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Dynamic Risk Factor Networks in Two Independent Samples of Adult Male Sex Offenders

Jan Willem van den Berg, MSc
Jolanda Kossakowski, PhD
Wineke J. Smid, PhD
Kelly M. Babchishin, PhD
Denny Borsboom, PhD
Erick Janssen, PhD
Luk Gijs, PhD

Although dynamic risk factors are increasingly recognized as important to the assessment and treatment of adult male sex offenders, questions regarding their interrelatedness have received little research attention. By visualizing and analyzing the links between dynamic risk factors, the network analytic approach offers a promising window into the interrelationships among dynamic risk factors.

Objective
To compare networks of dynamic risk factors of adult men with a history of sexual offenses found in an earlier study (van den Berg et al., 2020) with those constructed in an independent sample, following the original methodology.

Method
Data were collected in adult men under community supervision for at least one sex offense, assessed using the STABLE-2007 between January 2001 and June 2013 as part of the Dynamic Supervision Project (DSP) or supervised by BC Corrections (BC). Networks were constructed and compared using R-Packages qgraph (1.6.1.), mgm (1.2-5), igraph (version 1.2.2), NetworkComparisonTest (2.2.1).

Results
We computed networks with and without sexual recidivism for both samples and calculated statistics of global strength and network structure based on permutations for randomly regrouped individuals. Global strength represents the overall connectivity across the network, calculated by summing the absolute values of all edges. Network structure is about the structure as a whole, defined by the maximum deviation between two edges in a network. Statistical comparisons using the Network Comparison Test revealed no significant differences between the networks containing sexual recidivism on network structure and global strength (resp. p=.44; p=.24). Networks without recidivism differed significantly in network structure (p=.04) but not in global strength (p=.18).

Limitations
The STABLE-2007 captures a limited number of dynamic risk factors. Also, the measurement of each dynamic risk factor was limited to a single item. The data were obtained from a mixed group of sex offenders. The data of one single STABLE-2007 assessment was used which only allows for generating undirected networks, reflecting associations among factors, but not the direction of these associations.

Conclusion

The Network Comparison Test showed that, except for networks without recidivism, there were no differences between the two independent data sets in network structure and global strength. Given the similarities in network structure and global strength, the constructed networks may help inform further development of theories on risk of sex offending. Building on existing theories, our findings can help generate new hypotheses on the causes of sexual (re)offending, including those relevant to psychobiological and social mechanisms that may underlie dynamic risk factors and their connections.

Reference

van den Berg, J.W., Smid, W., Kossakowski, J.J., van Beek, D.J., Borsboom, D., Janssen, E., & Gijs, L. (2020). The Application of Network Analysis to Dynamic Risk Factors in Adult Male Sex Offenders. *Clinical Psychological Science, 8,* 539–554. doi:10.1177/2167702620901720

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