

remain unclear about the nature of interpersonal functioning in CT survivors, involving the capacity to understand and interpret other people's thoughts and feelings, especially in individuals with First-Episode of Schizophrenia (FESz). We investigated the Theory of Mind (ToM) performance of patients with FESz related to CT in comparison to healthy controls (HC).

**Methods:** Participants (n=77) completed the Eye Task Revised (RMET) and the Childhood Experience of Care Abuse Questionnaire (CECA-Q). The Word Accentuation Test (TAP) was used to estimate a premorbid IQ. Seven-teen patients with FESz (Mean age = 24.9, SD = 5.4, Male = 79.6%; Education = 10.7, SD = 1.5 years) were recruited at the First-Episode Psychosis Program, Hospital 12 de Octubre Madrid, and 60 HC (Mean age = 27.6, SD = 7.2; Male = 45.6%; Education = 14.5, SD = 2.8 years) were healthy volunteers. Between-group comparisons were made using ANCOVA, considering group and CT as fixed factors. Age, years of education and IQ were included as covariates.

**Results:** Preliminary results showed that compared to controls, patients with FESz performed worse on the recognition and interpretation of facial expressions, in both male and female faces ( $p < .001$ ). Patients with FESz did not perform differently than HC in the recognition and interpretation of positive facial expressions ( $p = .074$ ). However, lower interpretation of negative facial expressions ( $p < .001$ ) and of neutral facial expressions ( $p < .001$ ) was shown in patients with FESz compared to HC. Higher interpretation of facial expressions was shown in FESz patients with CT ( $n = 12$ ), only of female faces ( $p < .001$ ), compared to patients without CT ( $n = 7$ ). It was also shown higher interpretation of facial expressions in HC with CT ( $n = 28$ ), only of negative facial expressions ( $p = .014$ ), compared to HC without CT ( $n = 32$ ). Female patients with FESz performed worse on the recognition and interpretation of negative ( $p = .024$ ) and neutral faces ( $p < .001$ ), only of male faces ( $p = .038$ ), compared to female HC. Male patients with FESz performed worse on the recognition and interpretation of positive ( $p = .038$ ) and negative facial expressions ( $p = .001$ ) of male faces ( $p < .001$ ), compared to male HC. In comparison to male FESz patients without CT, male FESz patients with CT showed higher interpretation of female faces ( $p = .030$ ). In comparison to male HC without CT, male HC with CT showed higher interpretation of male faces ( $p = .031$ ).

**Discussion:** According to previous research, our preliminary findings indicated theory of mind deficits in patients with FESz. Interestingly, in our study the alterations on the interpretation and recognition of facial expressions were shown only of negative and neutral, but not of positive facial expressions. Furthermore, and contrary to literature, we found more interpretation and recognition of facial expressions in patients and healthy controls survivors of CT. However, the above-mentioned was specifically observed of female faces in patients and of negative facial expressions in healthy controls. In addition, female and male patients and healthy controls seem to interpret differently facial expressions related to childhood trauma. Nevertheless, increasing our sample size would give us the opportunity to draw further conclusions about how adverse experiences during childhood may influence social abilities in patients with FESz.

#### M4. CHILDHOOD TRAUMA, BRAIN STRUCTURE AND EMOTION RECOGNITION IN SCHIZOPHRENIA AND HEALTHY ADULTS: A MODERATED MEDIATION ANALYSIS

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**Background:** While traumatic childhood experiences have been frequently associated with adverse effects on social cognitive abilities, specifically emotion recognition, in individuals with schizophrenia (SZ) and to some degree in healthy adults also (Rokita et al., 2018), the neural mechanisms

for this association remain unclear. Therefore, the main aim of this study was to explore the impact of childhood trauma on brain structures that are particularly sensitive to stress and are involved in emotion recognition processes (i.e. amygdala, hippocampus, anterior cingulate cortex (ACC)) (Cancel et al., 2019). We also investigated whether volumetric changes in these brain regions mediate the association between childhood trauma and performance on an emotion recognition task.

**Methods:** We investigated 46 patients with SZ (mean age=43.74; SD=10.94; 12 females and 34 males) and 112 healthy adults (mean age=40.13; SD=12.46; 31 females and 81 males). All participants underwent an MRI scan and completed the Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003), which assesses the experience of trauma in childhood, including emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. Emotion recognition was measured with the total score on the Emotion Recognition Task (ERT) implemented in the Cambridge Neuropsychological Test Automated Battery (CANTAB) (Robbins et al., 1994). Mediation analyses were conducted to explore the direct and indirect effects of childhood trauma on emotion recognition via volumetric changes in the amygdala, hippocampus and the ACC as mediators.

**Results:** We found that patients with SZ had significantly higher scores on physical neglect (PN;  $p=.018$ ) and cumulative childhood trauma ( $p=.049$ ) compared to healthy participants. Patients also had significantly smaller hippocampus ( $p=.001$ ), but not amygdala ( $p=.453$ ) or ACC ( $p=.893$ ), and performed worse on the ERT task ( $p<.001$ ), compared to the healthy group. PN was significantly negatively associated with the total score on the ERT task ( $r=-.321$ ,  $p<.001$ ) and a smaller volume of the left ACC ( $r=-.161$ ,  $p=.046$ ) in all participants. Reduced volumes of the left and entire ACC appeared to mediate the association between PN and ERT task in healthy adults ( $\beta=-1.183$ ,  $SE=.687$ , 95% [-2.701: -.079];  $\beta=-1.176$ ,  $SE=.738$ , 95% [-2.872: -.0162], respectively). In the patient group, only the direct association between PN and the ERT score was significant ( $\beta=-11.657$ ,  $SE=3.843$ , 95% CI [-19.251: -4.064],  $p=.003$ ).

**Discussion:** Our findings provide further evidence for the detrimental impact of childhood trauma, specifically physical neglect, on volumetric changes in the ACC region in both patients with SZ and healthy adults. Moreover, to the best of our knowledge, this is the first study to show that the ACC region may be a potential neural mediator in the association between physical neglect and the ability to recognise emotions. These findings highlight the need to develop early interventions (e.g. parenting programs) in order to minimise the occurrence of childhood adversities, hence preventing from their detrimental effects on brain structure and function in both clinical and non-clinical populations.

#### M5. A MULTIMODAL STUDY ON THE INFLUENCE OF LEFT-BEHIND CHILDREN'S VISUAL PERCEPTION PROCESSING

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**Background:** Left-behind children (LBC) has experienced parent-child separation, which is a special parent-child separation and social isolation model. Adverse events in early development may have important effects on the development of the nervous system, including the influence on sensory and perceptual cognitive processing, thus increasing the susceptibility to mental illness. Meanwhile, there are various neurological and brain root causes behind left-behind children's learning difficulties, non-socialization and other psychological behavior problems. In addition, left-behind may have sensory, perceptual and cognitive processing abnormalities. This study tries to elaborate and extract the eye movement characteristics of left-behind children, lay a foundation for the discussion of the mechanism of abnormal visual processing, and provide a scientific basis for follow-up of left-behind children and the early identification, prevention and control of mental diseases.

**Methods:** The standards for grouping left-behind children are as follows: the children who are separated from both parents 6 months after birth and spend