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### ***Obsessive-Compulsive Symptoms and Theory of Mind in Psychosis***

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**Introduction:** Prior research has demonstrated a negative relationship between social cognition and obsessive-compulsive symptoms (OCS) in various stages of schizophrenia (SCZ), although a majority of the literature has focused on first-episode psychosis (FEP) patients. The goal of the current study was to examine the relationship between OCS and social cognition at various stages of psychosis, from clinical high risk (CHR), to FEP, to SCZ. We hypothesized that OCS would be negatively correlated to Theory of Mind (ToM) at each stage. In exploratory fashion, we also compared the strength of the OCS-ToM relationship between stages.

**Methods:** Participants were 52 teenagers at CHR (14-19yo), 35 young adults with FEP (18-25yo), and 49 adults with SCZ (21-55yo) enrolled in a larger cognitive training study. This cross-sectional assessment at baseline included the Yale-Brown OCS scale (Y-BOCS), Hinting Task (ToM), and PANSS/SOPS (symptoms). Non-parametric correlations between OCS and ToM were calculated for each stage of psychosis. Strength of correlations between psychosis stages were evaluated using Fisher r-to-z transformation.

**Results:** While CHR reported much greater OCS on the Y-BOCS than FEP or SCZ ( $F=57.815$ ,  $p=0.000$ ), they demonstrated nearly perfect ToM on the Hinting Task (total score max is 20;  $M=18.53$ ,  $SD=1.21$ ). In terms of OCS-ToM correlation, there were significant negative correlations between the Y-BOCS and Hinting Task in FEP ( $\rho=-0.21$ ,  $p=0.035$ ) and SCZ ( $\rho=-0.28$ ,  $p=0.012$ ), while no such correlation was found in CHR ( $\rho=0.07$ ,  $p=0.691$ ). The strength of the OCS-ToM negative correlation in SCZ was greater than in FEP (Fisher r-to-z transformation:  $Z=1.70$ ,  $p=.042$ ).

**Discussion:** We found significant negative correlations between OCS and ToM in FEP and SCZ, but not in CHR. This may be due to ceiling effects on Hinting Task scores in CHR and the significantly higher score on the YBOC compared to other stages of psychosis. CHR participants scored in the moderate range for YBOC, while FEP and SCZ were within the mild range. The relationship between ToM and OCS was stronger in SCZ than FEP. However, since these results are cross-sectional, they cannot establish a causal relationship between the progression of OCS and ToM scores across stages of psychosis. Nevertheless, results replicate previous findings that the presence of OCS is linked to decreases in social cognition in SCZ. Additionally, they indicate that some SCZ patients may experience increased OCS in early stages as a form of prodromal SCZ. This suggests that the CHR population, especially those with OCS, should be targeted for earlier, preventative measures. Additional work is needed to investigate a longitudinal relationship between OCS and ToM in those with psychosis as well as possible effects of cognition on ToM.

**Keywords:**

Psychosis, Theory of mind, Obsessive compulsive