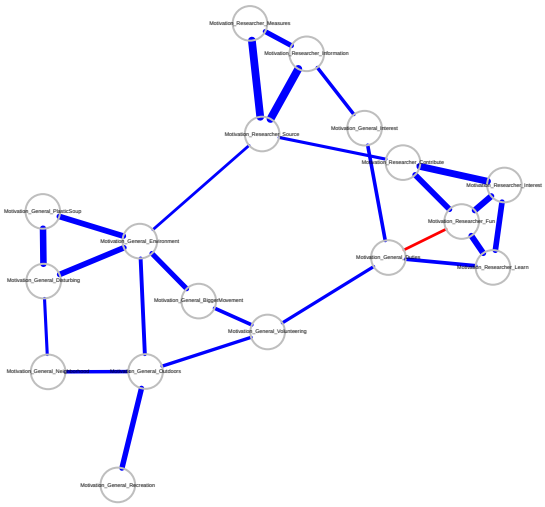
Supplemental File 3 - Conditional independence networks: motivation, attitude, and knowledge

This file shows the conditional independence networks used to determine clusters of related questions on the survey. These have been constructed using penalized inverse covariance matrix estimation. This estimates an inverse covariance matrix (i.e. precision matrix) using ridge regularization. The amount of regularization λ was chosen by leave-one-out cross-validation. After standardization, the off-diagonal elements represent the partial correlations between the variables. If a partial correlation is (practically) zero, the variables are conditionally independent. The remaining non-zero elements can be represented as a graph.

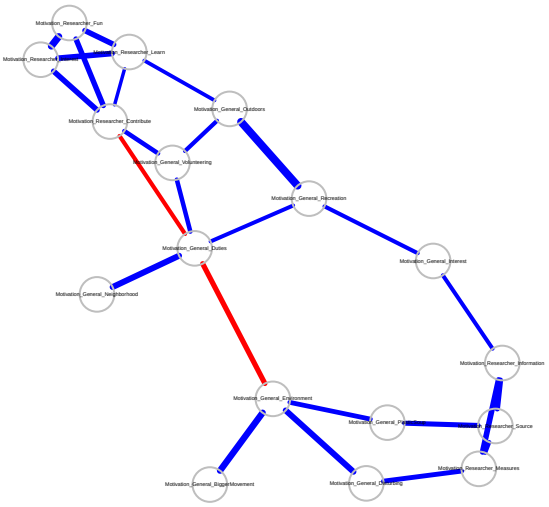
Conditional independence networks

motivation

Pre



Post 1



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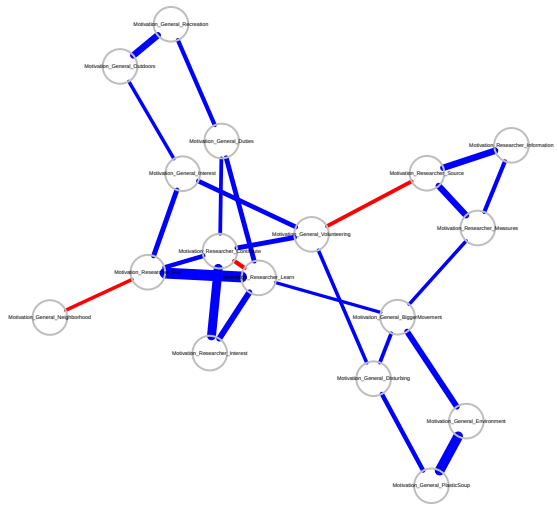

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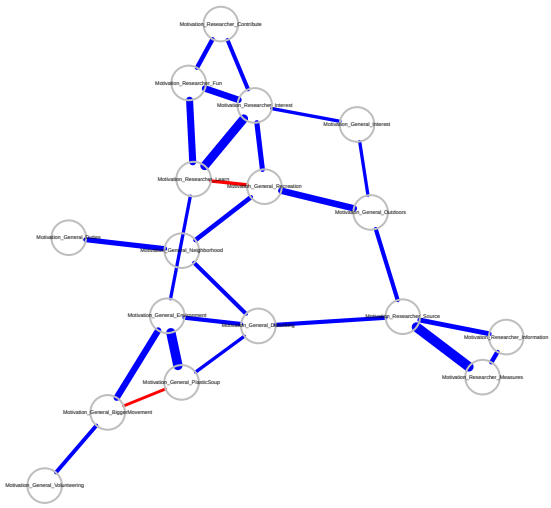
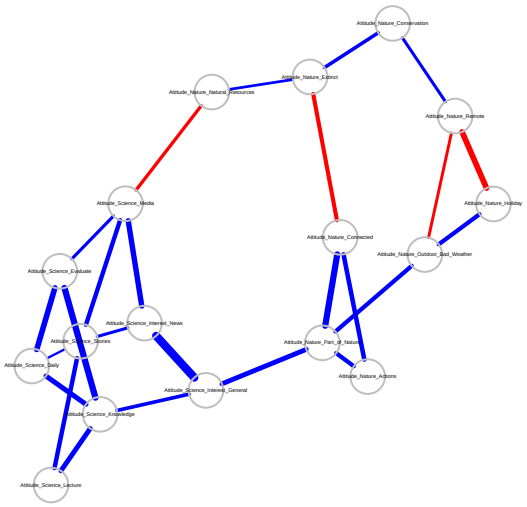


Conditional independence networks

Attitude

Pre



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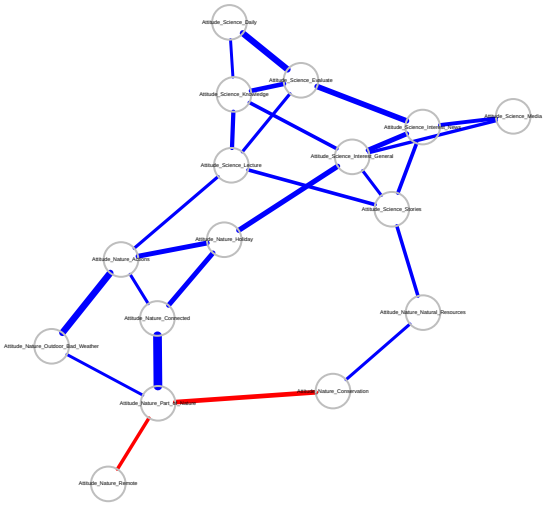

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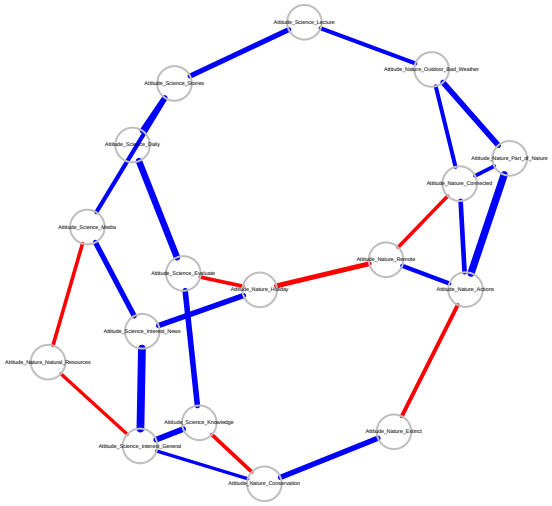

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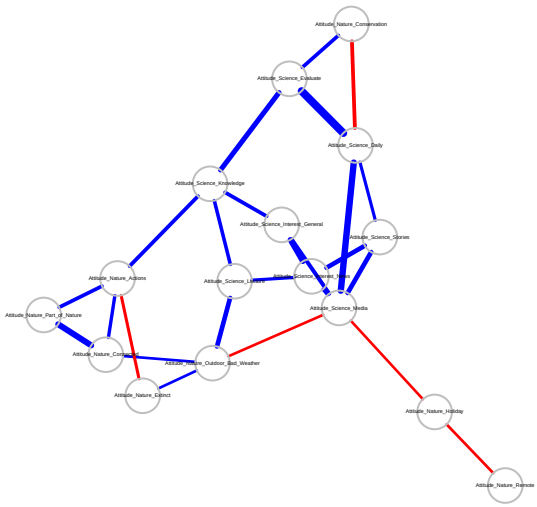
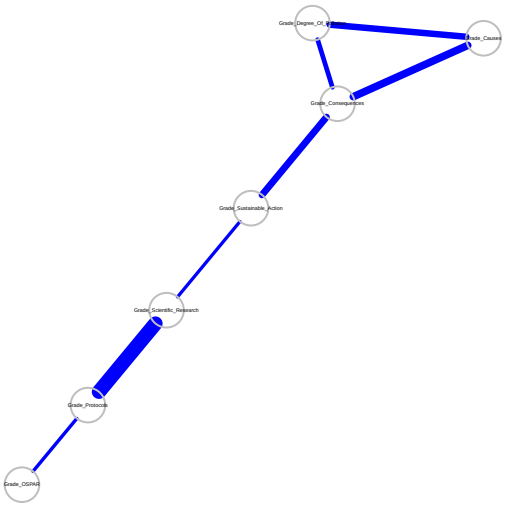


Conditional independence networks

Knowledge

Pre



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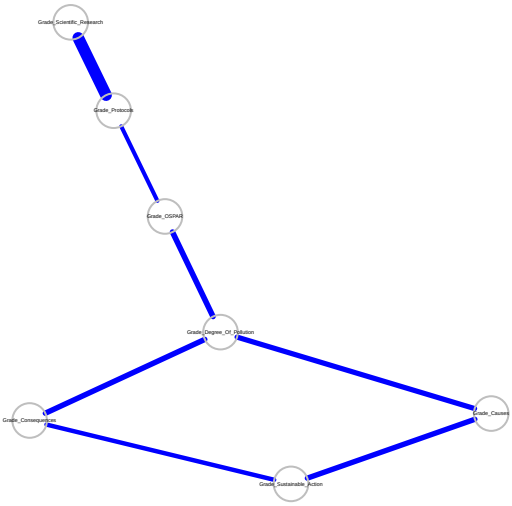

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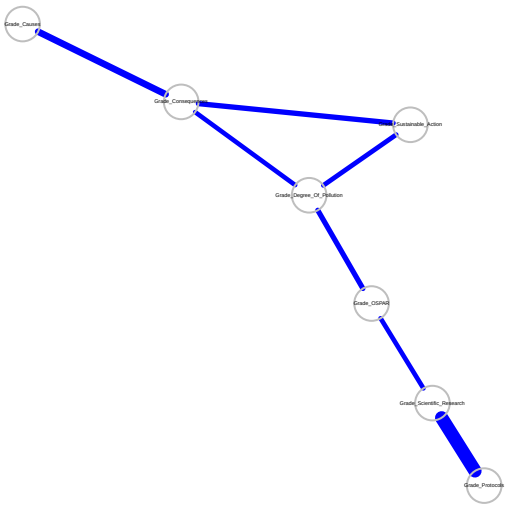

Post 3