Final Assignment SNA

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Research questions and theoretical background

Hypotheses

Data description (descriptive statistics, visualization)

Table 1: Network Descriptives By Wave

Measure	Mean/Value	SD
Wave 1		
Degrees	12.88	6.39
Indegrees	6.44	2.41
Outdegrees	6.44	6.45
Density	0.20	
Reciprocity	0.76	
Transitivity	0.49	
Wave 2		
Degrees	12.29	6.98
Indegrees	6.15	3.12
Outdegrees	6.15	5.68
Density	0.19	
Reciprocity	0.80	
Transitivity	0.42	
Wave 3		
Degrees	12.41	7.94
Indegrees	6.21	3.11
Outdegrees	6.21	6.45
Density	0.22	
Reciprocity	0.79	
Transitivity	1.00	

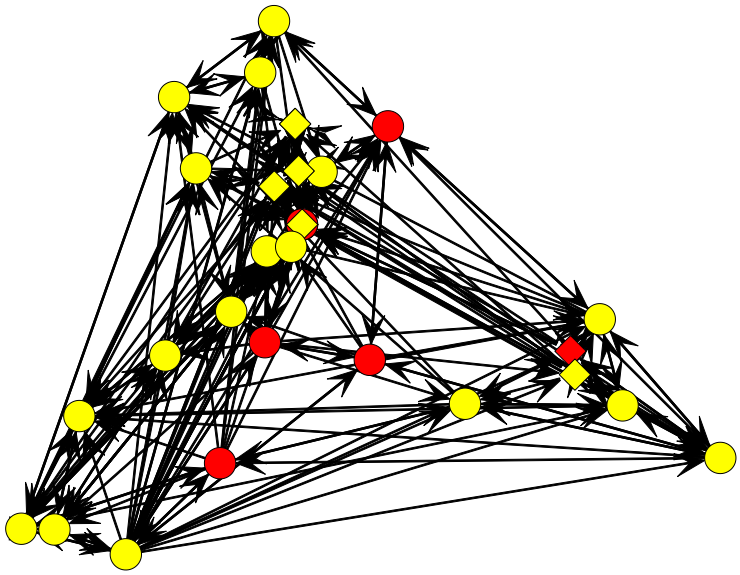
Table 2: Network Descriptives Across Waves

Waves	Jaccard Index	Hamming Distance
1 to 2	0.33	214
2 to 3	0.38	177

Operationalization of hypotheses

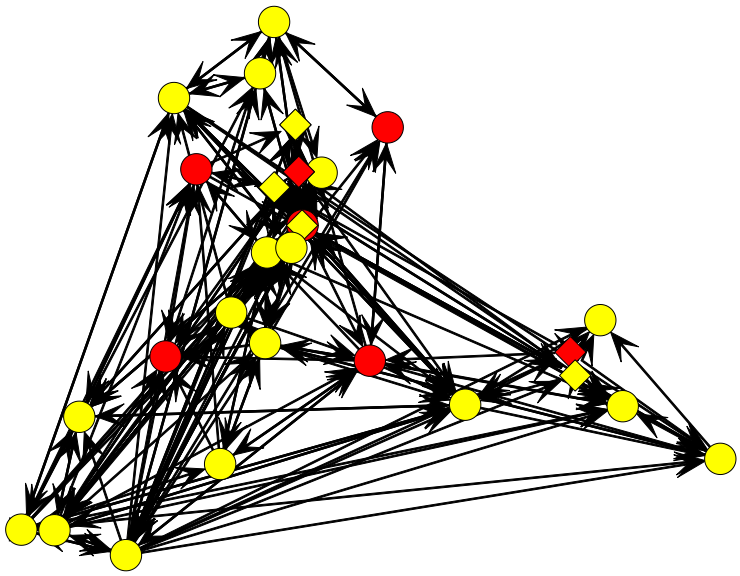
Prelim. hypotheses. 1. People request more help from their own gender -> same gender 2. People who consider grades more important get requested more help of -> alter grades important 3. TRIADIC STUFFS

Class 6200 at Wave 1



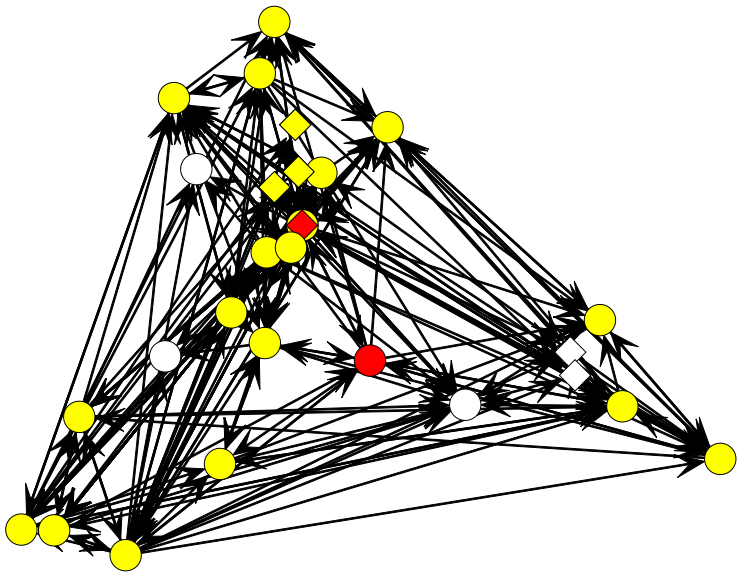
Squares indicate boys, circles girls.
Red are those who are not influenced by whether they get good grades or not.
Yellow are those who are only satisfied with themselves if they get good grades.

Class 6200 at Wave 2



Squares indicate boys, circles girls.
Red are those who are not influenced by whether they get good grades or not.
Yellow are those who are only satisfied with themselves if they get good grades.

Class 6200 at Wave 3



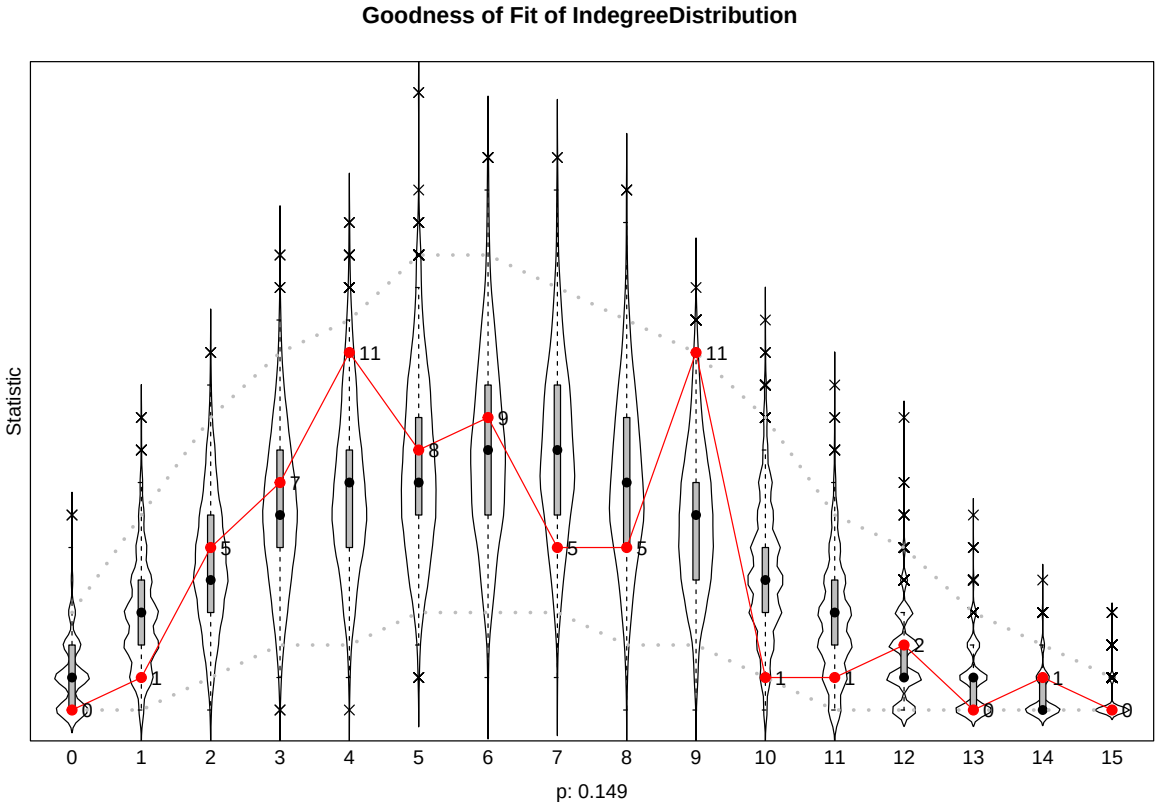
Squares indicate boys, circles girls.
Red are those who are not influenced by whether they get good grades or not.
Yellow are those who are only satisfied with themselves if they get good grades.
White are NAs.

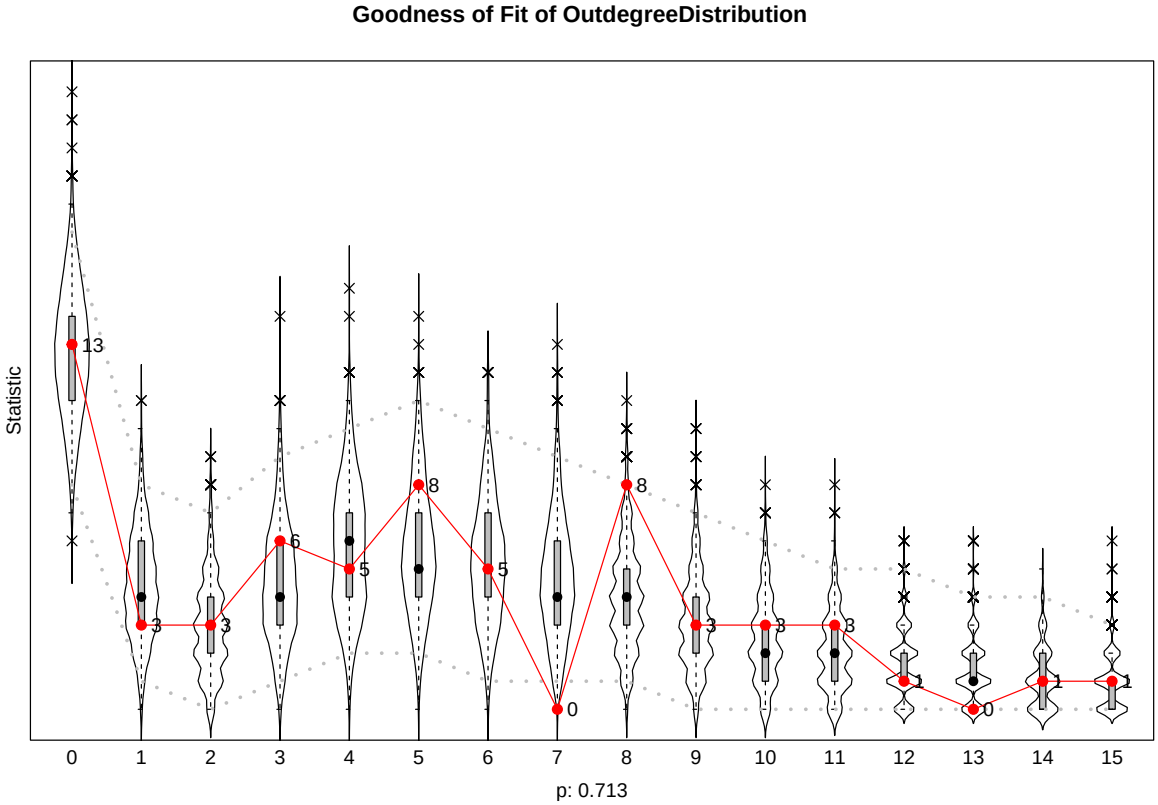
Table 3: Summary of Results

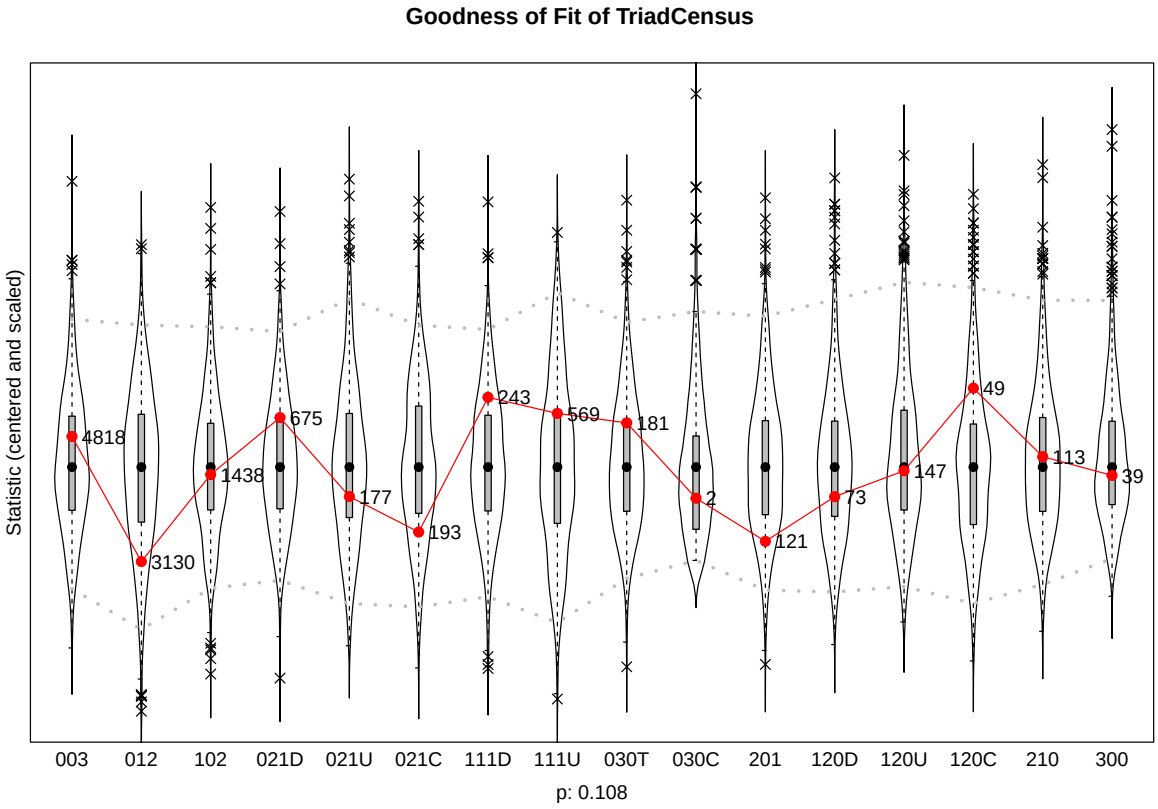
Effect	par.	(s.e.)	t stat.
Rate 1	17.51	(2.37)	-
Rate 2	16.26	(2.43)	-
outdegree (density)	–1.38***	(0.13)	–10.71
reciprocity	1.76***	(0.20)	8.71
transitive triplets	0.27***	(0.03)	9.04
transitive recipr. triplets	–0.16*	(0.07)	–2.20
outdegree - popularity	–0.11***	(0.02)	–6.74
outdegree-trunc(1)	–2.64***	(0.48)	–5.52
gender alter	0.24*	(0.11)	2.15
gender ego	–0.15	(0.10)	–1.51
same gender	0.32***	(0.09)	3.43
grades-important alter	–0.01	(0.07)	–0.08
grades-important ego	0.02	(0.07)	0.24
grades-important similarity	0.24†	(0.14)	1.66

† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$;
convergence t ratios all < 0.12.
Overall maximum convergence ratio 0.23.

Results (see literature seminar readings on how SAOM results are presented)




Goodness of Fit of OutdegreeDistribution
Statistic
13
3
3
6
5
8
5
0
8
3
3
3
1
0
1
1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
p: 0.713



Conclusions and Discussion

Table 4: Summary of Results

Network Dynamics			
Effect	par.	(s.e.)	t stat.
constant helpnet rate (period 1)	15.52	(45.34)	-
constant helpnet rate (period 2)	17.55	(308.35)	-
outdegree (density)	–1.51	(7.72)	–0.20
reciprocity	1.82	(30.24)	0.06
transitive triplets	0.28	(2.22)	0.13
transitive recipr. triplets	–0.02	(4.50)	–0.00
dense triads	–0.13	(2.51)	–0.05
outdegree - popularity	–0.10	(2.75)	–0.04
outdegree-trunc(1)	–2.32	(7.62)	–0.30
look-upnet	0.45	(10.99)	0.04
gender alter	0.10	(8.22)	0.01
gender ego	–0.02	(0.36)	–0.06
same gender	0.26	(2.58)	0.10
grades-important alter	0.34	(9.05)	0.04
grades-important ego	0.09	(6.33)	0.01
grades-important similarity	0.94	(30.25)	0.03
Behaviour Dynamics			
rate grades-important (period 1)	2.70	(108.35)	-
rate grades-important (period 2)	2.54	(19.74)	-
grades-important linear shape	–276.71	(604546.97)	–0.00
grades-important quadratic shape	126.40	(267651.22)	0.00
grades-important average similarity	–592.65	(1269873.24)	–0.00
grades-important indegree	–1.88	(774.38)	–0.00
grades-important outdegree	–22.72	(49411.26)	–0.00
grades-important: effect from gender	1.83	(851.00)	0.00

† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$;
convergence t ratios all < 3.23.
Overall maximum convergence ratio 5.26.