

The PANSS Should Be Rescaled

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Obermeier and colleagues address an at-first glance trivial issue, which, however, has major implications on the analysis and interpretation of clinical trials: The scaling of the Positive and Negative Syndrome Scale (PANSS¹). The original version of the scale uses a 1–7 rating system that creates major problems of interpretation when it comes to the calculation of responder rates based on percentage reduction of the total score from baseline. The issue is that the 30 minimum points of the total score that mean “0” symptoms need to be subtracted when calculating percentage reduction from baseline. However, this is not documented neither in the PANSS Manual nor—to the best of our knowledge—in any PANSS publication, possibly apart from 2 papers of our group^{2,3} that had a broader scope so that the problem could be easily overlooked. Thompson et al.⁴ reported a similar analysis of the Brief Psychiatric Rating Scale (BPRS⁵). Here, the situation is even more confusing because 2 versions are available: A 1–7 rating scale that may have been most frequently used in the United States and a 0–6 scaling system that may have been preferred in Europe. But authors rarely indicate the BPRS version they applied or how percentage PANSS/BPRS reduction was derived. The consequences are important because, as Obermeier et al. elegantly demonstrate, response is usually *underestimated* when the 30 minimum points are not subtracted. This may have been in part a reason for low response rates in studies about the second generation antipsychotic drugs and possibly also for the use of low response cutoffs (often at least 20% PANSS total score reduction). If a lower cutoff is chosen, the number of responders is higher, making the results look better. We found that in a pool of amisulpride studies approximately 50% of the patients had more than 50% BPRS total score reduction from baseline and approximately 25% had even more than 75% BPRS reduction when the 18 minimum score of the 1–7 scaled BPRS was subtracted.² It is likely that

there are hundreds of publications in which percentage reduction has not been correctly calculated leading to falsely low numbers of responders. We suggest presentation of responders in a simple table based on 25% steps (Table 1). Such a table does not take a lot of space, covers the whole distribution of response rather than only one arbitrarily chosen cutoff, and also includes the new remission criteria.⁶ Obermeier et al. discuss that there is no problem when it comes to absolute values of the PANSS, but even here we note that the interpretation is more difficult, because when there is, eg, a mean PANSS of 70, the reader must always subtract the 30 minimum points to have an impression as to how ill the patients really were. A presentation of 40 points would make the interpretation more straightforward. Are there any advantages of the 1–7 rating system? We do not think so, apart from the fact that people are used to it and some adaptation to the 0–6 system will be necessary. Depression rating scales have avoided the problem right from the start because both the Hamilton Rating Scale for Depression⁷ and the Montgomery Asberg Depression Rating Scale⁸ are scaled starting from 0. The 1–7 scaling system of the PANSS is confusing and leads to wrong results when the minimum score is not subtracted for calculating percentage reduction from baseline. The PANSS should indeed be rescaled.

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Table 1. Suggestion of a simple table for the presentation of percentage BPRS/PANSS score derived responder rates (adapted from^{2,3})

	Total	≤0%	1–24%	25%–49%	50–74%	75–100%	Remission ⁶
	<i>n</i>	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Intervention group							
Control group							

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