



Universiteit  
Leiden  
The Netherlands

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

Hansen, M.; Armour, C.; McGlinchey, E.; Ross, J.; Ravn, S.L.; Andersen, T.E.; ... ; Fried, E.I.

### Citation

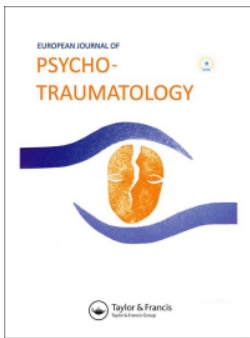
Hansen, M., Armour, C., McGlinchey, E., Ross, J., Ravn, S. L., Andersen, T. E., ... Fried, E. I. (2021). Investigating centrality in PTSD symptoms across diagnostic systems using network analysis. *European Journal Of Psychotraumatology*, 12(sup1), 1-3.  
doi:10.1080/20008198.2020.1866412

Version: Publisher's Version

License: [Creative Commons CC BY-NC 4.0 license](https://creativecommons.org/licenses/by-nc/4.0/)

Downloaded from: <https://hdl.handle.net/1887/3633985>

**Note:** To cite this publication please use the final published version (if applicable).



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

Maj Hansen, Cherie Armour, Emily McGlinchey, Jana Ross, Sophie Lykkegaard Ravn, Tonny E. Andersen, Nanna Lindekilde, Mette Elmoose, Sidsel Karsberg & Eiko Fried

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>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 01 Feb 2021.



[Submit your article to this journal](#)



Article views: 1904



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)



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

Maj Hansen <sup>a</sup>, Cherie Armour <sup>b</sup>, Emily McGlinchey <sup>b</sup>, Jana Ross <sup>c</sup>, Sophie Lykkegaard Ravn <sup>a,d</sup>,  
Tonny E. Andersen <sup>a</sup>, Nanna Lindekilde <sup>a</sup>, Mette Elmoose <sup>a</sup>, Sidsel Karsberg <sup>e</sup> and Eiko Fried <sup>f</sup>

<sup>a</sup>ThRIVE, Department of Psychology, University of Southern Denmark, Odense M, Denmark; <sup>b</sup>School of Psychology, Queens University Belfast, University Road, Belfast, Northern Ireland; <sup>c</sup>School of Applied Social and Policy Sciences, Ulster University, Londonderry, Northern Ireland; <sup>d</sup>Specialized Hospital for Polio and Accident Victims, Roedovre, Denmark; <sup>e</sup>Centre for Alcohol and Drug Research, Aarhus BSS, Aarhus University, Aarhus C, Denmark; <sup>f</sup>Department of Clinical Psychology, Leiden University, Leiden, The Netherlands

### 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 5<sup>th</sup> edition* (DSM-5), and three symptoms clusters in the 11<sup>th</sup> 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).

### ORCID

Maj Hansen <http://orcid.org/0000-0002-8328-0807>  
Cherie Armour <http://orcid.org/0000-0001-7649-3874>  
Emily McGlinchey <http://orcid.org/0000-0002-7423-8762>  
Jana Ross <http://orcid.org/0000-0003-2794-1268>  
Sophie Lykkegaard Ravn <http://orcid.org/0000-0002-2908-5832>  
Tonny E. Andersen <http://orcid.org/0000-0002-9045-7500>  
Nanna Lindekilde <http://orcid.org/0000-0002-4212-6838>  
Mette Elmoose <http://orcid.org/0000-0003-4112-9890>  
Sidsel Karsberg <http://orcid.org/0000-0001-6664-603X>  
Eiko Fried <http://orcid.org/0000-0001-7469-594X>

### References

- Birkeland, M. S., Greene, T., & Spiller, T. (2020). The network approach to posttraumatic stress disorder: A systematic review. *European Journal of Psychotraumatology*, 11(1), 1700614. doi:10.1080/20008198.2019.1700614
- Hansen, M., Hyland, P., Armour, C., Shevlin, M., & Elklit, A. (2015). Less is more? Assessing the validity of the ICD-11 model of PTSD across multiple trauma samples. *European Journal of Psychotraumatology*, 6(1), 1–11.
- Hansen, M., Hyland, P., Karstoft, K.-I., Vaegter, H. B., Bramsen, R. H., Nielsen, A. B. S., ... Andersen, T. E. (2017). Does size really matter? A multisite study assessing the latent structure of the proposed ICD-11 and

**CONTACT** Maj Hansen [mhansen@health.sdu.dk](mailto:mhansen@health.sdu.dk) ThRIVE, Department of Psychology, University of Southern Denmark, Campusvej 55, 5230, Odense M, Denmark

\*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.

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

DSM-5 diagnostic criteria for PTSD. *European Journal of Psychotraumatology*, 8(2), 1398002. doi:[10.1080/2008198.2017.1398002](https://doi.org/10.1080/2008198.2017.1398002)

Kendler, K. S. (2017). DSM disorders and their criteria: How should they inter-relate? *Psychological Medicine*, 47, 2054–2060.