LPP) and in Depend (reduced LPP). Close scores were only negatively correlated with LPP amplitude for happy FEE. In sum, Anxiety affects the initial processing of happiness and leads to a larger later response to both FEE, possibly due to a hypervigilance to the meaning of these expressions towards the self. Contrarily, both Comfort with intimacy and Sense of Dependence increase early reactivity to happiness with reduced later processing (Depend for both FEE), illustrative of a secure pattern of emotional processing.

Poster 3-053**ELECTROCORTICAL RESPONSES TO APPETITIVE AND AVERSIVE PICTURES: MOTIVATIONAL GRADIENTS AND TEMPORAL STABILITY**Nicola Sambuco¹, Andrea De Cesare², Vera Ferrari³, Antonia Micucci² & Maurizio Codispoti²
¹University of Florida, ²University of Bologna, ³University of Parma*Descriptors: emotion, EEG, stability*

Does the aversive motivational system respond more intensely than the appetitive system to comparable amount of activation? Previous studies focused only on subjective ratings, or on cortical responses to a small sample of high arousing emotional pictures, restricting the possibility to compare the appetitive and

aversive gradients. The aim of the present study was to compare electrocortical responses to appetitive and aversive stimuli varying in emotional arousal defined by both subjective ratings and sympathetic changes. More specifically we examined electrocortical (Late Positive Potential and Alpha-desynchronization) sympathetic (skin conductance), and subjective responses to a large sample of stimuli (1200 pictures), portraying pleasant and unpleasant scenes from a large variety of contents, and varying in emotional arousal. Participants took part in two different sessions a week apart, that allowed us also assess the temporal stability of appetitive and aversive gradients. In terms of both cortical and sympathetic measures, the appetitive and aversive gradients did not significantly differ from each other. Also, temporal stability was similar for appetitive and aversive stimuli. The only difference between gradients was found in the subjective ratings, with a steeper aversive gradient. Altogether, the present findings are consistent with the idea that cortical and sympathetic changes reflect an early engagement of motivational systems, associated with emotional significance, while subjective ratings rely on later stages of emotional processing.

Poster 3-054**ATTENTIONAL CAPTURE BY STIMULUS DEVIANCE: TASK DIFFICULTY AND EMOTIONAL AROUSAL**Vera Ferrari¹, Antonia Micucci², Luca Grazioli¹ & Maurizio Codispoti²
¹University of Parma, ²University of Bologna*Descriptors: deviant distraction, emotion, event-related potentials*

Attentional capture by deviant distractor is modulated by top-down attentional control, as indicated by a larger P3a component to distractor stimuli when the degree of attentional focus is increased by task difficulty. In this study, we investigated whether this mechanism of deviance detection is sensitive to the emotional content of distractor stimuli, which is typically effective in naturally capturing attention. Event-related brain potentials were recorded from participants while they performed a visual three-stimulus oddball paradigm (frequent standard, rare target, and rare distractor) and the discrimination difficulty (easy vs. difficult) between standard and target was manipulated across blocks. Natural scenes depicting emotional or neutral contents were presented as distractor stimuli. Results showed that the P3a to distractor stimuli was enhanced during a difficult discrimination task, and this task effect was more evident in high performance participants and decreased over trials. The overall P3a was also larger for emotional compared to neutral distractors, but this ERP emotional modulation was unaffected by task difficulty. Taken together these results are consistent with the idea of distinct attentional mechanisms underlying deviant distraction and attentional capture by emotionally relevant stimuli.

Poster 3-055**ACUTE SOCIAL STRESS ENHANCES PUPILLARY RESPONSES TO EROTIC NUDES: EVIDENCE FOR DIFFERENTIAL EFFECTS OF SUBJECTIVELY PERCEIVED STRESS AND CORTISOL**Johannes Finke, Andreas Behrje & Hartmut Schächinger
University of Trier*Descriptors: social stress, erotic pictures, pupil responses*

Chronic stress attenuates reproductive behavior in many species, but experimental research on the impact of acute, transient stress on sexual arousability in humans is scarce. Animal studies reported mixed results ranging from inhibitory to stimulatory effects. Given that social stress has been linked to affiliation-oriented coping ('tend & befriend'), we hypothesized that social context might modulate stress-related effects on responses to erotica. For physical stress induction, an isometric handgrip test performed for 3 min at either 45% or 10% (control) of maximum voluntary contraction was used. To add a social-evaluative component, half of the participants (N=39) were monitored by an unknown person of the opposite sex. Subsequently luminance-adjusted greyscale pictures of erotic nudes were presented for a duration of 2500 ms within the central visual field. As an index of sexual processing, left pupil diameter was recorded at 500 Hz using video-based eye-tracking. Overall, stressed participants showed enhanced pupil responses to explicit erotica. This moderation effect of stimulus explicitness was mediated by subjectively perceived stress. Moreover, combined physical and social stress led to a general increase in responsivity. However, elevated cortisol levels were associated with a relatively reduced preference for opposite-sex pictures. Our results suggest that stress exposure, particularly with social-evaluative threat, facilitates the processing of erotic stimuli, which might reflect either a specific adaptive mechanism or a more global change in emotion regulation.