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REGULARIZED NETWORK ANALYSIS OF THE STRUCTURAL INTERPLAY BETWEEN HEXACO TRAITS, EMOTIONS, AND SENTIMENTS

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Computational psychology aims to understand the connection between stable personality characteristics, changing emotional states, and the conveyed emotion. This research de-velops a cohesive, regularized psychological network using an enlarged sample of N=201 individuals. These include a 60-item inventory of the HEXACO personality, basic emotion dimensions, and a two-dimensional model of sentiment. To eliminate bias in the correlation thresholding, a sparse conditional dependency structure was estimated using a regularized Graphical Lasso algorithm and subsequently centrality mapping was performed in conjunction with Louvain community detection. Clustering revealed clear and consistent modules discriminating between essential personality traits, emotional processing and communi-cation sentiment. Importantly, this regularized approach helped to solve some of the statistical oddities that can be found in node isolation, specifically Surprise and Disgust, which emerged as meaningful links between negative and positive emotions (Bridge Betweenness = 9 and 7, respectively). The results demon-strate the robust nature of the communicative sentiment, and highlight the power of a standardized network science approach to behavioral modeling.