Eiko I. Fried, PhD

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Associate Professor

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My interests are how to best measure, model, and understand mental disorders. I conceptualize mental disorders as emergent properties that arise from complex, dynamical, transdiagnostic, biopsychosocial systems, rather than as clear-cut categories with simple causes. My team and I work at the intersection of clinical psychology and methodology, and follow open scholarship principles.

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01 >> Academic Appointments

2021-	Associate Professor, Clinical Psychology, Leiden University, The Netherlands.
2018-2021	Assistant Professor, Clinical Psychology, Leiden University, The Netherlands.
2016-2018	Postdoctoral Research Fellow, Psychological Methods, University of Amsterdam, The Netherlands.
2014-2016	Postdoctoral Research Fellow, Research Group Quantitative Psychology & Individual Differences, University of Leuven, Belgium.

02 >> Education & Training

2019	Visiting Scholar with Kenneth Kendler, Director Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth, USA.
2015	Visiting Scholar with Randolph Nesse, Director Center for Evolution & Medicine, Arizona State University, USA.
2010-2014	Clinical Psychology Ph.D. (summa cum laude), Cluster of Excellence Languages of Emotion at Free University Berlin, Germany. Thesis: "Covert Heterogeneity of Major Depressive Disorder: Depression Is More Than the Sum-Score of its Symptoms."
2011-2012	Visiting Scholar with Randolph Nesse, Department of Psychology, University of Michigan, USA.
2009-2010	Research Assistant, Berlin Alexithymia Research Group, Cluster of Excellence Languages of Emotion at Free University Berlin & Charité Psychiatry Berlin, Germany.
2003-2008	Psychology Diploma (equivalent to Bachelor's & Master's degree), Ludwig-Maximilians-University Munich, Germany.

03 >> Publications

Note: Shared authorship *; first and last author publications highlighted

- 126. Robinaugh, Haslbeck, Waldorp, Kossakowski, Fried [..] Borsboom (Preprint). Advancing the Network Theory of Mental Disorders: A Computational Model of Panic Disorder. https://psyarxiv.com/km37w/
- 125. Eaton, Bringmann, Elmer, **Fried** [..] Waszczuk (2023). A review of approaches and models in psychopathology conceptualization research. *Nature Reviews Psychology*.
- 124. Blendermann, Ebalu, Obisie-Orlu, **Fried**, Hallion (2023). A narrative systematic review of changes in mental health symptoms from before to during the COVID-19 pandemic. *Psychological Medicine*.
- 123. Forbes, Neo, Nezami, **Fried**, [...] Dras (2023). Elemental psychopathology: Distilling constituent symptoms and patterns of repetition in the diagnostic criteria of the DSM-5. *Psychological Medicine*.
- 122. Rosa, **Fried**, Larson, Collado (2023). Four challenges for measurement in environmental psychology, and how to address them. *Journal of Environmental Psychology*.
- 121. McBride, van Bezooijen, Aggen, Kendler, **Fried** (2023). Quantifying Skip-Out Information Loss When Assessing Major Depression Symptoms. *Journal of Psychopathology and Clinical Science*.
- 120. **Fried**, Rieble, Proppert (2023). Building an early warning system for depression: Rationale, objectives, and methods of the WARN-D study. *Clinical Psychology in Europe*.
- 119. Aristodemou, Kievit, Murray [..] **Fried** (2023). Common Cause Versus Dynamic Mutualism: An Empirical Comparison of Two Theories of Psychopathology in Two Large Longitudinal Cohorts. *Clinical Psychological Science*.
- 118. Braillon, Fried, Cristea, Cosgrove, Naudet (2023). Treatments for major depression. The Lancet.
- 117. Naudet, **Fried**, Cosgrove, Turner, Braillon, Cristea (2022). Psychedelic drugs: more emphasis on safety issues. *Nature*.
- 116. Burger, Epskamp, van der Veen [..] **Fried***, Riese* (2022). A clinical PREMISE for personalized models: Toward a formal integration of case formulations and statistical networks. *Journal of Psychopathology and Clinical Science*.
- 115. Borsboom, Deserno, Rhemtulla, Epskamp, **Fried** [..] Waldorp (2022). Reply to 'Critiques of network analysis of multivariate data in psychological science'. *Nature Reviews Methods Primers*.
- 114. de Ron, Robinaugh, **Fried** [..] Epskamp (2022). Quantifying and addressing the impact of measurement error in network models. *Behaviour Research and Therapy*.

- 113. Hansen, Armour, McGlinchey, Ross [..] **Fried** (2022). Investigating the DSM–5 and the ICD-11 PTSD symptoms using network analysis across two distinct samples. *Psychological Trauma: Theory, Research, Practice, and Policy*.
- 112. Charvet, Boutron, Morvan, Le Berre [..] Chevance (2022). How to measure mental pain: a systematic review assessing measures of mental pain. *Evidence-based mental health*.
- 111. de Beurs, Boehnke, **Fried** (2022). Common measures or common metrics? A plea to harmonize measurement results. *Clinical psychology & psychotherapy.*
- 110. **Fried** (2022). Studying mental health problems as systems, not syndromes. *Current Directions in Psychological Science*.
- 109. Greene, Eaton, Forbes, **Fried** [..] Krueger (2022). Model fit is a fallible indicator of model quality in quantitative psychopathology research: A reply to Bader and Moshagen. *Psychopathology and Clinical Science*.
- 108. **Fried**, Flake, Robinaugh (2022). Revisiting the theoretical and statistical foundations of depression measurement. *Nature Reviews Psychology*.
- 107. Burger, Isvoranu Lunansky, Haslbeck [..] Blanken (2022). Reporting Standards for Psychological Network Analyses in Cross-Sectional Data. *Psychological Methods*.
- 106. Roefs, **Fried**, Kindt [..] Jansen (2022). A new science of mental disorders: Using personalised, transdiagnostic, dynamical systems to understand, model, diagnose and treat psychopathology. *Behaviour Research and Therapy*.
- 105. Greene, Sznitman, Contractor, Prakash, **Fried**, Gelkopf (2022). The memory-experience gap for PTSD symptoms: The correspondence between experience sampling and past month retrospective reports of traumatic stress symptoms. *Psychiatry Research*.
- 104. Prnjak, Fried, Mond [..] Mitchison (2022). Identifying components of drive for muscularity and leanness associated with core body image disturbance: A network analysis. *Psychological Assessment*.
- 103. Simpson-Kent, **Fried**, Akarca, Mareva [..] Kievit RA (2021). Bridging Brain and Cognition: A Multilayer Network Analysis of Brain Structural Covariance and General Intelligence in a Developmental Sample of Struggling Learners. *Journal of Intelligence*.
- 102. Hitchock, Fried, Frank (2021). Computational Psychiatry Needs Time and Context. *Annual Review of Psychology.*
- 101. Lorenzo-Luaces, Buss & **Fried** (2021). Heterogeneity in major depression and its melancholic and atypical specifiers: a secondary analysis of STAR*D. *BMC Psychiatry*.
- 100. Fried, Koenders, Bloem (2021). Bleuler revisited: on persecutory delusions and their resistance to therapy. *Lancet Psychiatry*.
- 99. Teague, Robinaugh, Fried (2021). On the control of psychological networks. Psychometrika.
- 98. Borsboom, Deserno, Rhemtulla [..] Waldorp (2021). Network approaches to the analysis of multivariate data in psychological science. *Nature Reviews Methods Primers*.
- 97. Specker, Fried, Rosenberg, & Leder (2021). Associating With Art: A Network Model of Aesthetic Effects. *Collabra: Psychology*.
- 96. Buckman, Cohen, O'Driscoll, **Fried** [..] Pilling (2021). Predicting prognosis for adults with depression using individual symptom data: a comparison of modelling approaches. *Psychological Medicine*.
- 95. O'Driscoll, Buckman, Fried [..] Pilling (2021). The importance of transdiagnostic symptom level assessment to understanding prognosis for depressed adults: analysis of data from six randomized control trials. *BMC Medicine*.
- 94. Fried, Papanikolaou, & Epskamp (2021). Mental Health and Social Contact During the COVID-19 Pandemic: An Ecological Momentary Assessment Study. *Clinical Psychological Science*.
- 93. Fried (2021). Theories and models: What they are, what they are for, and what they are about. *Psychological Inquiry*.
- 92. Fried (2021). Psychological Inquiry. Lack of theory building and testing impedes progress in the factor and network literature.
- 91. Fried*, Greene*, Eaton (2021). The p factor is the sum of its parts, for now. World Psychiatry.
- 90. Robinaugh, Haslbeck, Ryan, Fried, & Waldorp (2021). Invisible Hands and Fine Calipers: A Call to Use Formal Theory as a Toolkit for Theory Construction. *Perspectives on Psychological Science*.
- 89. Flake & Fried (2020). Measurement Schmeasurement: Questionable Measurement Practices and How to Avoid Them. *Advances in Methods and Practices in Psychological Science*.

- 88. Patalay* & Fried* (2020). Editorial Perspective: Prescribing measures: unintended negative consequences of mandating standardized mental health measurement. *Journal of Child Psychology and Psychiatry*.
- 87. Kendler, Aggen, Werner, Fried (2020). A topography of 21 phobic fears: network analysis in an epidemiological sample of adult twins. *Psychological Medicine*.
- 86. Stochl, Fried, Fritz, Croudace [..] Perez (2020). On Dimensionality, Measurement Invariance, and Suitability of Sum Scores for the PHQ-9 and the GAD-7. Assessment.
- 85. Duek, Spieller, Pietrzak, **Fried**, Harpaz-Rotem (2020). Network analysis of PTSD and depressive symptoms in 158,139 treatment-seeking veterans with PTSD. *Depression & Anxiety*.
- 84. Abend, Bajaj, Coppersmith [..] Pine (2020). A computational network perspective on pediatric anxiety symptoms. *Psychological Medicine*.
- 83. Hebbrecht, Stuivenga, Birkenhäger [..] Giltay (2020). Understanding personalized dynamics to inform precision medicine: a dynamic time warp analysis of 255 depressed inpatients. *BMC Medicine*.
- 82. Fried*, Greene* & Eaton (2020). The p factor is the sum of its parts, for now. In press in World Psychiatry.
- 81. van Eeden, van Hemert, Carlier [..] Giltay (2020). Basal and LPS-stimulated inflammatory markers and the course of individual symptoms of depression. *Translational Psychiatry*.
- 80. Taquet, Quoidbach, Fried, Goodwin (2020). Mood Homeostasis Before and During the Coronavirus Disease 2019 (COVID-19) Lockdown Among Students in the Netherlands. *JAMA Psychiatry*.
- 79. Cai, Choi, Fried (2020). Reviewing the genetics of heterogeneity in depression: Operationalizations, manifestations, and etiologies. *Human molecular genetics*.
- 78. Chevance, Ravaud, Tomlinson [..] Tran (2020). Identifying outcomes for depression that matter to patients, informal caregivers and healthcare professionals: qualitative content analysis of a large international online survey. *Lancet Psychiatry.*
- 77. Fried & Robinaugh (2020). Systems all the way down: embracing complexity in mental health research. *BMC Medicine*.
- 76. Hilland E, Landrø NI, Kraft B ... Jonassen R (2020). Exploring the links between specific depression symptoms and brain structure: A network study. *Psychiatry and Clinical Neuroscience.*
- 75. **Fried**, Coomans & Lorenzo-Luaces (2020). The 341737 ways of qualifying for the melancholic specifier. *Lancet Psychiatry*.
- 74. **Fried**, van Borkulo, Epskamp (2020). On the Importance of Estimating Parameter Uncertainty in Network Psychometrics: A Response to Forbes et al. (2019). *Multivariate Behavioral Research*.
- 73. Aristodemou & Fried (2020). Common Factors and Interpretation of the p Factor of Psychopathology. *Journal of the American Academy of Child & Adolescent Psychiatry*.
- 72. Burger, Stroebe, Perrig-Chiello [..] Fried. (2020). Bereavement or Breakup: Differences in Networks of Depression. *Journal of Affective Disorders*.
- 71. Morvan, Fried, Chevance (2020). Network modeling in psychopathology: hopes and challenges. Encéphale.
- 70. Hakulinen, Fried, Pulkki [..] Elovainio (2020). Network structure of depression symptomology in participants with and without depressive disorder: the population based Health 2000 2011 study. *Social Psychiatry and Psychiatric Epidemiology*.
- 69. De Ron, **Fried**, Epskamp (2019). Psychological networks in clinical populations: investigating the consequences of Berkson's bias. *Psychological Medicine*.
- 68. Jongeneel, Aalbers, Bell [..] van den Berg (2019). A time-series network approach to auditory verbal hallucinations: Examining dynamic interactions using experience sampling methodology. *Schizophrenia Research*.
- 67. Waszczuk, Eaton, Krueger [..] Kotov (2019). Redefining phenotypes to advance psychiatric genetics: Implications from hierarchical taxonomy of psychopathology. *Journal of Abnormal Psychology*.
- 66. Sin-Ying, **Fried**, Eaton (2019). The association of life stress with substance use symptoms: A network analysis and replication. *Journal of Abnormal Psychology*.
- 65. Conway, Forbes, Forbush [..] Eaton (2019). A Hierarchical Taxonomy of Psychopathology Can Transform Mental Health Research. *Perspectives on Psychological Science.*
- 64. Greene, Eaton, Li [..] Kotov R (2019). Are Fit Indices Used to Test Psychopathology Structure Biased? A Simulation Study. *Journal of Abnormal Psychology*.

- 63. Fritz, Stochl, **Fried** [..] van Harmelen (2019). Unravelling the Complex Nature of Resilience Factors and their Changes between Early and Later Adolescence. *BMC Medicine*.
- 62. Fried, von Stockert, Haslbeck [..] Penninx (2019). Using network analysis to examine links between individual depressive symptoms, inflammatory markers, and covariates. *Psychological Medicine*.
- 61. Greene, Gelkopf, Fried [..] Pickman (2019). Dynamic Network Analysis of Negative Emotions and DSM-5 Posttraumatic Stress Disorder Symptom Clusters During Conflict. *Journal of Traumatic Stress*.
- 60. Heino, Knittle, **Fried** [..] Hankonen (2019). Visualisation and network analysis of physical activity and its determinants: Demonstrating opportunities in analysing baseline associations in the Let's Move It trial. Health *Psychology and Behavioral Medicine*.
- 59. Hartung, **Fried**, Mehnert, Hinz, Vehling (2019). Frequency and network analysis of depressive symptoms in patients with cancer compared to the general population. *Journal of Affective Disorders*.
- 58. De Haan, Landolt, Fried [..] Meiser-Stedman (2019). Dysfunctional posttraumatic cognitions, posttraumatic stress, and depression in children and adolescents exposed to trauma: A network analysis. *Journal of Child Psychology and Psychiatry*.
- 57. De Beurs, **Fried**, Wetherall [..] Connor (2019). Exploring the psychology of suicidal ideation: A theory driven network analysis. *Behaviour Research and Therapy*.
- 56. Adolf & Fried (2019). Ergodicity is sufficient but not necessary for group-to-individual generalizability. PNAS.
- 55. Faelen, Hoorelbeke, **Fried** [..] Koster. (2019). Negative influences of Facebook use through the lens of network analysis. *Computers in Human Behavior*.
- 54. McWilliams & Fried (2019). Reconceptualizing Adult Attachment Relationships: A Network Perspective. *Personal Relationships*.
- 53. Epskamp, Fried, van Borkulo [..] Cramer (2018). Investigating the Utility of Fixed-Margin Sampling in Network Psychometrics. *Multivariate Behavioral Research*.
- 52. **Fried**, Eidhof, Palic, Costantini, Huisman-van Diujk [..] Karstoft (2018). Replicability and generalizability of PTSD networks: A cross-cultural multisite study of PTSD symptoms in four trauma patient samples. *Clinical Psychological Science*.
- 51. Epskamp & Fried (2018). A Tutorial on Regularized Partial Correlation Networks. Psychological Methods.
- 50. Mottus, & Fried (2018). Same Processes, Different Outcomes. European Journal of Personality.
- 49. Santos, Kossakowski, Schwartz, Beeber, **Fried** (2018). Longitudinal network structure of depression symptoms and self-efficacy in low-income mothers. *PLoS ONE*.
- 48. Greene, Gelkopf, Epskamp, **Fried** (2018). Dynamic networks of PTSD symptoms during conflict. *Psychological Medicine*.
- 47. Fonseca-Pedrero, Ortuño-Sierra, Debbané [..] **Fried** (2018). The network structure of schizotypal personality traits. *Schizophrenia Bulletin*.
- 46. Aalbers, McNally, Heeren, de Wit, **Fried** (2018). Social Media and Depression Symptoms: A Network Perspective. *Journal of Experimental Psychology: General*.
- 45. Briganti, Fried, Linkowski (2018). Network analysis of Contingencies of Self-Worth Scale in 680 university students. *Psychiatry Research*.
- 44. Molendijk, **Fried**, van der Does (2018). The SMILES trial: do undisclosed recruitment practices explain the remarkably large effect? *BMC Medicine*.
- 43. Fritz, **Fried**, Goodyer, Wilkinson, van Harmelen (2018). A Network Model of Resilience Factors for Adolescents with and without Exposure to Childhood Adversity. *Scientific Reports*.
- 42. Rodebaugh, Tonge, Piccirillo, **Fried** [..] Heimberg (2018). Does Centrality in a Cross-Sectional Network Suggest Intervention Targets for Social Anxiety Disorder? *Journal of Consulting and Clinical Psychology.*
- 41. Rouquette, Pingault, Fried [..] Borsboom (2018). Emotional and Behavioral Symptom Network Structure in Elementary School Girls and Association With Anxiety Disorders and Depression in Adolescence and Early Adulthood A Network Analysis. *Jama Psychiatry*.
- 40. von Stockert, **Fried**, Armour, Pietrzak (2018). Evaluating the stability of DSM-5 PTSD symptom network structure in a national sample of U.S. military veterans. *Journal of Affective Disorders*.
- 39. Briganti, Kempenaers, Braun, Fried, Linkowski (2018). Network analysis of empathy items from the Interpersonal Reactivity Index in 1973 young adults. *Psychiatry Research*.

- 38. Borsboom, Robinaugh, Epskamp [..] Cramer (2018). Robustness and replicability of psychopathology networks Network. *World Psychiatry*.
- 37. Bos, Fried, Hollon [..] Bockting (2018). Cross-sectional networks of depressive symptoms before and after antidepressant medication treatment. *Social Psychiatry and Psychiatric Epidemiology.*
- 36. Fried & Cramer (2017). Moving forward: challenges and directions for psychopathological network theory and methodology. *Perspectives on Psychological Science*.
- 35. Fried*, van Borkulo*, Cramer [..] Borsboom (2017). Mental disorders as symptom networks of problems: a review of recent insights. Social Psychiatry and Psychiatric Epidemiology.
- 34. **Fried** (2017). What are psychological constructs? On the nature and statistical modeling of emotions, intelligence, personality traits and mental disorders. *Health Psychology Review*.
- 33. Fried (2017). Moving forward: how depression heterogeneity hinders progress in treatment and research. *Expert Review of Neurotherapeutic.*
- 32. Fried (2017). The 52 symptoms of major depression: lack of content overlap among seven common depression scales. *Journal of Affective Disorders*.
- 31. Santos*, Fried*, Asafu-Adjei, Ruiz (2017). Network Structure of Perinatal Depressive Symptoms in Latinas: Relationship to Stress-Related and Reproductive Biomarkers. *Research in Nursing & Health*.
- 30. Armour*, Fried*, Deserno, Tsai, Pietrzak (2017). A Network Analysis of DSM-5 posttraumatic stress disorder symptoms and correlates in U.S. military veterans. *Journal of Anxiety Disorders*.
- 29. Armour*, Fried*, Olff (2017). PTSD symptomics: network analyses in the field of psychotraumatology PTSD symptomics: network analyses in the field of psychotraumatology. *European Journal of Psychotraumatology*.
- 28. Haslbeck & Fried (2017). How Predictable are Symptoms in Psychopathological Networks? A Reanalysis of 17 Published Datasets. *Psychological Medicine*.
- 27. Miloyan & Fried (2017). A reassessment of the relationship between depression and all-cause mortality in 3,604,005 participants from 293 studies. *World Psychiatry*.
- 26. Epskamp, Borsboom, **Fried** (2017). Estimating psychological networks and their accuracy: a tutorial paper. *Behavioral Research Methods*.
- 25. Kendler, Aggen, Flint, Borsboom, **Fried** (2017). The Centrality of DSM and non-DSM Depressive Symptoms in Han Chinese Women with Major Depression. *Journal of Affective Disorders*.
- 24. Murphy, McBride, Fried, Shevlin (2017). Distress, impairment and the extended psychosis phenotype: A network analysis of psychotic experiences in a US general population sample. *Schizophrenia Bulletin*.
- 23. Schweren, van Borkulo, **Fried**, Goodyer (2017). Assessment of Symptom Network Density as a Prognostic Marker of Treatment Response in Adolescent Depression. *Jama Psychiatry*.
- 22. van Loo, van Borkulo, Peterson [..] Kendler (2017). Robust symptom networks in recurrent major depression across different levels of genetic and environmental risk. *Journal of Affective Disorders*.
- 21. Borsboom, Fried, Epskamp [..] Cramer (2018). False alarm? A comprehensive reanalysis of "Evidence that psychopathology symptom networks have limited replicability" by Forbes, Wright, Markon, and Krueger. *Journal of Abnormal Psychology.*
- 20. Dejonckheere, Brock, **Fried**, Murphy, Kuppens (2017). Perceiving social pressure not to feel negative predicts depressive symptoms in daily life. *Depression and Anxiety*.
- 19. Heino, **Fried**, LeBel (2017). Commentary: Reproducibility in Psychological Science: When Do Psychological Phenomena Exist? *Frontiers in Psychology.*
- 18. **Fried** (2016). Are more responsive depression scales really superior depression scales? *Journal of Clinical Epidemiology*.
- 17. Fried, van Borkulo, Epskamp [..] Borsboom (2016). Measuring Depression over Time ... or not? Lack of Unidimensionality and Longitudinal Measurement Invariance in Four Common Rating Scales of Depression. *Psychological Assessment*.
- 16. **Fried**, Epskamp, Nesse, Tuerlinckx, Borsboom (2016). What are 'good' depression symptoms? Comparing the centrality of DSM and non-DSM symptoms of depression in a network analysis. *Journal of Affective Disorders*.
- 15. Fried, & Kievit (2016). The volumes of subcortical regions in depressed and healthy individuals are strikingly similar: A reinterpretation of the results by Schmaal et al. *Molecular Psychiatry*.
- 14. Rhemtulla*, Fried*, Aggen [..] Borsboom (2016). Network analysis of substance abuse and dependence symptoms. *Drug and Alcohol Dependence*.

- 13. van Loo, Wanders, Wardenaar, Fried (2016). Problems with latent class analysis to detect data-driven subtypes of depression. *Molecular Psychiatry*.
- 12. Beard, Millner, Forgeard [..] Björgvinsson (2016). Network Analysis of Depression and Anxiety Symptom Relations in a Psychiatric Sample. *Psychological Medicine*.
- 11. Heylen, van Mechelen, **Fried**, Ceulemans (2016). Two-mode K-Spectral Centroid analysis for studying multivariate time profiles. *Chemometrics and Intelligent Laboratory Systems*.
- 10. Fried, & Nesse (2015). Depression sum scores don't add up: Why analyzing specific depression symptoms is essential. *BMC Medicine*.
- 09. Fried, Arjadi, Borsboom [..] Bockting (2015). From Loss to Loneliness: The Relationship Between Bereavement and Depressive Symptoms. *Journal of Abnormal Psychology*.
- 08. Fried, & Nesse (2015). Depression is not a consistent syndrome: an investigation of unique symptom patterns in the STAR*D study. *Journal of Affective Disorders*.
- 07. **Fried**, Nesse, Guille, Sen (2015). The differential influence of life stress on individual symptoms of depression in a longitudinal study of medical residents. *Acta Psychiatrica Scandinavica*.
- 06. Fried (2015). Problematic assumptions have slowed down depression research: why symptoms, not syndromes are the way forward. *Frontiers of Psychology*.
- 05. **Fried**, Boschloo, van Borkulo [..] Borsboom (2015). Symptomics as a new research paradigm for psychiatry. *Frontiers in Psychiatry*.
- 04. Costantini, Richetin, Borsboom [..] Perugini (2015). Development of Indirect Measures of Conscientiousness: Combining a Facets Approach and Network Analysis. *European Journal of Personality*.
- 03. Fried, Tuerlinckx, & Borsboom (2014). Mental health: more than neurobiology. Nature.
- 02. Fried, & Nesse (2014). The Impact of Individual Depressive Symptoms on Impairment of Psychosocial Functioning. *PLoS ONE*.
- 01. Fried, Nesse, Zivin, Guille, Sen (2014). Depression is more than the sum score of its parts: individual DSM symptoms have different risk factors. *Psychological Medicine*.

04 >> Book Chapters

Borsboom, Cramer, **Fried**, Isvorana, Robinaugh, Dalege, van der Maas (2022). Chapter 1: Network Perspectives. In A.-M. Isvoranu, S. Epskamp, L. Waldorp, & D. Borsboom (Eds.), *Network psychometrics with R: guide for behavioral and social scientists*. Routledge.

Fried, Epskamp, Veenman, & van Borkulo (2022). Chapter 8. Network Stability, Comparison, and Replicability. In In A.-M. Isvoranu, S. Epskamp, L. Waldorp, & D. Borsboom (Eds.), *Network Psychometrics with R: A Guide for Behavioral and Social Scientists* (p. 25). Routledge.

Fried (2017). Zung Depression Scale. In A. E. Wenzel (Ed.), *The SAGE Encyclopedia of Abnormal and Clinical Psychology*.

Fried (2017). Psychopathological Networks. In A. E. Wenzel (Ed.), *The SAGE Encyclopedia of Abnormal and Clinical Psychology*.

Dejonckheere & Fried (2017). Bereavement. In V. Zeigler-Hill & T. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences*.

05 >> Other Publications

Pluut & Fried (2022). A week in the life of a Young Academy Leiden member. Voices of Young Acedemics blog, Leiden University.

Thayer (2022). <u>The Grand Challenges of Psychological Science</u>. *The Observer*, published by APS [I submitted a short piece featured in the article].

Harris, Fried, Campbell, Beck, Flake, & Kline (2019). Hacking APS. The Observer, published by the APS.

Fried & Flake (2018) Measurement Matters. The Observer, published by the APS.

Fried Depressionsforschung im Stimmungstief – Gründe einer wissenschaftlichen Krise und mögliche Auswege (2017). *In-Mind*.

Fried, Dejonckheere, Tuerlinckx (2017). Welke symptomen zijn het meest belangrijk bij depressie? Een netwerkanalyse van depressie. *Neurone*.

Fried (2015). <u>Depression – more than the sum of its symptoms</u>. *The Psychologist* (The British Psychological Society), Vol. 29

Fried (2014). <u>Covert Heterogeneity of Major Depressive Disorder: Depression Is More Than the Sum-Score of its Symptoms</u>. Dissertation.

06 >> Talks & Keynotes

Note: Lecture slides and videos are available online, ~indicates online talks, keynotes are highlightedd

2023 University of Groningen >> Invited talk "History repeating: A roadmap to address common problems in psychedelic science".

~NIMH Branch Innovation Series // University Medical Center Groningen // Brain Meetings University College London >> Invited talks "Studying mental health problems as systems, not syndromes".

University of Nantes >> Invited talk "An introduction to network theories & models".

Reading Emotions >> Keynote "Studying mental health problems as systems, not syndromes".

- ~Center for Research in Epidemiology and Statistics Paris // Buehler Kolloqium Dresden >> Invited talks "Developing an early warning system for depression".
- ~Open Foundation >> Invited talk "Validity threats in psychedelic science".

Dutch Statistics Society >> Invited talk "Developing an early warning system for depression".

~Small is beautiful conference >> Keynote "Using network theories and models to understand, predict, and treat mental health problems".

APS >> Chair spotlight symposium "Open Science 2.0: Advancing Reform Via Diversity, Communities, Education, and Theory". Chair symposium "Innovations in improving the validity of ecological momentary assessment". Talks "FRED: Generating Feedback Reports for Ecological Momentary Assessment Data" & "The Power of Integration A Multi-Method Perspective on Adolescent Depression in the Context of Family Dynamics". Discussant "Analysis and Visualization of Intensive Longitudinal Data".

SAA >> Talk "Developing an early warning system for depression".

SIPS >> Talk "Do latent variables exist".

ICPS » Chair "Improving the Assessment of Changes in Mental Health Outcomes By Integrating Multimodal Data Sources". Talk "Beyond the Psychedelic Bubble: Promises and Pitfalls of Psychedelic-Assisted Psychotherapy" & "Advances in Theory Formation in the Psychopathology Domain". Discussant "Introducing a new science of mental disorders: using network models to increase understanding, prediction, and treatment of mental health problems" & "How Innovations in Digital Health and Genomics Can Help to Turn the Tide on Depression and Anxiety".

- 2022 University of Groningen >> Invited talk "Questionable research practices & invalid inferences in the psychedelics treatment literature".
 - ~Deutschen Gesellschaft für Verhaltensmedizin und Verhaltensmodifikation >> Keynote "Leveraging ecological momentary assessment and network models to understand, predict, and treat mental disorders".
 - ~Stanford Center for Precision Mental Health and Wellness // Get Digital event >> Invited talks "Developing an early warning system for depression".

Leuven University >> Invited talk "Does psychology face a theory crisis and how can we deal with this?"

Dutch Network Science Society Symposium >> Keynote "Using network models to describe, predict, understand, and treat mental disorders".

- ~Pennsylvania State University // University of Toronto >> Invited talk "Lack of theory building and testing impedes progress in the factor and network literature".
- ~Columbia University // University of North Carolina // Neuroscience Seminar, McLean Hospital/Harvard Medical School // NIMH/RDoC roundtable >> Invited talks "Mental health: studying systems instead of syndromes".

Psychiatry 2.0: Towards a new way of thinking, University of Leuven // Lorentz workshop, Leiden University // Charité Berlin >> Invited talks "Mental health: studying systems instead of syndromes".

- ~Erasmus University Rotterdam // ReproducibiliTea Groningen >> Invited talks "Measurement matters: the role of measurement in the open science reform."
- ~Norwegian Centre for Mental Disorders Research >> Keynote "Embracing a systems perspective on mental health".
- ~Cornell University // NIH grand rounds >> Invited talks "Revisiting the theoretical & methodological foundations of depression measurement".
- ~Annual Technology in Psychiatry Summit >> Talk "Developing a personalized early warning system for depression".
- APS >> Chair "Integrating Ecological Momentary Assessment and Digital Phenotype Data: Challenges and Solutions". Talk "A bayesian approach to estimating idiographic networks from informative priors".
- 2021 ~Nature editors major depressive disorder symposium >> Invited talk "Diagnosis: systems, not symptoms".
 - ~Transdiagnostic Approaches to Mental Health Conference // SiNAPSA Neuroscience Conference >> Keynotes "Mental health: studying systems instead of syndromes".
 - ~Presidential Symposium at Society for Computation in Psychology >> Keynote "Using network models to understand, predict, & treat mental disorders".
 - ~ Trinity College Dublin >> Invited talk "Using network models to understand, predict, & treat mental disorders".
 - ~Erasmus University Rotterdam // Wearables in Practice event >> Invited talks "Developing an early warning system for depression".
 - ~Improving Science Through Openness Symposium >> Invited talk "Sharing is caring: improving transparency in research".
 - ~Treatment Selection Idea Lab >> Invited talk "Revisiting the theoretical and methodological foundations of depression measurement".

Open Science Community Leiden >> Talk "Theories, models, and the value of formalization".

Netherlands Study of Depression and Anxiety Day >> Invited talk "Studying symptoms vs. syndromes".

~Washington University of St Louis // University of Limerick // Tilburg University >> Invited talks "Lack of theory building and testing impedes progress in psychological science".

Ludwig-Maximilian University Munich >> Invited talk "From clinical research to substantive inferences: the gap between what we do and what we want to know".

- ~Leiden Complexity Network >> Invited talk "Using network models to understand psychological constructs like personality, cognition, and mental illness".
- 2020 ~University of Amsterdam // Université Grenoble Alpes // University of Missouri // Riot Science Club >> Invited talks "Lack of theory building and testing impedes progress in psychological science".
 - ~European Medicine's Agency // Conference 'The Future of Mental Health: Measurement, Treatment and Therapies'>> Invited talks "Measurement matters: challenges to assessing mental health problems pose a substantial barrier to clinical progress".

New Science of Mental Disorder Consortium, Maastricht University >> Keynote "Introduction to network theory & network models in psychology".

European Public Health Conference >> Talk "How to best understand and measure mental health problems".

SRP >> Talk "Mental Health & Social Contact During the COVID-19 Pandemic".

Metascience conference >> Talk "Measurement matters: challenges to assessing depression problems pose a substantial barrier to clinical progress".

Society for Clinical Trials >> Discussant "Choices, choice, choices: Selecting, defining, and measuring outcomes for young people with depressive disorders."

2019 Ludwig-Maximilian-University >> Invited talk "Network theory and dynamical systems models in psychopathology research".

McGill University >> Invited talk, "Depression symptomics: Studying individual depression symptoms and their dynamic relations in network models".

Max-Planck-Institute for Human Development, Berlin >> Invited talk "Benefits and drawbacks of latent variable models".

Biomarkers And Genomics Theme, NIHR Maudsley Biomedical Research Centre, King's College London >> Keynote "Depression is a problematic phenotype".

Cambridge University >> Invited talk "Introduction to network theory and network models".

Open Science and Reproducibility Workshop, Aarhus University >> Invited talk "Theory and measurement crises as obstacles to replicability in Clinical Psychology".

ABCT >> Chair "Using network models to explore differential relations between depression symptoms and various biomarkers". Talk "Studying relations between individual depression symptoms and inflammatory markers".

APS >> Chair "Recent advances in the use of modeling to explain and predict psychological phenomena from nomothetic & idiographic perspectives". Hackathon co-organizer "Best practices made easy".

APS >> Chair "Measurement Schmeasurement: How poor measurement practices threaten cumulative psychological science" & "From description to intervention: Can network models based on ambulatory assessments provide novel treatment targets". Talk "Common Measurement Problems in Psychology: The Example of Major Depression". Panel discussion "Replicability in Clinical Psychology".

NHG-wetenschapsdag (association of Dutch general practictioners) >> Keynote "Symptomics: studying symptoms and their network configurations".

2017 University of Sussex >> Invited talk "Symptomics: a novel research framework to study mental disorders".

Symptom Research in Primary Care, Amersfoort >> Keynote "Symptomics: studying symptoms and their network configurations".

Innovations in Statistical Methods Series at the Research Expert Meeting, Leiden University >> Invited talk "Introduction to network analysis".

VGCT >> Talk "Replicability and generalizability of PTSD networks: a cross-cultural multisite study of PTSD symptoms in four samples of trauma patients".

ABCT >> Talks "The network approach to psychopathology: where do we come from, and where do we go?", "Studying dynamical processes: vector autoregressive models for psychopathological time-series data", & "Testing the limits: a network analysis of 74 schizotypal items in 27,000 participants".

ICPS >> Chair: "Investigating the heterogeneity of Major Depression with novel symptom-, factor-, and network-based models" & "Symptomics: analyzing the differential relationships of individual depression symptoms with risk factors, biological markers, and treatment response". Talks "The 52 symptoms of depression: a content analysis of 7 depression rating scales", "Depression as a complex system of causally interacting symptoms" & "An introduction to Depression Symptomics".

APS >> Chair: "From the Brain to Emotions: Modeling Dynamics for a Better Understanding of Psychopathology". Talks "Cross-sectional and time-series network models for psychopathology: an overview of challenges and future directions" & "Replicability and generalizability of PTSD networks: a cross-cultural multisite study of PTSD symptoms in four samples of trauma patients".

Arbeitstagung der Fachgruppe Differentielle Psychologie, Persönlichkeitspsychologie und Psychologische Diagnostik » Keynote "What are psychological constructs such as personality facets, intelligence, emotions, or mental disorders? Different theories require different statistical models."

2016 Utrecht University >> Invited talk "The network theory of psychopathology".

Free University Amsterdam >> Invited talk "Psychiatric Symptomics: a novel research paradigm to study Major Depression".

ABCT >> Talks "The network approach to psychopathology: opportunities for an empirically based revision of contemporary classification systems" & "Psychopathological networks: challenges and future directions".

APS >> Talk "How to increase robustness and replicability in psychopathological network research".

2015 Health & Life Sciences University Hall >> Invited talk "Symptomics: a novel research paradigm for clinical psychology and psychiatry".

University of Groningen // Arizona State University >> Invited talk "Psychiatric symptomics: a new perspective on mental disorders."

University of Leuven >> Talk "Depression is more than the sum-score of its symptoms: A novel network approach to understanding depression".

ABCT >> Talk "What are 'good' depression symptoms? A novel perspective based on the network framework".

- Conference on Complex Systems >> Talk "A complex dynamic systems perspective on Major Depression".
- ICPS >> Talk "From Loss to Loneliness: The Relationship Between Bereavement and Depressive Symptoms"
- 2014 APS >> Talk "New perspectives on mental disorders: covert heterogeneity of major depressive disorder".
 - ISAD >> Talk "The impact of individual depressive symptoms on impairment of psychosocial functioning".
 - Ludwig-Maximilians-University Munich >> Invited talk "Novel psychopathological network models".
- 2013 International Conference on Future Breakthroughs in Science and Society >> Talk "Breaking the wall of depression diagnosis".
 - European Congress of Psychology >> Talk "Heterogeneity of individual depressive symptoms in a longitudinal study of medical residents".
 - University of Amsterdam >> Invited talk "Covert heterogeneity of depression symptoms".
 - Centre for Behaviour & Evolution, Newcastle >> Invited talk "Depression is more than the sum-score of its parts: covert heterogeneity of depressive symptoms".
- 2012 University of Michigan >> Invited talk "Why depression symptoms matter".
- 2010 ICPS >> Talk "Symptomatic heterogeneity in depression: A longitudinal study of depressive symptoms in medical residents".
- 2009 European Congress of Psychology >> Talk "Statistical exploration of an evolutionary psychopathological model of depression: A game-theoretical approach".

07 >> Workshops & Hackathons

Note: Materials can be found <u>online</u>. Not listed are lectures, practicals, and keynotes I taught at 10 network analysis summer & winter schools 2016-2023 at University of Amsterdam.

- Bonifay, Maul, **Fried** (2020). "Modernizing the instruction of psychological measurement". 3-hour hackathon, Society for the Improvement of Psychological Science (online).
 - Fried & Burger (2020). "Network analysis workshop". 2-day workshop, Flanders Training Network for Methodology and Statistics summer school Ghent.
 - Fried (2020). "Network analysis workshop". 3-day workshop, Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University.
 - Fried & Flake (2020). "Avoiding questionable measurement practices". 3-hour workshop, Society for the Improvement of Psychological Science, Rotterdam.
 - Robinaugh & Fried (2020). "Improving Psychological Science by Formalizing Psychological Theories: The Value of Computational Modeling". 3-hour workshop, Society for the Improvement of Psychological Science, Rotterdam.
- 2019 Harris, Fried, Campbell, Beck, Flake, & Kline (2019). "Best practices made easy". 4-hour hackathon, APS, Washington.
- 2018 Fried & Flake (2018). "Avoiding questionable measurement practices". 3-hour workshop, Society for the Improvement of Psychological Science, Grand Rapids.
- 2017 Fried (2017). "Network analysis tutorial". 2-hour webinar, Transcontinental Computational Psychiatry Workgroup // American Statistical Association.
 - Fried (2017). "The network approach to psychopathology: implications for clinical research and practice". 3-hour workshop, VGCT (Dutch Association for Behavioral Therapy and Cognitive Therapy), Veldhoven.
 - Fried (2017). "Network analysis workshop". 2-day workshop, University of Southern Denmark, Odense // Universidad Complutense de Madrid.
 - Fried (2017). "Understanding the clinical utility of symptom networks". 3-hour workshop, UK Psychological Trauma Society, Belfast.
 - **Fried** & Dalege (2017). "Psychological network analysis: estimation, inference, and stability". 2-day workshop, Experimental Psychopathology meeting in Heeze.
 - Fried, de Schryver, & Epskamp (2017). "Psychological network analysis: estimation, inference, and stability". 3-day workshop, Ghent University.
- Fried (2016). "Psychological network analysis: estimation, inference, and stability". 1-day workshop, Hōpital Erasme, Brussels // Ulster University.

Fried & Epskamp (2016). "Psychological network analysis: estimation, inference, and stability". 1-day workshop, Utrecht Universit.

Fried, Deserno & Epskamp (2016). "Psychological network analysis: estimation, inference, and stability". 2-day workshop, Harvard Universit // Washington University St. Louis.

08 >> Awards

2022	Clarivate Highly Cited Researcher Award, "in recognition of exceptional research performance
ጼ '21	demonstrated by production of multiple highly cited papers that rank in the top 1% for field and

- & '20 year in Psychiatry and Psychology".
- 2021 <u>Janet Taylor Spence Award</u> for transformative early career contributions to psychological science; Association for Psychological Science.
- 2020 <u>Commendation</u> of *Society for the Improvement for Psychological Science* for workshops, resource list, and paper on "Measurement Schmeasurement: Questionable Measurement Practices and How to Avoid Them", together with <u>Flake JK</u>.
- 2019 <u>Education Award</u> for Best Teacher 2019, Institute of Psychology, Leiden University.
- 2018 <u>APS Rising Star Award</u> for outstanding researchers in the earliest stages of their career whos innovative work has already advanced the field. *Association for Psychological Science*.

09 » Grants

2023-2025	Co-I (370,000€): "Comorbidity networks of mental disorders and general medical conditions". Independent Research Fund Denmark (DFF). PI: Karen-Inge Karstoft
2021-2025	PI (1,500,000€): "Using network theory to predict depression onset and build a personalized early warning system". ERC Starting Grant, European Research Council.
2019-2028	Co-I (19,393,000€): "New science of mental disorders". Gravitation/Zwaartekracht grant, Netherlands Organisation for Scientific Research (NWO). PI: Anita Jansen.
2019-2021	Co-I (121,222€): "Advancing the screening of major depressive disorder". Health and Medical Research Fund - Research Fellowship Scheme, Food and Health Bureau, Hong Kong. [grant awared, but PI moved to different country & could not take money with him].
2021	Several small grants for collaborations abroad (1,600€); Dahlem-Research-School Berlin.

10 >> Teaching Experience

2018-	15 courses as instructor "Clinical Psychology" & "Experimental Psychopathology", Leiden University.
2011-2012	Teaching Assistant "Evolution & Mental Disorders", University of Michigan.
2009-2010	Instructor "Evolutionary Psychopathology", Ludwig-Maximilians-University Munich.
2007	Teaching Assistant "Positive Psychology", Ludwig-Maximilians-University Munich.

11 >> Supervision

Students under my supervision Jill de Ron, Marlene Werner, and Michael Aristodemou won awards for their master theses (best master thesis psychology 2018 University of Amsterdam, NVVS sexology award, and best master thesis psychology 2019 Leiden University, respectively).

psychology 2019 Leiden University, respectively).	
2023-	Co-promoter of PhD student Kyra Evers within the Gravitation project "New science of mental disorders"
2021-	Daily supervisor of PhD students Ricarda Proppert & Carlotta Rieble within my ERC Starting Grant WARN-D
2020-	Co-promoter of PhD students Alberto Martinez Jover & Myrthe Veenman within the Gravitation project "New science of mental disorders"
2020-2023	Co-promoter of PhD student Ryan Wong, University of Victoria
2019-	In PhD committees of numerous PhD students (Canada, US, & NL)
2018-	>50 BA students, Clinical Psychology, Leiden University.

2018-	>30 MA students, Clinical MA & Clinical Research MA Psychology, Leiden University.
2016-2018	6 MA students, Research Master Psychology, University of Amsterdam.
2014-2016	2 MA students, Clinical Psychology, University of Leuven.

12 » University Service

2023-	Research Master Education Committee, Leiden University.
2021-	Mentor for Research Master students, clinical & health track, Leiden University.
2020-	Member of <u>Young Academy Leiden</u> , a select group of young academics promoting interdisciplinarity, science & policy education, and outreach.
2019	Followed the invitation of the Dean of the Faculty of Social Sciences at Leiden University to serve as task force leader "Open Science" to inform University policy.
2018-	Co-founder Open Science Community Leiden (OSCL), Leiden University.

13 >> Editorial & Professional Affiliations

Advisory board Mental Health Million Project (2020-)

Guest editor special issue *Behavior Reseach & Therapy* on "The Network Approach and The Future of Clinical Psychology" (2021).

Guest editor special issue BMC Medicine "Complexity in Mental Health Research" (2019-2021)

Statistical reviewer Lancet Psychiatry (2019-)

Editorial board Perspectives on Psychological Science (2021-), Clinical Psychological Science (2020-), Assessment (2019-), BMC Medicine (2019-), Journal of Abnormal Psychology (2018-), Collabra Clinical Psychology (2017-).

Advisory board Meta Psychology (2017-).

Guest editor special issue *European Journal of Psychotraumatology* "PTSD symptomics: network analyses in the field of psychotraumatology" (2016).

Fellow Association for Psychological Science (2021-).

Staff member Interuniversity Graduate School of Psychometrics and Sociometrics (2021-) & Postgraduate School for Research and Education EPP (2020-)

Member Society for the Improvement of Psychological Science (2018-), Division 5 for Evaluation, Measurement, & Statistics of the American Psychological Association (2016-), Association for Behavioral and Cognitive Therapies (2015-), & Association for Psychological Science (2014-).

14 >> Ad Hoc Reviewing

Over 150 verified reviews for journals in Psychiatry (e.g., Molecular Psychiatry, JAMA Psychiatry, Lancet Psychiatry, American Journal of Psychiatry), Psychology (e.g., Psychological Science, Perspectives on Psychological Science, Clinical Psychological Science, Journal of Affective Disorders), Statistical Methods and Measurement (e.g. Assessment, Advanes in Methods and Practices in Psychological Science), Medicine (e.g., BMC Medicine, Psychological Medicine), and others (e.g., Evolution and Human Behavior, BioSystems).

Reviewer for grant proposals at Deutsche Forschungsgemeinschaft & European Research Council.

15 » Media, Interviews & Podcasts

2023 >> <u>ScienceNews</u> (working mechanisms of depression treatments); <u>Under The Cortex</u> podcast, <u>Chain of Thought</u> Al podcast (complex systems in mental health); <u>UKrant Groningen</u> (WARN-D); <u>PsychedOut, IrishTimes, Science, WIRED, MadInAmerica</u> (psychedelics for treating mental health problems); <u>APS Observer</u> (Open Science)

2022 >> <u>Guardian</u>, <u>VICE/Motherboard</u>, <u>Nature</u>, <u>Krautreporter</u> (psychedelics for mental health); <u>Horizon Magazine</u>, <u>Volkskrant</u>, <u>Leidsch Dagblad</u>, <u>MARE</u>, <u>LINDA.NL</u> (WARN-D)

2021 >> Science Magazine (botox as depression treatment), EOS Wetenschap (depression heterogeneity)

2018 >> Volkskrant (depression heterogeneity)

2016 >> Statnews (hypothermia as depression treatment)