Analyzing Social Networks Using R 1st edition Borgatti Test Bank

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Chapter 1: Introduction

1. The entities that make up a social system are called

a) nodules

b) nodes

c) networks

d) neurons

Ans: B

The entities that make up a social system are called actors or nodes. Networks are a way of thinking about social systems.

2. What are 'ties' in network analysis?

a) The relationship between actors

b) The characteristics of actors

c) The link between different networks

d) The similarities between actors

Ans: A

Each actor, or node, has characteristics, and the relationship between them also has characteristics. It is this relationship that is known as a tie in network analysis.

3. Nodes in a social network are NOT usually

a) individuals

b) animals

c) collectives

d) inanimate objects

Ans: D

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Nodes in a social network can be individuals, animals or collectives (such as teams or countries) but are not usually inanimate objects.

4. Which of the following is NOT a level of analysis?

a) node

b) dyad

c) collective

d) network

Ans: C

The three levels of analysis are dyad, node and network.

5. A relational state is

a) a single event

b) a finite relationship

c) a continually present relationship

d) an event that occurs repeatedly

Ans: C

A relational state is a continually present relationship, such as being someone's sibling. This is in contrast to a relational event, such as selling a house.

6. In relational events, a flow is

a) behavior with respect to others

b) acquaintance

c) relational cognition

d) the outcome of interactions

Ans: D

In relational events, a flow is the outcome of interactions. Interactions are behaviors with respect to others and often observable by third parties.

7. Most of network analysis is built on

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a) co-participation

b) relational states

c) relational events

d) centrality measures

Ans: B

Most of network analysis is built on relational states.

8. 'Applied' network analysis means

a) calculating a number of metrics to describe the structure of the network

b) describing the variance in certain variables as a function of other variables

c) using a single metric to describe the structure of the network

d) describing the similarity in certain variables as a function of other variables

Ans: A

'Applied' network analysis means that the study consists of calculating a number of metrics to describe the structure of the network. This is in contrast to basic network analysis which is multivariate and correlative (it describes the variance in certain variables as a function of other variables).

9. In the 'backcloth and traffic' model,

a) the backcloth is a destination for traffic to flow to and from

b) the backcloth is a medium that enables traffic to flow between locations

c) the backcloth is the traffic flowing between locations

d) the backcloth is the variance in certain variables

Ans: B

In the 'backcloth and traffic' model, the backcloth is a medium that enables traffic to flow between locations.

10. Homophily is

a) an opportunity-based relationship

b) where relational states like friendship lead to interactions

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c) a person trying to be congruent with those she likes

d) the tendency for people to have positive ties to those who are similar to themselves

Ans: D

Homophily is the tendency for people to have positive ties to those who are similar to themselves.

Chapter 2: Mathematical foundations

1. The term 'graph' in networking refers to

a) a diagram

b) an edge

c) a mathematical object

d) a set of vertices

Ans: C

The term 'graph' in networking refers to a mathematical object rather than a diagram. A graph consists of a set of vertices and a set of edges *E*.

2. Directed graphs are used

a) to represent relational phenomena that logically have a sense of direction

b) for relations where direction does not make sense

c) for relations which logically must always be reciprocated

d) when edges are unordered pairs

Ans: A

Directed graphs are used to represent relational phenomena that logically have a sense of direction. Undirected graphs are used for relations where direction does not make sense or which logically must always be reciprocated.

3. A multirelational dataset is

a) when there is more than one relation on the same set of vertices

b) when there is more than one relation on the same set of edges

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c) when there is a direct tie between the nodes

d) when there are relations which are reciprocated

Ans: A

A multirelational dataset is when there is more than one relation on the same set of vertices.

4. A sequence of adjacent nodes forms

a) a component

b) a path

c) a tie

d) an edge

Ans: B

A sequence of adjacent nodes forms a path.

5. What is characteristic of a trail?

a) It never revisits a vertex

b) It never revisits an edge

c) It is without restriction

d) It respects the direction of the edges

Ans: B

A trail never revisits an edge. A path never revisits a vertex and a walk is any sequence of adjacent nodes, without restriction. Every path is a trail, and every trail is a walk.

6. Weak components are

a) the shortest path between two vertices

b) components that respect the direction of the edges

c) components that disregard the directions of the edges

d) data that are not directed

Ans: C

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Weak components are components that disregard the direction of the edges. Strong components respect the direction of the edges. Data that are not directed are just called components.

7. How socially close actors are to each other in a network is known as

a) a geodesic

b) a trust tie

c) a valued tie

d) dyadic cohesion

Ans: D

How socially close actors are to each other in a network is known as dyadic cohesion.

8. By convention, the direction in an adjacency matrix is

a) from the columns to the rows

b) from the rows to the columns

c) no specific direction

d) always including negative values

Ans: B

By convention, the direction in an adjacency matrix is from the rows to the columns.

9. If a graph is reflexive, then

a) the vertices can have ties to themselves

b) self-loops are not allowed

c) it has valued edges

d) a missing-value code is used

Ans: A

If a graph is reflexive, then the vertices can have ties to themselves.

10. The ‘ways’ of a matrix are

a) conformable

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b) entities

c) commutative

d) dimensions

Ans: D

The ways are the dimensions of the matrix – normally two, as when we have rows and columns – while the modes are the kinds of entities being represented.

Chapter 3: Research design

1. A 'true experiment' must have

a) no pre-post design

b) no manipulation of the independent variable

c) random assignment

d) non-random assignment

Ans: C

A true experiment must have a pre-post or post-only design, together with random assignment of units to treatment groups and manipulation of the independent variable.

2. When data is collected at multiple points in time, it is called

a) cross-sectional

b) longitudinal

c) lagged cross-sectional

d) observational

Ans: B

When data is collected at multiple points in time, it is called longitudinal. When data is collected at a single point in time, it is called cross-sectional and lagged cross-sectional.

3. Whole-network research studies

a) sets of egos

b) ties between index nodes and alters

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