analysis. Here, we aim to analyse risk preference in ADHD and healthy controls and the effects of MPH.

Methods Twenty-four healthy volunteers and 25 ADHD patients were tested on the 2 step sequential learning task in both MPH-ON and MPH-OFF conditions. We calculated the risk associated with each choice (variance of reward probability) and defined the choice with maximum variance as the risky one, for all 134 trials. With behavioural measures (selected choice- risky vs non-risky and response time) as inputs and risk as an independent factor, we extracted threshold (a), drift rate (v) and response bias (z) parameters using a hierarchical drift diffusion model (HDDM) for both groups during ON and OFF drug condition. Statistical analysis on the parameters was analysed using Bayesian factors.

Results Bayesian repeated measures ANOVA showed evidence for changes in response bias (z) but not in threshold and drift rate. A strong evidence for main effect of drug ($BF_{10}=6.03\times 10^{11}$), group($BF_{10}=86344$) and group by drug interaction($BF_{10}=3.65\times 10^6$) was observed. Post-hoc Bayesian independent sample t-tests showed strong evidence that the patient group had a higher preference towards the risky choice during both the ON ($BF_{10}=8.94\times 10^{14}$) and OFF ($BF_{10}=20.9$) conditions. Post-hoc Bayesian paired sample t-tests showed strong evidence for the drug to induce a preference towards the risky choice in both the HV($BF_{10}=397.1$) and ADHD($BF_{10}=1.16\times 10^{10}$) population. Behavioural results show a drug by group interaction ($F(1,0.01)=11.80$, $p=0.001$) on number of risky choices. Post-hoc analysis using paired sample t-test showed a significant increase in risky behaviour due to drug in the ADHD($t(24)=-3.5$, $p<0.005$) but not healthy subjects. No differences were found in the traditional reinforcement learning parameters between the groups.

Conclusions Using a novel analysis, we showed that ADHD subjects had a greater bias towards risk preference and further that MPH increases risk preference in both ADHD and HV with a comparatively greater effect on the patient population. Critically we observe an effect on response bias highlighting the role of *a priori* information in influencing risky decision making.

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STATE AND TRAIT INTEROCEPTION IS DISRUPTED IN FUNCTIONAL SEIZURES

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Objectives The continuity and integrity of a conscious sense of self, is proposed to be dependent upon the control of internal physiological state and its predictive representation through interoception, that is, the sensing of internal bodily changes. We investigated dissociation, interoception and their relationship, in patients with functional seizures (FS), before and after a stressor intervention.

Methods 41 participants with functional seizures (FS) and 30 age/gender matched healthy controls (HC) were assessed with the somatoform dissociation questionnaire (SDQ20),

multi-scale dissociation inventory (MDI), and the state and trait anxiety inventory (STAI). Standardized measures of interoceptive sensibility, accuracy, and awareness were acquired with the Porges Body Perception Questionnaire (PBPQ), and heartbeat discrimination (HDT), tracking (HTT) and time-tracking tasks (TTT), before and after a cold pressor test. Continuous non-invasive blood pressure monitoring was carried out before, during and after the cold pressor test. Interoceptive trait (ITPE) and state (ISPE) prediction errors, that is, the discrepancy between interoceptive accuracy and the PBPQ (trait), and trial-by-trial confidence estimates (state), were calculated before and after the cold pressor test respectively, for HTT and HDT. An autonomic prediction error (APE), or the discrepancy between the reported increase in pain and the change in blood pressure after the cold pressor, was also calculated.

Results Patients with FS differ significantly from HC for HTT, ITPE and ISPE suggesting that they are overall less interoceptively accurate and aware than HC. This is confirmed by a correlation between APE and the ISPE derived from the HDT task ($r=0.359$, $p=0.033$) in FS subjects only, after correcting for state anxiety and duration of cold pressor. Furthermore, in FS patients only, ITPE scores, adjusted for trait anxiety, correlated with SDQ-20 and MDI-depersonalization scores for both HTT ($r=0.378$, $p=0.008$; $r=0.408$, $p=0.005$) and HDT ($r=0.364$, $p=0.011$; $r=0.281$, $p=0.044$). All results survived FDR correction at a 0.05 threshold.

Conclusions These findings demonstrate that state and trait interoception are disrupted in patients with FS. The severity of the disruption in trait interoception correlates with measures of dissociation, such that the bigger the ITPE, the more severe are the dissociative traits. Similarly, the greater the ISPE, the larger the discrepancy between subjective symptoms and objective physiological changes, after a stressor intervention. Our findings suggest that the selective disruption of interoceptive processing is both a potential predisposing and precipitating factor in FS.

Members' POSTER Abstracts

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HIGH LEVELS OF ANXIETY AND DEPRESSION IN PATIENTS ATTENDING WITH HEADACHES TO A UK GENERAL NEUROLOGY CLINIC

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Objective The published literature on headache epidemiology comes from specialist headache clinics, compared to the general neurology clinic. This study set out to investigate the characteristics and diagnoses of patients with headaches attending a general neurology clinic in the UK.

Methods Data were collected retrospectively from a two-year period on 217 patients with headaches referred to a general neurology clinic at a UK district-general hospital seen by a single consultant. Clinic letters were reviewed, and information was inputted using a pre-formed Microsoft Excel spreadsheet. All data were anonymised, with no identifiable patient characteristics being recorded.

Results A total of 217 were seen in this period. The mean age was 42% and 72% were female. In 56% of cases, more than one diagnosis was made. The most frequent diagnosis