

# Assignment #8 (Introduction to Network Statistics)

This assignment digs into a classroom of 29 seventh graders in Victoria Australia. Students nominated three classmates based on three types of relationships: “who do you get on with,” “who are your best friends,” and “who would you prefer to work with.” This was collected by Vickers and Chan (1981) and indexed here: <https://manliodedomenico.com/data.php>.

Vickers, M., & Chan, S. (1981). Representing classroom social structure. *Victoria Institute of Secondary Education, Melbourne*.

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Data note: Data for this assignment is stored in `vickers_class.Rdata`. There are eight files in this object (four igraph network objects (.g) and four statnet network objects (.n) of the same four classroom networks). The `best.n/g` is the class best friends network, the `work.n/g` is the preferred work with network, the `geton.n/g` is the get on with network and `gender.n/g` is the one-mode projection of the co-gender network.

This assignment seeks to better understand the relationship between **friendship** and **work** in this classroom.

## 1. Basic Description

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Offer a basic picture of these the friendship and work networks: Do they differ between each other in terms of relevant network factors? Do they differ exhibit properties of small world networks? Do they differ substantially from random networks?

## 2. QAP Correlation

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Are the two networks correlated with one another? Interpret.

## 3. QAP Logistic Regression

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Does friendship affect preferred work relationships in this classroom? Does gender play a role? Interpret.