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To cite this article: Maj Hansen, Cherie Armour, Emily McGlinchey, Jana Ross, Sophie Lykkegaard Ravn, Tonny E. Andersen, Nanna Lindekilde, Mette Elmoose, Sidsel Karsberg & Eiko Fried (2021) Investigating centrality in PTSD symptoms across diagnostic systems using network analysis*, European Journal of Psychotraumatology, 12:sup1, 1866412, DOI: [10.1080/20008198.2020.1866412](https://doi.org/10.1080/20008198.2020.1866412)

To link to this article: <https://doi.org/10.1080/20008198.2020.1866412>



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Published online: 01 Feb 2021.



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Investigating centrality in PTSD symptoms across diagnostic systems using network analysis*

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ABSTRACT

Background: The posttraumatic stress disorder (PTSD) diagnosis has been widely debated since it was introduced into the diagnostic nomenclature four decades ago. Recently, the debate has focused on consequences of having two different descriptions of PTSD: 20 symptoms belonging to four symptom clusters in the *Diagnostic and Statistical Manual of Mental Disorders 5th edition* (DSM-5), and three symptoms clusters in the 11th edition of the *International Classification of Diseases* (ICD-11) most often operationalized by six symptoms in the *International Trauma Questionnaire* (ITQ) (2017) and Hansen, Hyland, Armour, Shevlin, & Elklit (2015). Research has provided support for both models of PTSD, but at the same time indicates differences in estimated prevalence rates of PTSD (Hansen et al., 2015, 2017). A growing body of research has modelled PTSD both theoretically and statistically as a network of interacting symptoms (Birkeland, Greene, & Spiller, 2020), yet it remains more unclear how the two diagnostic systems perform regarding which symptoms are more central/interconnected.

Objectives and methods: We estimated two 23-item Gaussian Graphical Models to investigate whether ICD-11 or DSM-5 PTSD symptoms are more central in two trauma-exposed samples: a community sample ($N = 2,367$) and a military veteran sample ($N = 657$). PTSD DSM-5 was measured with the PTSD checklist-5 (PCL-5) and the PTSD ICD-11 was measured by the ITQ PTSD subscale.

Results: Five of the six most central symptoms estimated via the expected influence centrality metric across the two samples were identical and represented symptoms from both diagnostic systems operationalized by the PCL-5 and the ITQ.

Conclusions: The results of the present study underline that symptoms from both diagnostic systems hold central positions. The implications of the results are discussed from the perspectives of an indexical (i.e. the diagnostic systems reflect both shared and different aspects of PTSD) and a constitutive view (i.e., the diagnostic systems represent different disorders and the results cannot be reconciled per se) of mental health diagnoses (Kendler, 2017).

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*The presentation is based on: Hansen, M., Armour, C., McGlinchey, E., Ross, J., Ravn, S. L., Andersen, T. E., Lindekilde, N., Elmoose, M., Karsberg, S., & Fried, E. (submitted). Investigating the DSM-5 and the ICD-11 PTSD symptoms using network analysis across two distinct samples.

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