Letters

COMMENT & RESPONSE

In Reply In our publication in this journal,[1] we reported that the structure of symptom networks is related to the course of depression. Our findings are based on a between-patients design. Although we agree with Bos and Wanders that this has implications for the interpretation of our results, we do not think their conclusions are warranted.

Bos and Wanders correctly point out that, in theory, associations identified through group-level analyses may differ radically across individuals (Simpson's paradox). However, we think that this is not very likely for the reported associations between depression symptoms in our study. First, it is hard to imagine that some patients become less depressed as a result of feeling worthless or get alert and focused when they feel slowed down. Associations between symptoms plausibly differ in degree, but not in kind, so that radical heterogeneity should not be expected for depression symptom networks. Second, our network parameters are partial correlations, not zero-order correlations: thus, each symptom-symptom connection in the network is already controlled for individual differences in all remaining symptoms, so that Simpson's paradox is ruled out with respect to these symptoms (and strong correlates of them). Third, recent research, which used intraindividual analyses for network estimation, showed that patients with depression had a more densely connected intraindividual network of negative mood states than healthy control individuals,[2] which parallels our result and suggests a positive answer to Bos and Wanders' question of whether our results generalize to the individual level.

Bos and Wanders further argue that the reported associations between symptoms could be the result of a common cause instead of causal associations between symptoms; they find it "suggestive" that the difference in network connectivity largely disappeared in certain analyses. However, we think this is merely the result of a loss of power due to a decrease in sample size (after matching on severity, the overall sample decreases from 515 to 344) and the strong regularization penalty; both networks lose almost all of their connections and, in that trivial sense, become more alike. As shown in our article,[1] when using procedures that have less effect on power (like partialling out general level of functioning or weakening the regularization parameter), differences between groups become more, rather than less, pronounced.

Although we believe that it is not very likely that the associations between symptoms are substantially different for individual patients, intraindividual analyses are needed to test this. In addition, intraindividual analyses are warranted to determine whether symptoms are associated over time within patients. Therefore, we gladly reveal that the Netherlands Study of Depression and Anxiety,[3] from which we drew our sample, recently started a new wave of measures in which 400 of its nearly 3000 participants are studied with Ecological Momentary Assessment[4] over 2 weeks. The aim of this study is to provide more insight into the association between intraindividual and interindividual differences, which will lead to an increased understanding of how nomothetic and idiographic analyses are related.

Claudia D. van Borkulo, MSc
Denny Borsboom, PhD
Robert A. Schoevers, MD, PhD

Author Affiliations: University of Groningen, University Medical Center Groningen, Department of Psychiatry, Interdisciplinary Center Psychopathology and Emotion regulation, Groningen, the Netherlands (van Borkulo); Department of Psychology, Psychological Methods, University of Amsterdam, Amsterdam, the Netherlands (van Borkulo, Borsboom); University of Groningen, University Medical Center Groningen, Department of Psychiatry, Research School of Behavioural and Cognitive Neurosciences, Interdisciplinary Center for Psychopathology and Emotion regulation, Groningen, the Netherlands (Schoevers).

Nieuwe Achtergracht 129-B, 1001 NK Amsterdam, the Netherlands

Corresponding Author: Claudia D. van Borkulo, MSc, Department of Psychology, Psychological Methods Group, University of Amsterdam, Weesperplein 4, 1018 XA Amsterdam, the Netherlands (cvborkulo@gmail.com).

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