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S21. THE IMPACT OF PERSISTENT NEGATIVE SYMPTOMS ON FUNCTIONING AND DEFEATIST BELIEFS IN YOUTH AT CLINICAL HIGH RISK FOR PSYCHOSIS

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## S20. SCREENING FOR THE AT-RISK MENTAL STATE IN EDUCATIONAL SETTINGS: A SYSTEMATIC REVIEW

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**Background:** The at-risk mental state provides a model which can allow clinicians to identify individuals at-risk of developing psychosis and intervene to prevent or delay onset. Early intervention is linked with better prognosis and recovery. At present, most screening is carried out within help-seeking populations, however screening within educational settings may allow clinicians to identify individuals at-risk earlier.

This is a systematic narrative review examining the screening tools that have been used in educational settings, with three key questions. Can screening in this setting detect individuals at-risk? What screening tools have been used in educational settings? Are there differences in threshold scores in screening tools in this context?

**Methods:** Searches were carried out on PsycINFO, MEDLINE, EMBASE, Scopus and Web of Science. The searches aimed to find any articles that detailed screening procedures for the at-risk mental state carried out within educational settings. Inclusion criteria were studies that were carried out in educational settings using a screening measure for attenuated psychotic symptoms with a follow-up assessment to assess for the at-risk mental state. All study types were included. Studies that did not include these three criteria were excluded.

**Results:** 2097 references were identified for title and abstract screening. 104 articles were identified for screening by full-text. 11 articles are included in the review. Data extraction was completed using an adapted version of the template from the Cochrane Collaboration Data Collection Form for Intervention Reviews: RCTs and non-RCTs.

**Discussion:** The PQ-16 is the most commonly used screening measure in educational settings such as colleges and university settings and secondary schools. A full review will be presented and the potential benefits of identifying young people at risk of psychosis in educational settings will be discussed.

## S21. THE IMPACT OF PERSISTENT NEGATIVE SYMPTOMS ON FUNCTIONING AND DEFEATIST BELIEFS IN YOUTH AT CLINICAL HIGH RISK FOR PSYCHOSIS

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**Background:** Persistent negative symptoms (PNS) are defined as enduring moderate negative symptoms while controlling for principal sources of secondary negative symptoms. PNS symptoms have been associated with poor functional outcomes in schizophrenia. Furthermore, in schizophrenia negative symptoms and poor functioning have been reportedly associated with defeatist beliefs (e.g., "I always fail"). Youth at clinical high risk (CHR) for developing psychosis often demonstrate negative symptoms, poor functioning, and defeatist beliefs. The goal of this study was to determine if negative symptoms were associated with poor functioning and defeatist beliefs in a CHR longitudinal cohort.

**Methods:** CHR (N=764) participants were recruited for the North American Prodrome Longitudinal Study (NAPLS 2) at 8-sites across North America. Negative symptoms were rated on the Scale of Prodromal Symptoms (SOPS) at baseline, 6, 12, 18, and 24 months. For this study negative symptoms were restricted to social anhedonia (N1), avolition (N2), and expression of emotion (N3) based on recommendations from the NIMH-MATRICES consensus statement on negative symptoms. PNS were defined as having one of these three negative symptoms scored  $\geq 4$  (i.e., moderately severe to extreme) for a period of one year. Depressive symptoms were assessed with the Calgary Depression Scale for Schizophrenia (CDSS). To assess defeatist beliefs the Brief Core Schema Scale (BCSS) was utilized as a proxy to evaluate negative self-beliefs (e.g., "I am worthless") and positive self-beliefs (e.g., "I am valuable"). Generalized linear mixed models for repeated measures were used to examine changes over time between and within groups to accommodate for missing data and account for intra-participant correlations.

**Results:** Sixty-seven CHR individuals had PNS. Mixed-effect models demonstrated that the PNS group had significant global, social, and role functioning deficits at baseline, 6, 12, 18, and 24 months compared to CHR individuals without PNS (n=673). Moreover, functioning did not improve in the PNS group while functioning in the group without PNS significantly improved over time. There were no significant differences between the groups on depressive symptoms with the CDSS. The PNS group had significantly higher BCSS self-negative beliefs at 12 and 24 months compared to the group without PNS. Individuals without PNS had significantly higher positive self-beliefs (e.g., "I am valuable") at baseline, 6 months, 12 months and 24 months compared to the PNS group.

**Discussion:** The results indicate that in the NAPLS cohort 10% of CHR individuals have PNS. Moreover, the PNS group demonstrated significant and persistent global, social, and role functioning deficits compared to those without PNS. The group without PNS had higher levels of positive beliefs (e.g., "I am successful"), which may indicate a protective factor against developing PNS.

## S22. PRE-CLINICAL ASSESSMENT OF TAK-831, A SELECTIVE D-AMINO ACID OXIDASE INHIBITOR, IN ANIMAL MODELS OF SCHIZOPHRENIA

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**Background:** TAK-831 is a potent inhibitor of the DAAO enzyme being developed for the cognitive deficits and negative symptoms of schizophrenia. Inhibition of DAAO results in an increase in D-serine, a co-agonist of the NMDA receptor and a full agonist of the  $\delta 2$  glutamate receptor. Augmentation of NMDA and  $\delta 2$  glutamate receptor function may be beneficial in schizophrenia. To determine this, rats given TAK-831 were tested in the Novel Object Recognition (NOR) test, a basic cognition test, the Attentional Set Shifting Task (ASST), an animal assay to assess executive function in rodents, and Social Interaction (SI), an animal model of negative symptoms. To determine the impact that a target localized in the cerebellum has on learning, the compound was also profiled in eyeblink conditioning (EBC), a model of cerebellar-based associative learning.

**Methods:** Rats were given an acute and chronic dose of TAK-831 and cerebrospinal fluid (CSF); cerebellar tissue and plasma were harvested after 6 hours. For NOR, mice were dosed acutely and chronically (14d) with TAK-831 and assessed in their ability to differentiate between novel and previously seen objects after a 4-hour inter-trial interval (ITI). Rats treated with a subchronic phencyclidine (PCP) regimen (2 mg/kg, 7 days bid) showed a deficit in the extra-dimensional shift (EDS) in the ASST. Acute and chronic (14d) doses of TAK-831 were assessed for reversal of the PCP-induced deficit. TAK-831 was dosed acutely and chronically (0.3, 1, 3 mg/kg, po) and assessed for its ability to reverse a naturally occurring SI deficit seen in