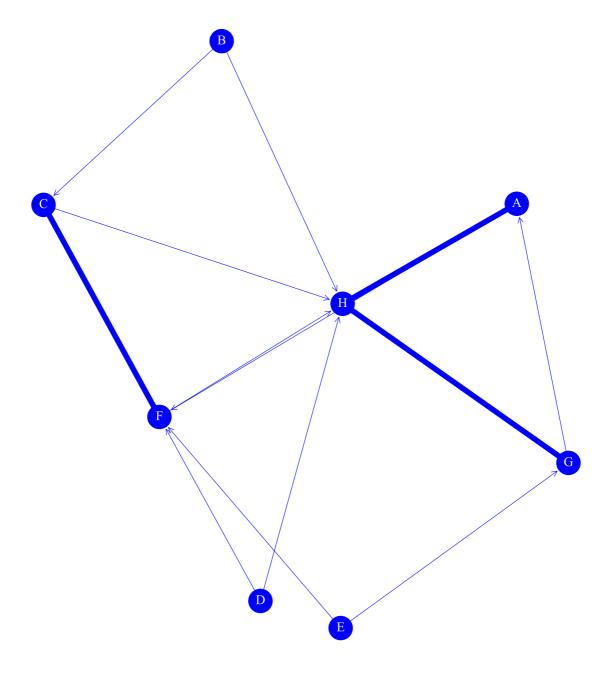


DEMO | GROUP 3 SNA | NETWORK GRAPH

A. Who would you like in your ideal work group?

NN 8, NE 16, NR 3, ND 29%, NC 52%, NT 50%, NR 38%



NN Nodes NE Edges NR Reciprocal edges ND Density NC Centralization NT Transitivity NR Reciprocity

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DEMO | GROUP 3 SNA | RAW SCORES

A. Who would you like in your ideal work group?

| ID | CHOICES | IC | PR | ВТ | CL | HU | ND |
|----|---------|------|------|------|------|------|----|
| A | F, H | 0.29 | 0.22 | 0.10 | 0.58 | 0.17 | |
| В | C, H | 0.00 | 0.02 | 0.00 | 0.00 | 0.13 | ← |
| C | F, H | 0.29 | 0.10 | 0.02 | 0.50 | 0.17 | |
| D | F, H | 0.00 | 0.02 | 0.00 | 0.00 | 0.17 | ← |
| E | F, G | 0.00 | 0.02 | 0.00 | 0.00 | 0.08 | ← |
| F | C, H | 0.57 | 0.17 | 0.13 | 0.70 | 0.13 | |
| G | A, H | 0.29 | 0.16 | 0.04 | 0.58 | 0.12 | |
| Н | A, G | 0.86 | 0.31 | 0.21 | 0.88 | 0.03 | |

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



DEMO | GROUP 3 SNA | RANK SCORES

A. Who would you like in your ideal work group?

| ID | CHOICES | IC | PR | ВТ | CL | HU | ND |
|----|---------|----|----|----|----|----|----|
| A | F, H | 3 | 2 | 3 | 3 | 1 | |
| В | С, Н | 4 | 6 | 6 | 5 | 2 | ← |
| C | F, H | 3 | 5 | 5 | 4 | 1 | |
| D | F, H | 4 | 6 | 6 | 5 | 1 | ← |
| E | F, G | 4 | 6 | 6 | 5 | 4 | ← |
| F | C, H | 2 | 3 | 2 | 2 | 2 | |
| G | A, H | 3 | 4 | 4 | 3 | 3 | |
| Н | A, G | 1 | 1 | 1 | 1 | 5 | |

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



DEMO | GROUP 3

SNA | NODES ORDERED BY METRIC

A. Who would you like in your ideal work group?

| RANK | IC | RANK | PR | RANK | ВТ | RANK | CL | RANK | HU |
|------|----------|------|----|------|-----------|------|----|------|----|
| 1 | <u>Н</u> | 1 | H | 1 | <u> Н</u> | 1 | H | 1 | A |
| 2 | F | 2 | A | 2 | F | 2 | F | 1 | C |
| 3 | A | 3 | F | 3 | A | 3 | A | 1 | D |
| 3 | C | 4 | G | 4 | G | 3 | G | 2 | В |
| 3 | G | 5 | C | 5 | С | 4 | С | 2 | F |
| 4 | В | 6 | В | 6 | В | 5 | В | 3 | G |
| 4 | D | 6 | D | 6 | D | 5 | D | 4 | E |
| 4 | Е | 6 | E | 6 | E | 5 | E | 5 | Н |

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



DEMO | GROUP 3

SNA | LINKS GROUPED BY TYPE

A. Who would you like in your ideal work group?

Non reciprocal edges

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

Reciprocal edges

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

 $(A \cdot H) (C \cdot F) (G \cdot H)$

Half symmetrical edges

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

No edge of this type

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

No edge of this type



DEMO | GROUP 3 SNA | SUBGRAPHS

A. Who would you like in your ideal work group?

Cliques

Each node can reach every other node: a) without intermediaries; b) ignoring the direction of connections



 $\left(A \cdot F \cdot H \right)$

 $\left(\mathbf{D} \cdot \mathbf{F} \cdot \mathbf{H} \right)$

 $B \cdot C \cdot H$

 $A \cdot G \cdot H$

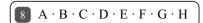
Strongly Connected Groups

Each node can reach every other node: a) with or without intermediaries; b) following the direction of connections



Weakly Connected Groups

Each node can reach every other node: a) with or without intermediaries; b) ignoring the direction of connections

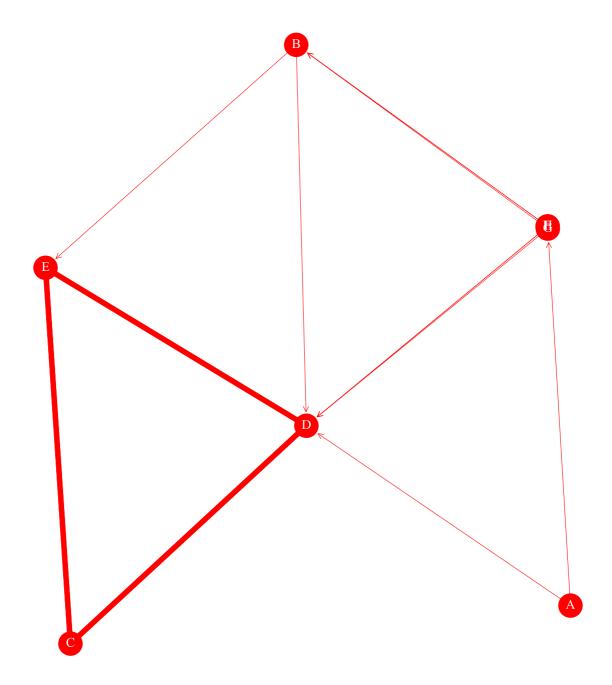




DEMO | GROUP 3 SNA | NETWORK GRAPH

B. Who would you not want in your ideal work group?

NN 8, NE 16, NR 3, ND 29%, NC 71%, NT 75%, NR 38%



NN Nodes NE Edges NR Reciprocal edges ND Density NC Centralization NT Transitivity NR Reciprocity

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DEMO | GROUP 3 SNA | RAW SCORES

B. Who would you not want in your ideal work group?

| ID | CHOICES | IC | PR | ВТ | CL | HU | ND |
|----|---------|------|------|------|------|------|----------|
| A | D, G | 0.00 | 0.02 | 0.00 | 0.00 | 0.11 | ← |
| В | D, E | 0.43 | 0.05 | 0.04 | 0.46 | 0.14 | |
| C | D, E | 0.29 | 0.27 | 0.00 | 0.58 | 0.14 | |
| D | C, E | 1.00 | 0.31 | 0.17 | 1.00 | 0.05 | |
| E | C, D | 0.43 | 0.29 | 0.01 | 0.64 | 0.12 | |
| F | B, D | 0.00 | 0.02 | 0.00 | 0.00 | 0.15 | ← |
| G | B, D | 0.14 | 0.03 | 0.02 | 0.14 | 0.15 | |
| Н | B, D | 0.00 | 0.02 | 0.00 | 0.00 | 0.15 | ← |

 $\textbf{IC} \text{ In-Degree PR PageRank BT Betweenness CL Closeness HU Hub ND No In-Degree} \ (\leftarrow) \ \text{No Out-Degree} \ (\rightarrow) \ \text{No In or Out-Degree} \ (\rightleftarrows) \ \text{No I$



DEMO | GROUP 3 SNA | RANK SCORES

B. Who would you not want in your ideal work group?

| ID | CHOICES | IC | PR | ВТ | CL | HU | ND |
|----|---------|----|----|----|----|----|-------------|
| A | D, G | 5 | 6 | 5 | 6 | 4 | |
| В | D, E | 2 | 4 | 2 | 4 | 2 | |
| C | D, E | 3 | 3 | 5 | 3 | 2 | |
| D | C, E | 1 | 1 | 1 | 1 | 5 | |
| E | C, D | 2 | 2 | 4 | 2 | 3 | |
| F | B, D | 5 | 6 | 5 | 6 | 1 | ← |
| G | B, D | 4 | 5 | 3 | 5 | 1 | |
| Н | B, D | 5 | 6 | 5 | 6 | 1 | ← |

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



DEMO | GROUP 3

SNA | NODES ORDERED BY METRIC

B. Who would you not want in your ideal work group?

| RANK | IC | RANK | PR | RANK | ВТ | RANK | CL | RANK | HU |
|------|----|------|----|------|----|------|----|------|----|
| 1 | D | 1 | D | 1 | D | 1 | D | 1 | F |
| 2 | В | 2 | E | 2 | В | 2 | E | 1 | G |
| 2 | E | 3 | С | 3 | G | 3 | С | 1 | Н |
| 3 | C | 4 | В | 4 | E | 4 | В | 2 | В |
| 4 | G | 5 | G | 5 | A | 5 | G | 2 | C |
| 5 | A | 6 | A | 5 | C | 6 | A | 3 | E |
| 5 | F | 6 | F | 5 | F | 6 | F | 4 | A |
| 5 | Н | 6 | Н | 5 | Н | 6 | Н | 5 | D |

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



DEMO | GROUP 3

SNA | LINKS GROUPED BY TYPE

B. Who would you not want in your ideal work group?

Non reciprocal edges

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

 $(A \cdot D)(A \cdot G)(B \cdot D)(B \cdot E)(F \cdot B)(F \cdot D)(G \cdot B)(G \cdot D)(H \cdot B)(H \cdot D)$

Reciprocal edges

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

 $(C \cdot D) (C \cdot E) (D \cdot E)$

Half symmetrical edges

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

No edge of this type

Reversed half symmetrical edges

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

No edge of this type



DEMO | GROUP 3 SNA | SUBGRAPHS

B. Who would you not want in your ideal work group?

Clianos

Each node can reach every other node: a) without intermediaries; b) ignoring the direction of connections

 $\mathbf{C} \cdot \mathbf{D} \cdot \mathbf{E}$

 $\left(\begin{array}{c} \mathbf{B} \cdot \mathbf{D} \cdot \mathbf{F} \end{array}\right)$

B·D·H

 $\left[\begin{array}{c} \mathbf{B} \cdot \mathbf{D} \cdot \mathbf{E} \end{array}\right]$

 $B \cdot D \cdot G$

 $A \cdot D \cdot G$

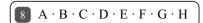
Strongly Connected Groups

Each node can reach every other node: a) with or without intermediaries; b) following the direction of connections



Weakly Connected Groups

Each node can reach every other node: a) with or without intermediaries; b) ignoring the direction of connections





DEMO | GROUP 3 SNA | DESCRIPTIVE

A. Who would you like in your ideal work group?

| ID | Count | Sum | Min | Max | Median | Mean | SD | CV | SK | KT | P25 | P75 |
|------------------------|-------|-----|-----|-----|--------|------|------|------|-------|-------|------|------|
| In degree Centrality | 8 | 2 | 0 | 0 | 0 | 0.29 | 0.31 | 1.25 | 0.94 | 0.35 | 0.00 | 0.36 |
| PageRank Centrality | 8 | 0 | 0 | 0 | 0 | 0.12 | 0.11 | 1.44 | 0.51 | -0.73 | 0.02 | 0.18 |
| Betweenness Centrality | 8 | 0 | 0 | 0 | 0 | 0.06 | 0.08 | 1.67 | 1.22 | 0.64 | 0.00 | 0.10 |
| Closeness Centrality | 8 | 3 | 0 | 0 | 0 | 0.41 | 0.35 | 1.51 | -0.25 | -1.83 | 0.00 | 0.61 |
| Hub Centrality | 8 | 1 | 0 | 0 | 0 | 0.12 | 0.05 | 1.35 | -1.11 | 0.74 | 0.11 | 0.17 |

Min Minumum value Max Maximum value SD Standard deviation CV Coefficient of variation SK Skewness KT Kurtosis P25 25° percentile P75 75° percentile

B. Who would you not want in your ideal work group?

| ID | Count | Sum | Min | Max | Median | Mean | SD | CV | SK | KT | P25 | P75 |
|------------------------|-------|-----|-----|-----|--------|------|------|------|-------|-------|------|------|
| In degree Centrality | 8 | 2 | 0 | 1 | 0 | 0.29 | 0.34 | 1.50 | 1.42 | 2.20 | 0.00 | 0.43 |
| PageRank Centrality | 8 | 0 | 0 | 0 | 0 | 0.12 | 0.14 | 2.21 | 0.65 | -2.14 | 0.02 | 0.28 |
| Betweenness Centrality | 8 | 0 | 0 | 0 | 0 | 0.03 | 0.06 | 0.90 | 2.54 | 6.68 | 0.00 | 0.03 |
| Closeness Centrality | 8 | 2 | 0 | 1 | 0 | 0.35 | 0.37 | 1.69 | 0.61 | -0.82 | 0.00 | 0.60 |
| Hub Centrality | 8 | 1 | 0 | 0 | 0 | 0.12 | 0.03 | 1.19 | -1.95 | 4.16 | 0.12 | 0.15 |

Min Minumum value Max Maximum value SD Standard deviation CV Coefficient of variation SK Skewness KT Kurtosis P25 25° percentile P75 75° percentile



DEMO | GROUP 3 SOCIOGRAM

| ID | RP | RR | GP | GR | MP | MR | BL | OR | IM | AI | II | ST |
|----|----|----|----|----|----|----|----|----|----|----|----|-------------|
| A | 2 | 0 | 2 | 2 | 1 | 0 | 2 | 0 | 2 | 2 | 3 | marginal |
| В | 0 | 3 | 2 | 2 | 0 | 0 | -3 | 0 | 3 | -3 | 0 | disliked |
| C | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 4 | 0 | 3 | ambitendent |
| D | 0 | 7 | 2 | 2 | 0 | 2 | -7 | 0 | 7 | -7 | 0 | rejected |
| E | 0 | 3 | 2 | 2 | 0 | 2 | -3 | 0 | 3 | -3 | 0 | disliked |
| F | 4 | 0 | 2 | 2 | 1 | 0 | 4 | 0 | 4 | 4 | 5 | appreciated |
| G | 2 | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 3 | 1 | 3 | ambitendent |
| Н | 6 | 0 | 2 | 2 | 2 | 0 | 6 | 0 | 6 | 6 | 8 | popular |

RP Received preferences RR Received rejections GP Given preferences GR Given rejections MP Mutual preferences MR Mutual rejections BL Balance OR Orientation IM Impact AI Affiliation index II Influence index ST Sociometric status



DEMO | GROUP 3

SOCIOGRAM | NODES ORDERED BY METRIC

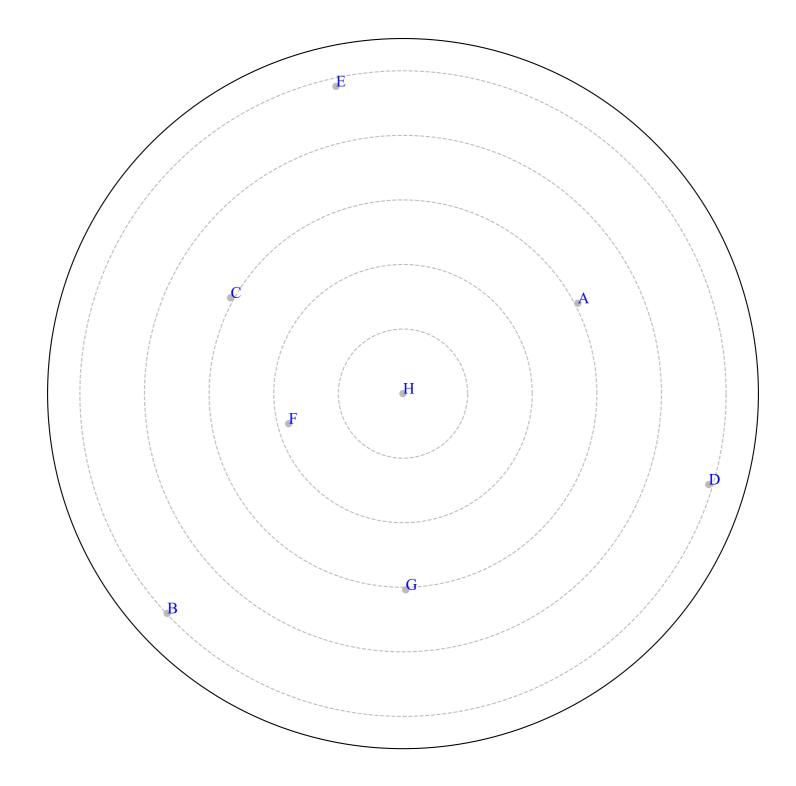
| RANK | BL | RANK | IM | RANK | AI | RANK | П | RANK | ST |
|------|----|------|----|------|----------|------|---|-------------|----|
| 1 | H | 1 | D | 1 | <u>Н</u> | 1 | H | popular | H |
| 2 | F | 2 | Н | 2 | F | 2 | F | appreciated | F |
| 3 | A | 3 | С | 3 | A | 3 | A | ambitendent | С |
| 4 | G | 3 | F | 4 | G | 3 | C | ambitendent | G |
| 5 | C | 4 | В | 5 | C | 3 | G | marginal | A |
| 6 | В | 4 | E | 6 | В | 4 | В | disliked | В |
| 6 | E | 4 | G | 6 | E | 4 | D | disliked | Е |
| 7 | D | 5 | A | 7 | D | 4 | Е | rejected | D |

RP Received preferences RR Received rejections GP Given preferences GR Given rejections BL Balance IM Impact AI Affiliation index II Influence index



DEMO | GROUP 3 SOCIOGRAM | GRAPH

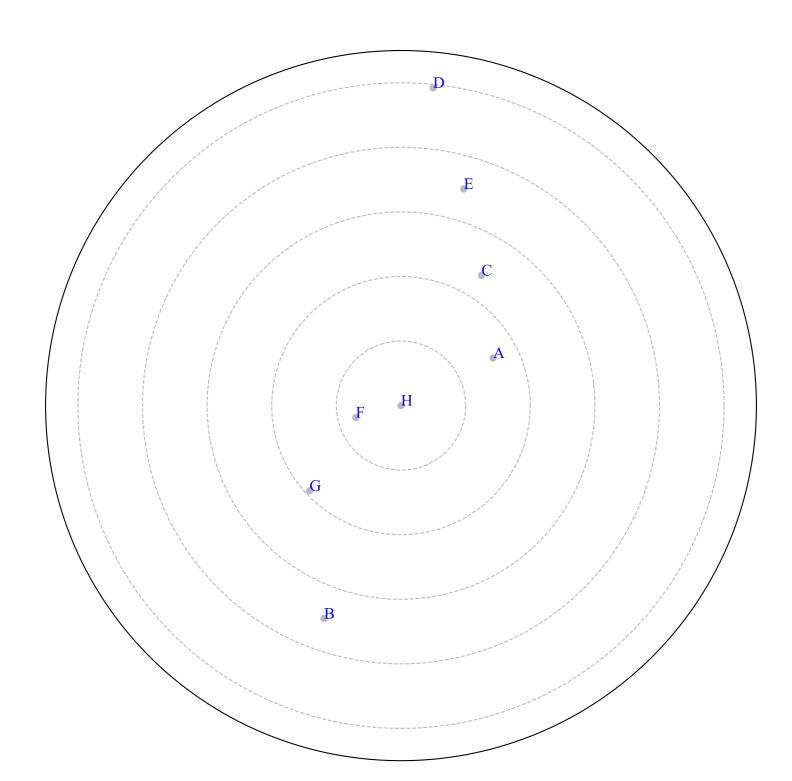
Influence index





DEMO | GROUP 3 SOCIOGRAM | GRAPH

Affiliation index





DEMO | GROUP 3

SOCIOGRAM | DESCRIPTIVE

Type I cohesion index: 37.50% Type II cohesion index: 0.38 Type I conflitct index: 37.50% Type II conflitct index: 0.38

| ID | Count | Sum | Min | Max | Median | Mean | SD | CV | SK | KT | P25 | P75 |
|----------------------|-------|-----|-----|-----|--------|------|------|------|-------|-------|-------|------|
| Received preferences | 8 | 16 | 0 | 6 | 2 | 2.00 | 2.14 | 1.25 | 0.94 | 0.35 | 0.00 | 2.50 |
| Received rejections | 8 | 16 | 0 | 7 | 1 | 2.00 | 2.39 | 1.50 | 1.42 | 2.20 | 0.00 | 3.00 |
| Given Preferences | 8 | 16 | 2 | 2 | 2 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| Given rejections | 8 | 16 | 2 | 2 | 2 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| Mutual preferences | 8 | 6 | 0 | 2 | 1 | 0.75 | 0.71 | 1.33 | 0.40 | -0.23 | 0.00 | 1.00 |
| Mutual rejections | 8 | 6 | 0 | 2 | 0 | 0.75 | 1.04 | 2.67 | 0.64 | -2.24 | 0.00 | 2.00 |
| Balance | 8 | 0 | -7 | 6 | 0 | 0.00 | 4.21 | inf | -0.28 | -0.39 | -3.00 | 2.50 |
| Orientation | 8 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | nan | 0.00 | 0.00 | 0.00 | 0.00 |
| Impact | 8 | 32 | 2 | 7 | 3 | 4.00 | 1.69 | 1.12 | 0.95 | -0.03 | 3.00 | 4.50 |
| Affiliation index | 8 | 0 | -7 | 6 | 0 | 0.00 | 4.21 | inf | -0.28 | -0.39 | -3.00 | 2.50 |
| Influence index | 8 | 22 | 0 | 8 | 3 | 2.75 | 2.82 | 1.27 | 0.80 | 0.32 | 0.00 | 3.50 |

Min Minumum value Max Maximum value SD Standard deviation CV Coefficient of variation SK Skewness KT Kurtosis P25 25° percentile P75 75° percentile