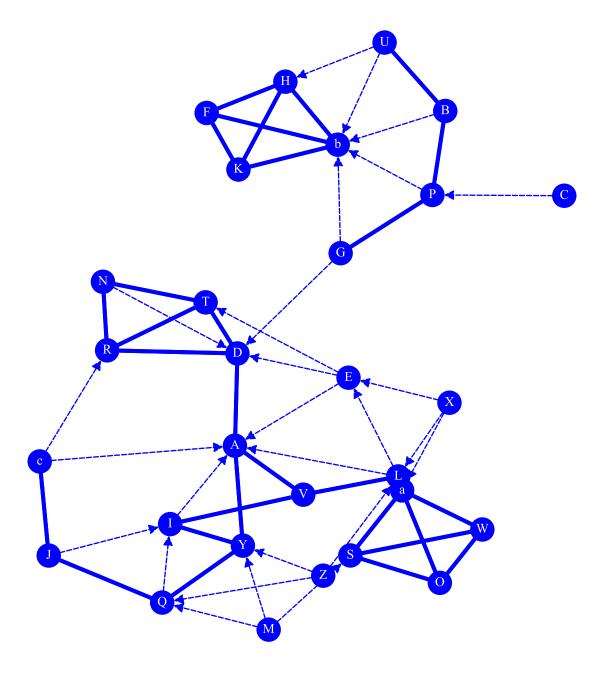


GROUP 1 - DEMO 2 SNA NETWORK GRAPH

#### A. Who would you choose to spend a free time outing with?

NN 29, NE 85, ND 10%, NC 12%, NT 58%, NR 68%





GROUP 1 - DEMO 2 SNA RAW SCORES

#### A. Who would you choose to spend a free time outing with?

ID	CHOICES	IC	PR	ВТ	CL	HU	ND
A	D, V, Y	0.25	0.08	0.15	0.35	0.05	
В	P, U, b	0.07	0.01	0.02	0.10	0.02	
C	P	0.00	0.01	0.00	0.00	0.01	←
D	A, R, T	0.21	0.08	0.14	0.34	0.07	
E	A, D, T	0.07	0.01	0.02	0.17	0.08	
F	Н, К, b	0.11	0.06	0.00	0.16	0.02	
G	D, P, b	0.04	0.01	0.07	0.07	0.04	
Н	F, K, b	0.14	0.06	0.00	0.18	0.02	
I	A, V, Y	0.14	0.04	0.02	0.23	0.06	
J	I, Q, c	0.07	0.02	0.03	0.17	0.03	
K	F, H, b	0.11	0.06	0.00	0.16	0.02	
L	A, E, V	0.11	0.02	0.04	0.21	0.05	
M	Q, S, Y	0.00	0.01	0.00	0.00	0.03	←
N	D, R, T	0.07	0.04	0.00	0.21	0.06	
O	S, W, a	0.11	0.04	0.00	0.13	0.01	
P	B, G, b	0.11	0.02	0.07	0.11	0.02	
Q	I, J, Y	0.14	0.03	0.05	0.22	0.04	
R	D, N, T	0.14	0.06	0.02	0.26	0.05	
S	O, W, a	0.14	0.04	0.00	0.15	0.01	
T	D, N, R	0.14	0.06	0.01	0.27	0.05	
U	В, Н, в	0.04	0.01	0.00	0.06	0.02	
V	A, I, L	0.11	0.05	0.05	0.26	0.05	
W	O, S, a	0.11	0.04	0.00	0.13	0.01	
X	E, L, a	0.00	0.01	0.00	0.00	0.02	←
Y	A, I, Q	0.18	0.05	0.08	0.27	0.05	
Z	L, Q, Y	0.00	0.01	0.00	0.00	0.03	←
a	O, S, W	0.14	0.04	0.00	0.15	0.01	
b	F, H, K	0.25	0.07	0.02	0.25	0.02	
c	A, J, R	0.04	0.01	0.01	0.14	0.06	

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub ND No In-Degree  $(\leftarrow)$  No Out-Degree  $(\rightarrow)$  No In or Out-Degree  $(\rightleftarrows)$ 



GROUP 1 - DEMO 2 SNA RANK SCORES

#### A. Who would you choose to spend a free time outing with?

ID	CHOICES	IC	PR	ВТ	CL	HU	ND
A	D, V, Y	1	1	1	1	7	
В	P, U, b	6	21	10	19	21	
C	P	8	25	20	22	29	<b>←</b>
D	A, R, T	2	2	2	2	2	
E	A, D, T	6	20	12	13	1	
F	H, K, b	5	6	20	14	18	
G	D, P, b	7	22	4	20	12	
Н	F, K, b	4	4	18	11	20	
I	A, V, Y	4	11	11	7	4	
J	I, Q, c	6	19	9	12	16	
K	F, H, b	5	5	20	14	17	
L	A, E, V	5	17	8	10	11	
M	Q, S, Y	8	25	20	22	15	<b>←</b>
N	D, R, T	6	15	20	9	3	
O	S, W, a	5	14	20	17	26	
P	B, G, b	5	18	5	18	22	
Q	I, J, Y	4	16	7	8	13	
R	D, N, T	4	8	14	5	8	
S	O, W, a	4	13	17	15	28	
T	D, N, R	4	7	15	4	9	
U	B, H, b	7	24	19	21	19	
V	A, I, L	5	10	6	5	10	
W	O, S, a	5	14	20	17	25	
X	E, L, a	8	25	20	22	24	←
Y	A, I, Q	3	9	3	3	6	
Z	L, Q, Y	8	25	20	22	14	←
a	O, S, W	4	12	17	15	27	
b	F, H, K	1	3	13	6	23	
c	A, J, R	7	23	16	16	5	

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub ND No In-Degree  $(\leftarrow)$  No Out-Degree  $(\rightarrow)$  No In or Out-Degree  $(\rightleftarrows)$  Very low Low High  $\blacksquare$  Very high



**GROUP 1 - DEMO 2** 

# SNA NODES ORDERED BY RANKS

#### A. Who would you choose to spend a free time outing with?

RANK	IC	RANK	PR	RANK	ВТ	RANK	CL	RANK	HU
1	A	1	A	1	A	1	A	1	Е
1	b	2	D	2	D	2	D	2	D
2	D	3	b	3	Y	3	Y	3	N
3	Y	4	Н	4	G	4	T	4	I
4	Н	5	K	5	P	5	R	5	c
4	I	6	F	6	V	5	V	6	Y
4	Q	7	T	7	Q	6	b	7	A
4	R	8	R	8	L	7	I	8	R
4	S	9	Y	9	J	8	Q	9	T
4	T	10	V	10	В	9	N	10	V
4	a	11	I	11	I	10	L	11	L
5	F	12	a	12	Е	11	Н	12	G
5	K	13	S	13	b	12	J	13	Q
5	L	14	O	14	R	13	E	14	Z
5	O	14	W	15	T	14	F	15	M
5	P	15	N	16	c	14	K	16	J
5	V	16	Q	17	S	15	S	17	K
5	W	17	L	17	a	15	a	18	F
6	В	18	P	18	Н	16	c	19	U
6	E	19	J	19	U	17	O	20	Н
6	J	20	E	20	C	17	W	21	В
6	N	21	В	20	F	18	P	22	P
7	G	22	G	20	K	19	В	23	b
7	U	23	c	20	M	20	G	24	X
7	c	24	U	20	N	21	U	25	W
8	C	25	C	20	O	22	C	26	O
8	M	25	M	20	W	22	M	27	a
8	X	25	X	20	X	22	X	28	S
8	Z	25	Z	20	Z	22	Z	29	C

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub



**GROUP 1 - DEMO 2** 

**SNA EDGES GROUPED BY TYPE** 

# A. Who would you choose to spend a free time outing with?

#### Non reciprocal edges

 $X \rightarrow Y$  in network  $A \cdot not Y \rightarrow X$  in network A

Вb C P ЕТ G D Gb ΙA JI LA LE M Q MSΜY N D Рb QΙ UH Uв ΕA ΕD ZQΧE ΧL ZLZYX a c A c R

#### Reciprocal edges

 $X \to Y$  in network  $A \cdot Y \to X$  in network A

A D A V ΑY ΒP BU D R DT FΗ F K F b GPΗК Нb ΙY JQ K b LV N R O W RΤ S W W a NT OSO a QY S a

#### Half symmetrical edges

 $X \to Y$  in network  $A \cdot X \to Y$  in network B

#### Reversed half symmetrical edges

 $X \to Y$  in network  $A \cdot Y \to X$  in network B

# Full symmetrical edges

 $X \to Y,\, Y \to X$  in network  $A \cdot X \to Y,\, Y \to X$  in network B

 $\begin{array}{c} (FH)(Fb)(Hb)(Kb)(Oa)(RT) \end{array}$ 



GROUP 1 - DEMO 2 SNA COMPONENTS

A. Who would you choose to spend a free time outing with?

**Connected components** 

29  $A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H \cdot I \cdot J \cdot K \cdot L \cdot M \cdot N \cdot O \cdot P \cdot Q \cdot R \cdot S \cdot T \cdot U \cdot V \cdot W \cdot X \cdot Y \cdot Z \cdot a \cdot b \cdot c$ 

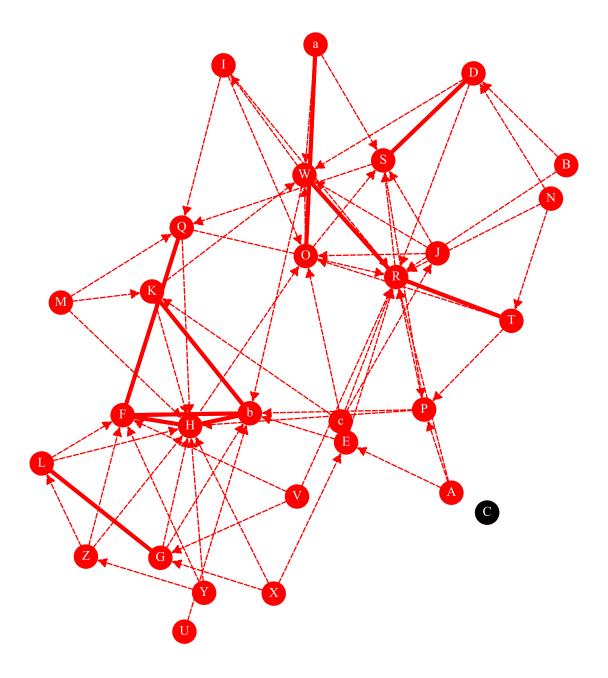
 $\left(\begin{array}{c} A \cdot I \cdot V \end{array}\right) \left(\begin{array}{c} A \cdot D \cdot E \end{array}\right) \left(\begin{array}{c} H \cdot U \cdot b \end{array}\right) \left(\begin{array}{c} I \cdot J \cdot Q \end{array}\right) \left(\begin{array}{c} Q \cdot Y \cdot Z \end{array}\right)$ 



GROUP 1 - DEMO 2 SNA NETWORK GRAPH

#### B. Who would you choose to organize a study group?

NN 29, NE 81, ND 10%, NC 31%, NT 32%, NR 25%





GROUP 1 - DEMO 2 SNA RAW SCORES

#### B. Who would you choose to organize a study group?

ID	CHOICES	IC	PR	ВТ	CL	HU	ND
A	E, P, R	0.00	0.01	0.00	0.00	0.03	<b>←</b>
В	D, R	0.00	0.01	0.00	0.00	0.03	←
C	-	0.00	0.01	0.00	0.00	0.00	$\rightleftarrows$
D	R, S, W	0.11	0.03	0.01	0.32	0.04	
E	O, R, b	0.07	0.01	0.01	0.07	0.05	
F	Н, Q, b	0.25	0.10	0.04	0.44	0.05	
G	H, L, b	0.11	0.01	0.01	0.11	0.04	
Н	F, O, b	0.39	0.12	0.09	0.51	0.04	
I	O, Q, R	0.04	0.03	0.01	0.33	0.04	
J	O, S, W	0.04	0.01	0.01	0.04	0.02	
K	H, W, b	0.11	0.04	0.02	0.37	0.05	
L	F, G, H	0.07	0.01	0.00	0.11	0.04	
M	H, K, Q	0.00	0.01	0.00	0.00	0.04	←
N	D, R, T	0.00	0.01	0.00	0.00	0.03	←
O	S, W, a	0.21	0.07	0.10	0.49	0.01	
P	H, R, b	0.11	0.04	0.02	0.33	0.06	
Q	F, H, R	0.14	0.06	0.04	0.43	0.06	
R	S, T, W	0.43	0.09	0.10	0.51	0.01	
S	D, P, Q	0.18	0.07	0.08	0.43	0.01	
T	O, P, R	0.07	0.03	0.02	0.34	0.04	
U	b	0.00	0.01	0.00	0.00	0.02	←
V	F, G, R	0.00	0.01	0.00	0.00	0.04	←
W	I, R, b	0.21	0.08	0.08	0.47	0.04	
X	E, G, H	0.00	0.01	0.00	0.00	0.03	←
Y	F, H, Z	0.00	0.01	0.00	0.00	0.04	←
Z	F, H, L	0.04	0.01	0.00	0.04	0.04	
a	O, S, W	0.04	0.02	0.00	0.33	0.02	
b	F, H, K	0.29	0.12	0.07	0.53	0.04	
c	J, K, R	0.00	0.01	0.00	0.00	0.03	←

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub ND No In-Degree  $(\leftarrow)$  No Out-Degree  $(\rightarrow)$  No In or Out-Degree  $(\rightleftarrows)$ 



GROUP 1 - DEMO 2 SNA RANK SCORES

#### B. Who would you choose to organize a study group?

ID	CHOICES	IC	PR	ВТ	CL	HU	ND
A	E, P, R	11	19	19	16	19	<b>←</b>
В	D, R	11	19	19	16	22	←
C	-	11	19	19	16	28	⇄
D	R, S, W	8	12	13	12	17	
E	O, R, b	9	17	12	14	3	
F	H, Q, b	4	3	8	5	5	
G	H, L, b	8	15	14	13	7	
Н	F, O, b	2	2	3	2	11	
I	O, Q, R	10	13	16	11	14	
J	O, S, W	10	18	15	15	23	
K	H, W, b	8	9	11	8	4	
L	F, G, H	9	16	17	13	6	
M	H, K, Q	11	19	19	16	16	←
N	D, R, T	11	19	19	16	21	←
O	S, W, a	5	6	2	3	27	
P	H, R, b	8	10	10	11	1	
Q	F, H, R	7	8	7	7	2	
R	S, T, W	1	4	1	2	25	
S	D, P, Q	6	7	4	6	26	
T	O, P, R	9	11	9	9	15	
U	b	11	19	19	16	24	←
V	F, G, R	11	19	19	16	9	←
W	I, R, b	5	5	5	4	12	
X	E, G, H	11	19	19	16	18	←
Y	F, H, Z	11	19	19	16	13	←
Z	F, H, L	10	18	18	15	10	
a	O, S, W	10	14	19	10	23	
b	F, H, K	3	1	6	1	8	
c	J, K, R	11	19	19	16	20	←

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub ND No In-Degree  $(\leftarrow)$  No Out-Degree  $(\rightarrow)$  No In or Out-Degree  $(\rightleftarrows)$  Very low Low High Wery high



**GROUP 1 - DEMO 2** 

# SNA NODES ORDERED BY RANKS

#### B. Who would you choose to organize a study group?

RANK	IC	RANK	PR	RANK	ВТ	RANK	CL	RANK	HU
1	R	1	b	1	R	1	b	1	P
2	Н	2	Н	2	O	2	Н	2	Q
3	b	3	F	3	Н	2	R	3	Е
4	F	4	R	4	S	3	O	4	K
5	O	5	W	5	W	4	W	5	F
5	W	6	O	6	b	5	F	6	L
6	S	7	S	7	Q	6	S	7	G
7	Q	8	Q	8	F	7	Q	8	b
8	D	9	K	9	T	8	K	9	V
8	G	10	P	10	P	9	T	10	Z
8	K	11	T	11	K	10	a	11	Н
8	P	12	D	12	E	11	I	12	W
9	E	13	I	13	D	11	P	13	Y
9	L	14	a	14	G	12	D	14	I
9	T	15	G	15	J	13	G	15	T
10	I	16	L	16	I	13	L	16	M
10	J	17	E	17	L	14	E	17	D
10	Z	18	J	18	Z	15	J	18	X
10	a	18	Z	19	A	15	Z	19	A
11	A	19	A	19	В	16	A	20	c
11	В	19	В	19	C	16	В	21	N
11	C	19	C	19	M	16	C	22	В
11	M	19	M	19	N	16	M	23	J
11	N	19	N	19	U	16	N	23	a
11	U	19	U	19	V	16	U	24	U
11	V	19	V	19	X	16	V	25	R
11	X	19	X	19	Y	16	X	26	S
11	Y	19	Y	19	a	16	Y	27	O
11	c	19	c	19	c	16	c	28	C

IC In-Degree PR PageRank BT Betweenness CL Closenness HU Hub



**GROUP 1 - DEMO 2** 

**SNA EDGES GROUPED BY TYPE** 

#### B. Who would you choose to organize a study group? Non reciprocal edges $X \to Y$ in network $B \, \cdot \, not \, Y \to X$ in network BGb [HO]ΑE A P ΒD D R DW ΕO ΕR Εb GH [0][Q][IR] A R ΒR ΚH K W LF M K [MQ]ND [ N R ] [NT] $\left[ os \right]$ OW [ P H ] PRPb QH LH MHV G V R WΙ W b ΧE ΧG ХН ΥF S P S Q ТО ΤP Uв V F ΥH a W a S c J c K c R

## Reciprocal edges

 $X \to Y$  in network  $B : Y \to X$  in network B



#### Half symmetrical edges

 $X \to Y$  in network  $B \cdot X \to Y$  in network A



#### Reversed half symmetrical edges

 $X \to Y$  in network  $B : Y \to X$  in network A



### Full symmetrical edges

 $X \to Y,\, Y \to X$  in network  $B \, \cdot \, X \to Y,\, Y \to X$  in network A

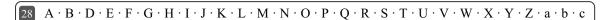




GROUP 1 - DEMO 2 SNA COMPONENTS

### B. Who would you choose to organize a study group?

#### **Connected components**





$$G \cdot H \cdot L$$
 |  $K \cdot W \cdot b$  |  $G \cdot H \cdot b$  |  $D \cdot N \cdot R$  |  $H \cdot P \cdot b$  |  $O \cdot W \cdot a$  |  $O \cdot S \cdot a$  |  $F \cdot H \cdot b$  |  $F \cdot H \cdot Q$  |  $D \cdot R \cdot W$ 

$$P \cdot R \cdot T$$
  $A \cdot E \cdot R$   $D \cdot R \cdot S$   $P \cdot R \cdot S$   $G \cdot W$   $G \cdot R \cdot S$   $G \cdot R \cdot S$   $G \cdot R \cdot S$   $G \cdot R \cdot S$ 

 $\left[\begin{array}{c} A \cdot P \cdot R \end{array}\right] \left[\begin{array}{c} B \cdot D \cdot R \end{array}\right] \left[\begin{array}{c} H \cdot M \cdot Q \end{array}\right] \left[\begin{array}{c} I \cdot Q \cdot R \end{array}\right]$