Comparison of Percent Change from Baseline Using 10 vs. 30 Items of the PANSS in an Adult, Acutely Exacerbated Clinical Trial Population with Schizophrenia

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SUBMISSION DETAILS

Methodological Issue Being Addressed How do change from baseline and categorical measures of change compare for an abbreviated 10-item vs. the full 30-item PANSS in an acutely exacerbated adult schizophrenia clinical trial population?

Introduction The Positive and Negative Syndrome Scale (PANSS) is the gold standard for assessing symptom severity and treatment response in schizophrenia clinical trials. The length and complexity of the 30-item PANSS are sometimes perceived as burdensome in both research and clinical settings. We have previously reported and replicated promising psychometric qualities for an abbreviated 10-item version of the PANSS extracted post-hoc from the full PANSS in both pediatric (Findling et al, 2023; Youngstrom et al, 2024; Langfus et al, 2024; Busner et al, 2025) and adult clinical trial populations (Daniel et al, 2023; Daniel et al, 2025). In the current retrospective analysis, we compare change from baseline and categorical measures of change for the 10-item and 30-item versions of the PANSS in an acutely exacerbated adult schizophrenia clinical trial population.

Methods Data were obtained from 12 acute adult schizophrenia clinical trials, with baseline and last-visit PANSS scores extracted for all participants. For each subject, percent change from baseline to last visit was calculated for the full 30-item PANSS and the abbreviated 10-item PANSS extracted post-hoc from the full PANSS.
To compare the 10- and 30-item PANSS versions, we conducted linear regression analyses of percent change scores, including clinical trial protocol as a categorical predictor.
Percent change was further classified into worsening or improvement from baseline (up to 10%, 20%, 30%, 40%, 50%, and above 50%) for both PANSS versions. Agreement between the two scales was assessed using polychoric correlations for the ordinal categories and Spearman rank correlations.

Results Data from 3,067 adult subjects across 12 clinical trials were analyzed. The mean percent change in the 30-item PANSS total score was -23.8% (SD = 24.3), while the mean percent change for the PANSS-10 total was -24.9% (SD = 27.4). Welch's ANOVA revealed a statistically significant difference in end-of-treatment change across protocols for both scales. The mean difference in percent change between the 30-item PANSS total and the PANSS-10 total was -1.0% (95% CI: -1.40 to -0.70), with significant variability observed across different protocols. Agreement between categorical change classifications for the 30 item PANSS total and PANSS-10 was very strong, with a polychoric correlation coefficient of 0.94 and a Spearman’s rho of 0.92 (both $p < 0.001$).

Conclusions Our results demonstrate that the total score of the abbreviated PANSS-10 scale performs comparably to the total score of the full PANSS in assessing symptom change among adult patients with acute schizophrenia similar to what we found in pediatric patients. The observed mean difference in percent change between the two scales was minimal, and the correlations between categorical change classifications were exceptionally strong. These findings are consistent with clinical utility for PANSS-10 in adult acutely exacerbated clinical trial populations with schizophrenia. Moreover, the brevity of the PANSS-10 makes it likely less fatiguing to both raters and patients compared to the full PANSS.

This study has several strengths, including a large and diverse sample size (N = 3,067) drawn from 12 clinical trials, the use of both continuous and categorical analytical approaches, and adjustment for protocol differences to account for trial heterogeneity. However, there are also limitations to consider. The PANSS-10 was derived post-hoc from the full PANSS and it is possible that scoring of the 10 items was influenced by the administration of the full PANSS; analyses were conducted post hoc and were not pre-specified; the categorization of change thresholds was somewhat arbitrary; and the findings may not generalize to stable or chronic schizophrenia populations with prominent negative symptoms, as only acute cases were included. Moreover, the data were blinded and do not provide insight as to the relative ability to distinguish drug from placebo. In summary, the PANSS-10 appears to offer practical advantages, such as reduced rater burden and faster administration, while maintaining measurement fidelity. Future research should aim to determine if these findings extend to the PANSS-10 administered as a standalone scale and to real-world clinical settings and more diverse patient populations.

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Guidelines I have read and understand the Poster Guidelines

Disclosures if applicable Alan Kott, Xingmei Wang and Joan Busner are employees of Signant Health and may hold stock/equity shares. David Daniel is an Executive Advisor to Signant Health, holds stock/equity shares in Signant Health and is a consultant to Merck and Abbvie.

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Eric Youngstrom is Director, Institute for Mental and Behavioral Health research at Nationwide Children's Hospital and Ohio State University; he is the co-founder and Executive Director of Helping Give Away Psychological Science, a 501c3; he has consulted about psychological assessment with Signant Health and received royalties from the American Psychological Association and Guilford Press, and he holds equity in Joe Startup Technologies and AI Measures.

Joshua Langfus reports no relevant conflict of interest.

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