Comparison of Social Cognitive profiles across assessment models in Treatment Resistant Schizophrenia

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Background

Introduction:

A growing body of literature has shown that schizophrenia patients compared with healthy controls present with social cognitive impairments that are relatively stable and persistent, suggesting that it is a trait-dependent rather than state-dependent deficit. Hence it is important to develop ecologically valid assessment instruments.

Previous research examining a person's ability to recognize emotions has primarily relied on 2-dimensional, static facial images as stimuli (Kerr & Neale, 1993). Dynamic facial stimuli, as opposed to static images, may be more precise measures of performance because they are more near to what is observed in everyday life (Klin et al., 2002). In 'normals,' dynamic faces are superior to static ones in identity recognition (Lander & Chuang, 2005) and emotion recognition (Wehrle et al., 2000). This could be accounted for by the additional information that aids recognition of dynamic stimuli (e.g., temporal cues). Additionally, individuals with prosopagnosia (impairment in recognizing faces), show improvement using dynamic stimuli during emotional identification tasks (Humphreys et al., 1993). Currently, there are many existing instruments that incorporate static images, dynamic images, verbal and visual stimuli. A better understanding of how these tests function across schizophrenia patients is warranted.

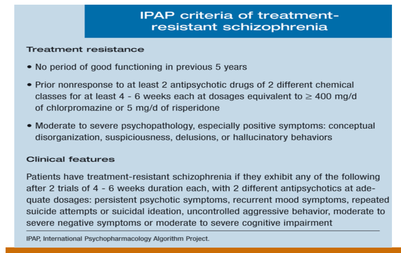
Methodological Question:
Can different emotion recognition instruments identify differences in social cognition profiles between TRS patients and non-TRS patients? Which instrument is more sensitive in differentiating the two groups and why.

Methods

Population:
Stable schizophrenia patients (n = 120; TRS = 52) who fulfilled the DSM-V criteria for schizophrenia or schizoaffective disorder

Analysis:
Cross-sectional characteristics were compared with t-tests , ANOVA and Chi Square Correlation and regression analyses were performed between social cognition measures and demographic variables, course of illness , and current symptoms (PANSS).

Definition of Treatment Resistance:



IPAP Definition:	Evidenced by:	n
No period of good functioning in the last 5 years	Hospitalized with no discharges in the last 5 years	52
Prior non-response to at least 2 antipsychotic drugs	Antipsychotic History obtained from electronic medical records and reason for discontinuation	114
Moderate to severe Psychopathology	PANSS ≥ 75 (see Leucht et al., 2005)	109

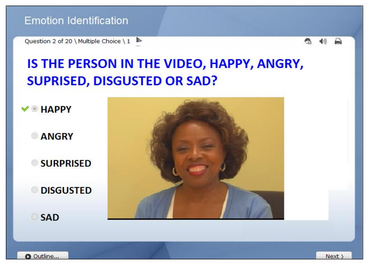
Social Cognition Assessments

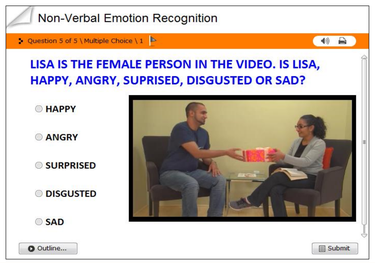
ER 40 Emotional Stimuli: 2D Colored images of adults expressing happy, sad, anger, fear, no emotion; mild and extreme intensities

Facial Emotion Identification Test (FEIT): 2D Black and White images of adults and children expressing happy, sad, angry, afraid surprised ashamed

Facial Emotion Discrimination Test (FEDT): 2D Black and White images of adults and children. Participants respond whether the images are showing the SAME or DIFFERENT emotions.

Dynamic Social Cognition Battery (DSCB): Colored HD Video images of adults face and situational stimuli for facial identification, verbal and non-verbal emotions.



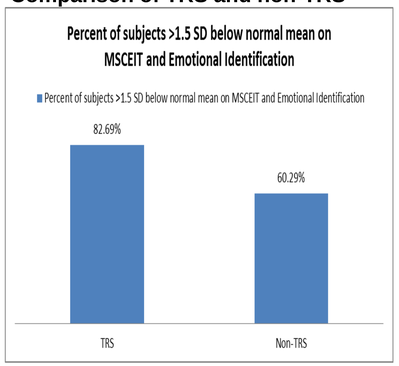


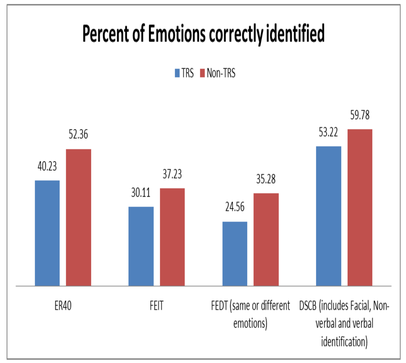
Results

All Subjects

- Social cognition impairments were marked in patients within all emotion recognition tasks and within the MCCB-MSCEIT domain.
- 76.56% patients had clinically significant impairment (>1.5 SD below normal mean) in non-verbal emotion recognition, facial emotion identification and social cognition as measured by the MCCB-MSCEIT (p=0.040).
- The global neurocognitive score as measured by the MCCB composite score correlated positively with social cognitive impairment (r = 0.469, p = 0.042).
- Higher age was associated with greater social cognition deficits compared to age-adjusted norms. Results of impairment differed across scales.

Comparison of TRS and non-TRS





- Higher age, lower education, longer duration of illness in TRS was associated with greater social cognition deficits compared to non-TRS groups.

Conclusions

- A large proportion of patients with schizophrenia exhibited significant social cognitive impairments in emotion identification and recognition associated with clinically significant severity.
- These pervasive deficits support a strong emphasis on the need for effective treatment interventions for patients with social cognition impairments and for refinement and standardization of existing tools.
- TRS subjects exhibited greater impairments on all social cognitive measures in social cognitive deficits compared to non-TRS.
- The different assessment instruments identified different levels of deficits between TRS patients and non-TRS patients, Dynamic Image scales show a larger % of accurate emotion response than static image scales, and also showed a larger % accuracy rate for verbal and non-verbal emotion recognition for non-TRS compared to TRS.

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