

or rather an effect of childhood trauma itself. Moreover, it remains to be illuminated whether in this group of trauma-exposed individuals, endogenous cortisol increase also effects neurocognition in a beneficial way. We therefore examined whether severe childhood trauma is associated with alterations in neural, endocrine and autonomic stress systems in adulthood independent of psychopathology.

Methods: We recruited 25 healthy women (mean age: 31 years, mean BMI: 22, mean years of education: 12, mean CTQ-score: 63) who experienced multiple severe sexual or physical traumatic events before the age of 18, but never developed any psychiatric disorder. As fMRI paradigm, we used an adapted version of the Montreal Imaging Stress Task (MIST) to induce acute psychosocial stress, measuring heart rate (HR) continuously to analyze heart rate variability (HRV) over the course of the experiment. In addition, we took blood pressure measurements and salivary cortisol samples at six different time points.

Results: We are currently conducting the analyses of stress responses in healthy, trauma-exposed participants and comparing them to 25 healthy control women without any adverse childhood events (matched for age, education and menstrual cycle).

Conclusions: Full results will be presented and discussed at the conference.

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Unlocking anxiety expressions in autism spectrum disorders: Evidence from the lab and clinical settings

Aleksandra Kaurin^{1,*}, Pablo Vidal-Ribas Belil³,
Michèle Wessa¹, Emily Simonoff²,
Argyris Stringaris³

¹ Johannes Gutenberg University, Germany

² King's College London, UK

³ National Institute of Health, USA

E-mail address: alkaurin@uni-mainz.de (A. Kaurin).

Anxiety disorders are common in autism spectrum disorders (ASD). However, it is not clear whether youth with ASD express anxiety in ways similar to typically developing children (TD). Across three studies, we examine automated affect-recognition patterns in children with and without ASD during stressful situations. *Study 1* ($n_{ASD} = 17$; $n_{TD} = 14$) showed that anxiety expressions increased significantly during the Trier Stress Test in children with ASD and age-matched TD controls. Moreover, these ratings added significantly to the predictive value of parent-reported anxiety for cortisol levels throughout the stress procedure. In *study 2*, the utility of automated affect recognition data for the prediction of acute stress responses was replicated in a larger sample, where 70 TD children underwent the Trier Stress Test. In order to validly generalize our findings to clinical settings, we tracked emotional responses of 27 children diagnosed with ASD during a clinical interview in *study 3*. Results of time series analyses support our previous findings of detectable negative emotionality in ASD during more stressful parts of the interview. Importantly, expressions of fear and irritability were particularly well recognized in children with high trait-anxiety manifestations. This suggests that – contrary to a commonly held belief – children and adolescents with ASD and TD produce similarly recognizable anxiety expressions. Moreover, ratings of observed anxiety increase the accuracy of stress response prediction in ASD.

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Effects of allergy and trait anxiety on heart rate variability: A naturalistic design study

Jakub Rajcani^{*}, Petra Solarikova, Igor Brezina

Faculty of Arts, Comenius University, Slovak Republic

E-mail address: rajcani.jakub@gmail.com

(J. Rajcani).

Background: Allergic symptoms correlate with high trait anxiety, while autonomic nervous system and HPA axis dysregulations were reported for both allergic and highly trait anxious people. This study measured heart rate variability (HRV) as an index of autonomic functioning aiming to compare low anxious allergic and high anxious healthy subjects. Naturalistic design of data acquisition was applied to look at subjects HRV during their normal functioning and stress reactivity.

Methods: 57 subjects (20 low anxious allergic, 19 healthy high anxious and 18 healthy low anxious) participated in this study. Data acquisition was realized in 5 repeated measurements at randomly selected work days. Portable eMotion Faros device was used to monitor subjects' ECG. Time domain, frequency domain, and non-linear HRV analyses were applied. To measure subjective experience of stress, perceived stress scale (PSS) was used.

Results: Analysis via multiple linear regression model shown decrease in heart rate and increases in overall HRV as well as respiratory frequency HRV in both allergy and high trait anxiety group. This effect interacted with subject's sex. HRV increases in allergy were apparent in women, however not significant in men. Subjective measure of perceived stress was increased in high trait anxiety group, but allergy group did not differ from controls.

Conclusions: This study used measurement of HRV in naturalistic conditions to demonstrate HRV changes in allergic and highly anxious people. Increased HRV in allergy reported here corresponds to prior studies, however increased HRV in high trait anxious subjects is somewhat surprising and should be further investigated.

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Sex matters: The interplay of sex hormones and oxytocin predicts fear of social interaction in high anxious individuals

Ekaterina Schneider^{1,*}, Laura Elisa Müller²,
Beate Ditzen¹, Sabine Christiane Herpertz²,
Katja Bertsch²

¹ University Hospital Heidelberg, Institute of Medical Psychology, Germany

² University Hospital Heidelberg, Department of General Psychiatry, Germany

E-mail address:

ekaterina.schneider@med.uni-heidelberg.de

(E. Schneider).

Background: A growing number of studies investigate the association of the neuropeptide oxytocin with social anxiety. Studies focusing on the relationship between peripheral oxytocin levels and anxiety report inconclusive results and sex differences. We, thus, focused on sex hormones as possible moderators of sex-specific oxytocin effects.

Methods: Within a larger project 181 individuals filled out the Liebowitz Social Anxiety Scale (LSAS) and provided a 5 ml-blood sample and an additional saliva sample. Plasma concentrations of oxytocin, estradiol and progesterone as well as saliva concentrations of testosterone and cortisol, were analyzed in individuals