Toward development of an abbreviated PANSS for pediatric trials: New analyses of PANSS TEOSS data

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SUBMISSION DETAILS

What is the Methodological Question Being Addressed? What are the psychometric properties of the PANSS in a pediatric sample, and do they support abbreviation of this instrument for pediatric trials?

Introduction Challenges in ensuring valid data in pediatric psychopharmacology trials include developmental limitations in symptom description, the need to integrate information from parents and patients, a shortage of child-trained investigators, and the lack of pediatric-validated efficacy measures. Pediatric schizophrenia trials, with few exceptions, have used for primary efficacy assessment the PANSS, a complex and lengthy 30-item (adult) measure that has been extensively studied and shown to pose ratings challenges even when used with the adult patients for whom it was designed. For adult populations there have been a variety of efforts to shorten the PANSS while retaining its clinical and research value. To our knowledge there have been no similar efforts for the pediatric population. The NIMH Treatment of Early Onset Schizophrenia (TEOSS) study affords a unique opportunity to examine the psychometric properties of the PANSS in a pediatric population.

Methods As part of a NIMH multisite study (completed and previously described), youths with schizophrenia/schizoaffective disorder were administered the PANSS at baseline and weekly throughout an 8-week randomized double-blind study of three antipsychotic agents. In this study we examined the psychometrics of the baseline PANSS to determine if a shortened form could be supported.

Results 118 youths (mean age=14.26, SD=2.41 years) had baseline PANSS data. Cronbach's alpha =.85, superficially indicating acceptable internal consistency, but the average inter-item correlation was .15 (where .30 is considered minimal)1, and Guttman's lamda-6 was .92, suggesting considerable "lumpiness" among the items. Similarly, multiple decision rules confirmed a 5-factor structure that was highly consistent with the solutions described in adults, with two notable differences: (a) several items did not load substantively on any factor, (b) "positive symptoms" split across 3 factors (or did not load anywhere). The 5 factors had a median correlation of .13 (range -.13 to +.48), indicating that they measured distinct symptom dimensions. IRT graded response models confirmed that half of the items did not cohere with a global factor.

Conclusion Findings confirm a 5-factor structure of symptoms in youths aligning closely with adult models 2,3, but with several items not tapping any factor, and with low factor correlations and item correlations challenging the idea that there is a single underlying construct. Results suggest 2 strategies for developing shorter versions of the PANSS. The first is pruning "dead wood," omitting

items that do not provide information about any of the 5 symptom dimensions. The second is further abbreviating by keeping the best items for each of the 5 dimensions. These strategies would shorten the PANSS by between 20% to 67% with minimal loss of precision (or even improvement), reducing interview length and burden on patients and raters. Future directions include comparing the pruned and precision-focused forms to a third version optimized to maximize sensitivity to acute treatment effects, as well as examining psychometrics of the shortened forms in an “extracted” instead of “embedded” administration.

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Guidelines I have read and understand the Poster Guidelines

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