Personality & Network Importance

Zhanna Rozenberg
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How everything depends on the size of your network.

Big 5 – Personality

Openness

Conscientiousness

Extraversion

Agreeableness

Neuroticism

"Extroversion"

Introversion
1

Extroversion
5

Energized by being alone

Drained by social interaction

Reserved

Tentative

Sociable

Talkative

Energized by social interaction

Potentially Assertive

"Agreeableness"

Irritable
1

Agreeable
5

Short-tempered

Uncooperative   Antagonistic

Gentle

Good-natured

Understanding   Forgiving

"Neuroticism" → Secureness
(Emotional stability)

Neurotic 1 ←————————————————→ 5 **Secure**

Depressed   Reactive   Poised   Resilient

Insecure

Anxious   Calm

007

"Conscientiousness"

Careless
1

Consscientious
5

Many Goals

Few Goals

Careless

Systematic   Organized

Irresponsible   Disorganized

Self-disciplined

Careful   Responsible

"Openness"

Conventional ← → Open

1   5

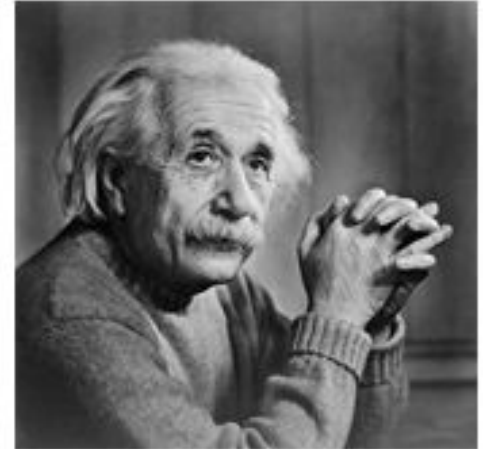Avoids Thrill-Seeking
Behaviors

Imaginative

Conservative

Curious

Dogmatic

Creative

Potential Thrill-seeker

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Password

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Create an account

It's free and always will be.

First name

Surname

Email or mobile number

Re-enter email or mobile number

New password

Birthday

Day ▼ Month ▼ Year ▼   Why do I need to provide my date of birth?

○ Female   ○ Male

By clicking Create an account, you agree to our Terms and that you have read our Data Policy, including our Cookie Use.

Create an account

Create a Page for a celebrity, band or business.

Facebook – "Betweenness Centrality"

Betweenness Centrality -- Are you a "Bridge"?

High-Betweenness bridge
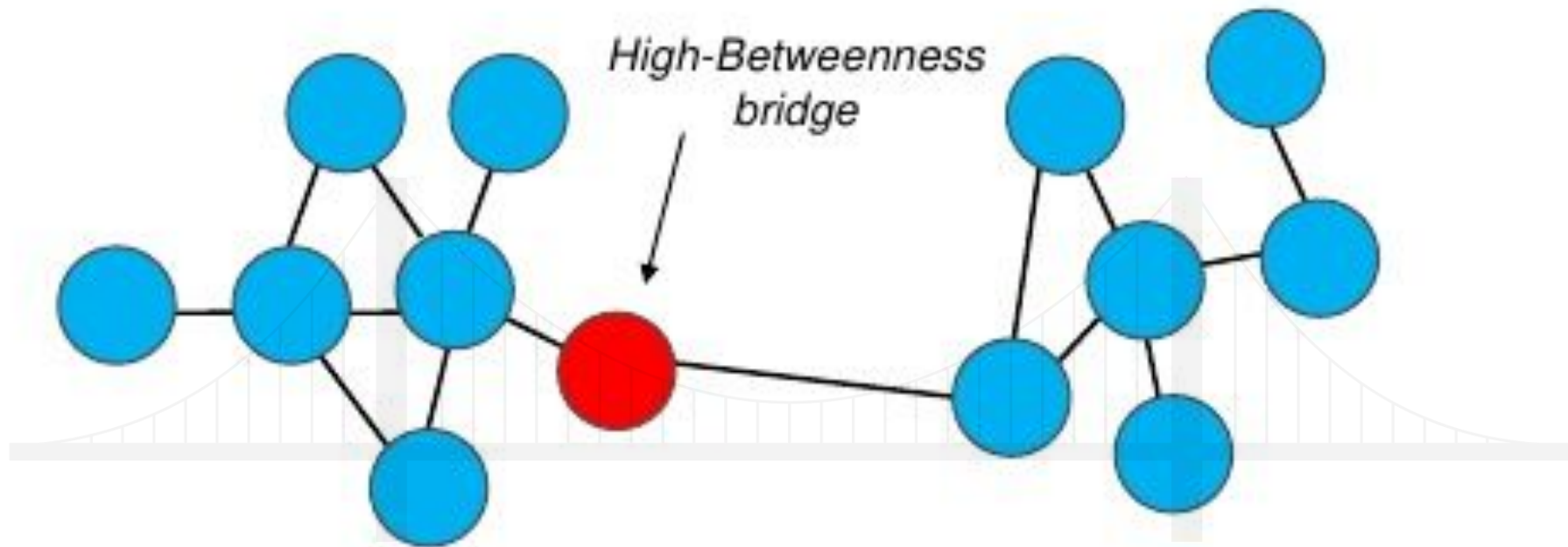
MyPersonality (by David Stillwell)

Introverted ⟨---⟩ *Extroverted*

Neurotic ⟨--------⟩ *secure*

Irritable ⟨------⟩ *Agreeable*

Carele ⟨--⟩ *Conscientious*

Conventional ⟨-------⟩ *Open*

Network Size

Network "Bridge-Ness"

	Bottom 10%	Top 10%
Introverted <------> Extroverted	2.8784	3.2136
Neurotic <----------> Secure	2.6932	2.6535
Irritable <--------> Agreeable	3.6492	3.5721
Carele <-----> Conscientious	3.1572	3.4944
Conventional <------------> Open	4.2032	4.0764

"Big Five"

Network "Bridge-Ness"
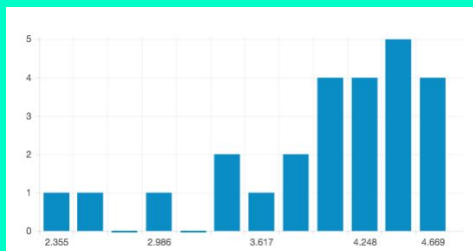
Extroversion   secureness   Openness

Top 10%
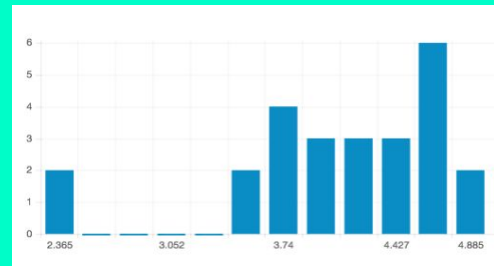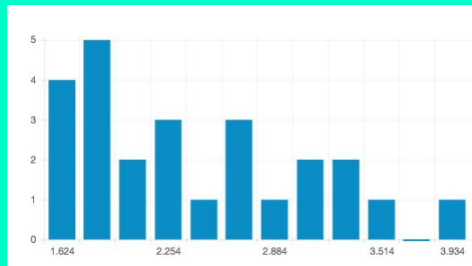
Bottom 10%
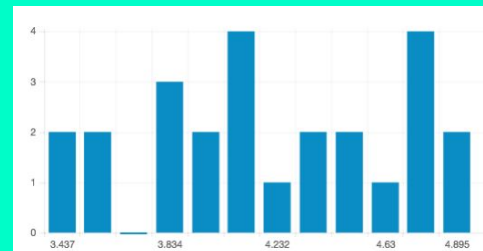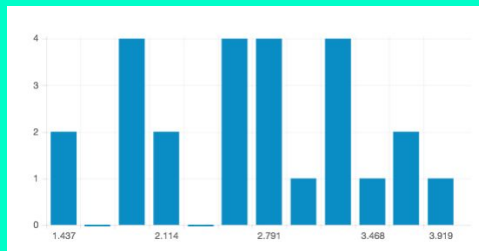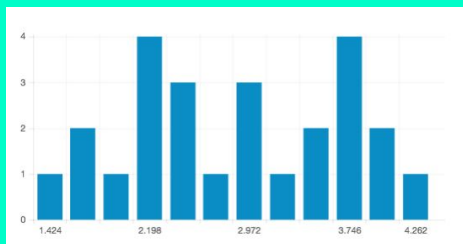
Lasso & K-Folds Cross Validation

Constant Term

EXT^1

NEU^1

AGR^1

CON^1

OPN^1

NETWORK SIZE^1

EXT^2

EXT^1 x NEU^1

EXT^1 x AGR^1

EXT^1 x CON^1

EXT^1 x OPN^1

EXT^1 x NETWORSKIZE^1

NEU^2

NEU^1 x AGR^1

NEU^1 x CON^1

NEU^1 x OPN^1

NEU^1 x NETWORK SIZE^1

AGR^2

AGR^1 x CON^1

AGR^1 x OPN^1

AGR^1 x NETWORK SIZE^1

CON^2

CON^1 x OPN^1

CON^1 x NETWORK SIZE^1

OPN^2

OPN^1 x NETWORK SIZE^1

NETWORK SIZE^2

LAMBDA WAS HUGE: 10990.74!

Coeff. Estimate	Coeff. Name
-4.84297	NETWORKSIZE^1
-0.103446	sEXT^1 x NETWORKSIZE^1
-0.105269	sNEU^1 x NETWORKSIZE^1
-0.897459	sAGR^1 x NETWORKSIZE^1
-0.859546	sCON^1 x NETWORKSIZE^1
0.699387	sOPN^1 x NETWORKSIZE^1
0.49827	NETWORKSIZE^2

```
                            OLS Regression Results
==============================================================================
Dep. Variable:             BETWEENNESS   R-squared:                       1.000
Model:                             OLS   Adj. R-squared:                  1.000
Method:                  Least Squares   F-statistic:                 6.629e+04
Date:                 Fri, 22 Apr 2016   Prob (F-statistic):          3.56e-292
Time:                         09:52:53   Log-Likelihood:                 -1638.8
No. Observations:                  175   AIC:                             3304.
Df Residuals:                      162   BIC:                             3345.
Df Model:                           12
Covariance Type:             nonrobust
==============================================================================
                       coef    std err          t      P>|t|      [95.0% Conf. Int.]
------------------------------------------------------------------------------
Constant Term       1389.8891   4952.622      0.281      0.779   -8390.132   1.12e+04
sEXT^1              -723.6418    542.016     -1.335      0.184   -1793.970    346.686
sNEU^1              -371.5730    582.502     -0.638      0.524   -1521.849    778.703
sAGR^1               826.1710    667.193      1.238      0.217    -491.345   2143.687
sCON^1              1098.9569    533.857      2.059      0.041      44.740   2153.173
sOPN^1             -1138.8219    732.277     -1.555      0.122   -2584.862    307.218
NETWORKSIZE^1        -18.2611     10.614     -1.720      0.087     -39.220      2.698
sEXT^1 x NETWORKSIZE^1     2.7140      1.156      2.348      0.020       0.431      4.997
sNEU^1 x NETWORKSIZE^1     1.4514      1.276      1.137      0.257      -1.069      3.972
sAGR^1 x NETWORKSIZE^1    -2.4186      1.357     -1.782      0.077      -5.099      0.261
sCON^1 x NETWORKSIZE^1    -3.4249      1.173     -2.919      0.004      -5.742     -1.108
sOPN^1 x NETWORKSIZE^1     4.1071      1.457      2.819      0.005       1.230      6.984
NETWORKSIZE^2          0.4985      0.002    263.601      0.000       0.495      0.502
==============================================================================
Omnibus:                       150.801   Durbin-Watson:                   1.813
Prob(Omnibus):                   0.000   Jarque-Bera (JB):             2944.173
Skew:                           -3.023   Prob(JB):                         0.00
Kurtosis:                       22.163   Cond. No.                     1.06e+07
==============================================================================
```
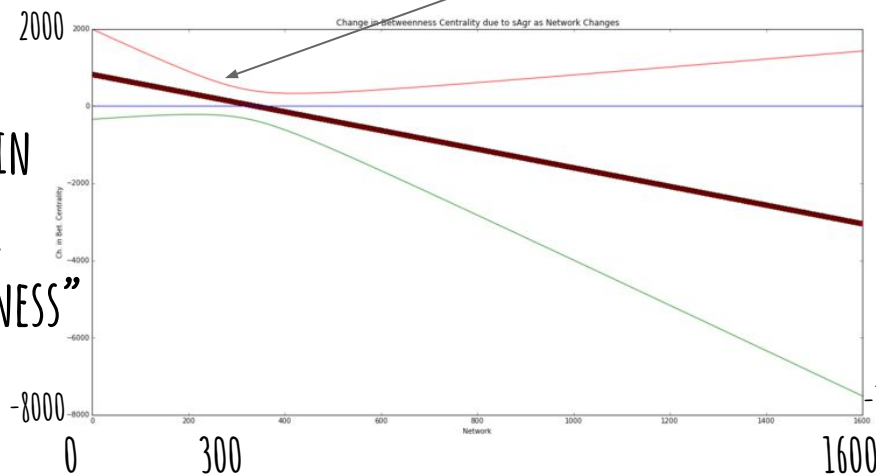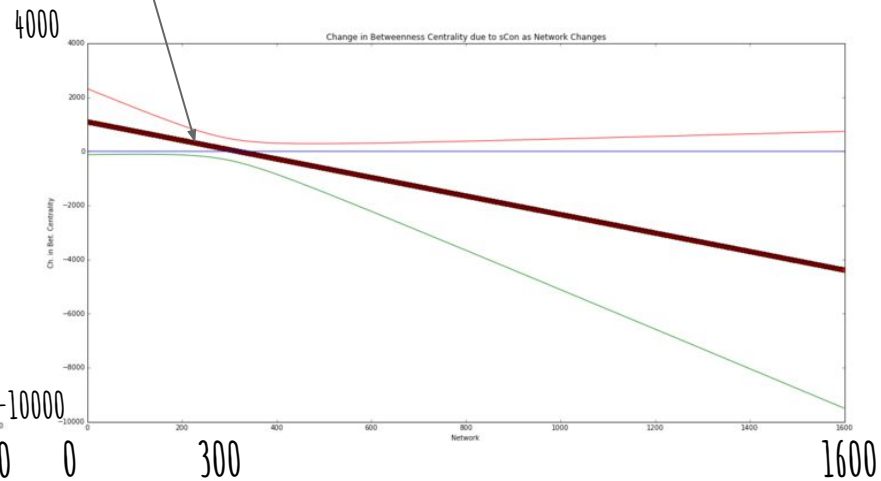
AGREEABLENESS

CONSCIENTIOUSNESS

Pivot point around 300

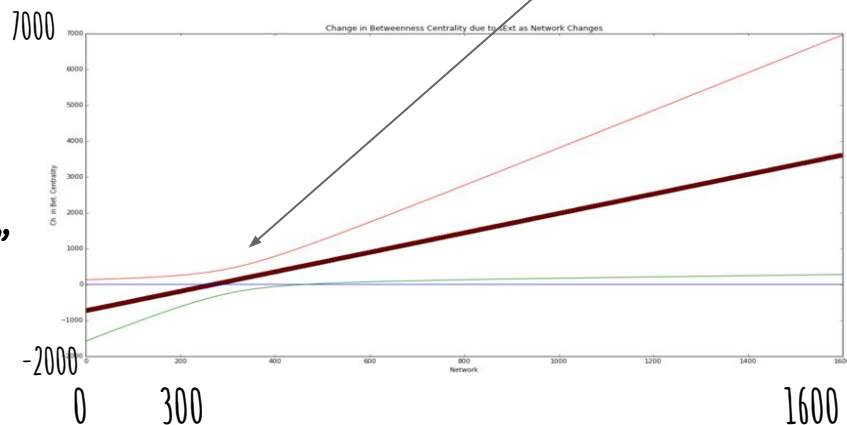Change in Network "Bridgeness"

Increasing network size
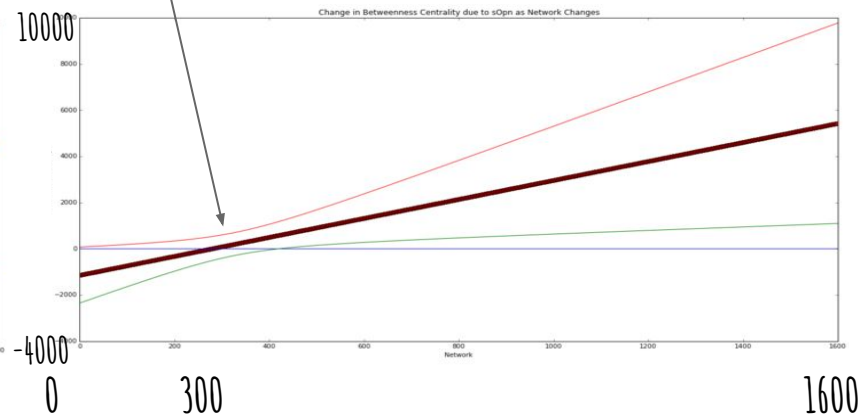
Increasing network size

Extraversion

OPENNESS

Pivot point around 300

Change in Network "Bridgene"

Increasing network size
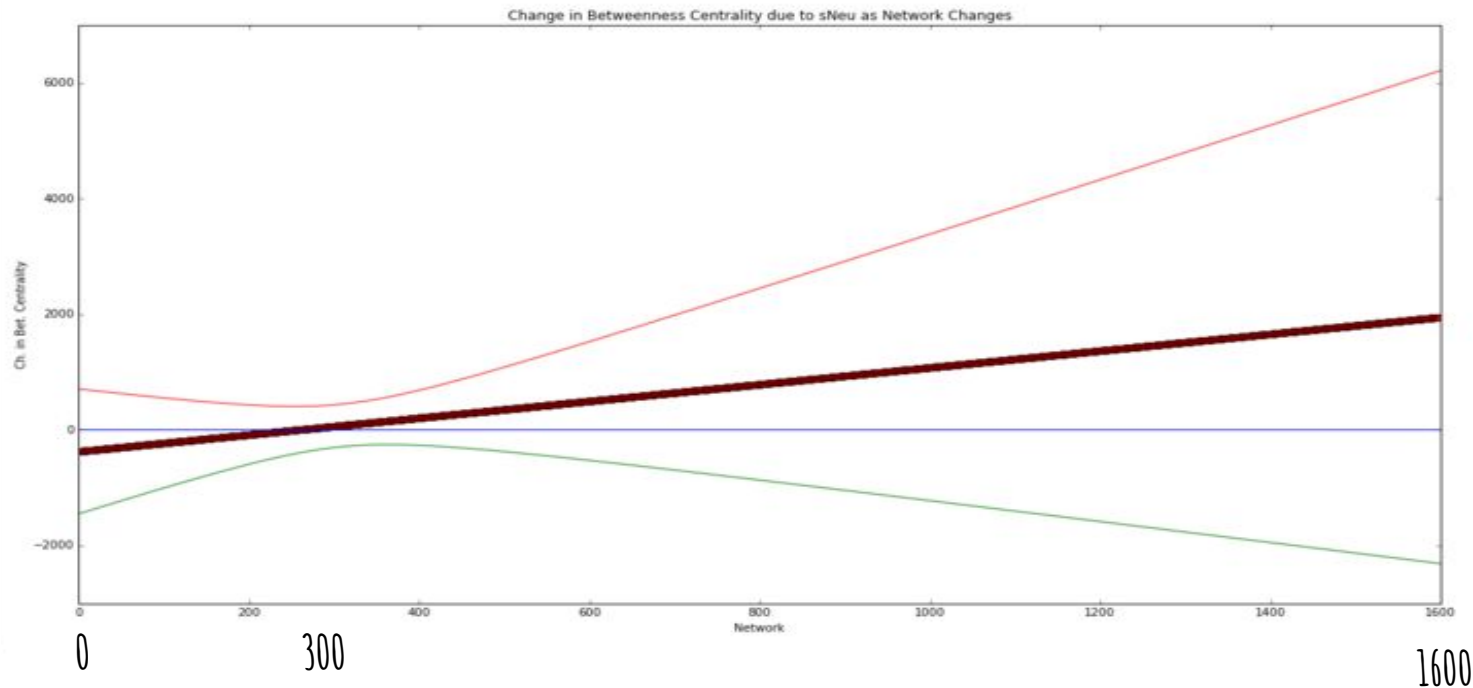
Increasing network size

Secureness (Non-Neuroticism)

Change in Network "Bridgene"

Change in Betweenness Centrality due to sNeu as Network Changes

Ch. in Bet. Centrality

Network

0   300   1600

Increasing network size

NExt Steps:

With this dataset:

- Exploration of the "Why's" and think deeper on Network Size as a Moderating Variable
- Real World Applicability of "Betweenness" in Human Terms
- K-means to find personality "cluster groups"
- Sentiment Analysis
- Compare with result from outside literature

Other Personality/Network Explorations:

- Work with more data (only 250!)
- Personality analysis within groups (political group, artistic group, religious group)
- Compare with different network types (e.g. Twitter or Google+).

QUESTIONS?