symptoms are an integral link in cognitive pathways, with connections between cognitive processes weakening as disorganized symptoms increase. Thus, it seems that when disorganized symptoms are present, people with schizophrenia are no longer able to effectively utilize the neurocognitive abilities necessary for performing social cognitive or metacognitive tasks. It is also in line with models of disorganization in schizophrenia (Bleuler, 1911) that a "loosening of associations"-similar to current conceptualizations of disorganized symptoms—is at the core of these cognitive disruptions. Previous research has linked disorganization to cognition (neurocognition and SC) and cognition to social functioning, although in separate studies. The present study was conducted to explore a model, where disorganization predicted social functioning both directly both through indirect effects on other determinants (neurocognition, SC and negative symptoms) in a large, and well-characterized sample of patients with schizophrenia recruited in the context of a multi-center study of the Italian Network for Research on Psychoses (NIRP).

Disclosure of interest The author declares that he has no competing interest.

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#### S107

## Neurobiological correlates of the treatment of emotion processing in schizophrenia

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Introduction Mentalizing ability is impaired in patients with schizophrenia. Most studies in schizophrenia report hypoactivation of the core-mentalizing network including the medial prefrontal cortex (mPFC) and bilateral temporoparietal junction (TPJ). In our study, in patients with first episode schizophrenia treatment as usual with atypical antipsychotics (TAU) was compared to the add-on effect of a mentalization-based treatment program (MBT) on the mentalizing network in the brain.

Method 12 patients diagnosed with schizophrenia according to DSM-IV-TR criteria participated in the study (6 males, mean age: 30.43, SD = 9.35 years, years of education 13.23, SD = 2.45). A modified treatment program for psychoses was used based on the mentalization-based therapy developed by Bateman and Fonagy (2009). Before and after the treatment fMRI analyses (fixed effects analyses) were carried out (3 Tesla, 5 blocks on/off, 36s, TR = 3.62, SPM) using the n-back task.

Results Preliminary results show single analyses due to the small sample size. Comparing the fMRI scans before and after treatment, increases in the activation patterns were found in first episode patients treated with MBT. In patients with TAU a reduction in the activation patterns was demonstrated (mean changes in the activation clusters in the MBT group was 5.53, SD 12.79, in the TAU group -5.80, SD 6.91).

Discussion Mentalization-based treatment is a promising approach in the treatment of schizophrenia and can have an impact on social networks in the brain. Further studies are needed for a better understanding of social cognition and the related neural mechanisms in schizophrenia.

Disclosure of interest The authors declare that they have no competing interest.

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#### **S108**

# Neurocognitive predictors of social cognition in subjects with schizophrenia and their first-degree relatives

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Introduction Social cognition is a complex construct that refers to the functions required to understand other people's mental states and behavior. In people with schizophrenia, social cognition deficits account for a proportion of variance in functional outcome, independent of symptomatology. However, the relationships among social cognition, neurocognitive functioning and functional outcome are still unclear. Previous investigations had several limitations including small sample size, heterogeneous and limited measures of social cognition and neurocognitive functions.

Aims Within the study of the Italian Network for Research on Psychoses, we investigated factors influencing outcome in patients with schizophrenia and their unaffected relatives. Psychopathology, including depression, neurocognition, social cognition and outcome were assessed using instruments designed to overcome some of the previous limitations.

Methods Structural equation modeling was used to test direct and indirect effects of neurocognition, social cognition and functional capacity on vocational and interpersonal functioning. Tests of facial emotion recognition, emotional intelligence and theory of mind were included to assess social cognition. The MATRICS Consensus Cognitive Battery (MCCB) was used to investigate neurocognition.

Results In both subjects with schizophrenia and their first-degree relatives, social cognition was found to be independent of negative symptoms and to have a direct impact on outcome. Neurocognition was a predictor of functional capacity and social cognition, which both mediated its impact on outcome. Social cognition was independent of functional capacity and negative symptoms.

Conclusions Better understanding of how neurocognitive dysfunction and social cognition deficits relate to one another may guide efforts toward targeted treatment approaches.

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#### **S109**

#### Differential neural correlates of dimensions of negative symptoms in Schizophrenia during social-emotional appraisal and effects of treatment

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Factor analyses of large datasets have established two dimensions of negative symptoms: expressive deficits and a motivation. This distinction is of relevance as the dimensions differ in their cognitive and clinical correlates (e.g. with regard to functional outcome). Using functional MRI, we examined the neural correlates of the two negative symptom dimensions with brain activation during social-emotional evaluation. Patients with schizophrenia (n=38) and healthy controls (n=20) performed the Wall of Faces task during fMRI, which measures emotional ambiguity in a social context by presenting an array of faces with varying degrees of consistency in emotional expressions. More specifically, appraisal of facial expressions under uncertainty. We found severity of expressive deficits to be negatively correlated with activation in thalamic, prefrontal, precentral, parietal and temporal brain areas during emotional ambiguity (appraisal of facial expressions in an equivocal versus an unequivocal condition). No association was found for a motivation with these neural correlates, in contrast to a previous fMRI study in which we found a motivation to be associated with neural correlates of executive (planning) performance. We also evaluated the effects of medication and neurostimulation (rTMS treatment over the lateral prefrontal cortex) on activation during the social-emotional ambiguity task. The medication comparison concerned an RCT of aripiprazole versus risperidone. Compared to risperidone, aripiprazole showed differential involvement of frontotemporal and frontostriatal circuits in social-emotional ambiguity. We conclude that deconstruction of negative symptoms into more homogeneous components and investigating underlying neurocognitive mechanisms can potentially shed more light on their nature and may ultimately yield clues for targeted treatment.

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### Symposium: Clinical Management and Treatment of Suicidal Patients

#### **S110**

#### Clinical Use of Biomarkers in Suicidal Behaviors

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The epidemiology, risk factors, and biological basis of suicidal behaviors have been the object of an ever-increasing research in the last three decades. During this period, researchers all over the world have identified potential biomarkers of risk and developed several theories about the mechanisms leading to suicidal behavior. However, the lack of common terminology, instruments, and cooperation has been a major deterrent. Today, the community has established the bases for this collaboration and evidence coming from neuroscientific studies can already be applied to the field of suicidology. We present here a potential semiology based on current evidence coming from biological, clinical, and neuroimaging studies.

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#### S111

## The Patient is Suicidal: What Should I Do as a Clinician?

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Suicidal behaviour is the most common psychiatric emergency. A large proportion of suicidal behaviour can be prevented, particularly in cases associated with mental disorders. Early recognition of suicidality and reliable evaluation of suicide risk are crucial for the clinical prevention of suicide. Evaluation of suicidal risk involves assessment of suicidal intent, previous suicide attempts, underlying psychiatric disorders, the patients' personality, the social network, and suicide in the family or among acquaintances as well as other well-known risk factors. Suicide risk assessment should take place on several levels and relate to the patient, the family and social network but also to the availability of treatment, rehabilitation and prevention resources in the community. As suicide risk fluctuates within a short period of time, it is important to repeat the suicide risk assessment over time in an emphatic and not mechanistic way. The suicidal person may mislead both family members and hospital staff, giving a false sense of independence and of being able to manage without the help of others. Although extreme ambivalence to living or dying is often strongly expressed by the suicidal individual, it is not seldom missed by others. If observed in the diagnostic and treatment process, dialogue and reflection on such ambivalence can be used to motivate the patient for treatment and to prevent suicide. If ambivalence and suicidal communications go undiscovered, the treatment process and the life of the patient can be endangered. Today, several measurement tools of suicide risk exist, including psychometric and biological measurements. Some of these tools have been extensively studied and measures of their sensitivity and specificity have been estimated. This allows for the formulation of an approximate probability that a suicidal event might happen in the future. However, the low precision of the predictions make these tools insufficient from the clinical perspective and they contribute very little information that is not already gained in a standard clinical interview. Psychiatrists and other mental health professionals have always longed for reliable and precise tools to predict suicidal behavior, which could support their clinical practice, allow them to concentrate resources on patients that really need them, and backup their clinical judgement, in case of eventual legal problems. In order to be useful, however, the approximate probability that a suicidal event might happen in the future is not sufficient to significantly change clinical routines and practices. These should rely on the available evidence base and always consider the safety of the patient as paramount.

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#### **S112**

## Diagnosing and treating suicidal adolescents

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Suicide is the second leading cause of death in Europe among 15–29 year olds. Adolescence is a sensitive period during development with several age specific factors, which can increase suicidal risk.