

## Synopsis for EU-GEI Publication

<b>Synopsis no.:</b> S5.28
<b>Preliminary title:</b> <i>The association between childhood trauma and facial and emotion recognition in individuals at ultra high risk of psychosis</i>
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<b>Publication category:</b> 3 Publications from a single work package involving only some parties (or in some cases only one party) in the Work Package
<b>Working and writing group:</b> <b>Stefania Tognin, Lucia Valmaggia, Gemma Modinos, Philip McGuire and WP5 collaborators</b>
<b>Work Packages involved:</b> WP5
<b>Partners involved from whom candidate co-authors (<i>additional to working and writing group</i>) should be nominated:</b>
<b>Objectives (scientific background, hypothesis, methods, and expected results):</b>  <p>Patients suffering from psychosis show impairments in facial emotion recognition and individuals at high risk of developing the disorder seem to present with qualitatively similar deficits (Addington et al 1998; 2006; 2008; Amminger 2012; Kohler et al 2010). Facial emotion recognition has been found as impaired also in children with a history of traumatic experiences of abuse and neglect (Pollak et al 2000). Childhood trauma is highly prevalent in individuals who suffer from psychosis and in individual at high risk (Janssen et al 2004) and it is strongly associated with increased risk of psychosis (Varese et al 2012). The mechanisms underling the impairments observed in emotional processing in psychosis are yet to be clarified. In particular, it is still unclear whether the impairment in facial emotion recognition observed in psychosis is mediated by childhood traumatic experiences and whether it can be considered as a marker of the disorder. Recent findings reported that the ability of recognising faces is not affected by childhood trauma (Germine et al 2015) suggesting that the preserved ability of recognising faces is the result of a resilience mechanism in healthy individuals. No studies so far have investigated the relationship between face recognition and facial emotion recognition in individuals at risk of psychosis. I propose to examine whether the presence of childhood trauma is associated with poorer performance in a facial recognition task (i.e. Benton Face Recognition) and a facial emotion recognition task (i.e. Degraded Faces) in individuals at ultra high risk of psychosis. In addition, the association between the performance in a facial emotion recognition task and a facial recognition task will be explored to investigate whether a deficit in face recognition has a mediating effect on facial emotion recognition in individuals at UHR with and without history of childhood trauma. It is predicted that individuals at ultra high risk of psychosis with a positive history of childhood trauma (emotional, physical and sexual abuse and emotional and physical neglect) will preform worse in the facial emotion recognition task than those individuals at ultra high risk that did not experience childhood trauma. These relationships will be explored also in healthy controls to investigate possible resilience mechanisms.</p> <p>Once the follow up time is completed the next step will be to look at these relationships comparing those who made transition to psychosis to those who did not.</p>

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Addington J, Saeedi H, Addington D. Facial affect recognition: a mediator between cognitive and social functioning in psychosis? *Schizophr Res.* 2006;85:142–50.

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Addington J, Penn D, Woods SW, Addington D, Perkins DO. Facial affect recognition in individuals at clinical high risk for psychosis. *Br J Psychiatry.* 2008 Jan;192(1):67-8. doi: 10.1192/bjp.bp.107.039784.

G. Paul Amminger, Miriam R. Schäfer, Konstantinos Papageorgiou, Claudia M. Klier, Monika Schlögelhofer, Nilufar Mossaheb, Sonja Werneck-Rohrer, Barnaby Nelson, Patrick D. McGorry. Emotion Recognition in Individuals at Clinical High-Risk for Schizophrenia. *Schizophr Bull.* 2012 Sep; 38(5): 1030–1039.

Germine L, Dunn E, McLaughlin K, Wilmer J, Smoller J. The resilience of face recognition to early life stress. *J Vis.* 2015 Sep 1;15(12):198. doi: 10.1167/15.12.198.

Janssen IJ, Krabbendam L, Bak M, Hanssen M, Vollebbergh W, de Graaf R, van Os J. Childhood abuse as a risk factor for psychotic experiences. *Acta Psychiatr Scand.* 2004 Jan;109(1):38-45.

Kohler CG, Walker JB, Martin EA, Healey KM, Moberg PJ. Facial emotion perception in schizophrenia: a meta-analytic review. *Schizophr Bull.* 2010 Sep;36(5):1009-19.

Pollak SD, Cicchetti D, Hornung K, Reed A. Recognizing emotion in faces: developmental effects of child abuse and neglect. *Dev Psychol.* 2000 Sep;36(5):679-88.

Varese F, Smeets F, Drukker M, Lieveise R, Lataster T, Viechtbauer W, Read J, van Os J, Bentall RP. Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective- and cross-sectional cohort studies. *Schizophr Bull.* 2012 Jun;38(4):661-71.

### **Data needed for the study:**

#### **Main analysis: data from UHR and HC**

- Sociodemographic data baseline
- Benton Facial Recognition task baseline
- Degraded Faces task baseline
- Childhood Experiences of Care and Abuse Questionnaire (CECA-Q)
- Childhood Trauma Questionnaire (CTQ)
- Bullying Questionnaire

#### **Covariates: data from UHR and HC**

- CAARMS plus SCID I and II
- Cognitive data

### **Plan for statistical analysis (overall strategy):**

Presence of childhood adversity in individuals at risk of psychosis will be examined in relation to the performance in facial (i.e. Benton Face Recognition) and facial emotion recognition (i.e. Degraded Faces) tasks using a Multivariate Analysis of Covariance (MANCOVA). Regression analyses will be used to explore mediating effects.

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<b>Other analyses/methods:</b>
<b>Involvement of external Parties (non EU-GEI):</b>
<b>IPR check:</b>
<b>Timeframe:</b> 3 months for the analysis and 3 months for writing up
<b>Additional comments:</b>