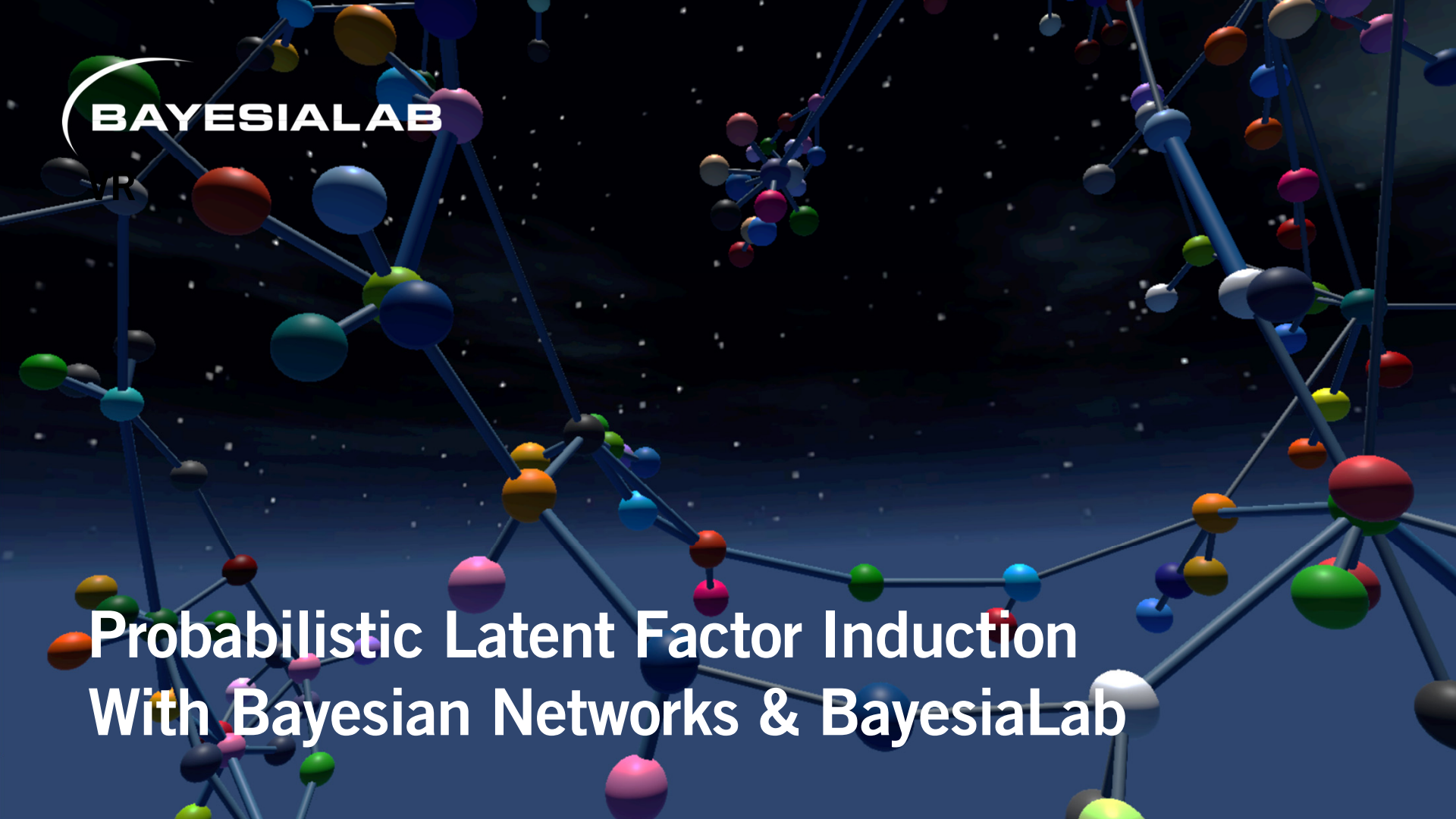

Probabilistic Latent Factor Induction With Bayesian Networks & BayesiaLab

Today's Program

Introduction

- Our Company and Technology

Motivation & Objectives

- Personality Models
- Factor Discovery

Why Bayesian Networks?

- Nomenclature
- Arc Force

BayesiaLab Workflow

- Unsupervised Learning
- Variable Clustering
- Validation
- Multiple Clustering

20 min.

40 min.

Your BayesiaLab Team Today

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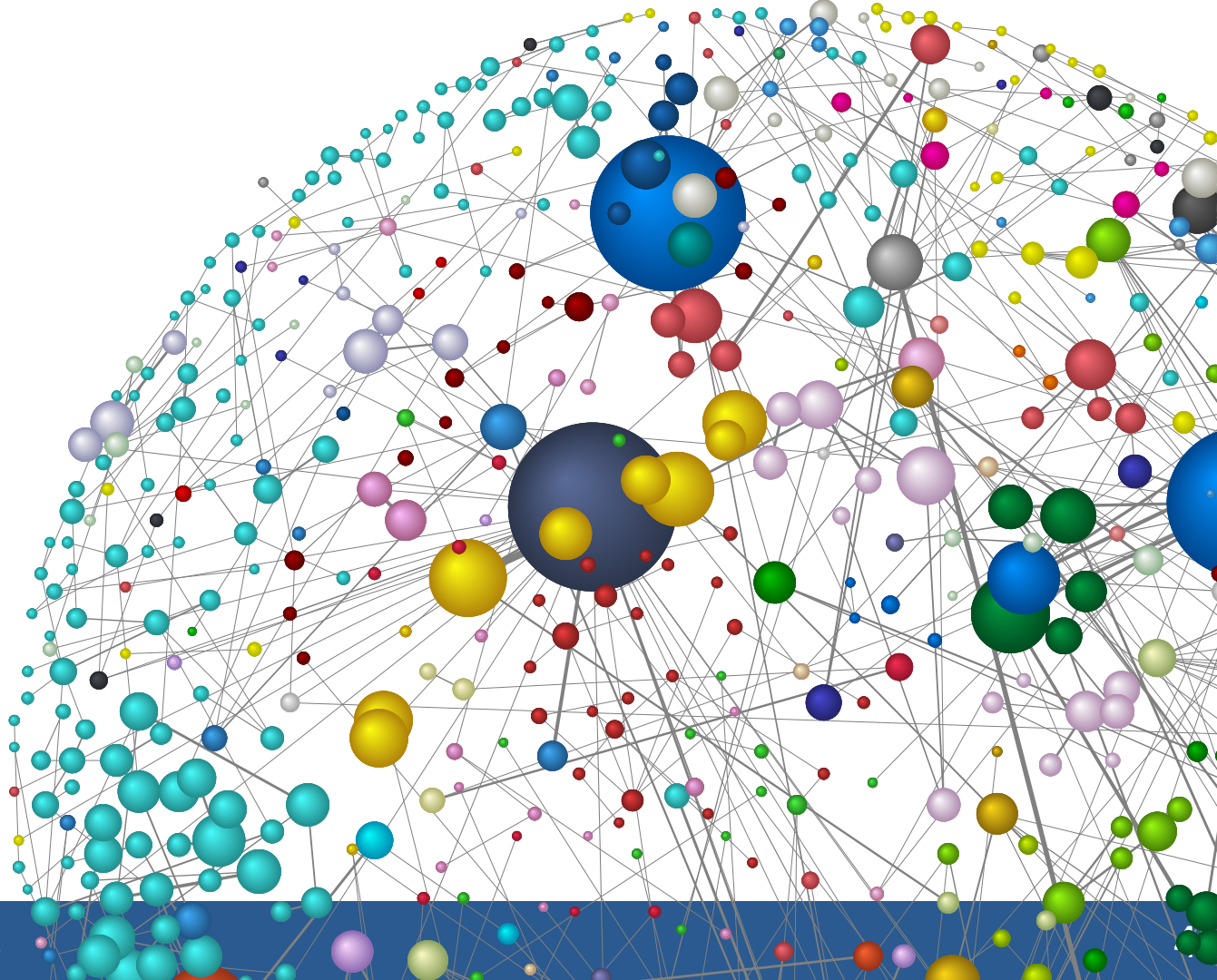
clare.gora@bayesia.us

BAYESIA

Your Decision Partner

Co-founded in 2001
by Dr. Lionel Jouffe &
Dr. Paul Munteanu



stefan.conrady@bayesia.us

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Bayesian Networks & BayesiaLab

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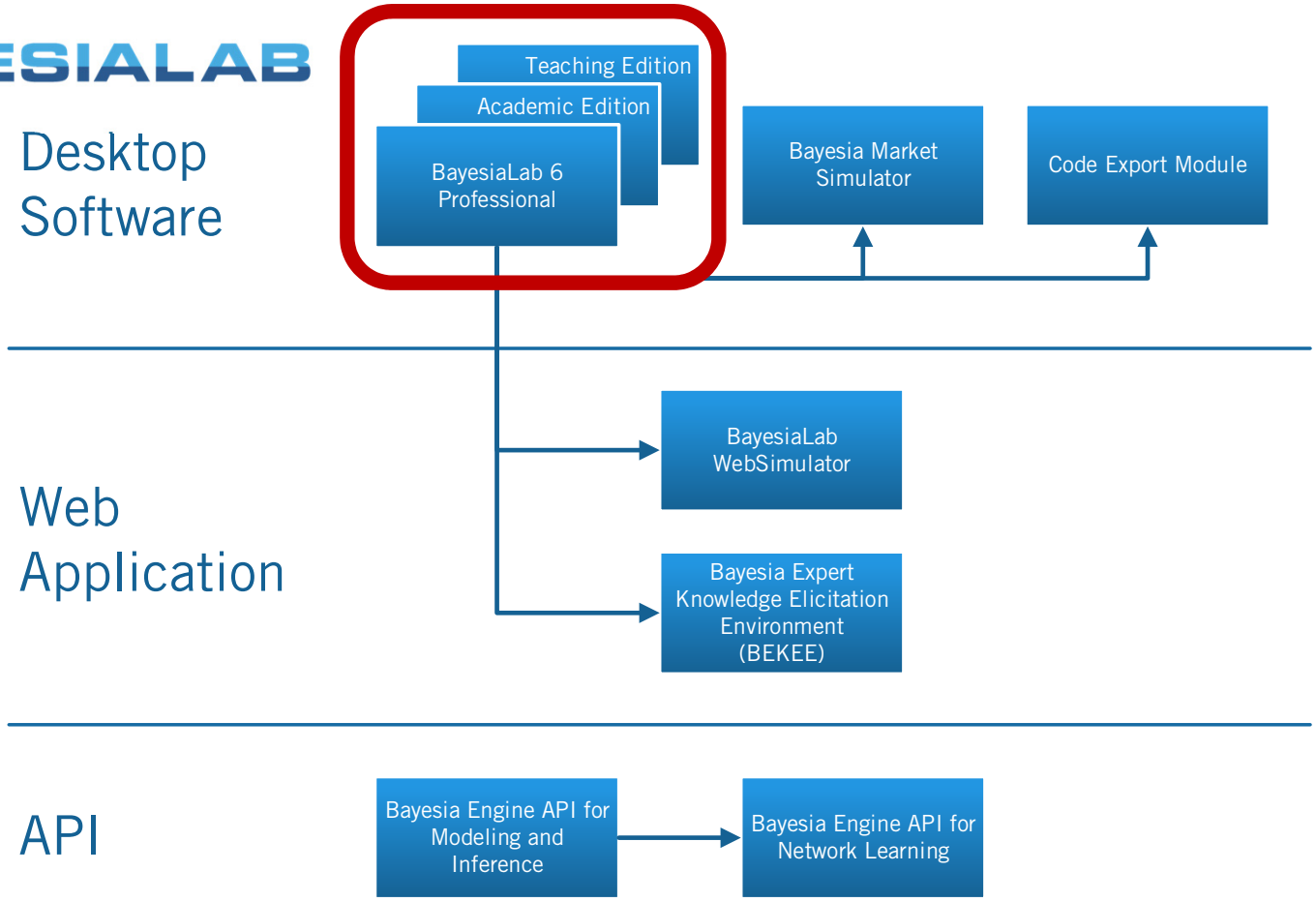
Desktop Software
Teaching Edition
Academic Edition
BayesiaLab 6 Professional
Bayesia Market Simulator
Code Export Module
Web Application
BayesiaLab WebSimulator
Bayesia Expert Knowledge Elicitation Environment (BEKEE)
API
Bayesia Engine API for Modeling and Inference
Bayesia Engine API for Network Learning


THE WORLD BANK
DASSAULT AVIATION
LOCKHEED MARTIN
U.S.ARMY
NASA
Booz | Allen | Hamilton
GEORGETOWN UNIVERSITY
bp
charles SCHWAB
RENAULT
UNIVERSITY of VIRGINIA
groupm
WPP
gsk GlaxoSmithKline
sodexo
ArcelorMittal
USGS science for a changing world
EADS
Holiday Inn
SONY
IHG InterContinental Hotels Group
Unilever
synovate Research reinvented
SOCIETE GENERALE
NYU
DELL
Lilly
Mu Sigma DO THE MATH
STANFORD UNIVERSITY
HYATT
BBDO
NYU Langone MEDICAL CENTER
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Nestlé
Fractal
NTT
Firmenich
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CDC
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VirginiaTech
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Team Detroit
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Deloitte.
Rotman UNIVERSITY OF TORONTO
ACXIOM
cancer care ontario | action cancer ontario
UCLA
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FEDERAL AVIATION ADMINISTRATION
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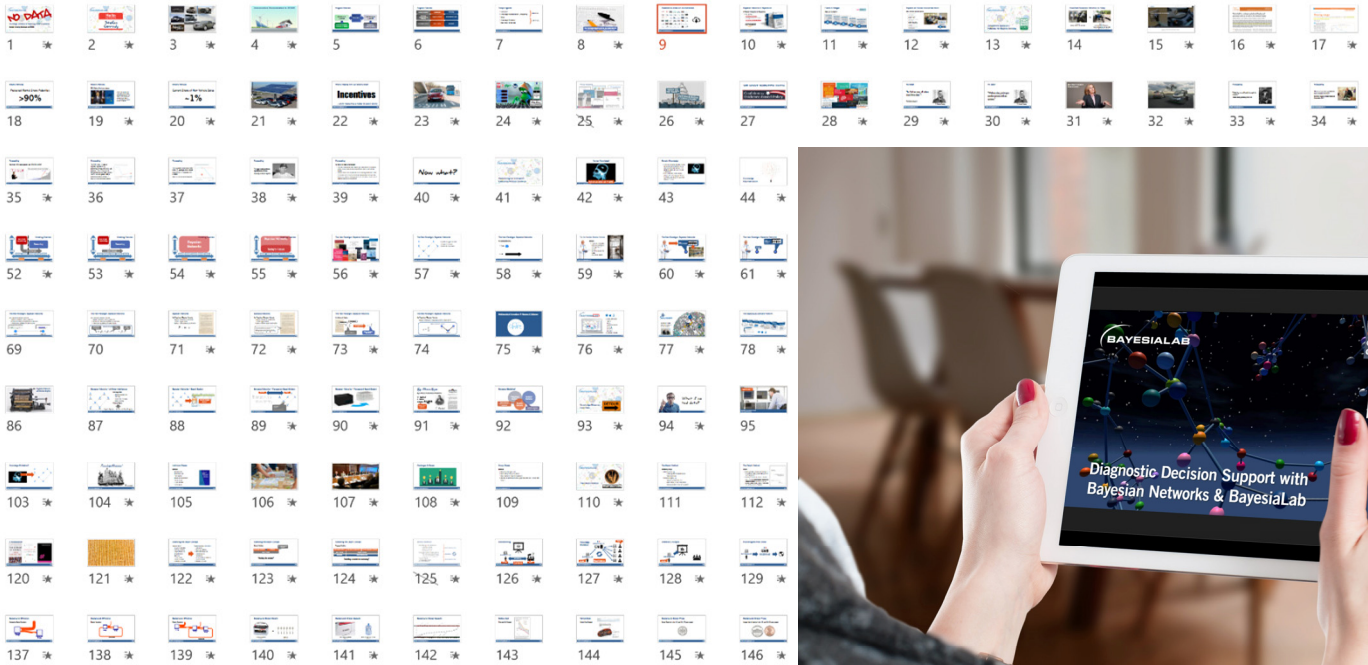
Bayesian Networks & BayesiaLab

A Practical Introduction for Researchers

- Free download:
  www.bayesia.com/book
- Hardcopy available on Amazon:
  http://amzn.com/0996533303
- See Chapter 8

Webinar Slides, Data, and Recording Available



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Background & Motivation

The Dimensions of Human Personality

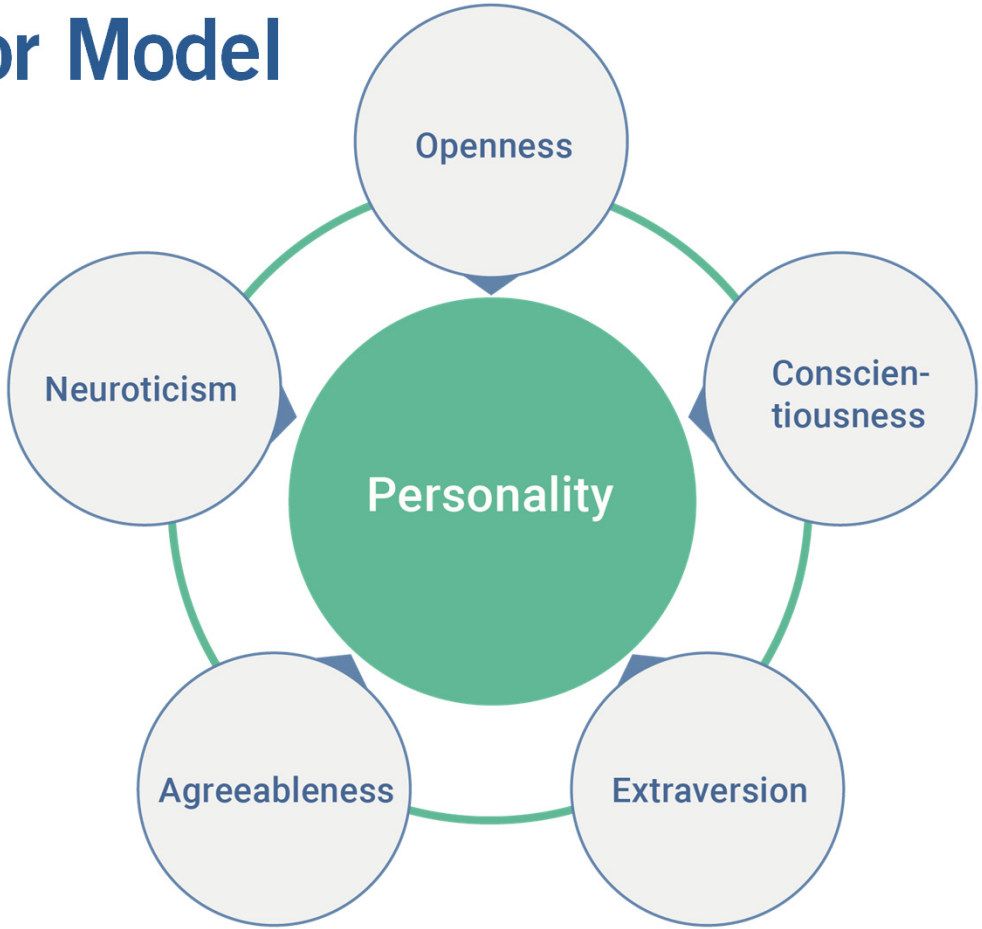
Accessible Active Adaptable Admirable Adventurous Agreeable Alert Allocentric Amiable Anticipative Appreciative Articulate Aspiring Athletic Attractive Balanced Benevolent Brilliant Calm Capable Captivating Caring Challenging Charismatic Charming Cheerful Clean Clear-headed Clever Colorful Companionly Compassionate Conciliatory Confident Conscientious Considerate Constant Contemplative Cooperative Courageous Courteous Creative Cultured Curious Daring Debonair Decent Decisive Dedicated Deep Dignified Directed Disciplined Discreet Dramatic Dutiful Dynamic Earnest Ebullient Educated Efficient Elegant Eloquent Empathetic Energetic Enthusiastic Esthetic Exciting Extraordinary Fair Faithful Farsighted Felicific Firm Flexible Focused Forceful Forgiving Forthright Freethinking Friendly Fun-loving Gallant Generous Gentle Genuine Good-natured Gracious Hardworking Healthy Hearty Helpful Heroic High-minded Honest Honorable Humble Humorous Idealistic Imaginative Impressive Incisive Incorruptible Independent Individualistic Innovative Inoffensive Insightful Insouciant Intelligent Intuitive Invulnerable Kind Knowledge Leaderlike Leisurely Liberal Logical Lovable Loyal Lyrical Magnanimous Manly Many-sided Masculine Mature Methodical Meticulous Moderate Modest Multi-leveled Neat Nonauthoritarian Objective Observant Open Optimistic Orderly Organized Original Painstaking Passionate Patient Patriotic Peaceful Perceptive Perfectionist Personable Persuasive Planful Playful Polished Popular Practical Precise Principled Profound Protean Protective Providential Prudent Punctual Purposeful Rational Realistic Reflective Relaxed Reliable Resourceful Respectful Responsible Responsive Reverential Romantic Rustic Sage Sane Scholarly Scrupulous Secure Selfless Self-critical Self-defacing Self-denying Self-reliant Self-sufficient Sensitive Sentimental Seraphic Serious Sexy Sharing Shrewd Simple Skillful Sober Sociable Solid Sophisticated Spontaneous Sporting Stable Steadfast Steady Stoic Strong Studious Suave Subtle Sweet Sympathetic Systematic Tasteful Teacherly Thorough Tidy Tolerant Tractable Trusting Uncomplaining Understanding Undogmatic Unfoolable Upright Urbane Venturesome Vivacious Warm Well-bred Well-read Well-rounded Winning Wise Witty Youthful Absentminded Aggressive Ambitious Amusing Artful Ascetic Authoritarian Big-thinking Boyish Breezy Businesslike Busy Casual Cerebral Chummy Circumspect Competitive Complex Confidential Conservative Contradictory Crisp Cute Deceptive Determined Dominating Dreamy Driving Droll Dry Earthy Effeminate Emotional Enigmatic Experimental Familial Folksy Formal Freewheeling Frugal Glamorous Guileless High-spirited Hurried Hypnotic Iconoclastic Idiosyncratic Impassive Impersonal Impressionable Intense Invisible Irreligious Irreverent Maternal Mellow Modern Moralistic Mystical Neutral Noncommittal Noncompetitive Obedient Old-fashioned Ordinary Outspoken Paternalistic Physical Placid Political Predictable Preoccupied Private Progressive Proud Pure Questioning Quiet Religious Reserved Restrained Retiring Sarcastic Self-conscious Sensual Skeptical Smooth Soft Solemn Solitary Stern Stoic Strict Stubborn Stylish Subjective Surprising Soft Tough Unaggressive Unambitious Unceremonious Unchanging Undemanding Unfathomable Unhurried Uninhibited Unpatriotic Unpredictable Unreligious Unsentimental Whimsical Abrasive Abrupt Agonizing Aimless Airy Aloof Amoral Angry Anxious Apathetic Arbitrary Argumentative Arrogant Artificial Asocial Assertive Astigmatic Barbaric Bewildered Bizarre Bland Blunt Boisterous Brittle Brutal Calculating Callous Cantankerous Careless Cautious Charmless Childish Clumsy Coarse Cold Colorless Complacent Complaintive Compulsive Conceited Condemnatory Conformist Confused Contemptible Conventional Cowardly Crafty Crass Crazy Criminal Critical Crude Cruel Cynical Decadent Deceitful Delicate Demanding Dependent Desperate Destructive Devious Difficult Dirty Disconcerting Discontented Discouraging Discourteous Dishonest Disloyal Disobedient Disorderly Disorganized Disputatious Disrespectful Disruptive Dissolute Dissonant Distractible Disturbing Dogmatic Domineering Dull Easily Discouraged Egocentric Enervated Envious Erratic Escapist Excitable Expedient Extravagant Extreme Faithless Fanatical Fanciful Fatalistic Fawning Fearful Fickle Fiery Fixed Flamboyant Foolish Forgetful Fraudulent Frightening Frivolous Gloomy Graceless Grand Greedy Grim Gullible Hateful Haughty Hedonistic Hesitant Hidebound High-handed Hostile Ignorant Imitative Impatient Impractical Imprudent Impulsive Inconsiderate Incurious Indecisive Indulgent Inert Inhibited Insecure Insensitive Insincere Insulting Intolerant Irascible Irrational Irresponsible Irritable Lazy Libidinous Loquacious Malicious Mannered Mannerless Mawkish Mealy-mouthed Mechanical Meddlesome Melancholic Meretricious Messy Miserable Miserly Misguided Mistaken Money-minded Monstrous Moody Morbid Muddle-headed Naive Narcissistic Narrow Narrow-minded Natty Negativistic Neglectful Neurotic Nihilistic Obnoxious Obsessive Obvious Odd Offhand One-dimensional One-sided Opinionated Opportunistic Oppressed Outrageous Overimaginative Paranoid Passive Pedantic Perverse Petty Pharisaical Phlegmatic Plodding Pompous Possessive Power-hungry Predatory Prejudiced Presumptuous Pretentious Prim Procrastinating Profligate Provocative Pugnacious Puritanical Quirky Reactionary Reactive Regimental Regretful Repentant Repressed Resentful Ridiculous Rigid Ritualistic Rowdy Ruined Sadistic Sanctimonious Scheming Scornful Secretive Sedentary Selfish Self-indulgent Shallow Shortsighted Shy Silly Single-minded Sloppy Slow Sly Small-thinking Softheaded Sordid Steely Stiff Strong-willed Stupid Submissive Superficial Superstitious Suspicious Tactless Tasteless Tense Thievish Thoughtless Timid Transparent Treacherous Trendy Troublesome Unappreciative Uncaring Uncharitable Unconvincing Uncooperative Uncreative Uncritical Unctuous Undisciplined Unfriendly Ungrateful Unhealthy Unimaginative Unimpressive Unlovable Unpolished Unprincipled Unrealistic Unreflective Unreliable Unrestrained Unself-critical Unstable Vacuous Vague Venal Venomous Vindictive Vulnerable Weak Weak-willed Well-

How Many Dimensions?

Eysenck's PEN Model of Personality

PSYCHOTICISM	EXTRAVERSION	Neuroticism
Aggressive	Sociable	Anxious
Assertive	Irresponsible	Depressed
Egocentric	Dominant	Guilt Feelings
Unsympathetic	Lack of reflection	Low self-esteem
Manipulative	Sensation-seeking	Tense
Achievement-oriented	Impulsive	Moody
Dogmatic	Risk-taking	Hypochondriac
Masculine	Expressive	Lack of autonomy
Tough-minded	Active	Obsessive

Five Factor Model



Multivariate Behavioral Research, *39* (2), 329-358

Psychometric Properties of the HEXACO Personality Inventory

Kibeom Lee
University of Calgary

Michael C. Ashton
Brock University

We introduce a personality inventory designed to measure six major dimensions of personality derived from lexical studies of personality structure. The HEXACO Personality Inventory (HEXACO-PI) consists of 24 facet-level personality trait scales that define the six personality factors named Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). In this validation study involving a sample of over 400 respondents, all HEXACO-PI scales showed high internal consistency reliabilities, conformed to the hypothesized six-factor structure, and showed adequate convergent validities with external variables. The HEXACO factor space, and the rotations of factors within that space, are discussed with reference to J. S. Wiggins' work on the circumplex.

HEXACO Personality Inventory

- The HEXACO model of personality conceptualizes human personality in terms of six dimensions.
    - Honesty-Humility (H)
    - Emotionality (E)
    - Extraversion (X)
    - Agreeableness (versus Anger) (A)
    - Conscientiousness (C)
    - Openness to Experience (O)
- It was proposed as alternative to the Big Five/FFM (Five Factor Model)

HEXACO Personality Inventory: 240 Questions

I love dangerous situations.
I need the approval of others.
I am the life of the party.
I am quick to judge others.
I make careless mistakes.
I seldom experience sudden intuitive insights.
I feel others' emotions.
I come up with something new.
I would not enjoy being a famous celebrity.
I tire out quickly.
I face danger confidently.
I react strongly to criticism.
I keep others at a distance.
I seem to derive less enjoyment from interacting with people than others do.
I prefer to eat at expensive restaurants.
I pretend to be concerned for others.
I often worry about things that turn out to be unimportant.
I would never go riding down a stretch of rapids in a canoe.
I rarely get irritated.
I demand quality.
I prefer to just let things happen.
I would not regret my behavior if I were to take advantage of someone impulsively.
I will not probe deeply into a subject.
I am sensitive to the needs of others.
I say little.
I don't know much about history.
I suspect that my facial expressions give me away when I feel sad.
I am good at making impromptu speeches.
I pay too little attention to details.
I do things without thinking of the consequences.
I maintain high energy throughout the day.
I have an eye for detail.
I have excellent ideas.
I am usually a patient person.

I steal things.
I need reassurance.
I boast about my virtues.
I do not like art.
I don't think that i'm better than other people.
I feel comfortable around people.
I seldom get mad.
I get upset easily.
I talk to a lot of different people at parties.
I when interacting with a group of people, am often bothered by at least one of them.
I try to forgive and forget.
I make a fool of myself.
I know that my ideas sometimes surpr
I get
I rare
I have
I enjo
I mak
I want
I love
I rarely feel angry with people.
I have a strong personality.
I have a good word for everyone.
I tell people about it when i'm irritated.
I have great stamina.
I love luxury.
I would feel very badly for a long time if I were to steal from someone.
I don't finish the things that I start.
I find it difficult to approach others.
I usually like to spend my free time with people.
I admire a really clever scam.
I distrust people.
I can't do without the company of others.
I seldom get emotional.
I enjoy intellectual games.
I am mainly interested in money.

I find it hard to forgive others.
I don't know why I do some of the things I do.
I like to attract attention.
I have a vivid imagination.
I see myself as an average person.
I rarely cry during sad movies.
I work hard.
I don't worry about things that have already happened.
I wish to stay young forever.
I am hard to reason with.
I love to think up new ways of doing things.
I speak softly.
I do not have a good imagination.
I feel healthy and vibrant most of the
feel angry at someone.
I let people push me around to help them feel important.
I would love to explore strange places.
I have read the great literary classics.
I want to be liked.
I don't talk a lot.
I seldom feel weepy while reading the sad part of a story.
I stop when work becomes too difficult.
I smile a lot.
I would be afraid to give a speech in public.
I seek status.
I am deeply moved by others' misfortunes.
I am hard to convince.
I push myself very hard to succeed.
I switch my loyalties when I feel like it.

I adjust easily.
I am willing to take risks.
I believe in the importance of art.
I rarely feel depressed.
I don't strive for elegance in my appearance.
I swim against the current.
I rebel against authority.
I get angry easily.
I get upset by unpleasant thoughts that come into my mind.
I return extra change when a cashier makes a mistake.
I get deeply immersed in music.
I bottle up my feelings.
I do not enjoy watching dance performances.
rs will
er
other people.
I like to tidy up.
I try to impress others.
I continue until everything is perfect.
I would fear walking in a high-crime part of a city.
I let myself be influenced by others.
I would be good at rescuing people from a burning building.
I keep in the background.
I hate being the center of attention.
I get irritated easily.
I have an intense, boisterous laugh.
I take things as they come.
I am hard to get to know.
I have a sharp tongue.
I leave my belongings around.
I seek support.
I laugh a lot.
I see beauty in things that others

240 Questions ➔ 6 Dimensions

might not notice.
I would hate to be considered odd or strange.
I criticize others' shortcomings.
I am good at taking advice.
I am usually active and full of energy.
I would not enjoy a job that involves a lot of social interaction.
I often forget to put things back in their proper place.
I find it necessary to please the people who have power.
I have little to say.
I feel that I have a lot of inner strength.
I hang around doing nothing.
I am a physical coward.
I like to be viewed as proper and conventional.
I need protection.
I find fault with everything.
I make rash decisions.
I often need help.
I use flattery to get ahead.
I find political discussions interesting.
I accept people as they are.
I believe that I am better than others.
I am exacting in my work.
I dislike imperfect work.
I avoid mistakes.
I try to avoid complex people.
I love to read challenging material.
I tremble in dangerous situations.
I like to do frightening things.
I talk a lot.
I don't like to draw attention to myself.
I do too little work.

I rarely enjoy being with people.
I play a role in order to impress people.
I try to follow the rules.
I don't mind being the center of attention.
I get started quickly on doing a job.
I consider myself an average person.
I get upset if others change the way that I have arranged things.
I am inclined to forgive others.
I speak ill of others.
I am likely to show off if I get the chance.
I enjoy being thought of as a normal mainstream person.
I am not easily disturbed by events.
I panic easily.
I act like different people in different situations.
I do just enough work to get by.
I want everything to add up perfectly.
I make plans and stick to them.
I am nice to people I should be angry at.
I hold a grudge.
I would never take things that aren't mine.
I seldom notice the emotional aspects of paintings and pictures.
I cheat on people who have trusted me.
I like to be thought of as a normal kind of person.
I avoid difficult reading material.
I begin to panic when there is danger.
I would never cheat on my taxes.

I put on a show to impress people.
I am just an ordinary person.
I become frustrated and angry with people when they don't live up to my expectations.
I get chores done right away.
I jump into things without thinking.
I have a lot of fun.
I get even with others.
I am more capable than most others.
I worry about things.
I can't stand being contradicted.
I am seldom bothered by the apparent suffering of strangers.
I cry during movies.
I have leadership abilities.
I leave a mess in my room.
I am annoyed by others' mistakes.
I immediately feel sad when hearing of an unhappy event.
I quickly lose interest in the tasks I start.
I complete tasks successfully.
I am interested in science.
I like order.
I do things according to a plan.
I show my sadness.
I tell other people what they want to hear so that they will do what I want them to do.
I lose my temper.
I act impulsively when something is bothering me.
I don't bother worrying about political and social problems.
I am easily annoyed.
I do not like concerts.
I don't pretend to be more than I am.
I am full of ideas.

HEXACO Personality Inventory: 240 Questions

All variables are recorded on a seven-point scale

- 1 = strongly disagree
- 2 = disagree
- 3 = slightly disagree
- 4 = neutral
- 5 = slightly disagree
- 6 = agree
- 7 = strongly agree

This website provides a collection of interactive personality tests with detailed results that can be taken for personal entertainment or to learn more about personality assessment. These tests range from very serious and widely used scientific instruments popular psychology to self produced quizzes. A special focus is given to the strengths, weaknesses and validity of the various systems.

Recommended test for scientific validity

Big Five Personality Test: The general consensus in academic psychology is that there are five fundamental personality traits. This model is assumed in most personality research, and is the basis of many of the most well regarded tests employed by psychologists who maintin close connections with academia. The "big five" tend to not be popular in consumer focused personality assessment or self-help because to many people the feedback of the model seems relatively basic. This test uses public domain scales from the International Personality Item Pool.

Recommended test for personal enjoyment

Open Extended Jungian Type Scales: The system of personality types proposed by Carl Jung (1921) and later refined by C. Myers and I. M. Briggs has become an extremely widely used personality theory in self-help, business management, counselling and spiritual development contexts, but it is not commonly used in academic research where, like all type theories, it is treated sceptically. The system produces 16 personality types on the basis of four dichotomies and is the system used in the Myers Briggs Type Indicator and Keirsey Temperament Sorter instruments, among many others. The OEJS is a free and open source measure of the four dichotomies which yields an equivalent result to the usual tests.

Today's Objectives

"Exploratory Factor Discovery"

- Discovery of **latent** (hidden) concepts.
- Easy-to-interpret, meaningful factors
- Homogenous clusters
- Stable dimensions
- "Careful" dimension reduction
- Computationally tractable

lateo (present infinitive latere, perfect active latui); second conjugation, no passive

- I am concealed or in hiding, lurk, skulk.
  - Latet anguis in herba. – A snake hides in the grass.
  - Sub nomine pacis bellum latet. – War lurks under the name of peace.
- I am hidden and in safety.
- I keep out of sight.
- I live in concealment; live retired.
- I escape notice, remain unknown.
  - Bene qui latuit, bene vixit. – He who has well remained unknown has lived well.
- I am obscure or unknown, lie hidden.
  - Id qua ratione consecutus sit latet. – It is unknown how he obtained that.

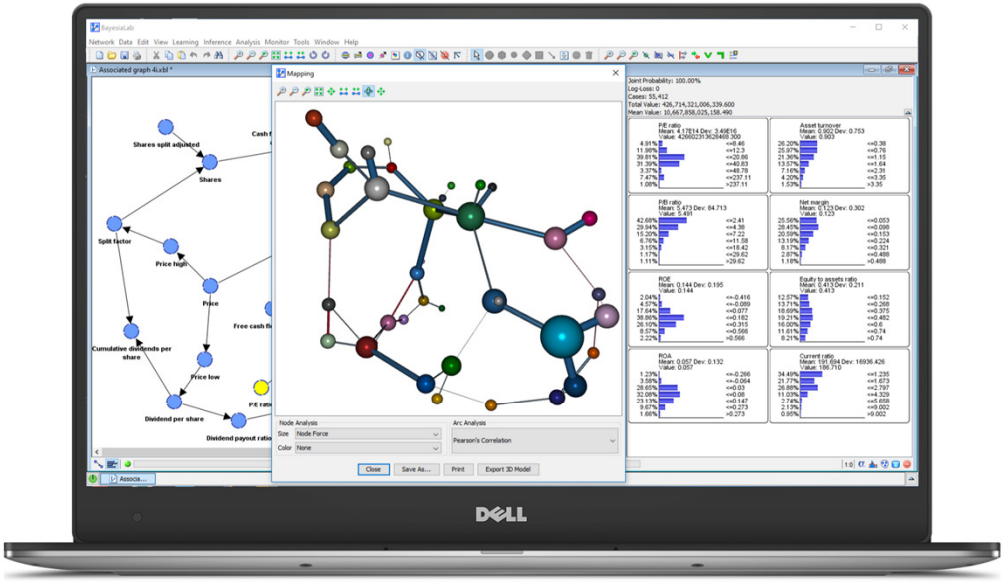
Methodology?

Why Bayesian Networks & BayesiaLab?

The New Paradigm: Bayesian Networks

Mathematical Formalism ➔ Research Software

BAYESIALAB

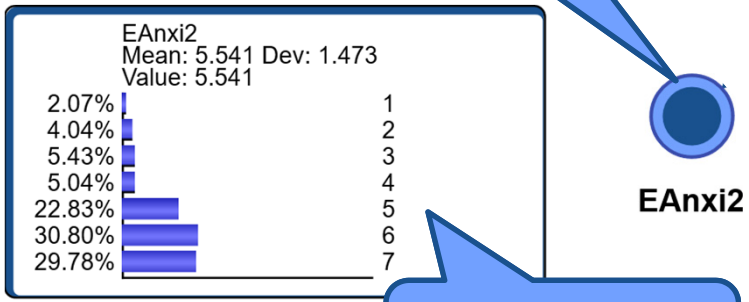


A desktop software for:

- encoding
- learning
- editing
- performing inference
- analyzing
- simulating
- optimizing

with Bayesian networks.

Nomenclature



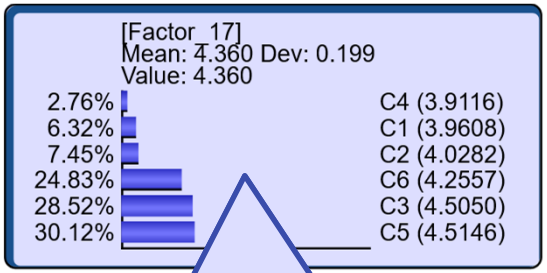
Manifest=Observed Variables/Nodes

EAnxi2

Monitor with Node States

Unobserved/Latent Variable, Factor, or Cluster

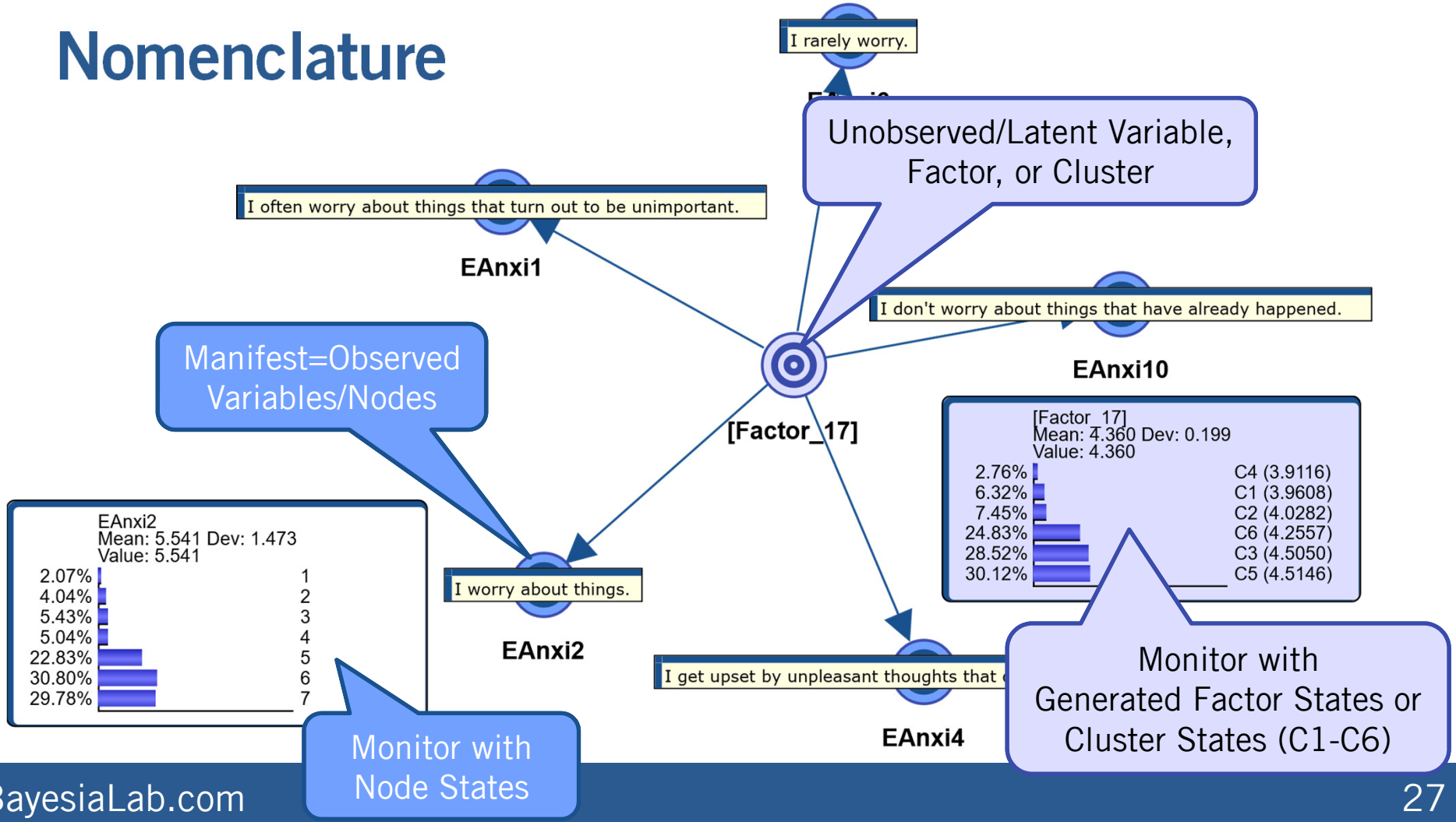
Anxi10

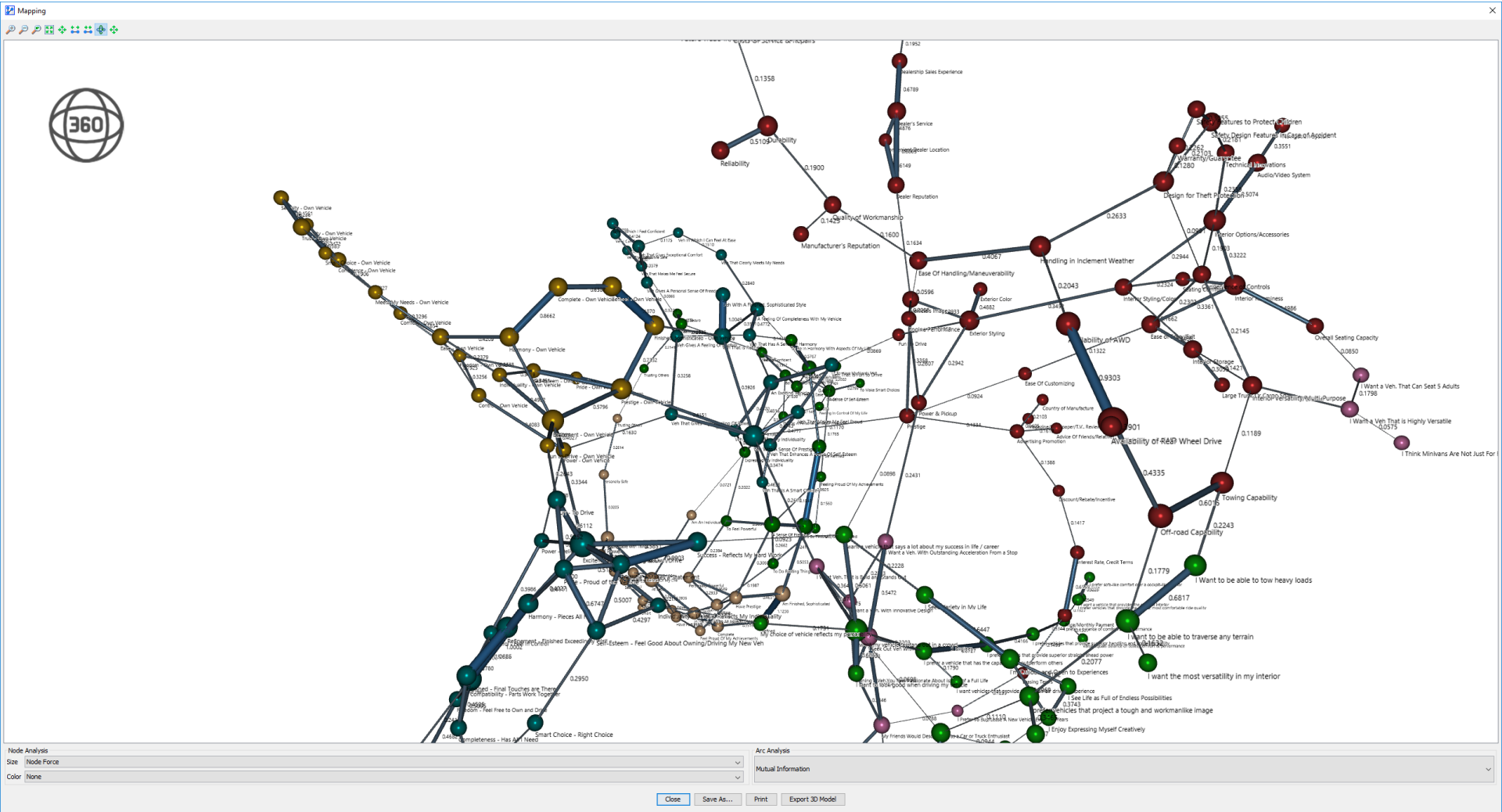


EAnxi4

Monitor with Generated Factor States or Cluster States (C1-C6)

Nomenclature




Mapping
360
Reliability
Durability
Quality of Workmanship
Manufacturer's Reputation
Dealership Sales Experience
Dealer's Service
Convenient Dealer Location
Dealer Reputation
Ease Of Handling/Maneuverability
Handling in Inclement Weather
Exterior Styling
Exterior Color
Availability of AWD
Availability of Rear Wheel Drive
Power & Pickup
Prestige
Ease Of Customizing
Design for Theft Protection
Warranty/Guarantee
Technical Innovations
Audio/Video System
Interior Options/Accessories
Interior Styling/Color
Overall Seating Capacity
Large Truck Cargo Area
Towing Capability
Off-road Capability
I Want a Veh. That Can Seat 5 Adults
I Want a Veh That is Highly Versatile
I Think Minivans Are Not Just For
I Want to be able to tow heavy loads
I Want to be able to traverse any terrain
I want the most versatility in my interior
Harmony - Own Vehicle
Complete - Own Vehicle
Pride - Own Vehicle
Prestige - Own Vehicle
Success - Reflects My Image
Harmony - Pieces All
Retirement - Finished Exceeding - Self-Esteem - Feel Good About Owning/Driving My New Veh
Smart Choice - Right Choice
Node Analysis
Size
Node Force
Color
None
Arc Analysis
Mutual Information
Close
Save As...
Print
Export 3D Model

Bayesian Networks

Key Concepts Important for Factors Analysis

- As a Bayesian network represents a joint probability distribution, we can easily compute several information-theoretic measures with BayesiaLab:
    - Entropy
    - Mutual Information
    - **Arc Force**
    - Node Force
    - Etc.


MAY THE
ARC FORCE
BE WITH YOU!

Bayesian Networks

Key Concepts Important for Factors Analysis

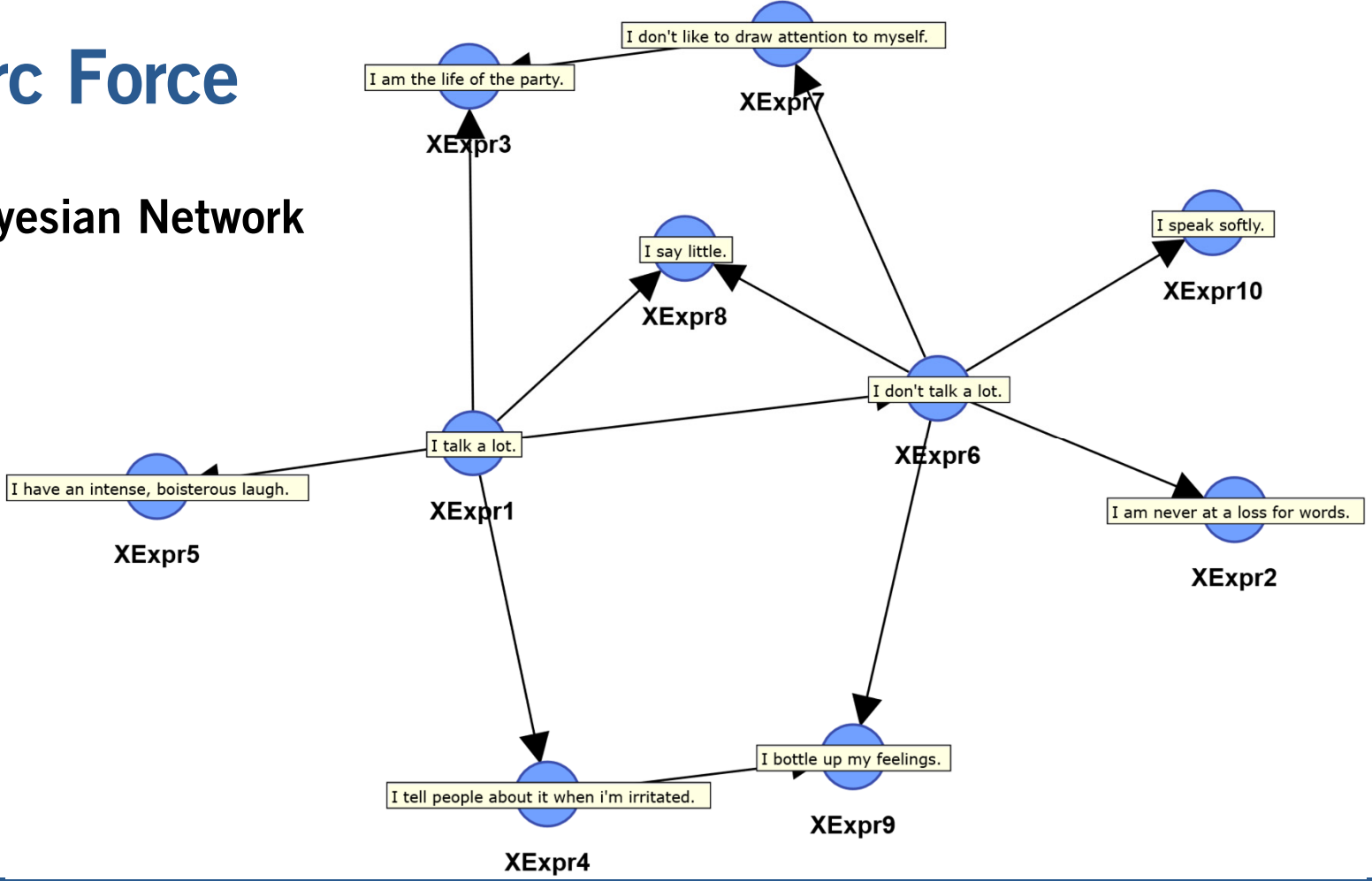
- As a Bayesian network represents a joint probability distribution, we can easily compute several information-theoretic measures:
  - Entropy
  - Mutual Information
  - **Arc Force**
  - Node Force
  - Etc.

Arc Force, a Measure of "Arc Importance"

- Arc Force is more formally known as "Kullback–Leibler Divergence."
- It is the difference or distance in the joint distributions Q and P denoted $D_{KL}(P \parallel Q)$

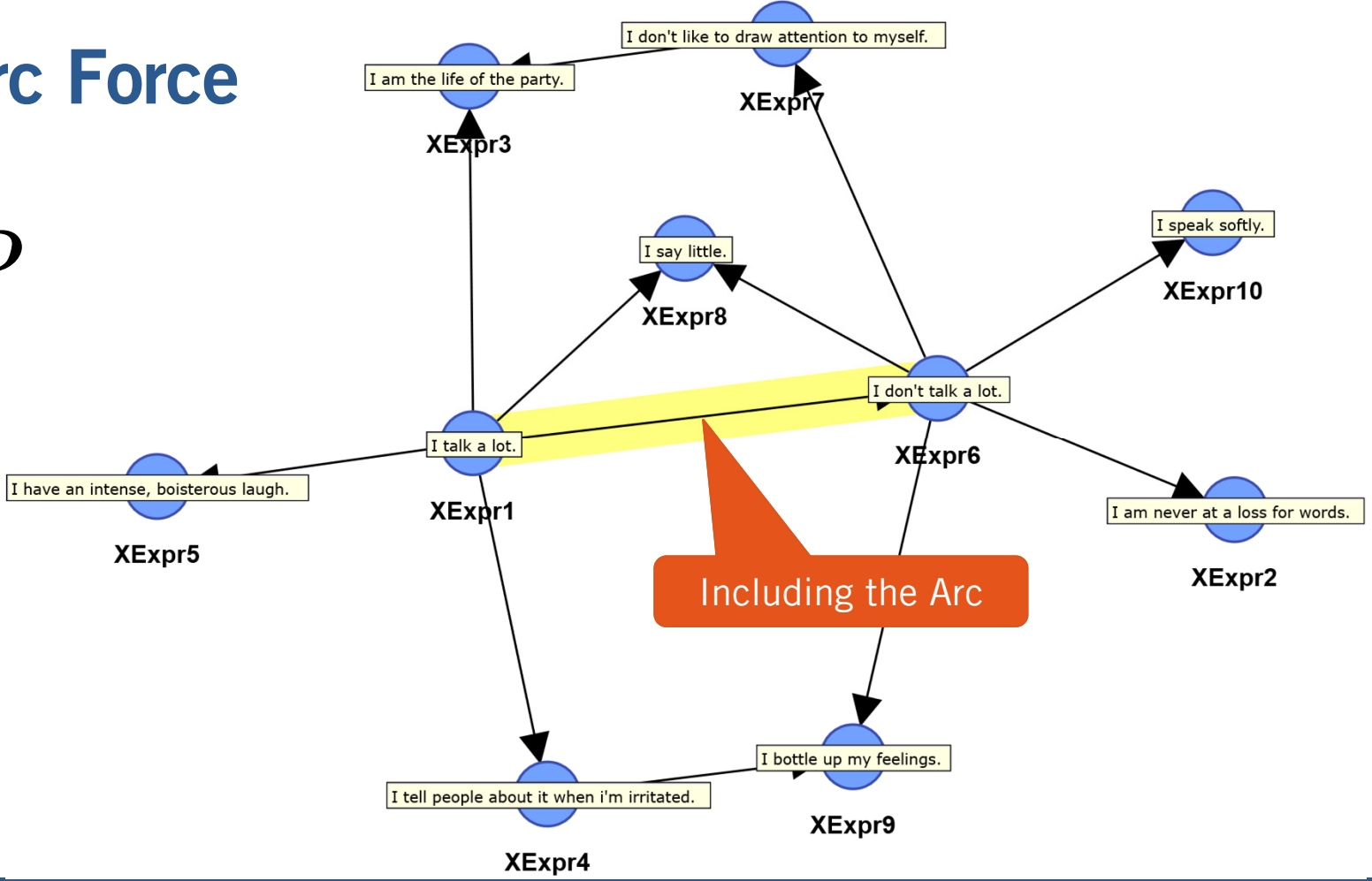
Arc Force

Bayesian Network



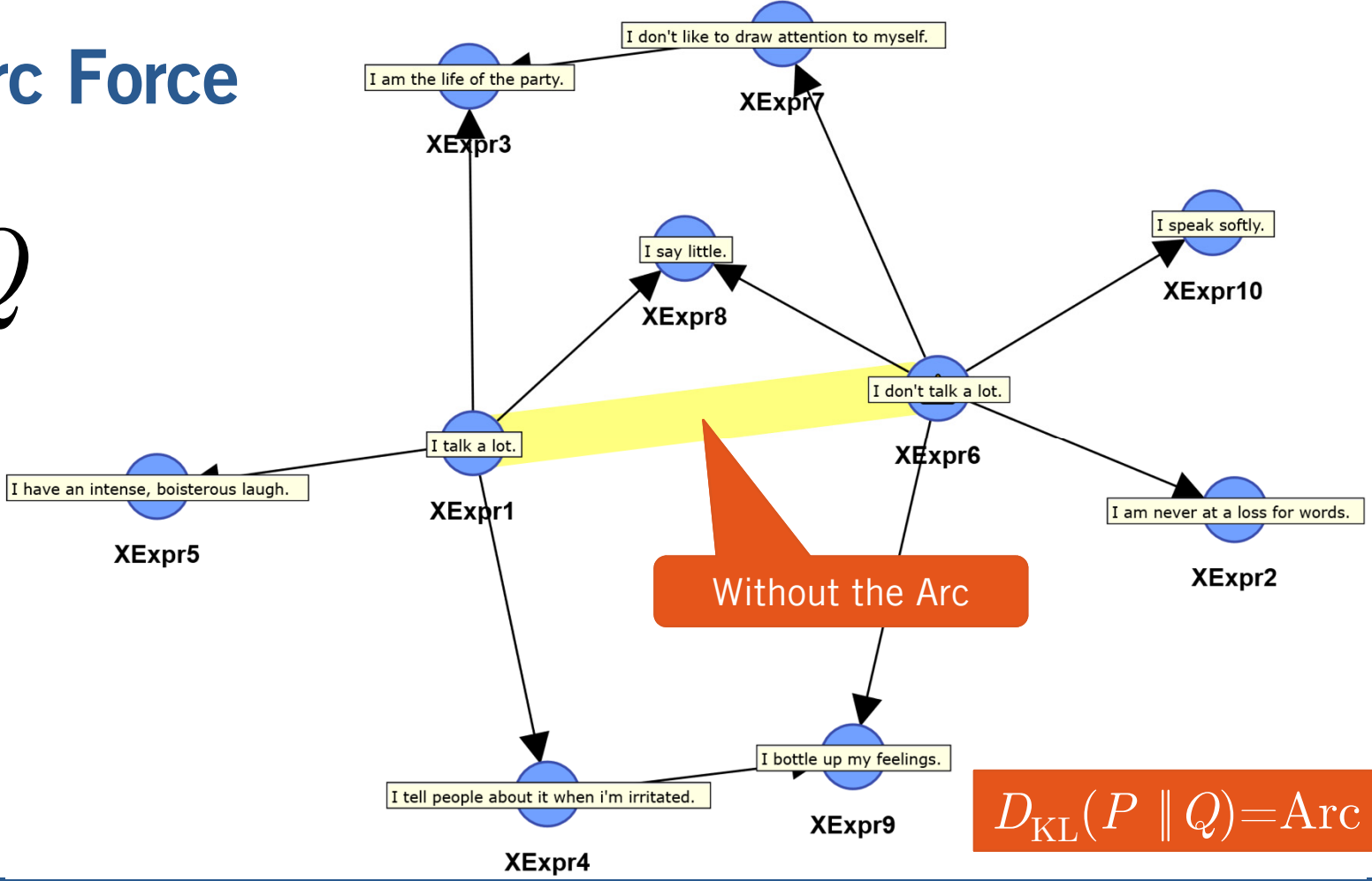
Arc Force

P


I don't like to draw attention to myself.
I am the life of the party.
XExpr7
XExpr3
I say little.
XExpr8
I speak softly.
XExpr10
I don't talk a lot.
I talk a lot.
XExpr6
XExpr1
I have an intense, boisterous laugh.
XExpr5
I am never at a loss for words.
XExpr2
Including the Arc
I bottle up my feelings.
I tell people about it when i'm irritated.
XExpr9
XExpr4

Arc Force

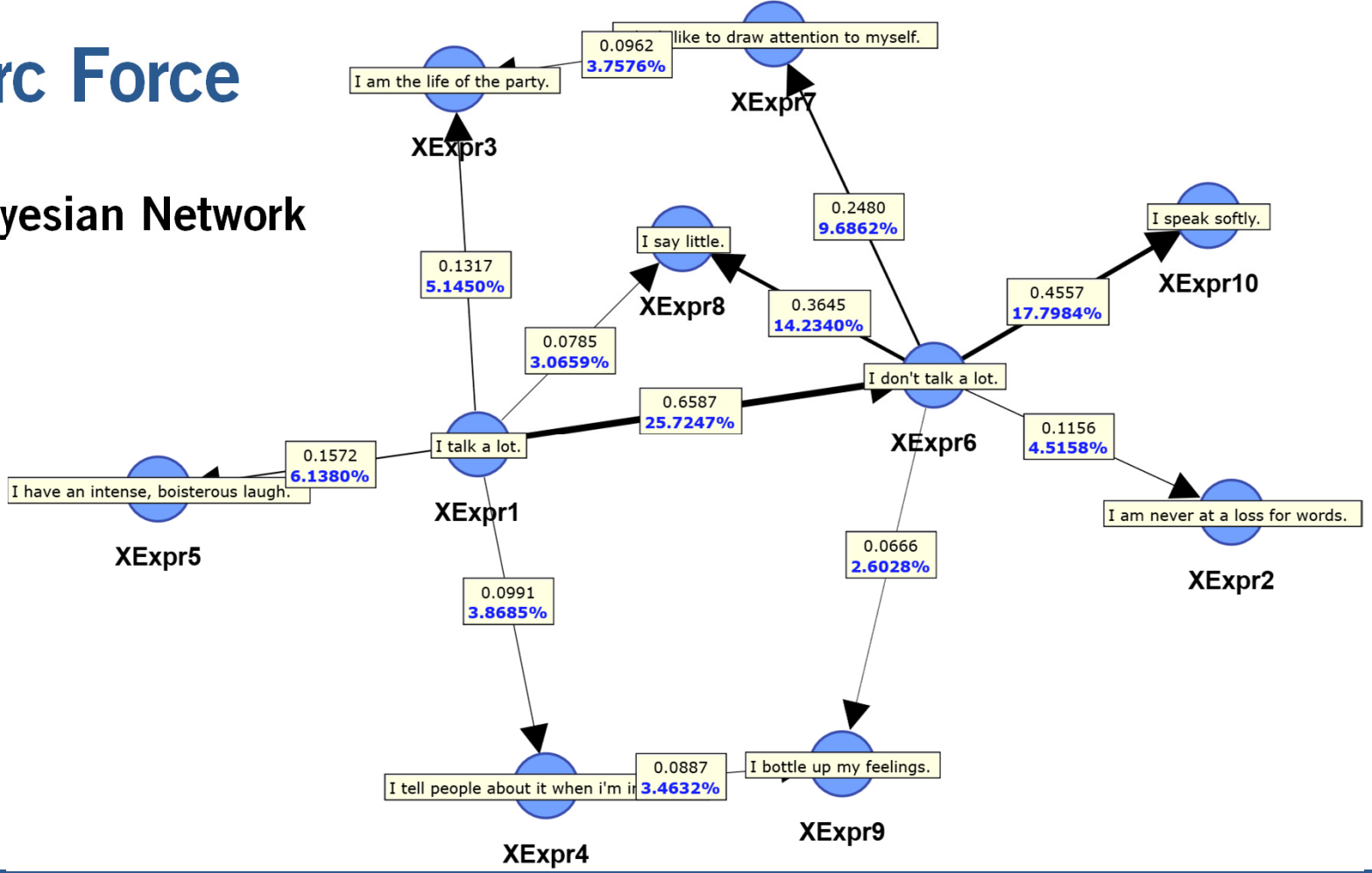
Q



$D_{\mathrm{KL}}(P \parallel Q) = \text{Arc Force}$

Arc Force

Bayesian Network



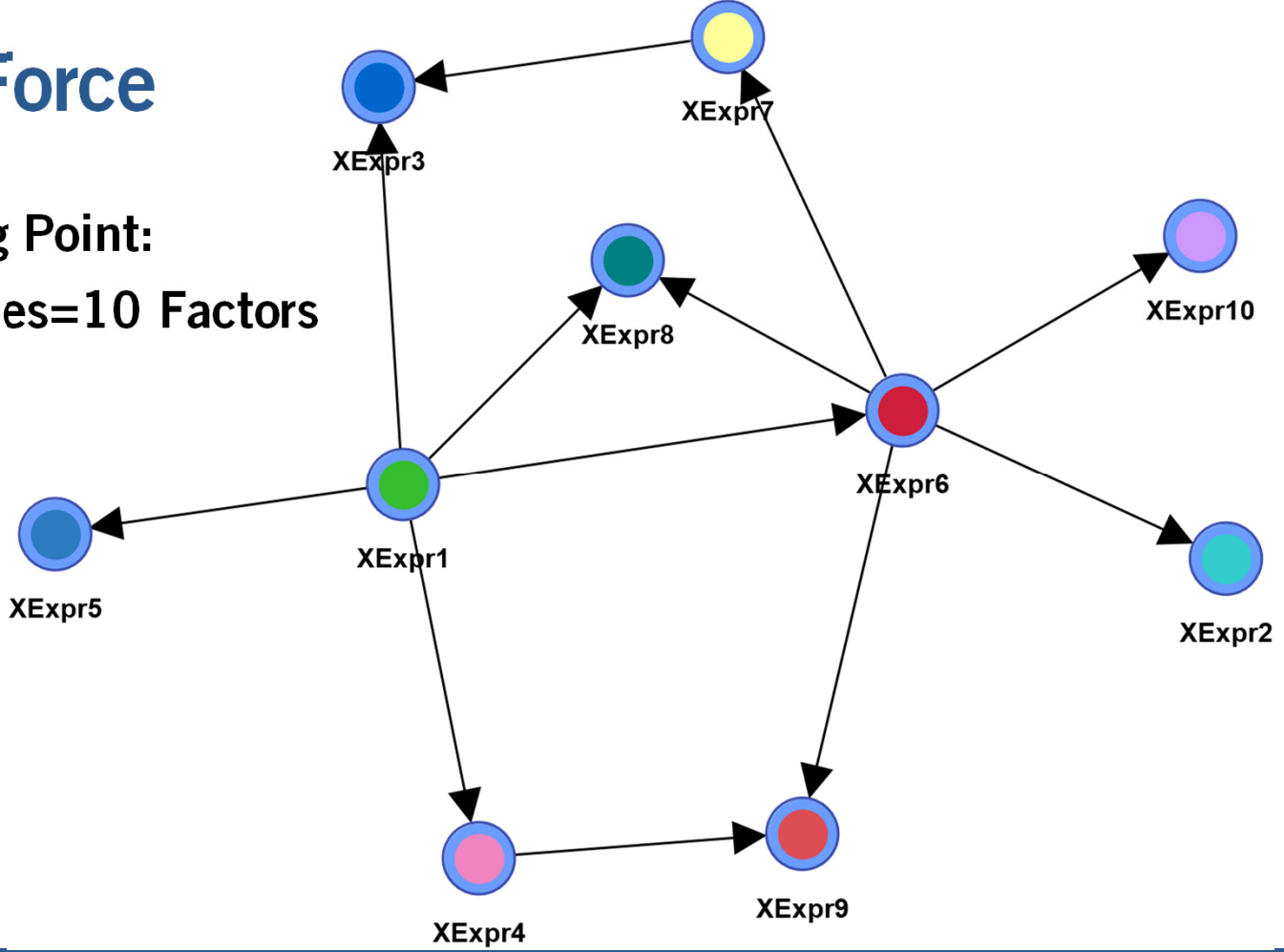
Arc Force

How does this help with clustering?

Arc Force

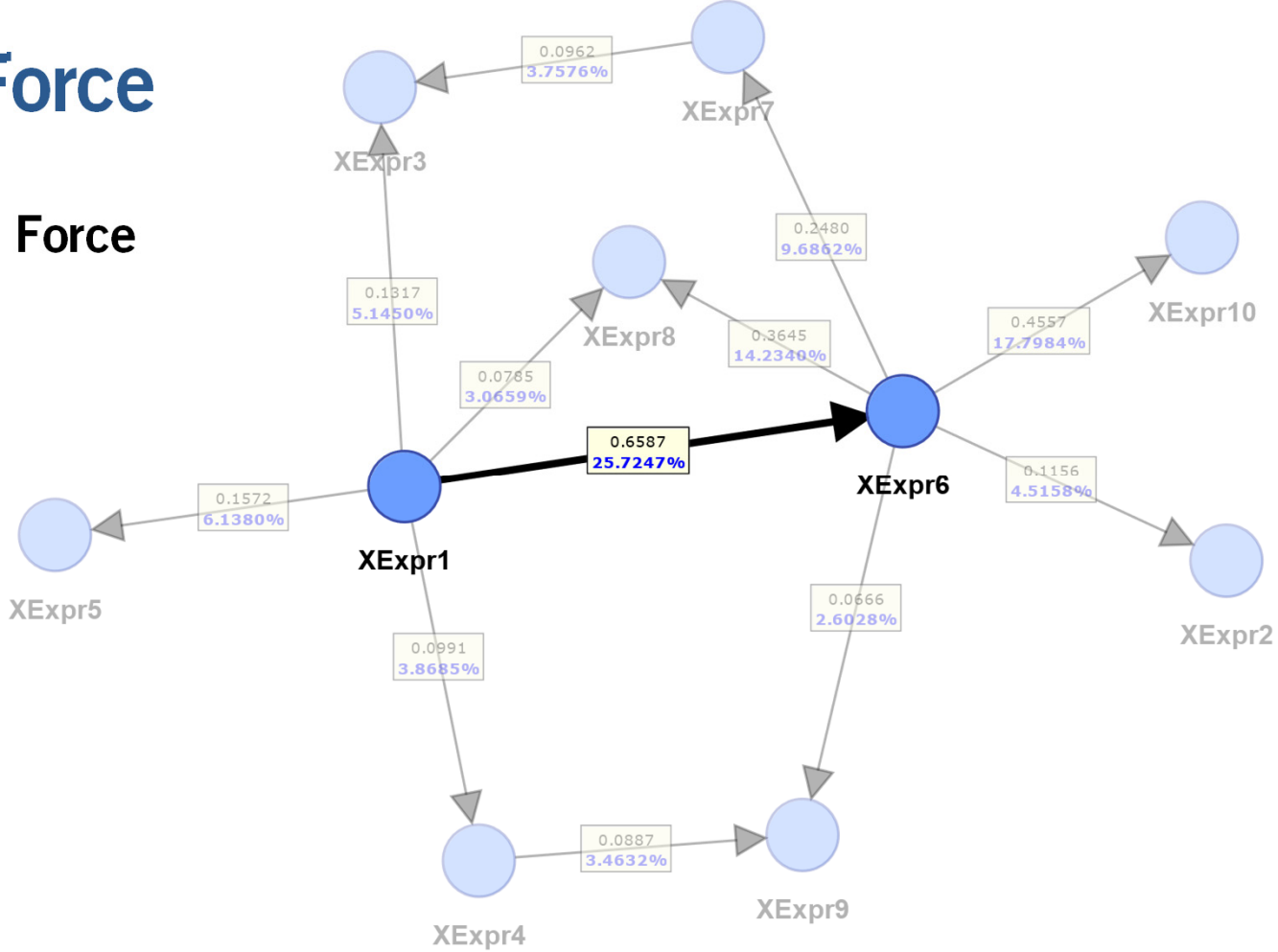
Starting Point:

10 Nodes=10 Factors



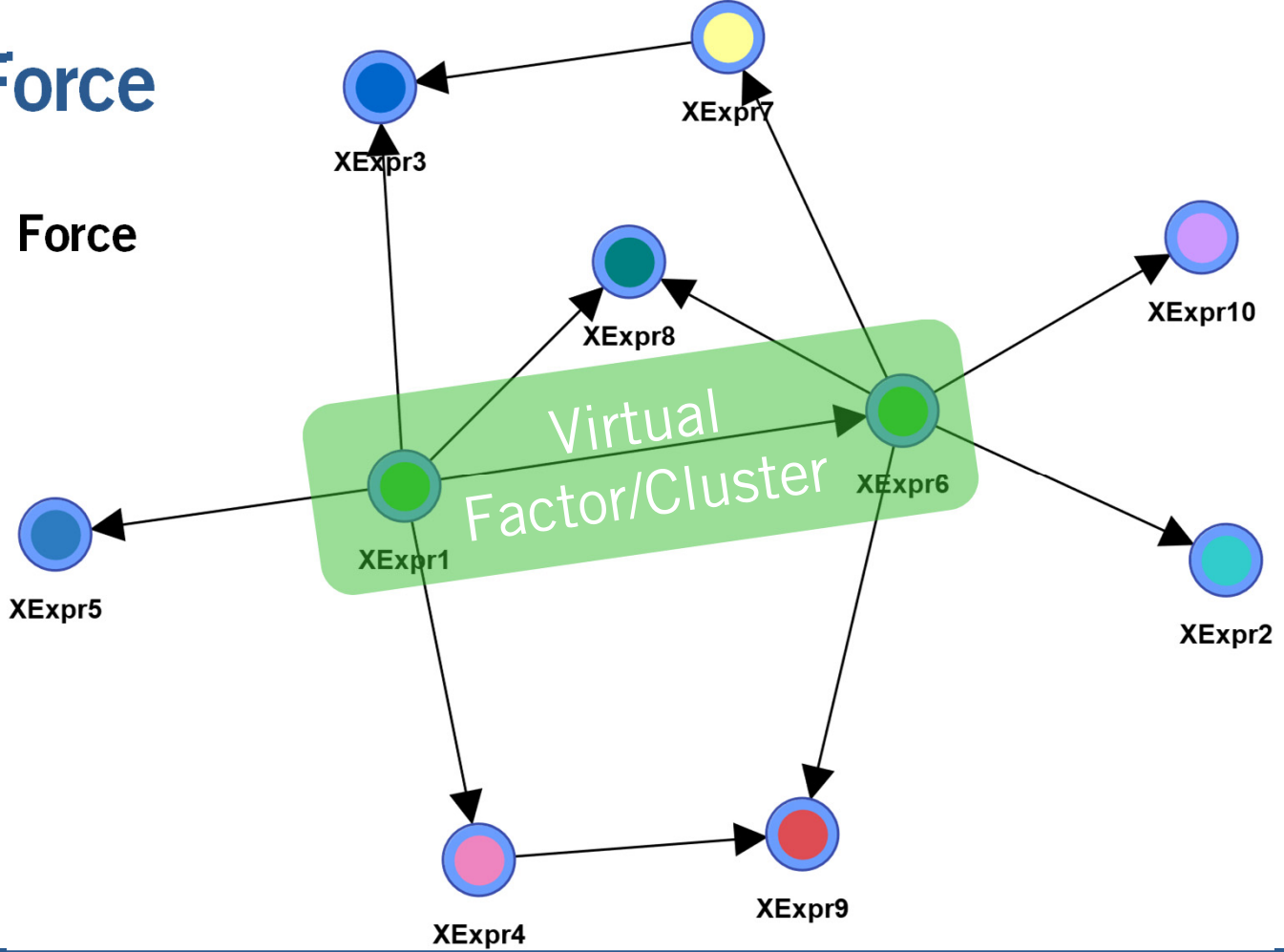
Arc Force

Top Arc Force



Arc Force

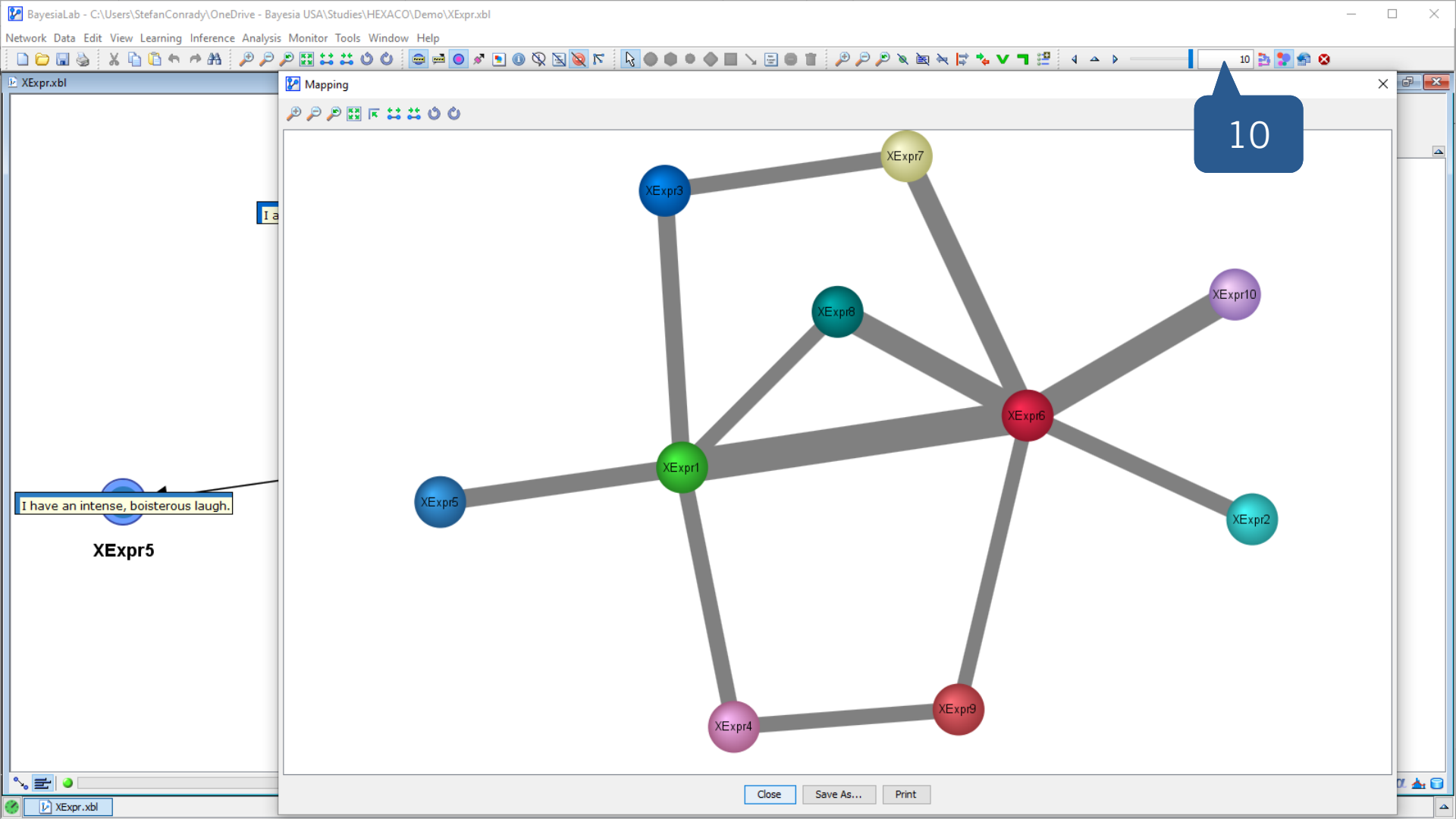
Top Arc Force

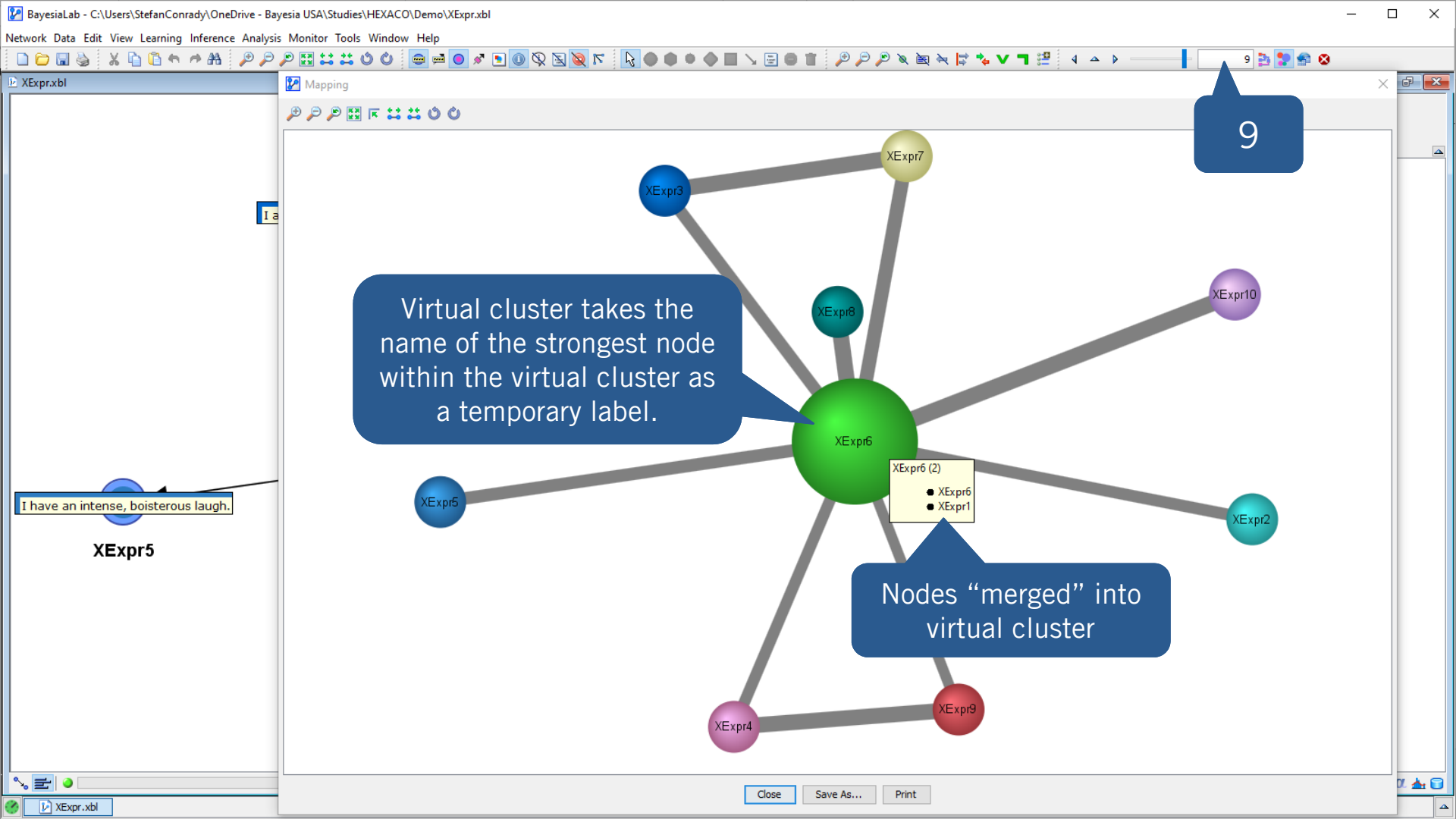


Arc Force

Using Arc Force for Variable Clustering

- BayesiaLab's Variable Clustering is a hierarchical agglomerative clustering algorithm that uses Arc Force (i.e., the Kullback-Leibler Divergence) for computing the distance between nodes.
- At the start of Variable Clustering, each manifest variable is treated as a distinct Factor or Cluster.
- The clustering algorithm proceeds iteratively by merging the "closest" Factors/Clusters into a new Factor/Cluster.


BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
XExpr.xbl
Mapping
10
XExpr7
XExpr3
XExpr8
XExpr10
XExpr6
XExpr1
XExpr5
XExpr2
XExpr4
XExpr9
Close
Save As...
Print
I have an intense, boisterous laugh.
XExpr5

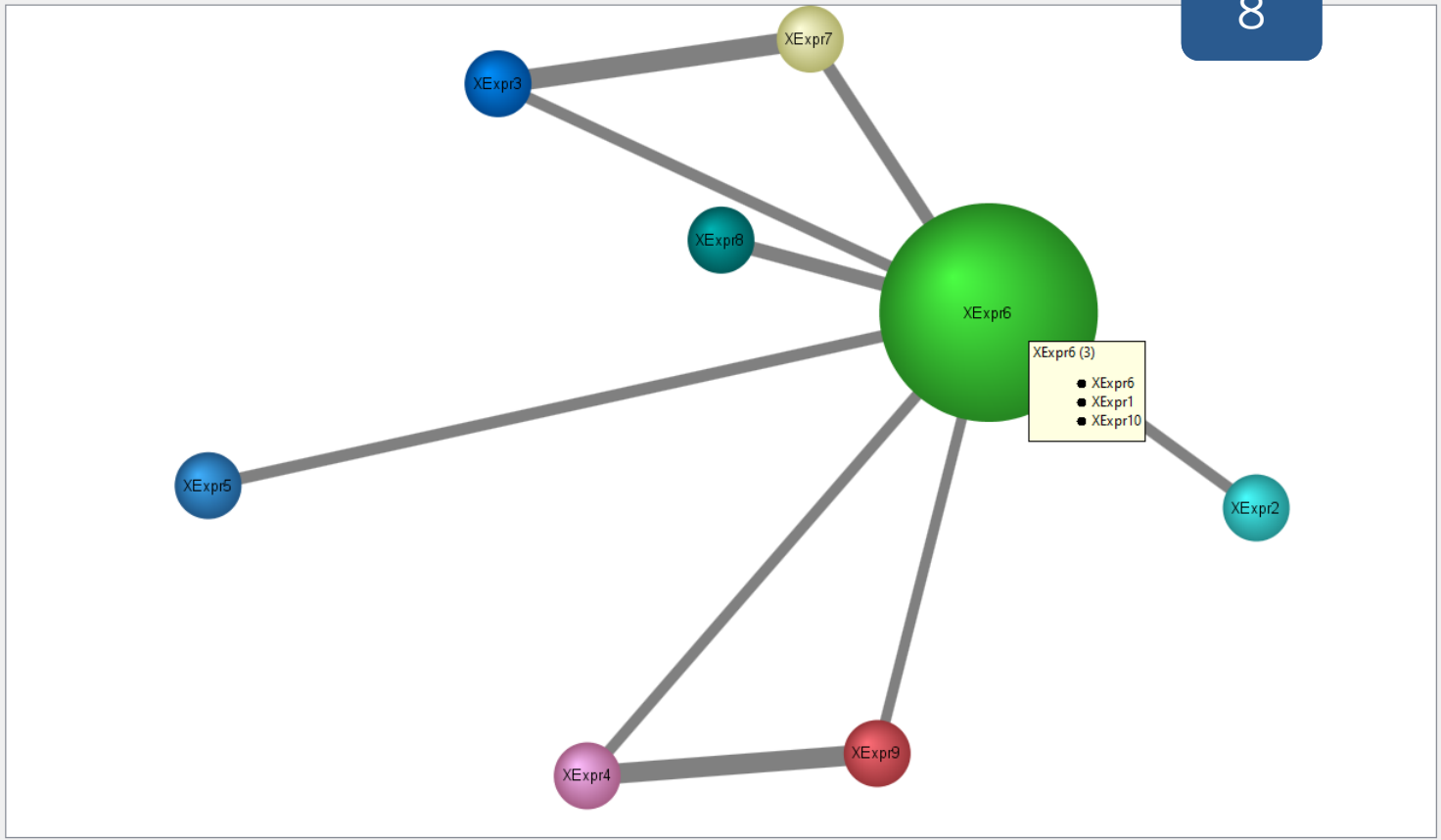

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
XExpr.xbl
Mapping
9
XExpr7
XExpr3
XExpr8
XExpr10
XExpr6
XExpr6 (2)
XExpr6
XExpr1
XExpr5
XExpr2
XExpr4
XExpr9
Virtual cluster takes the name of the strongest node within the virtual cluster as a temporary label.
Nodes “merged” into virtual cluster
I have an intense, boisterous laugh.
XExpr5
Close
Save As...
Print

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

Mapping



Close Save As... Print

I have an intense, boisterous laugh.

XExpr5

XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

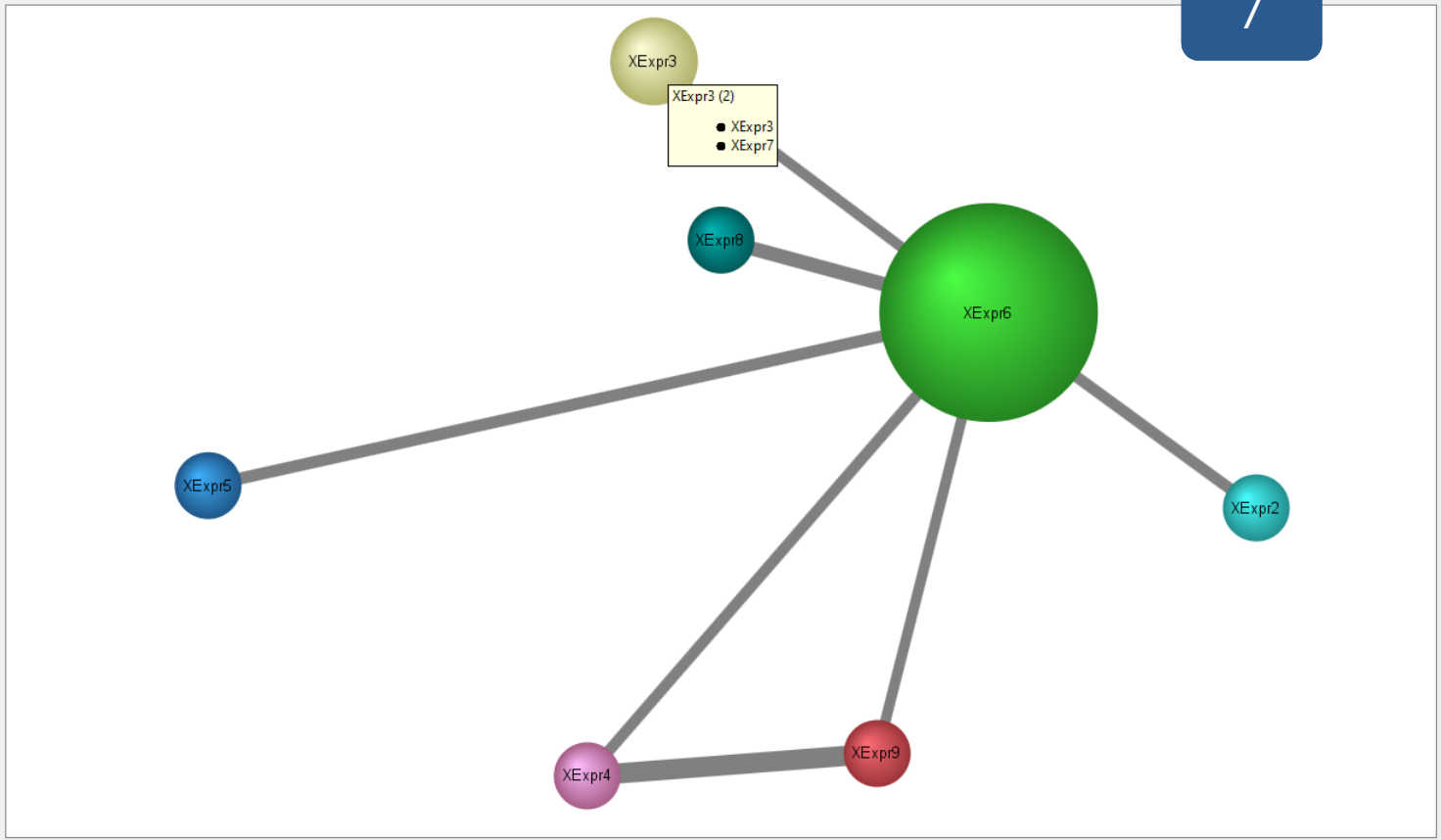
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

I have an intense, boisterous laugh.

XExpr5

Mapping



7

Close Save As... Print

XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

I have an intense, boisterous laugh.

XExpr5

Mapping

6

XExpr3

XExpr8

XExpr6

XExpr5

XExpr2

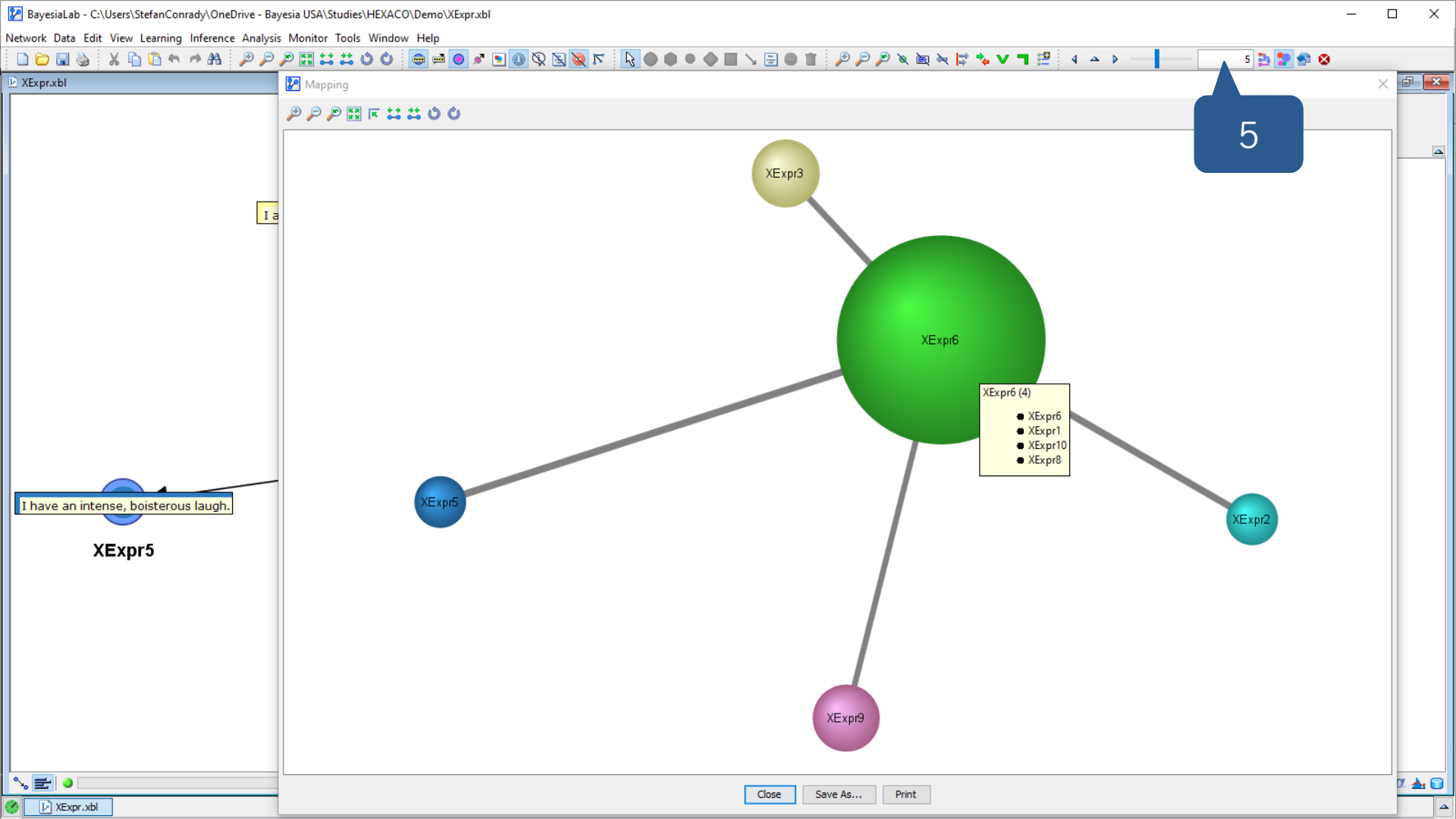
XExpr9 (2)

XExpr9

XExpr4

Close Save As... Print

XExpr.xbl


BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
XExpr.xbl
Mapping
5
XExpr3
XExpr6
XExpr6 (4)
XExpr6
XExpr1
XExpr10
XExpr8
XExpr5
XExpr2
XExpr9
I have an intense, boisterous laugh.
XExpr5
Close
Save As...
Print
XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

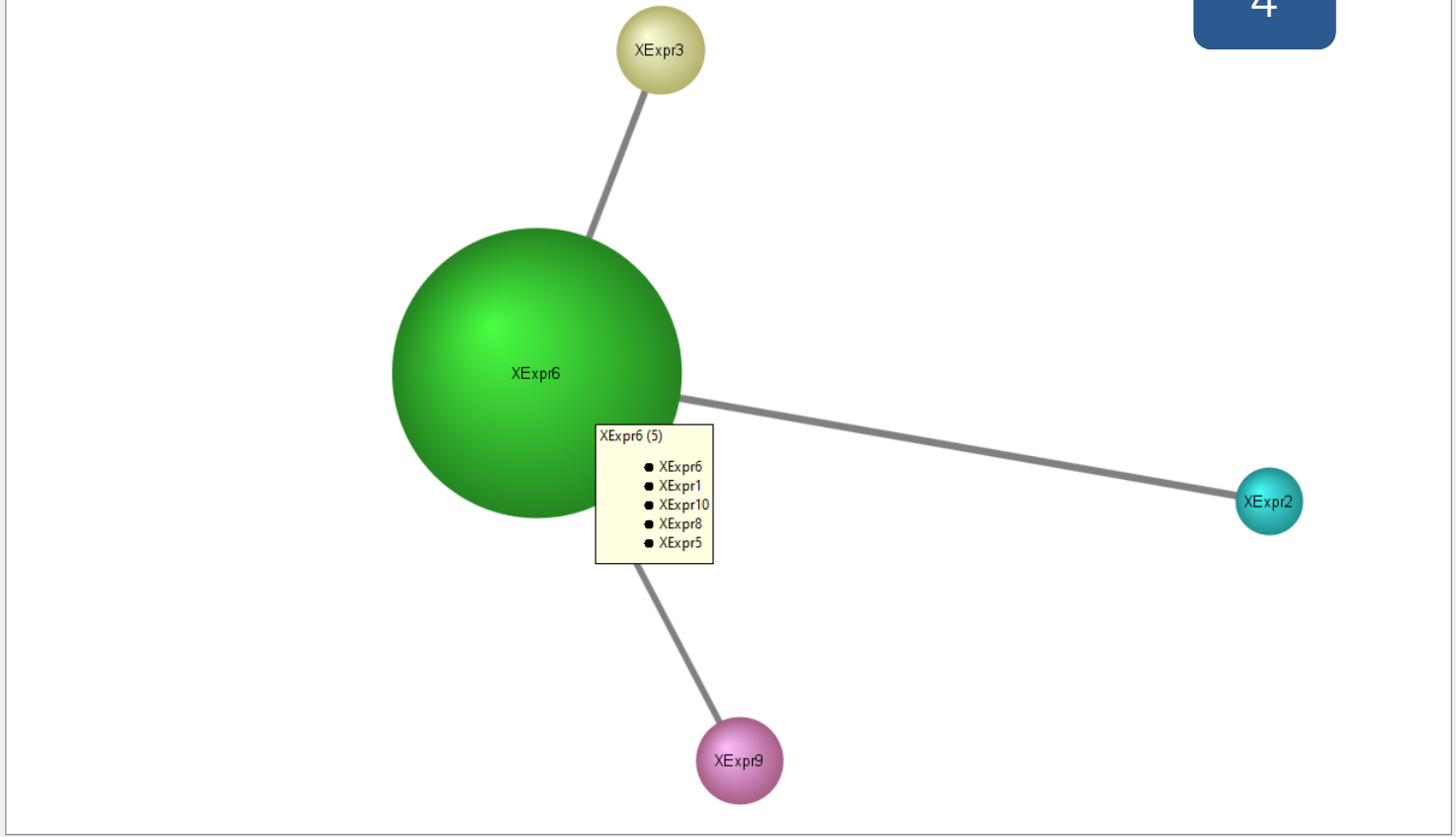
XExpr.xbl

I have an intense, boisterous laugh.

XExpr5

Mapping

4



Close Save As... Print

XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

I have an intense, boisterous laugh.

XExpr5

Mapping

3

XExpr3

XExpr6

XExpr6 (6)

- XExpr6
- XExpr1
- XExpr10
- XExpr8
- XExpr5
- XExpr2

XExpr9

Close Save As... Print

XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

I have an intense, boisterous laugh.

XExpr5

Mapping

2

XExpr6

XExpr6 (8)

- XExpr6
- XExpr1
- XExpr10
- XExpr8
- XExpr7
- XExpr3
- XExpr5
- XExpr2

XExpr9

Close Save As... Print

XExpr.xbl

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl

Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

XExpr.xbl

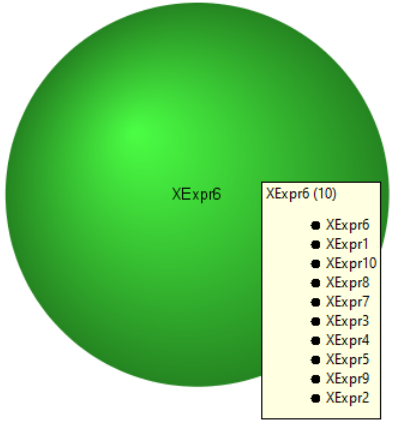
I a

I have an intense, boisterous laugh.

XExpr5

Mapping

1



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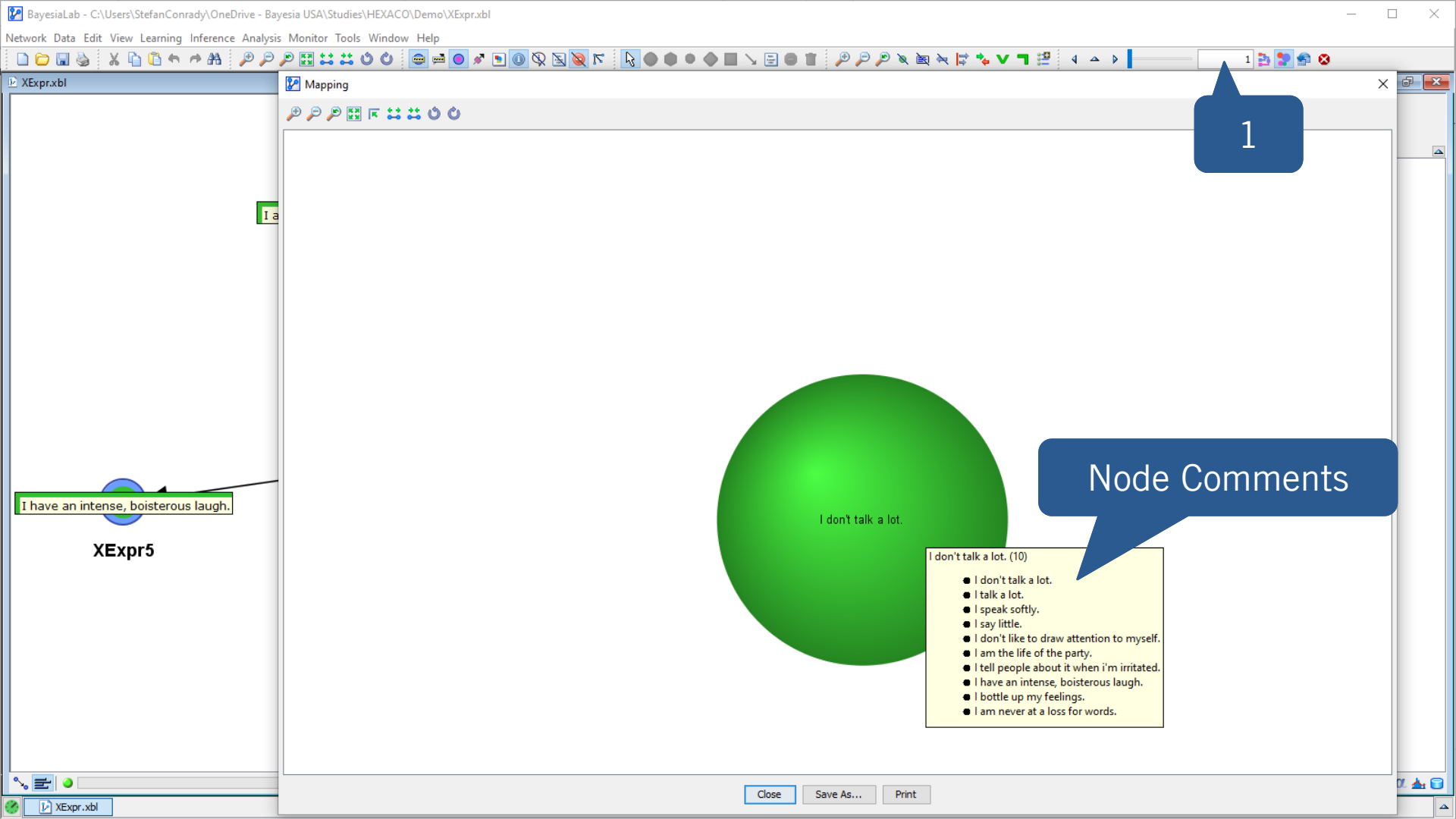
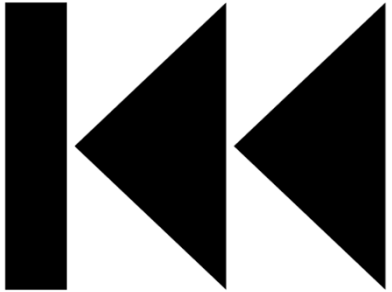
XExpr.xbl


BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\Demo\XExpr.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
XExpr.xbl
Mapping
1
I have an intense, boisterous laugh.
XExpr5
I don't talk a lot.
Node Comments
I don't talk a lot. (10)
I don't talk a lot.
I talk a lot.
I speak softly.
I say little.
I don't like to draw attention to myself.
I am the life of the party.
I tell people about it when i'm irritated.
I have an intense, boisterous laugh.
I bottle up my feelings.
I am never at a loss for words.
Close
Save As...
Print
XExpr.xbl

Arc Force

But we need a Bayesian network first, right?

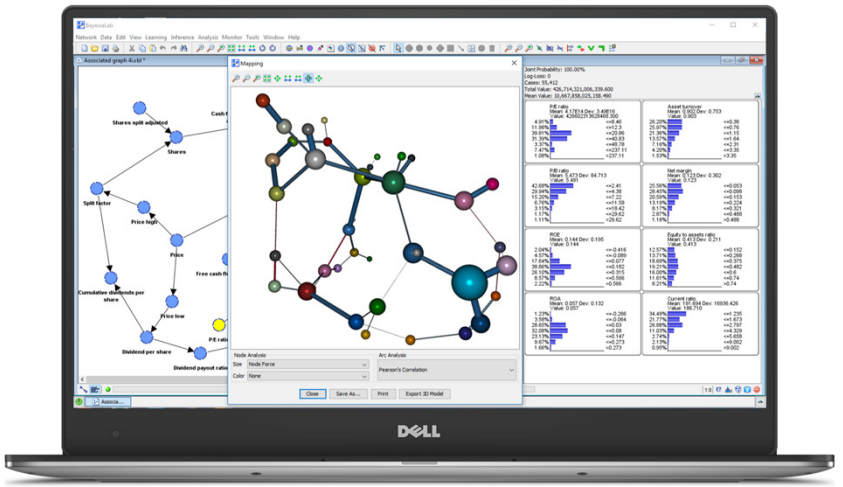
Rewind



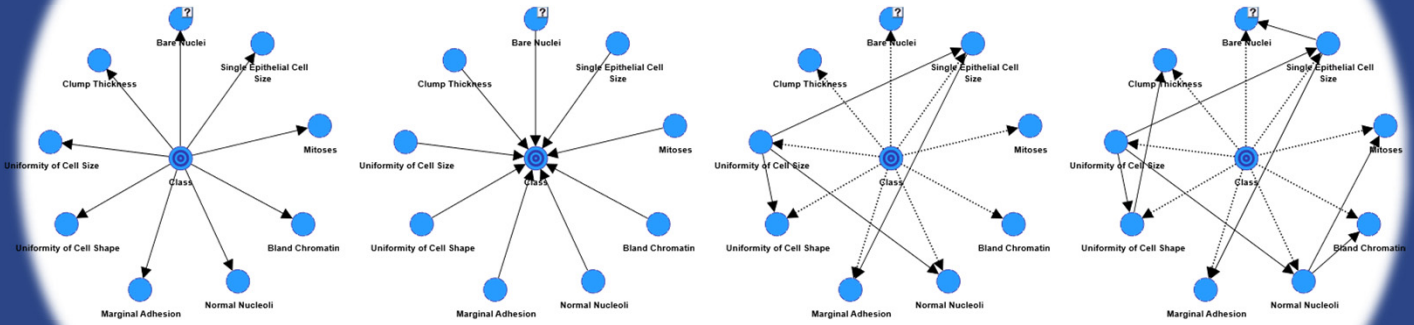
BayesiaLab Workflow

Workflow

- Machine-Learning
    - Minimum Description Length
- Clustering
    - ☑ Arc Force
- Validation
    - Log Loss
    - Contingency Table Fit
    - Purity
- Visualization & Interpretation



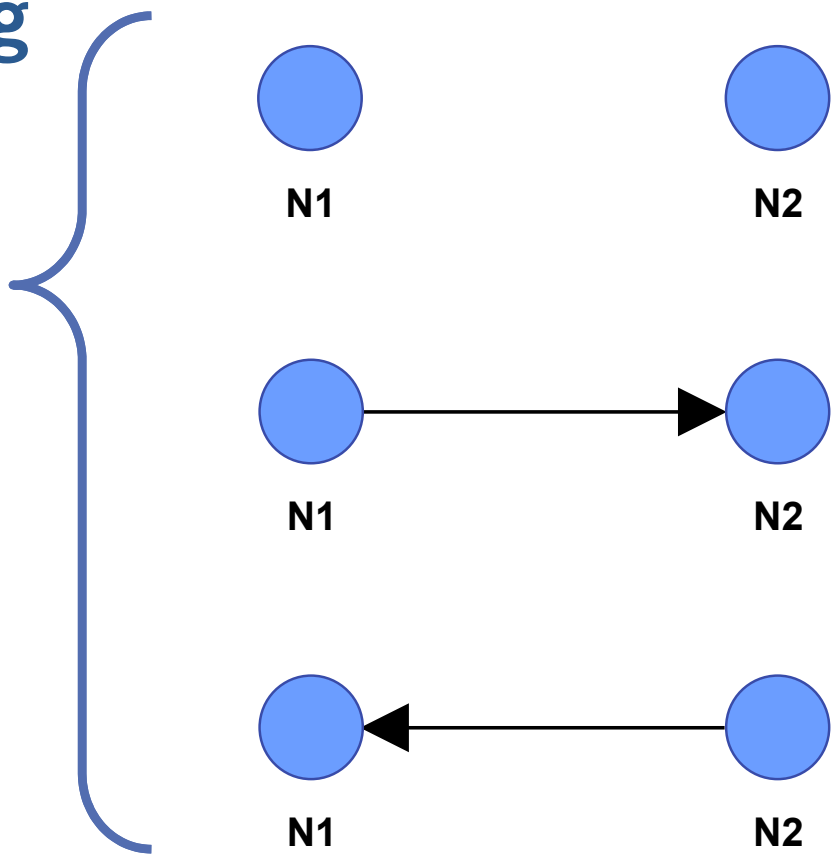
Learning=Searching



Learning=Searching

Number of Possible Networks

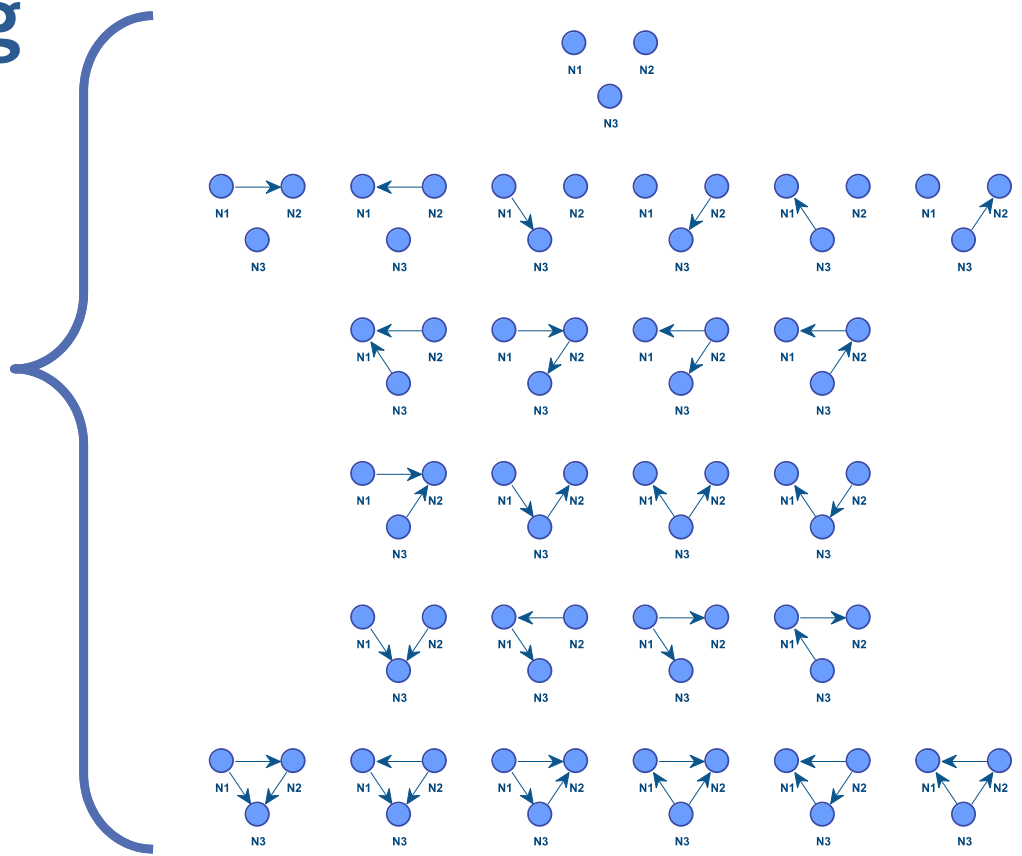
- 2 Nodes: 3



Learning=Searching

Number of Possible Networks

- 2 Nodes: 3
- 3 Nodes: 25



Learning=Searching

Number of Possible Bayesian Networks

- 2 Nodes: 3
- 3 Nodes: 25
- 4 Nodes: 543
- 5 Nodes: 29,281
- 6 Nodes: 3.8×10^{6}
- 7 Nodes: 1.1×10^{9}
- 8 Nodes: 7.8×10^{11}
- 9 Nodes: 1.2×10^{15}
- 10 Nodes: 4.2×10^{18}
- 11 Nodes: 3.2×10^{22}

⋮ ⋮

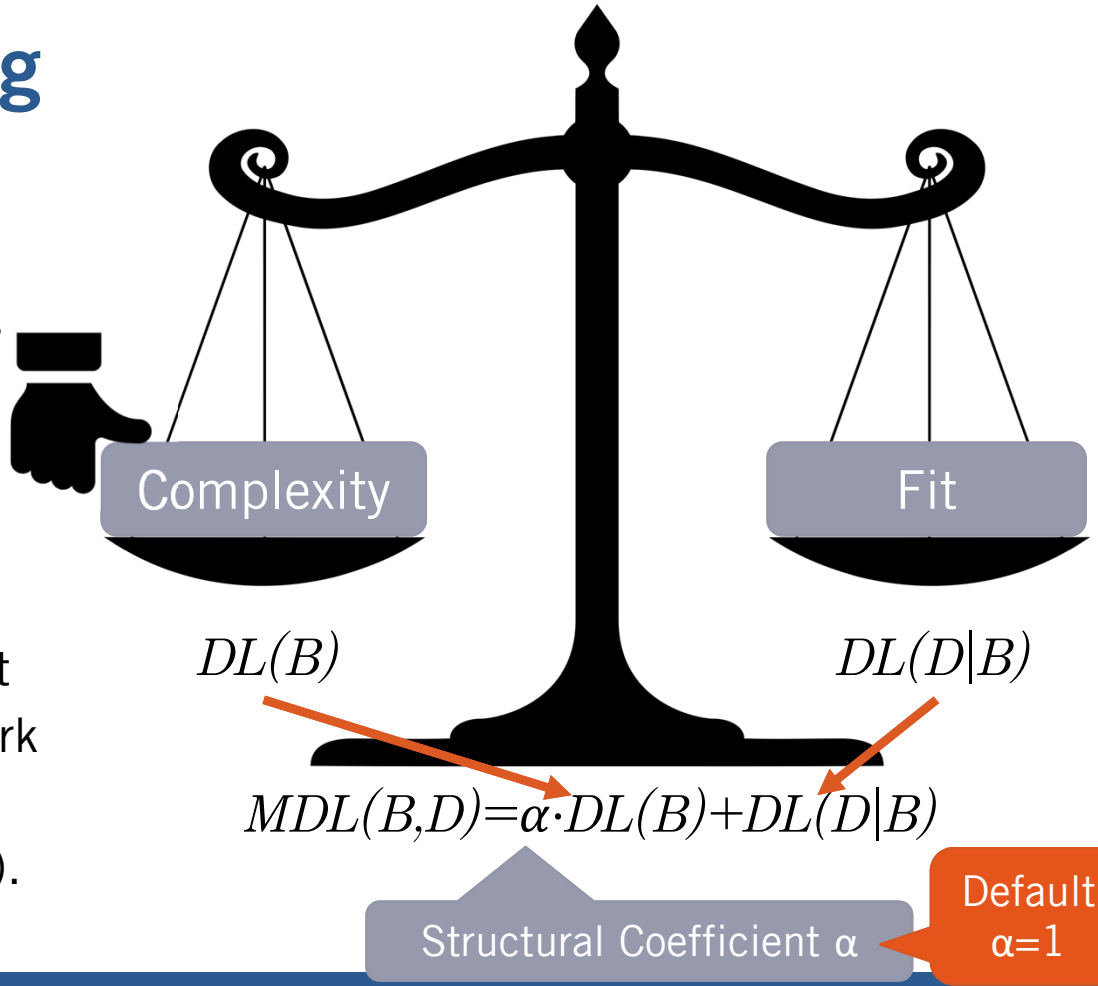
- 240 Nodes: 9.1×10^{9060}

Search Space

Learning=Searching

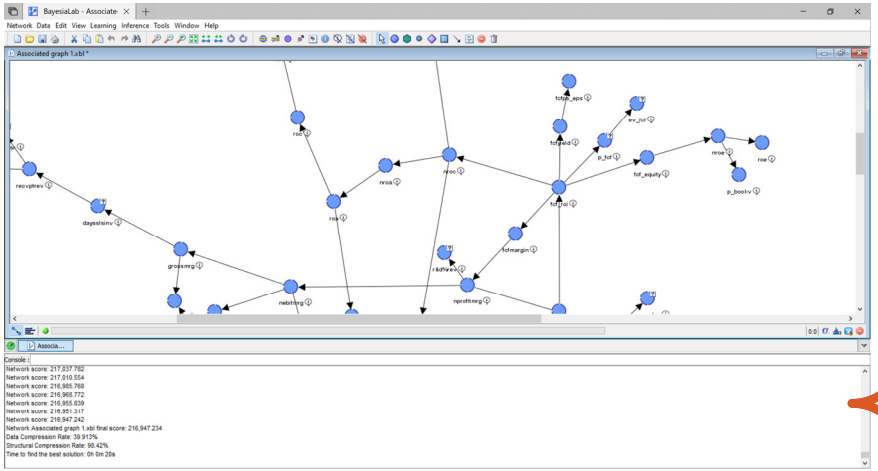
Minimum Description Length

- $DL(B)$ is the number of bits to represent the Bayesian network B (graph and probabilities), and
- $DL(D|B)$ is the number of bits to represent the dataset D given the Bayesian network B (likelihood of the data given the Bayesian network).



Learning=Searching

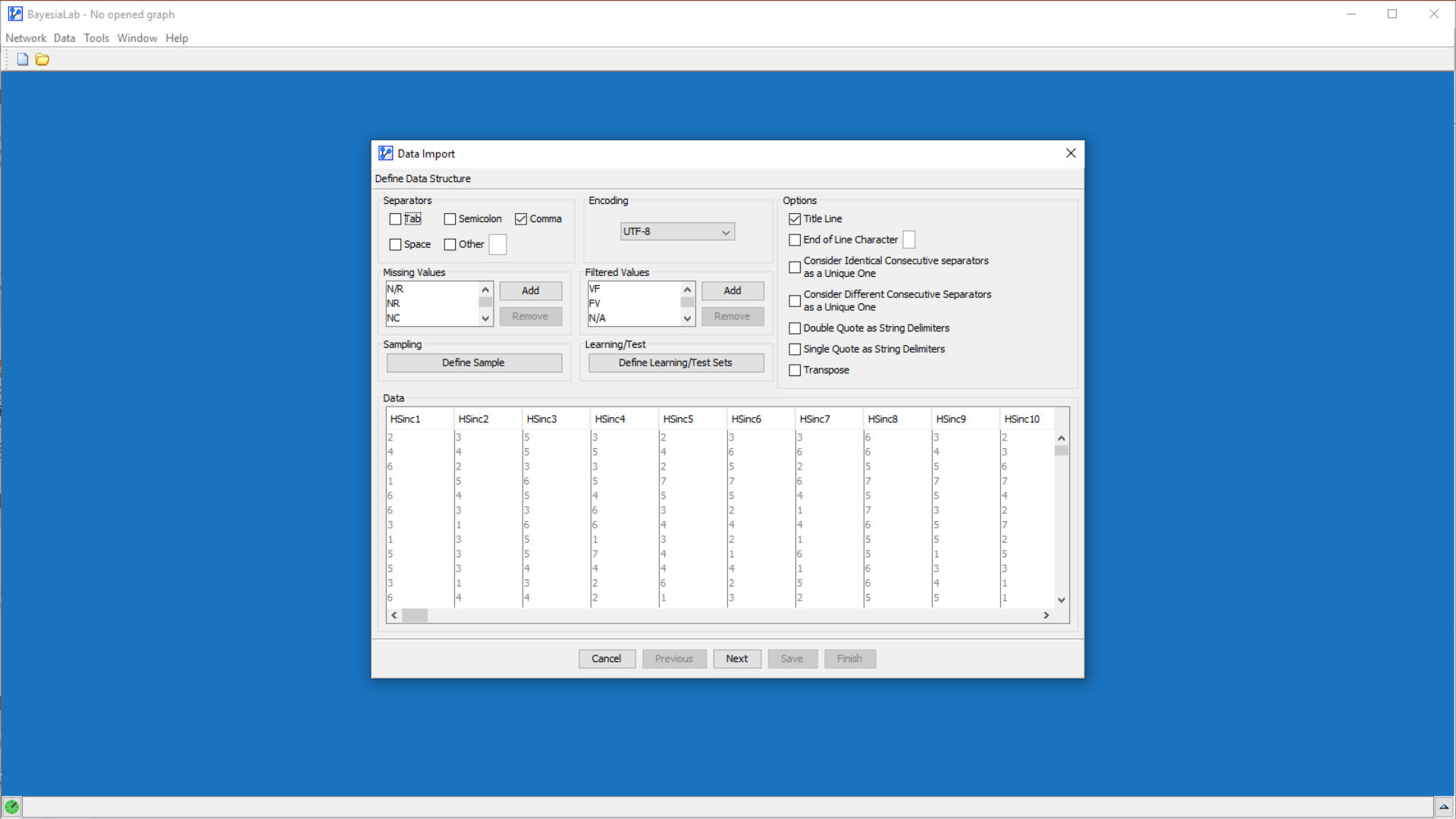
Minimum Description Length

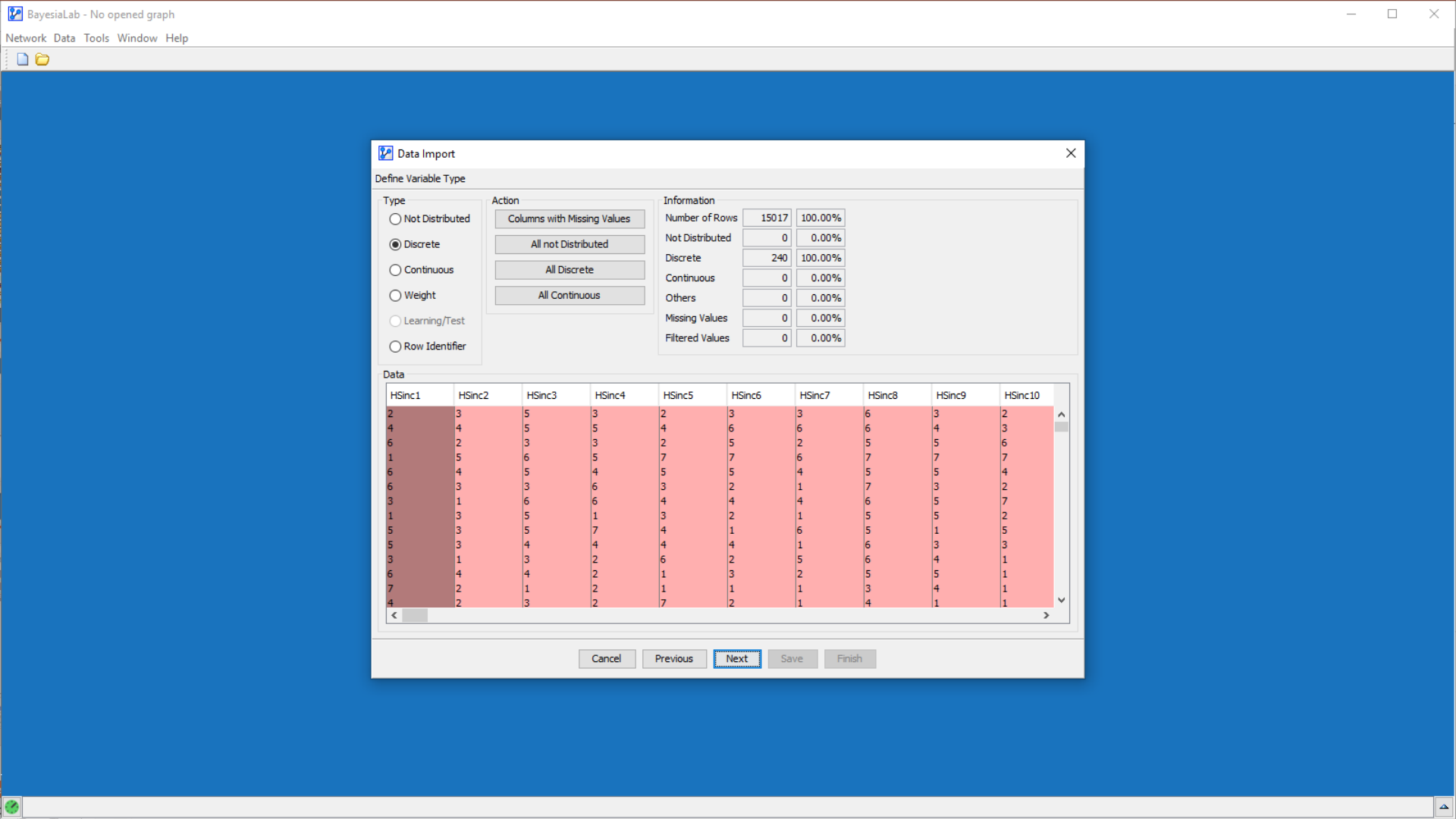


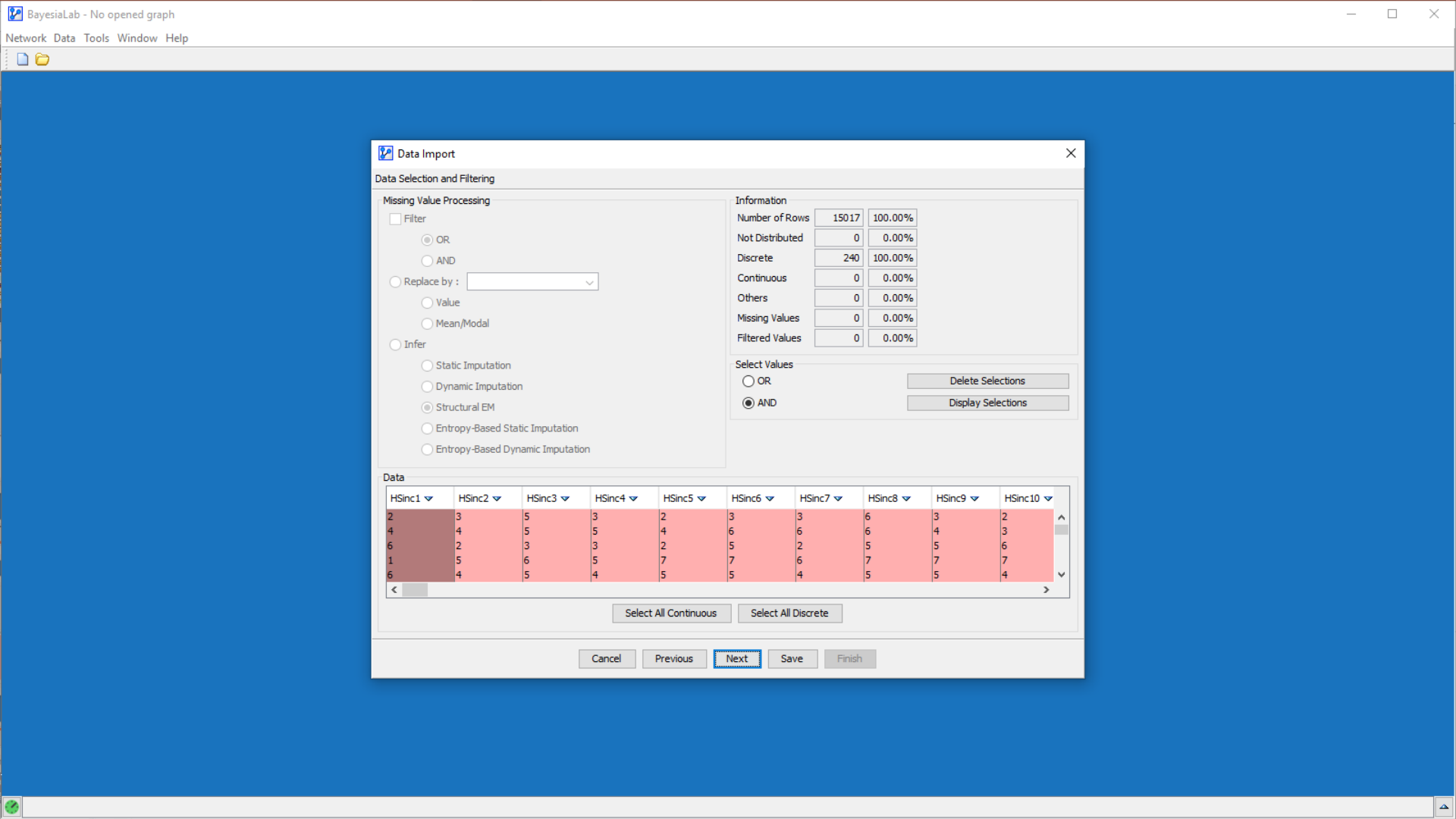
Network score: 217,884.553
Network score: 217,743.338
Network score: 217,610.856
Network score: 217,483.237
Network score: 217,359.875
Network score: 217,241.952
Network score: 217,195.628
Network score: 217,152.903
Network score: 217,113.827
Network score: 217,075.16
Network score: 217,037.782
Network score: 217,010.554
Network score: 216,985.768
Network score: 216,968.772
Network score: 216,955.839
Network score: 216,951.317
Network score: 216,947.242

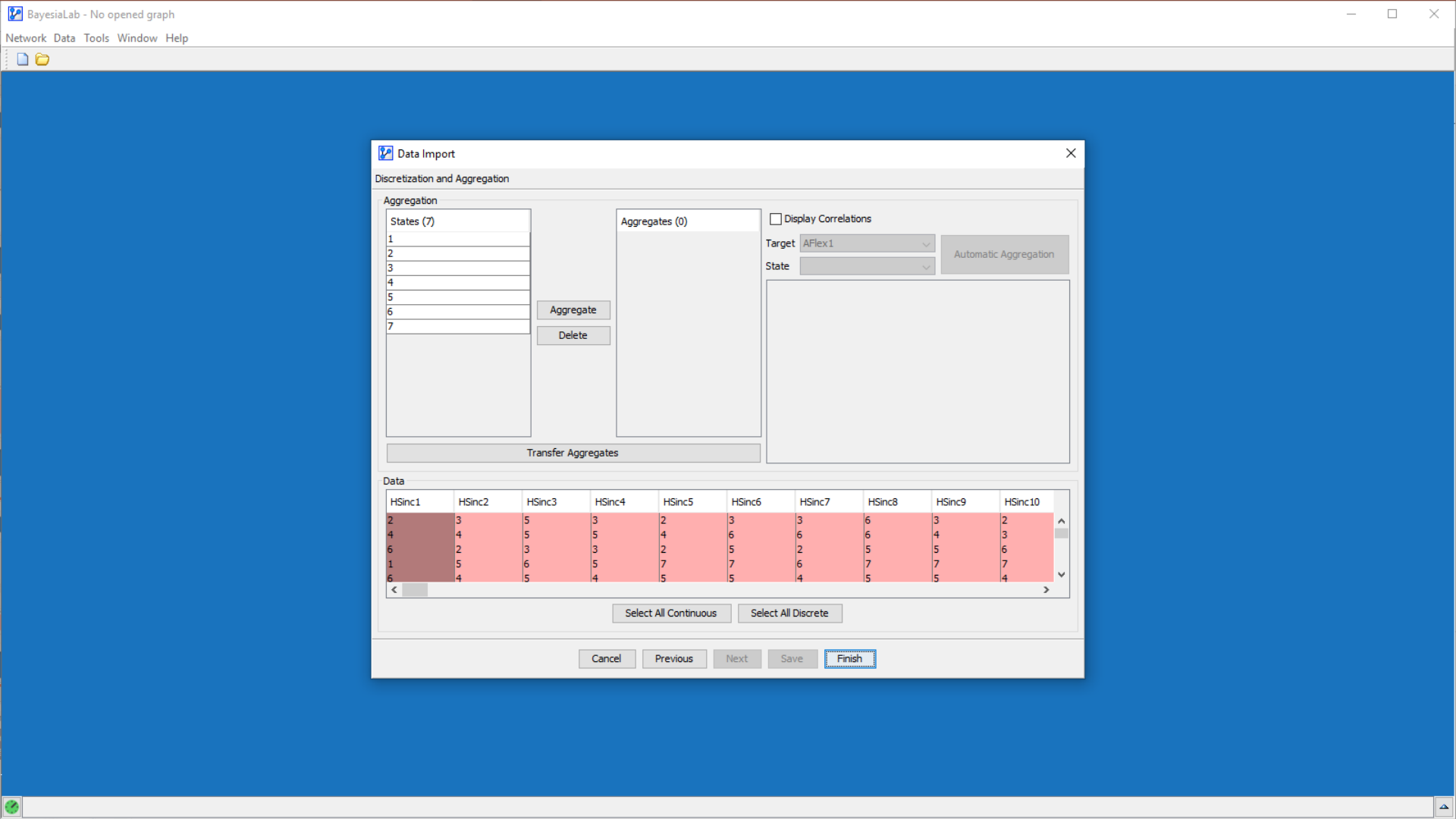
Network Associated graph 1.xbl final score: 216,947.234
Data Compression Rate: 39.913%
Structural Compression Rate: 98.42%
Time to find the best solution: 0h 0m 20s

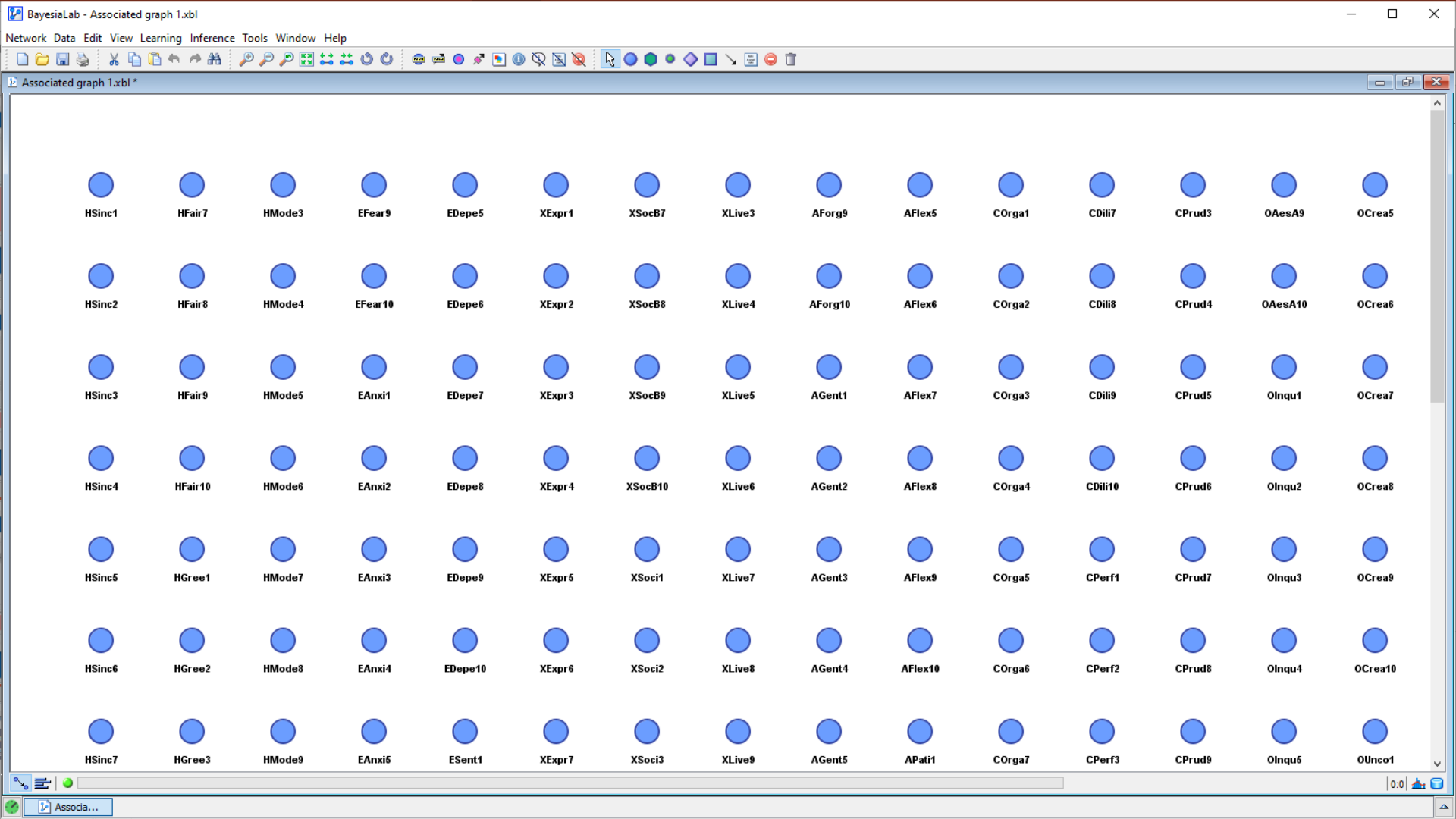
MDL Score

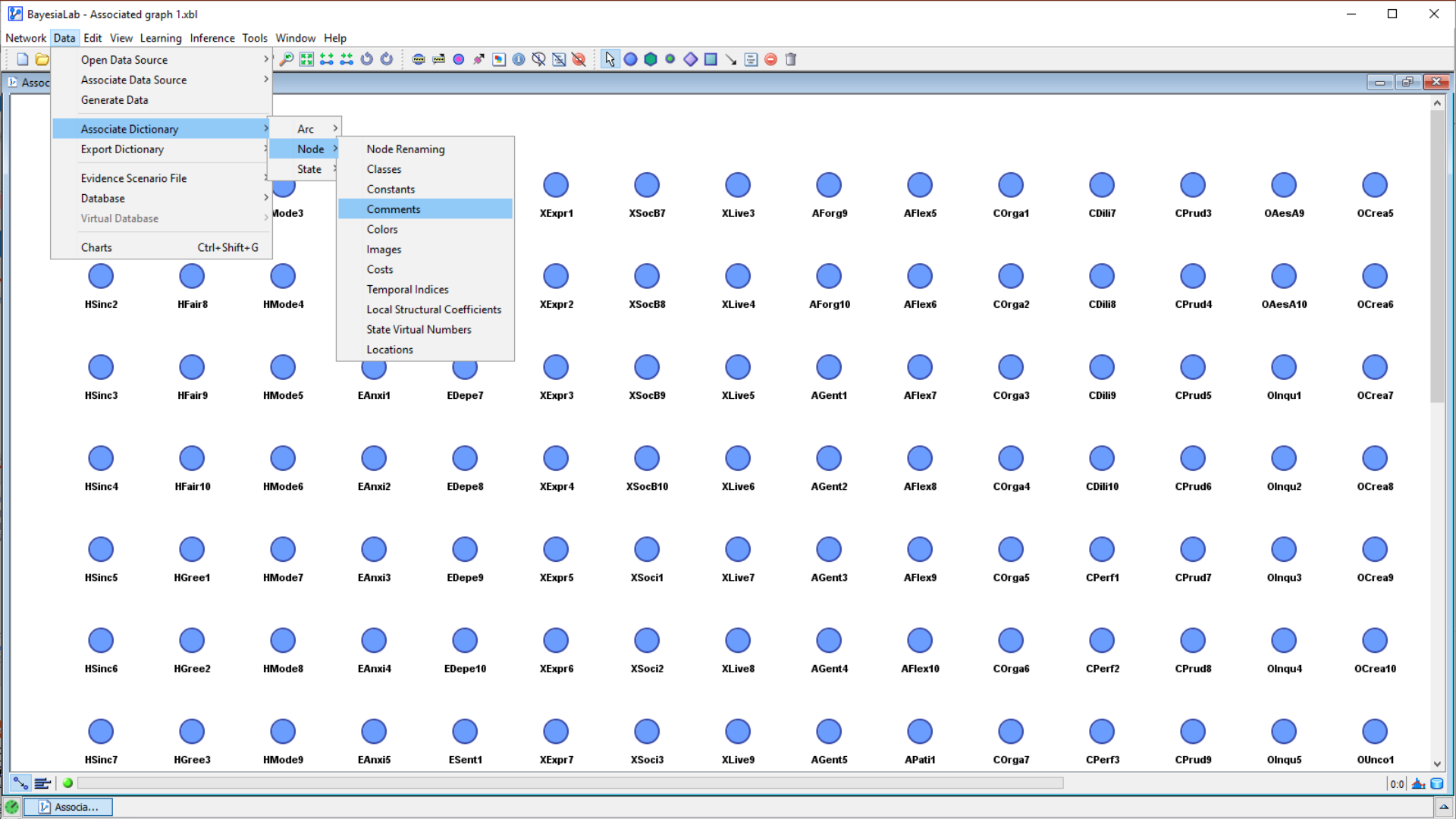

BayesiaLab - No opened graph
Network Data Tools Window Help
Data Import
Define Data Structure
Separators
Tab
Semicolon
Comma
Space
Other
Encoding
UTF-8
Options
Title Line
End of Line Character
Consider Identical Consecutive separators as a Unique One
Consider Different Consecutive Separators as a Unique One
Double Quote as String Delimiters
Single Quote as String Delimiters
Transpose
Missing Values
N/R
NR
NC
Add
Remove
Filtered Values
VF
FV
N/A
Add
Remove
Sampling
Define Sample
Learning/Test
Define Learning/Test Sets
Data
HSinc1 HSinc2 HSinc3 HSinc4 HSinc5 HSinc6 HSinc7 HSinc8 HSinc9 HSinc10
2 3 5 3 2 3 3 6 3 2
4 4 5 5 4 6 6 6 4 3
6 2 3 3 2 5 2 5 5 6
1 5 6 5 7 7 6 7 7 7
6 4 5 4 5 5 4 5 5 4
6 3 3 6 3 2 1 7 3 2
3 1 6 6 4 4 4 6 5 7
1 3 5 1 3 2 1 5 5 2
5 3 5 7 4 1 6 5 1 5
5 3 4 4 4 4 1 6 3 3
3 1 3 2 6 2 5 6 4 1
6 4 4 2 1 3 2 5 5 1
Cancel
Previous
Next
Save
Finish

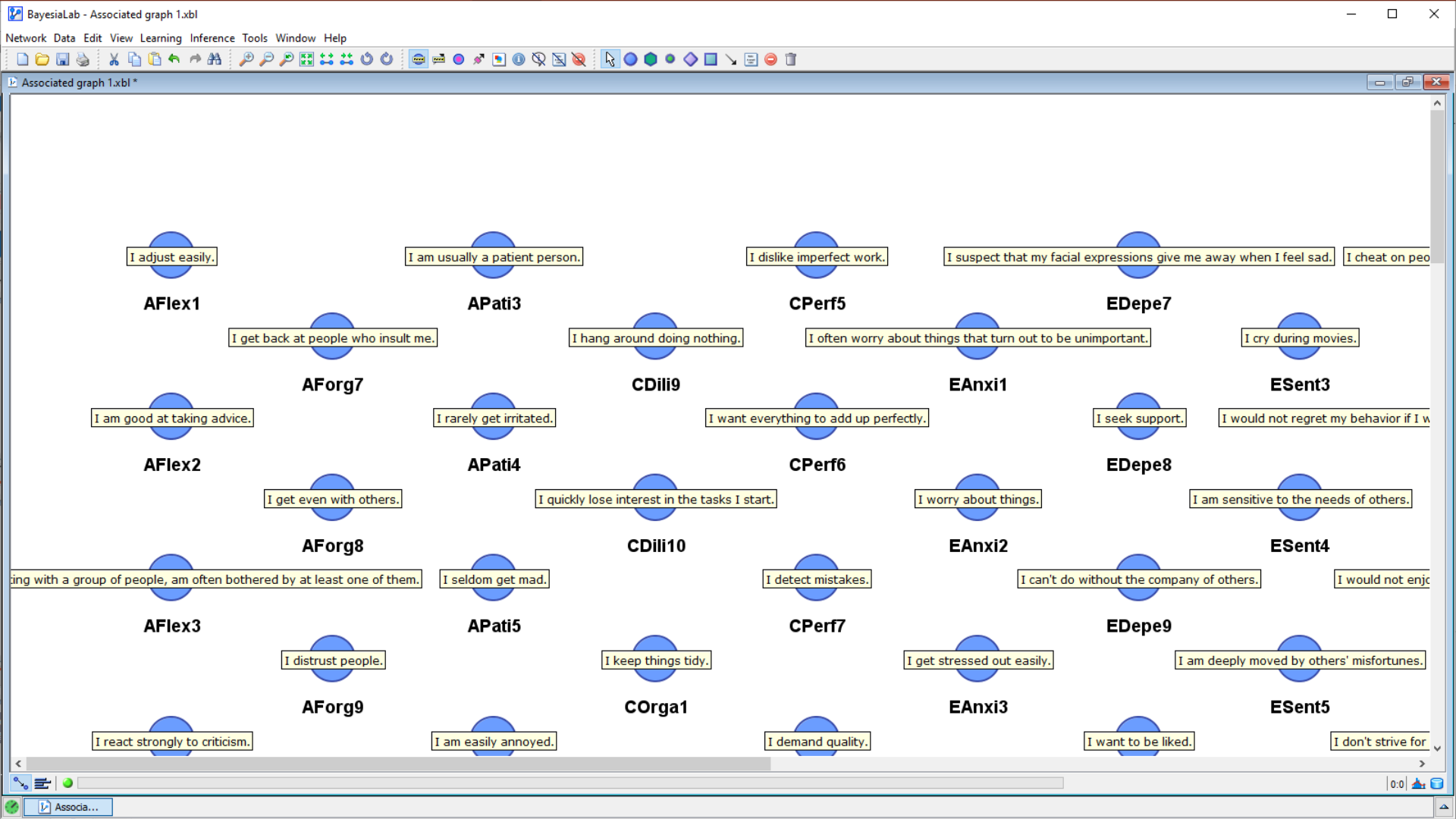

BayesiaLab - No opened graph
Network Data Tools Window Help
Data Import
Define Variable Type
Type
Not Distributed
Discrete
Continuous
Weight
Learning/Test
Row Identifier
Action
Columns with Missing Values
All not Distributed
All Discrete
All Continuous
Information
Number of Rows 15017 100.00%
Not Distributed 0 0.00%
Discrete 240 100.00%
Continuous 0 0.00%
Others 0 0.00%
Missing Values 0 0.00%
Filtered Values 0 0.00%
Data
HSinc1 HSinc2 HSinc3 HSinc4 HSinc5 HSinc6 HSinc7 HSinc8 HSinc9 HSinc10
2 3 5 3 2 3 3 6 3 2
4 4 5 5 4 6 6 6 4 3
6 2 3 3 2 5 2 5 5 6
1 5 6 5 7 7 6 7 7 7
6 4 5 4 5 5 4 5 5 4
6 3 3 6 3 2 1 7 3 2
3 1 6 6 4 4 4 6 5 7
1 3 5 1 3 2 1 5 5 2
5 3 5 7 4 1 6 5 1 5
5 3 4 4 4 4 1 6 3 3
3 1 3 2 6 2 5 6 4 1
6 4 4 2 1 3 2 5 5 1
7 2 1 2 1 1 1 3 4 1
4 2 3 2 7 2 1 4 1 1
Cancel
Previous
Next
Save
Finish

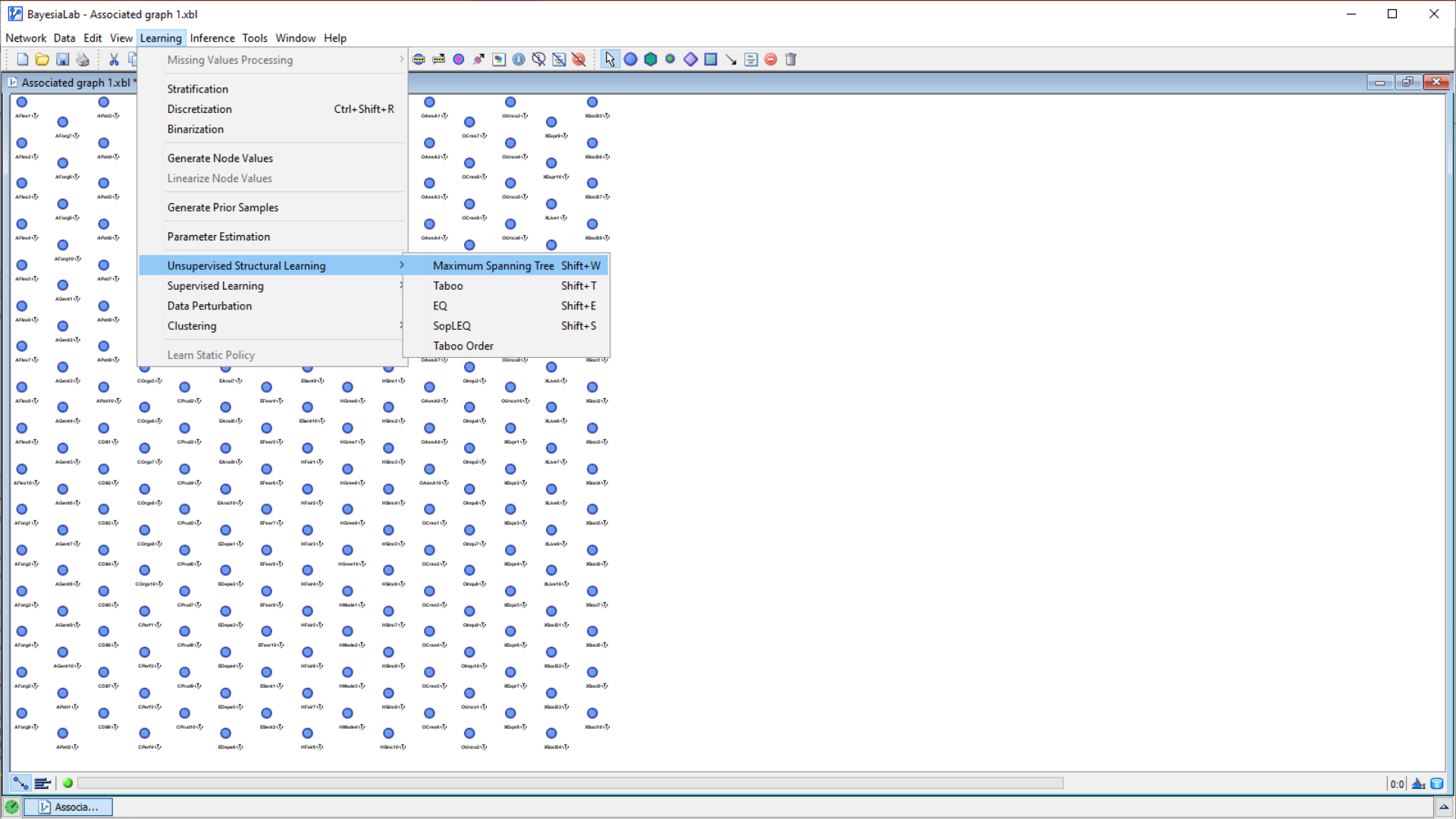

BayesiaLab - No opened graph
Network Data Tools Window Help
Data Import
Data Selection and Filtering
Missing Value Processing
Filter
OR
AND
Replace by :
Value
Mean/Modal
Infer
Static Imputation
Dynamic Imputation
Structural EM
Entropy-Based Static Imputation
Entropy-Based Dynamic Imputation
Information
Number of Rows 15017 100.00%
Not Distributed 0 0.00%
Discrete 240 100.00%
Continuous 0 0.00%
Others 0 0.00%
Missing Values 0 0.00%
Filtered Values 0 0.00%
Select Values
OR
AND
Delete Selections
Display Selections
Data
HSinc1 HSinc2 HSinc3 HSinc4 HSinc5 HSinc6 HSinc7 HSinc8 HSinc9 HSinc10
2 3 5 3 2 3 3 6 3 2
4 4 5 5 4 6 6 6 4 3
6 2 3 3 2 5 2 5 5 6
1 5 6 5 7 7 6 7 7 7
6 4 5 4 5 5 4 5 5 4
Select All Continuous
Select All Discrete
Cancel
Previous
Next
Save
Finish

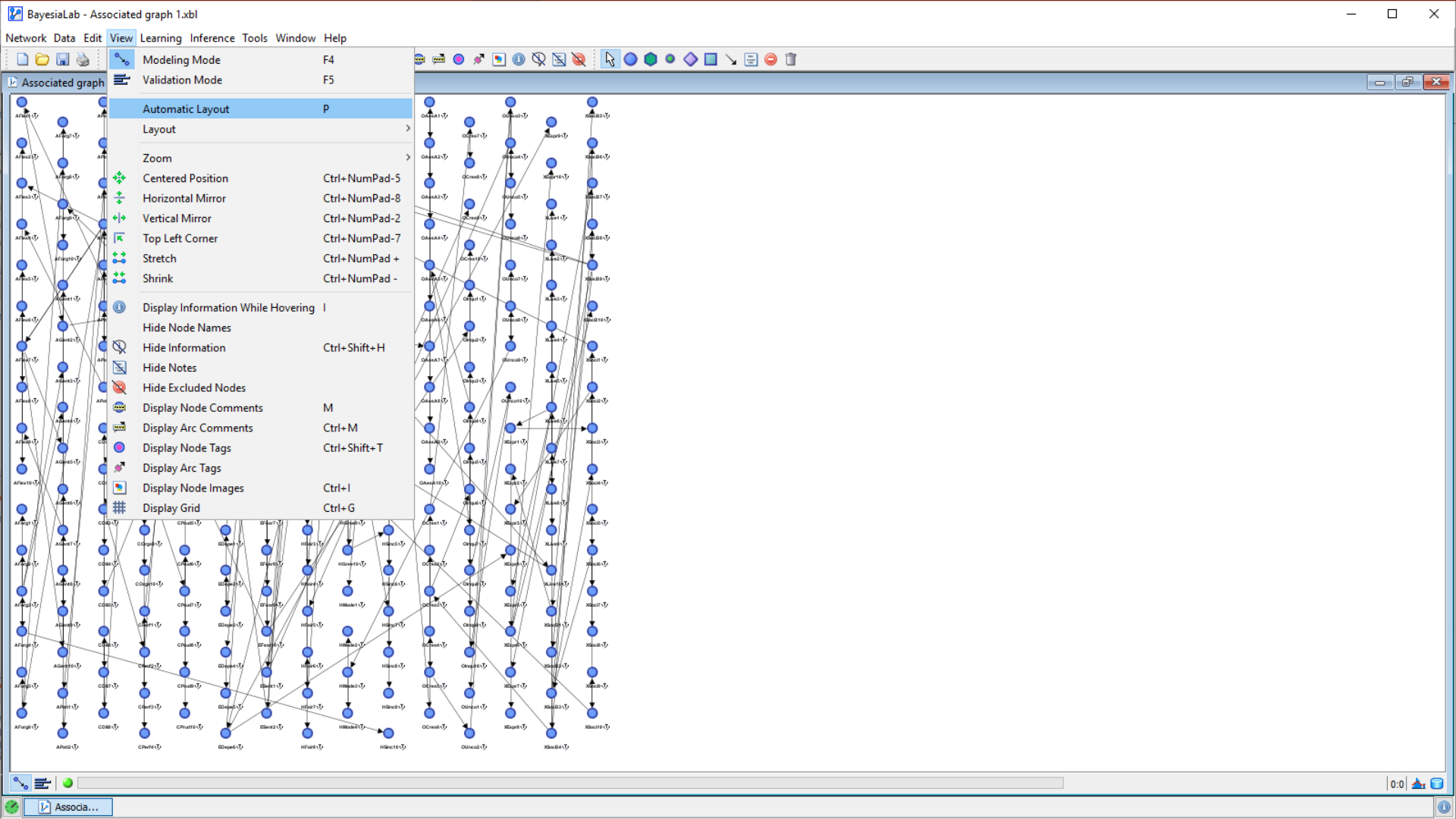

BayesiaLab - No opened graph
Network Data Tools Window Help
Data Import
Discretization and Aggregation
Aggregation
States (7)
1
2
3
4
5
6
7
Aggregate
Delete
Aggregates (0)
Display Correlations
Target AFlex1
State
Automatic Aggregation
Transfer Aggregates
Data
HSinc1 HSinc2 HSinc3 HSinc4 HSinc5 HSinc6 HSinc7 HSinc8 HSinc9 HSinc10
2 3 5 3 2 3 3 6 3 2
4 4 5 5 4 6 6 6 4 3
6 2 3 3 2 5 2 5 5 6
1 5 6 5 7 7 6 7 7 7
6 4 5 4 5 5 4 5 5 4
Select All Continuous
Select All Discrete
Cancel
Previous
Next
Save
Finish


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Associated graph 1.xbl *
HSinc1 HFair7 HMode3 EFear9 EDepe5 XExpr1 XSocB7 XLive3 AForg9 AFlex5 COrga1 CDili7 CPrud3 OAesA9 OCrea5
HSinc2 HFair8 HMode4 EFear10 EDepe6 XExpr2 XSocB8 XLive4 AForg10 AFlex6 COrga2 CDili8 CPrud4 OAesA10 OCrea6
HSinc3 HFair9 HMode5 EAnxi1 EDepe7 XExpr3 XSocB9 XLive5 AGent1 AFlex7 COrga3 CDili9 CPrud5 OInqu1 OCrea7
HSinc4 HFair10 HMode6 EAnxi2 EDepe8 XExpr4 XSocB10 XLive6 AGent2 AFlex8 COrga4 CDili10 CPrud6 OInqu2 OCrea8
HSinc5 HGree1 HMode7 EAnxi3 EDepe9 XExpr5 XSoci1 XLive7 AGent3 AFlex9 COrga5 CPerf1 CPrud7 OInqu3 OCrea9
HSinc6 HGree2 HMode8 EAnxi4 EDepe10 XExpr6 XSoci2 XLive8 AGent4 AFlex10 COrga6 CPerf2 CPrud8 OInqu4 OCrea10
HSinc7 HGree3 HMode9 EAnxi5 ESent1 XExpr7 XSoci3 XLive9 AGent5 APati1 COrga7 CPerf3 CPrud9 OInqu5 OUnco1
0:0
Associa...


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Open Data Source
Associate Data Source
Generate Data
Associate Dictionary
Export Dictionary
Evidence Scenario File
Database
Virtual Database
Charts Ctrl+Shift+G
Arc
Node
State
Node Renaming
Classes
Constants
Comments
Colors
Images
Costs
Temporal Indices
Local Structural Coefficients
State Virtual Numbers
Locations
HSinc2 HFair8 HMode4 XExpr2 XSocB8 XLive4 AForg10 AFlex6 COrga2 CDili8 CPrud4 OAesA10 OCrea6
HSinc3 HFair9 HMode5 EAnxi1 EDepe7 XExpr3 XSocB9 XLive5 AGent1 AFlex7 COrga3 CDili9 CPrud5 OInqu1 OCrea7
HSinc4 HFair10 HMode6 EAnxi2 EDepe8 XExpr4 XSocB10 XLive6 AGent2 AFlex8 COrga4 CDili10 CPrud6 OInqu2 OCrea8
HSinc5 HGree1 HMode7 EAnxi3 EDepe9 XExpr5 XSoci1 XLive7 AGent3 AFlex9 COrga5 CPerf1 CPrud7 OInqu3 OCrea9
HSinc6 HGree2 HMode8 EAnxi4 EDepe10 XExpr6 XSoci2 XLive8 AGent4 AFlex10 COrga6 CPerf2 CPrud8 OInqu4 OCrea10
HSinc7 HGree3 HMode9 EAnxi5 ESent1 XExpr7 XSoci3 XLive9 AGent5 APati1 COrga7 CPerf3 CPrud9 OInqu5 OUnco1
XExpr1 XSocB7 XLive3 AForg9 AFlex5 COrga1 CDili7 CPrud3 OAesA9 OCrea5


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Associated graph 1.xbl *
I adjust easily.
AFlex1
I am usually a patient person.
APati3
I dislike imperfect work.
CPerf5
I suspect that my facial expressions give me away when I feel sad.
EDepe7
I get back at people who insult me.
AForg7
I hang around doing nothing.
CDili9
I often worry about things that turn out to be unimportant.
EAnxi1
I cry during movies.
ESent3
I am good at taking advice.
AFlex2
I rarely get irritated.
APati4
I want everything to add up perfectly.
CPerf6
I seek support.
EDepe8
I would not regret my behavior if I w
I get even with others.
AForg8
I quickly lose interest in the tasks I start.
CDili10
I worry about things.
EAnxi2
I am sensitive to the needs of others.
ESent4
ting with a group of people, am often bothered by at least one of them.
AFlex3
I seldom get mad.
APati5
I detect mistakes.
CPerf7
I can't do without the company of others.
EDepe9
I would not enjo
I distrust people.
AForg9
I keep things tidy.
COrga1
I get stressed out easily.
EAnxi3
I am deeply moved by others' misfortunes.
ESent5
I react strongly to criticism.
I am easily annoyed.
I demand quality.
I want to be liked.
I don't strive for
0:0
Associa...

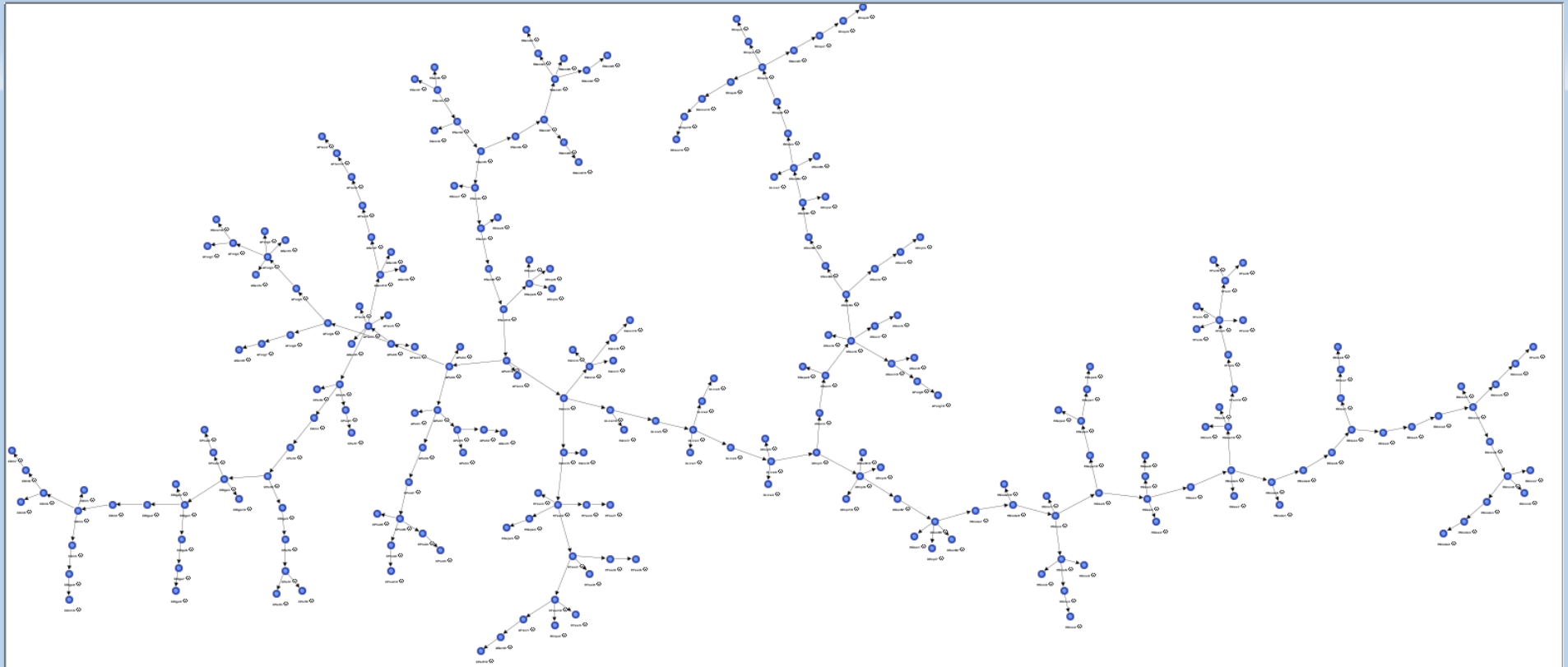

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Missing Values Processing
Stratification
Discretization Ctrl+Shift+R
Binarization
Generate Node Values
Linearize Node Values
Generate Prior Samples
Parameter Estimation
Unsupervised Structural Learning
Supervised Learning
Data Perturbation
Clustering
Learn Static Policy
Maximum Spanning Tree Shift+W
Taboo Shift+T
EQ Shift+E
SopLEQ Shift+S
Taboo Order
Associated graph 1.xbl *
0:0


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Modeling Mode F4
Validation Mode F5
Automatic Layout P
Layout
Zoom
Centered Position Ctrl+NumPad-5
Horizontal Mirror Ctrl+NumPad-8
Vertical Mirror Ctrl+NumPad-2
Top Left Corner Ctrl+NumPad-7
Stretch Ctrl+NumPad +
Shrink Ctrl+NumPad -
Display Information While Hovering I
Hide Node Names
Hide Information Ctrl+Shift+H
Hide Notes
Hide Excluded Nodes
Display Node Comments M
Display Arc Comments Ctrl+M
Display Node Tags Ctrl+Shift+T
Display Arc Tags
Display Node Images Ctrl+I
Display Grid Ctrl+G
Associated graph
0:0
Associa...

BayesiaLab - Associated graph 1.xbl

Network Data Edit View Learning Inference Tools Window Help

Associated graph 1.xbl *



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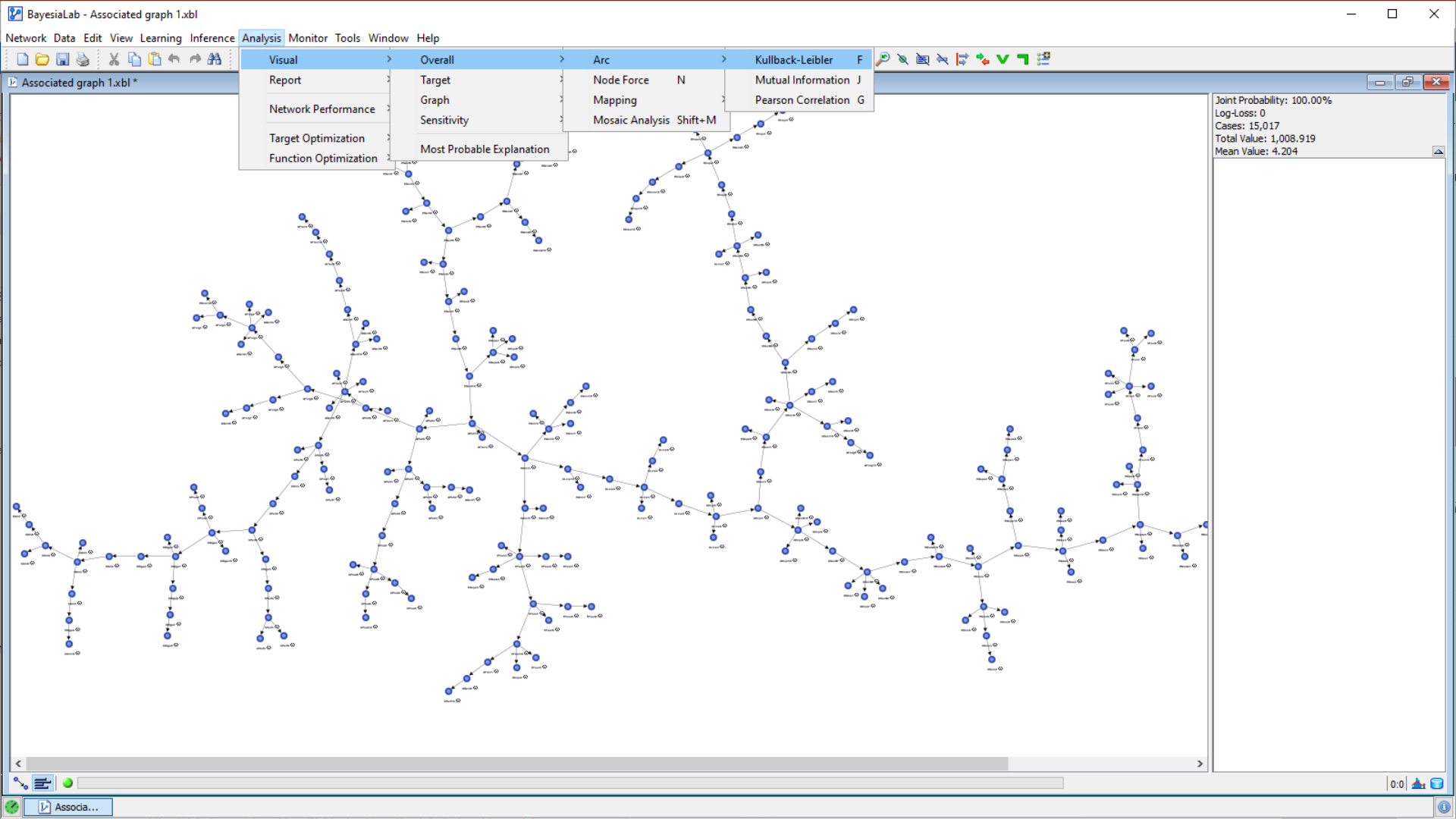
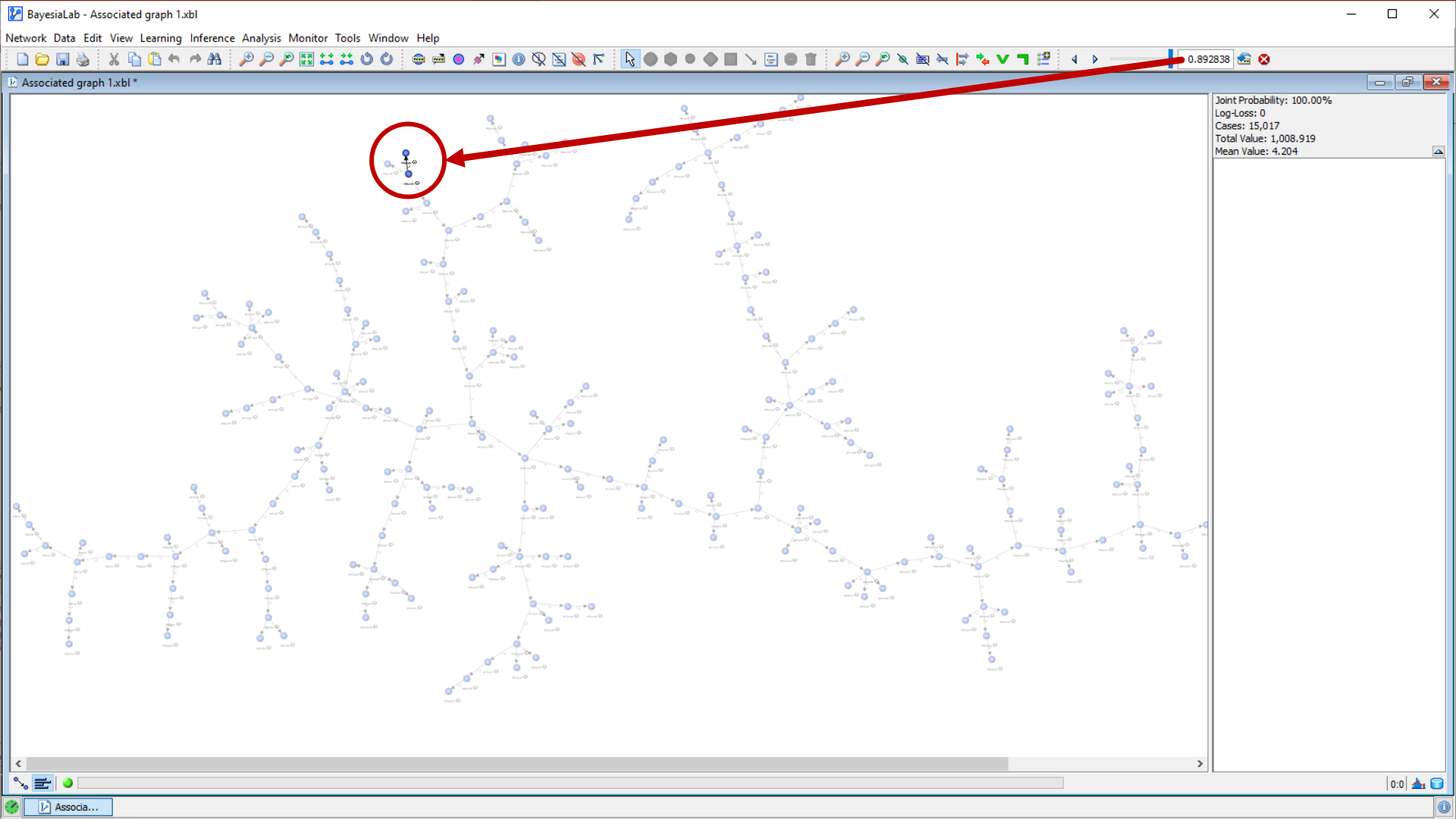
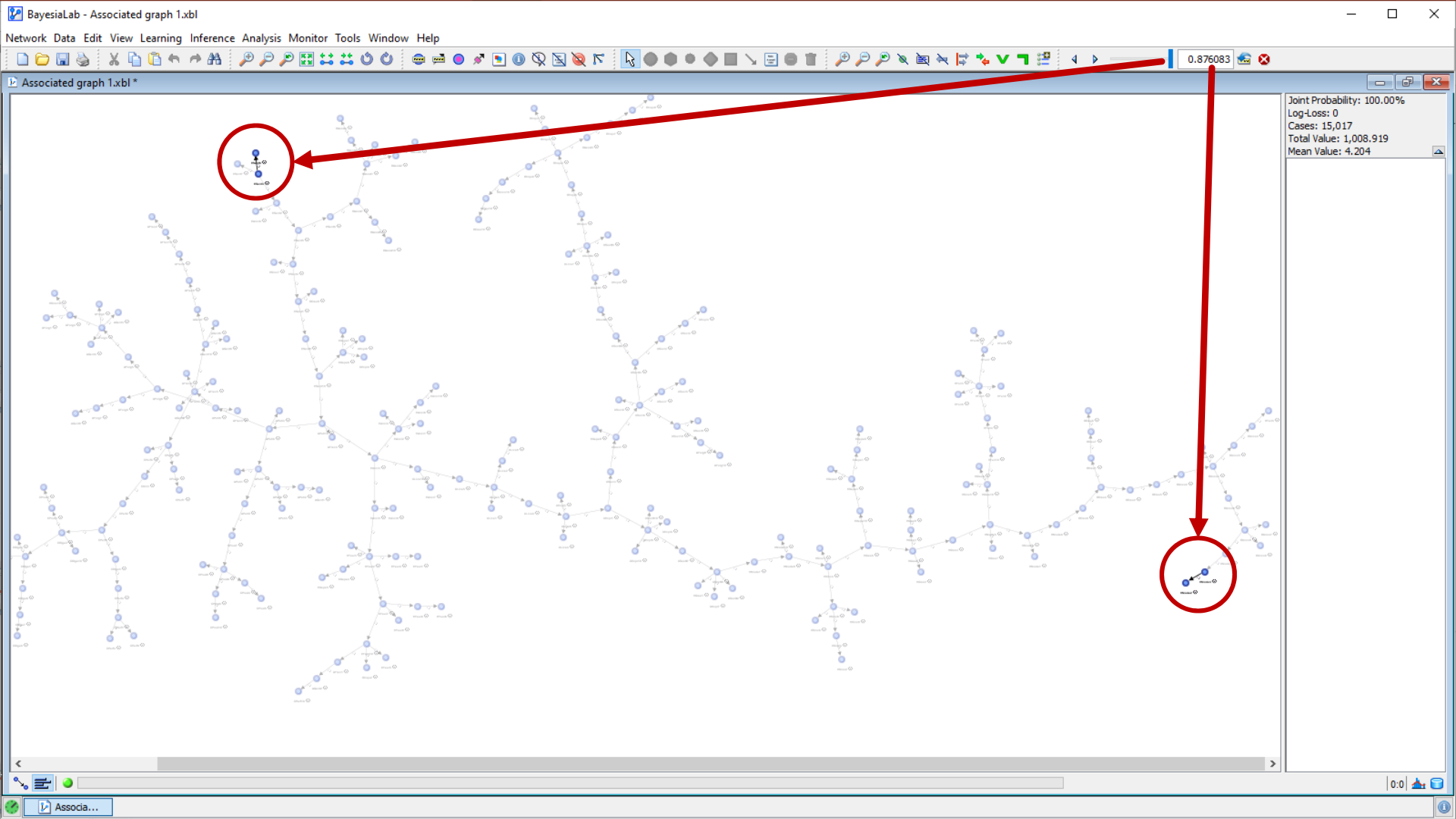
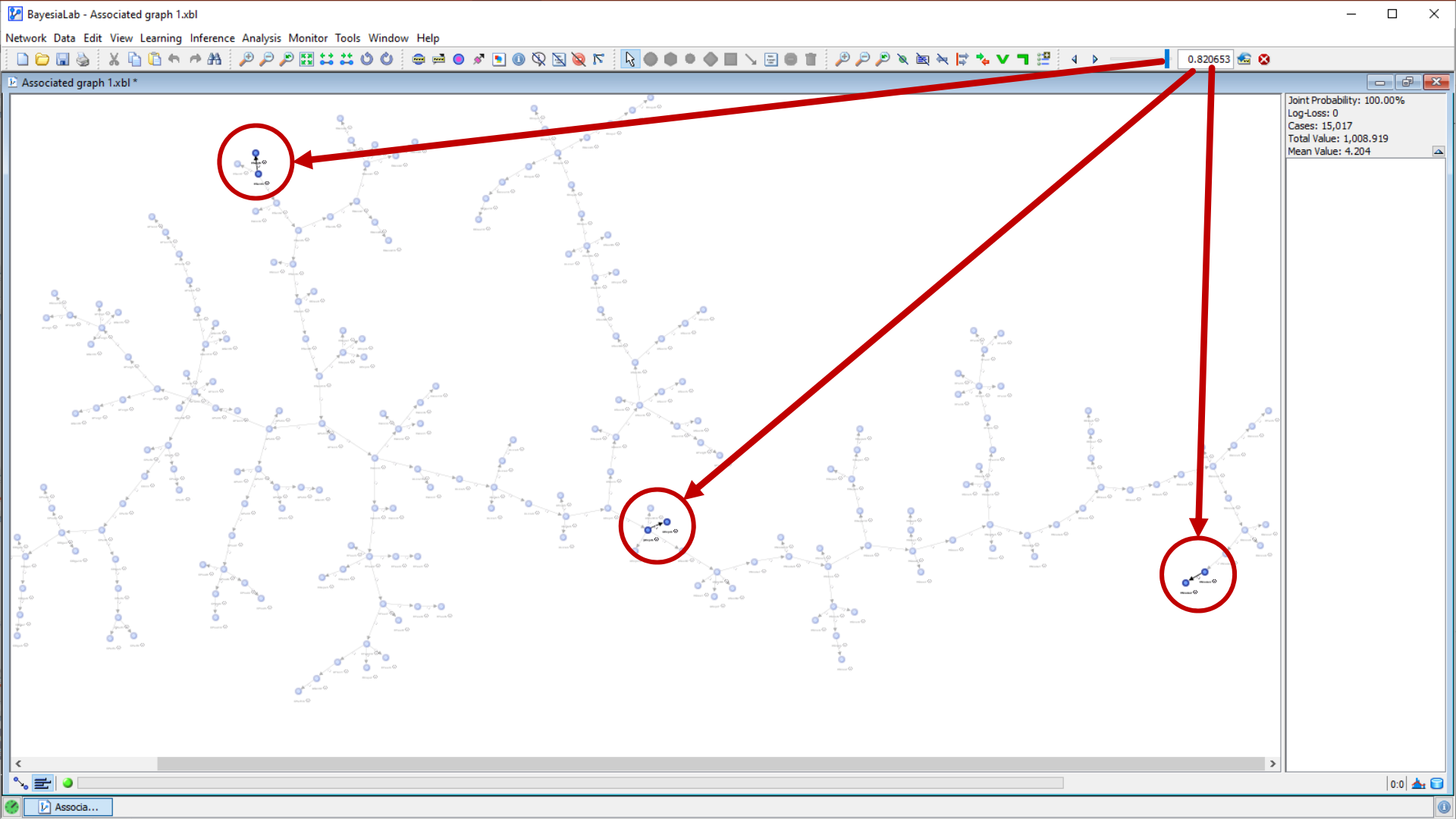
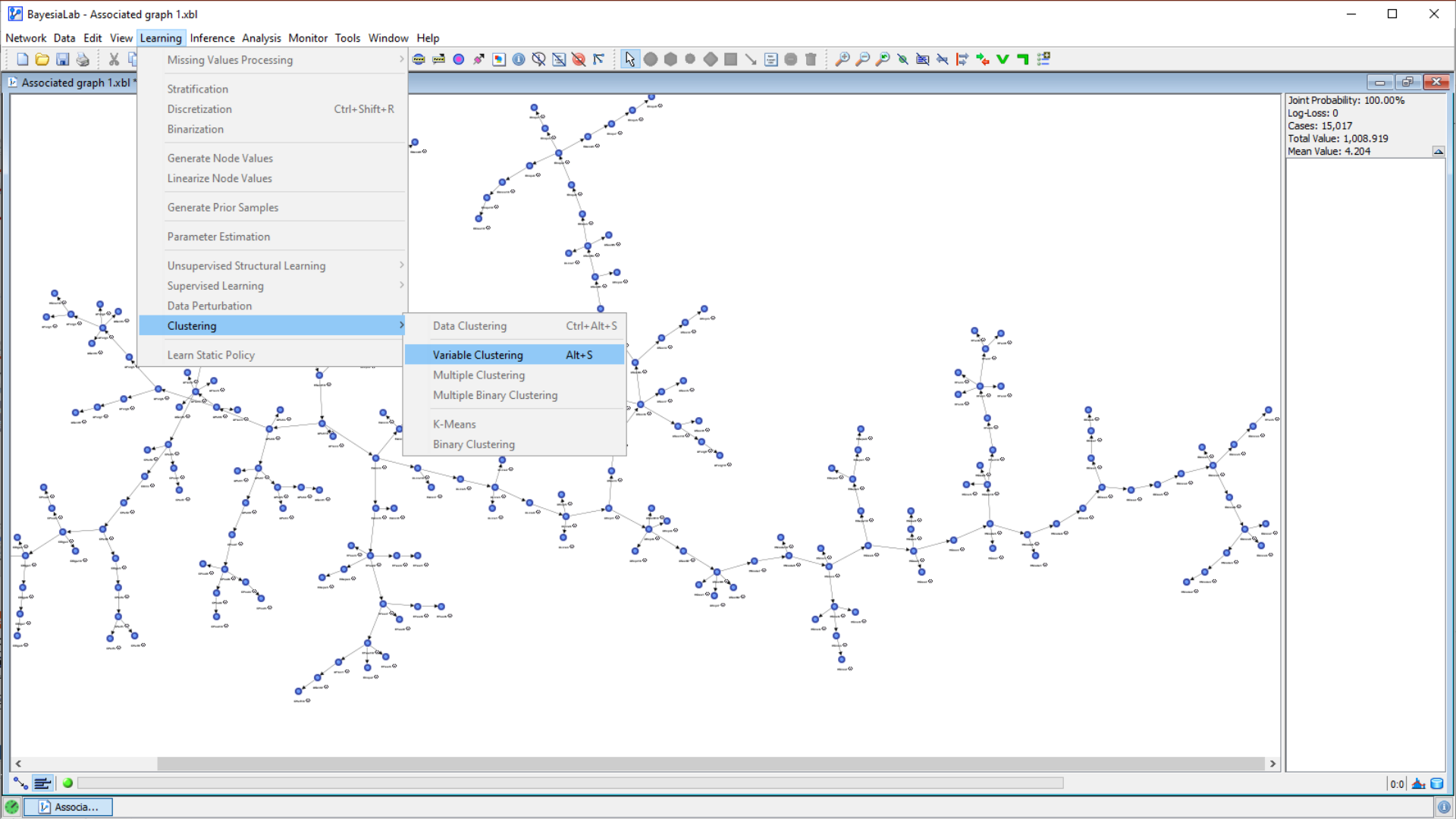
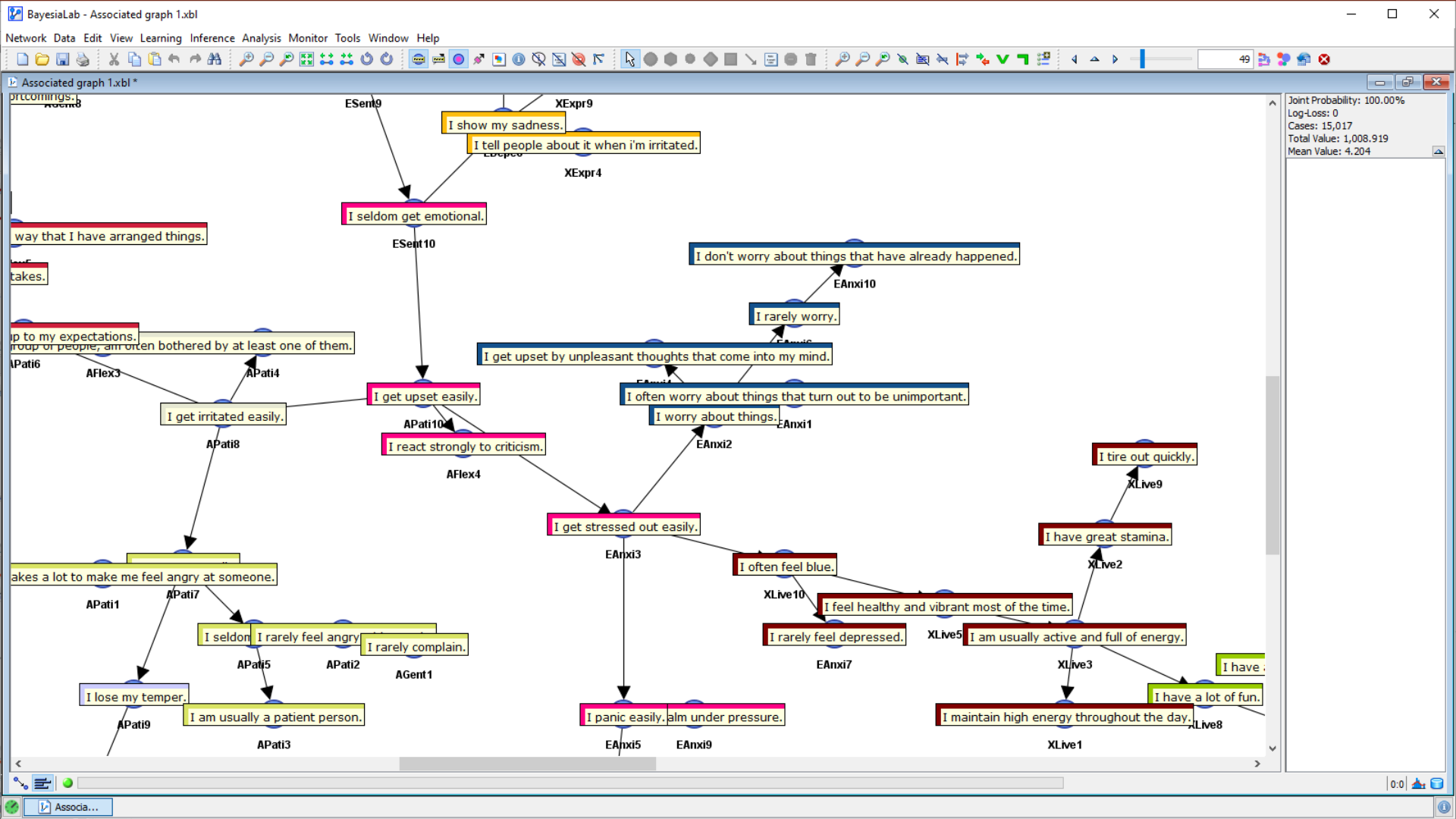

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Visual
Report
Network Performance
Target Optimization
Function Optimization
Overall
Target
Graph
Sensitivity
Most Probable Explanation
Arc
Node Force N
Mapping
Mosaic Analysis Shift+M
Kullback-Leibler F
Mutual Information J
Pearson Correlation G
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
0:0
Associa...

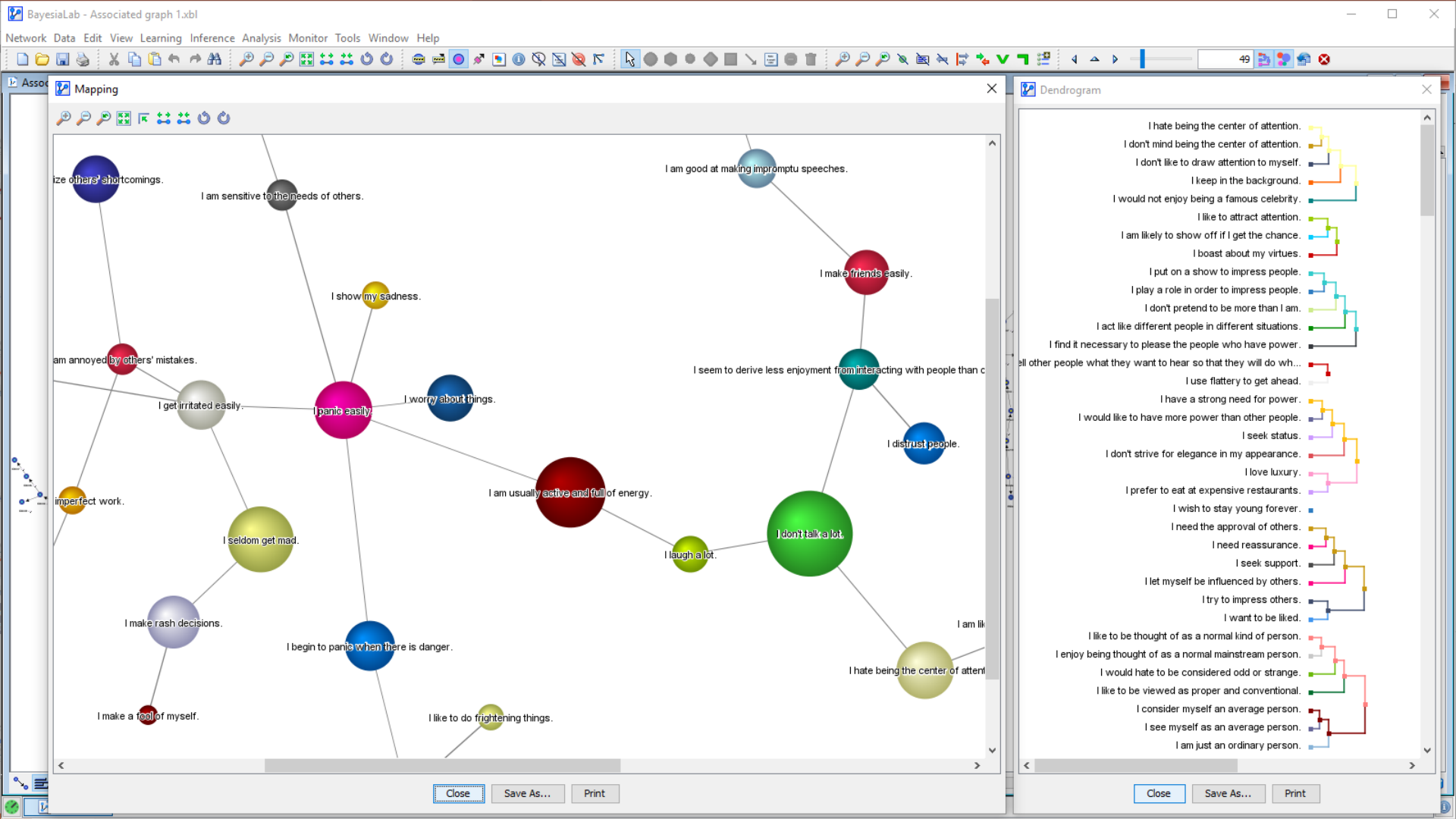

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
0.892838
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
0:0
Associa...

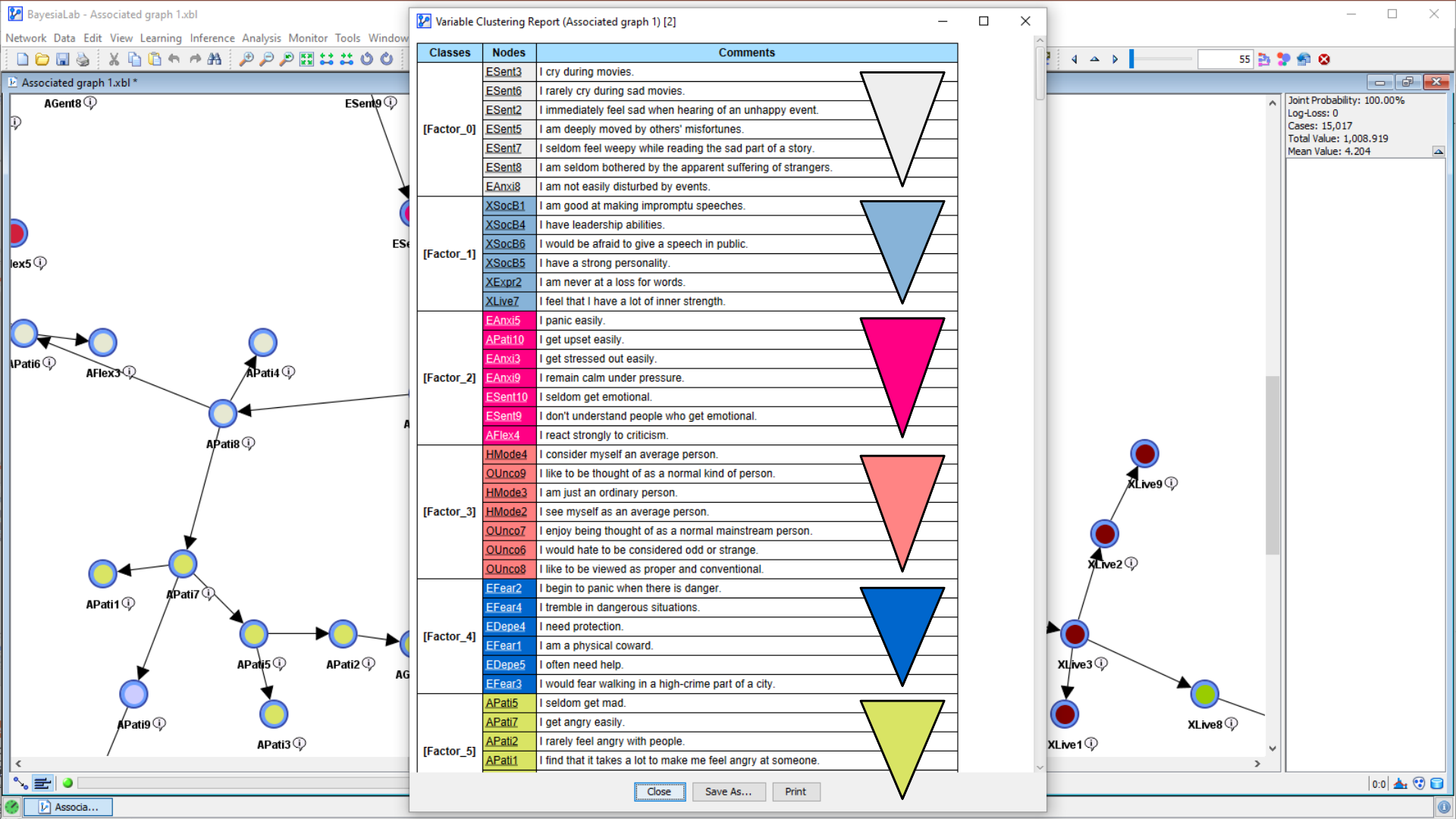

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
0.876083
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
0:0
Associa...


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
0.820653
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
0:0
Associa...

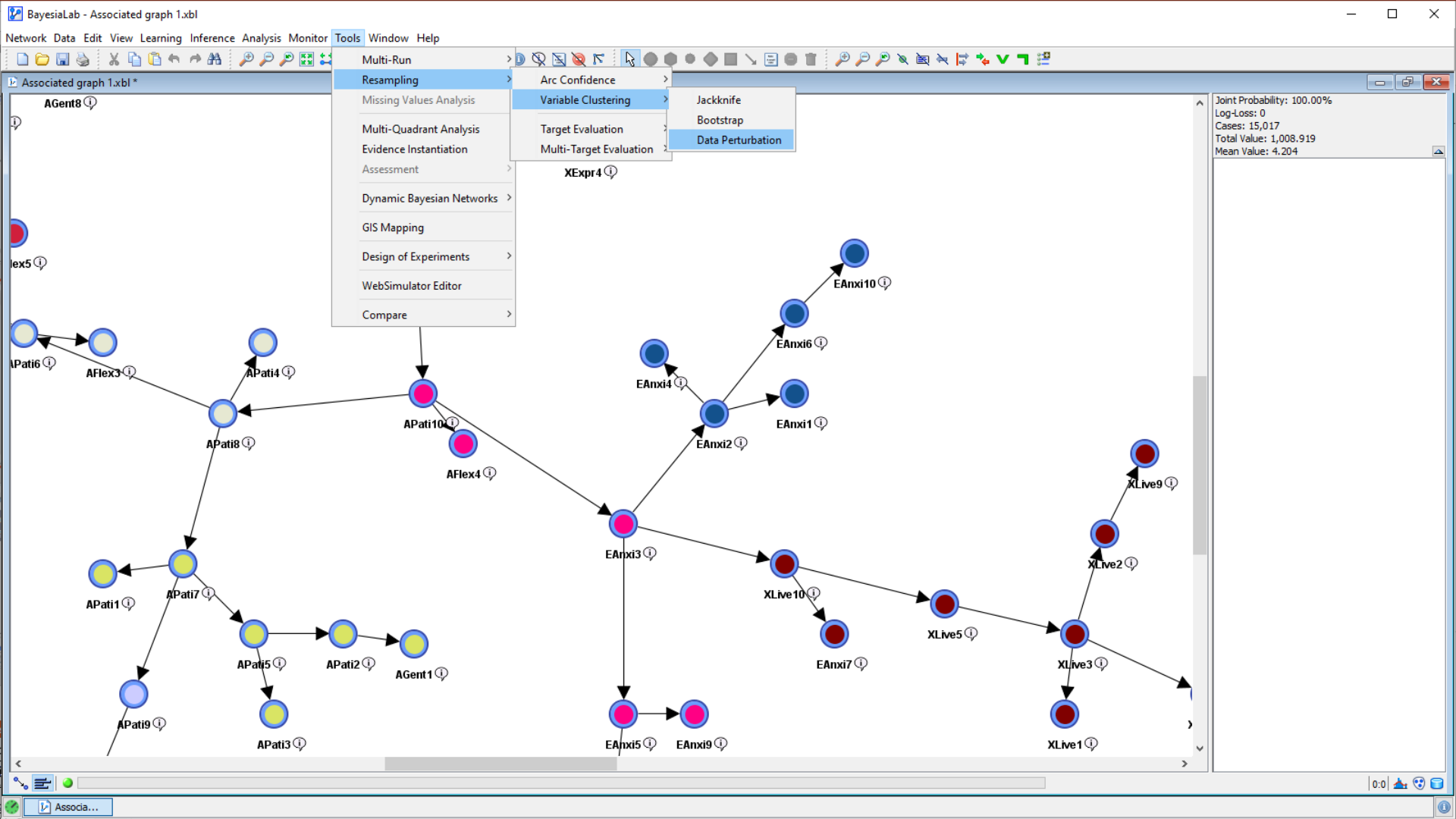

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Missing Values Processing
Stratification
Discretization Ctrl+Shift+R
Binarization
Generate Node Values
Linearize Node Values
Generate Prior Samples
Parameter Estimation
Unsupervised Structural Learning
Supervised Learning
Data Perturbation
Clustering
Learn Static Policy
Data Clustering Ctrl+Alt+S
Variable Clustering Alt+S
Multiple Clustering
Multiple Binary Clustering
K-Means
Binary Clustering
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
0:0

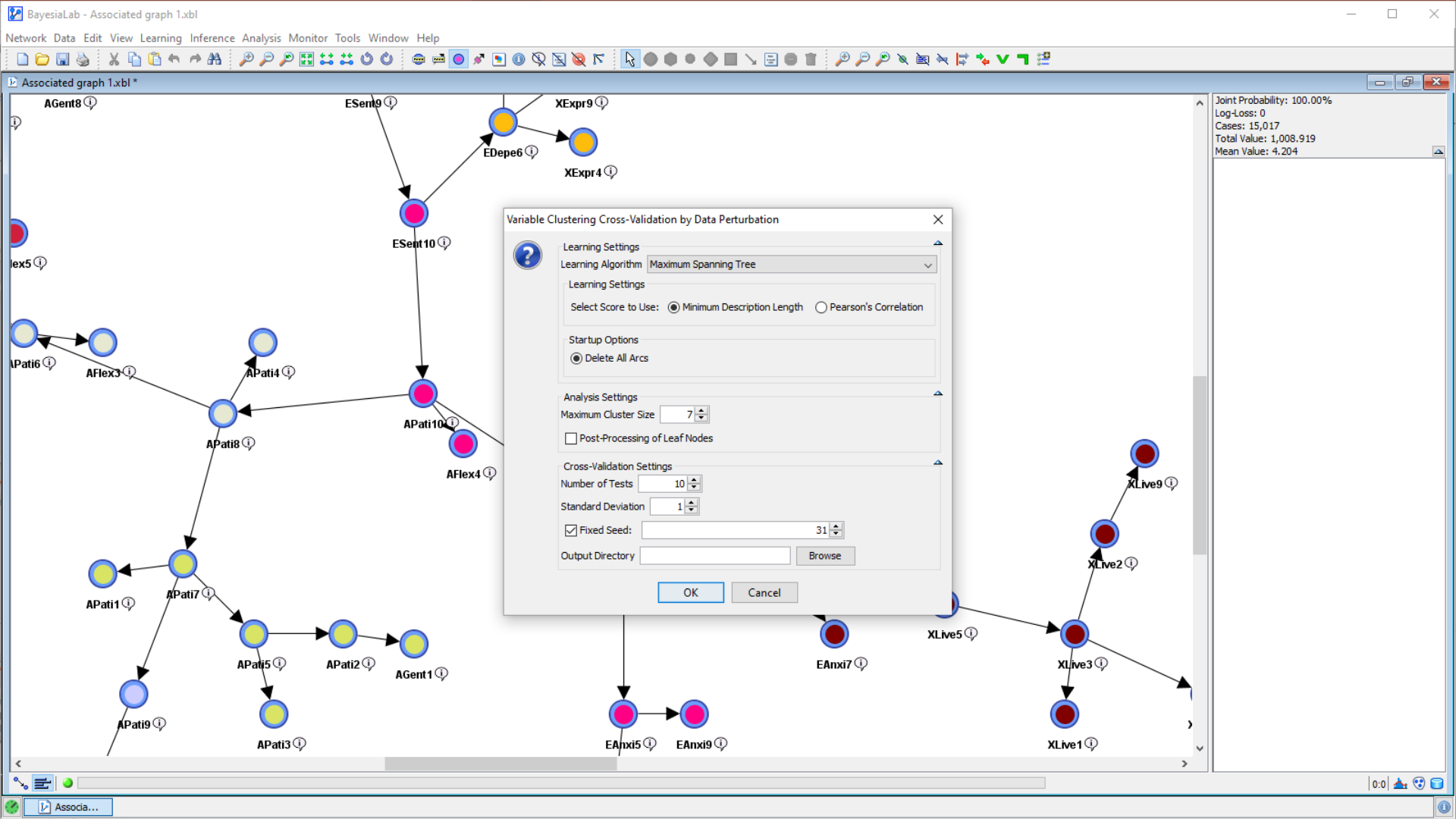

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
ESent9
XExpr9
I show my sadness.
I tell people about it when i'm irritated.
XExpr4
I seldom get emotional.
ESent10
way that I have arranged things.
takes.
I don't worry about things that have already happened.
EAnxi10
I rarely worry.
I get upset by unpleasant thoughts that come into my mind.
I often worry about things that turn out to be unimportant.
I worry about things.
EAnxi1
EAnxi2
p to my expectations.
roup of people, am often bothered by at least one of them.
APati6
AFlex3
APati4
I get irritated easily.
APati8
I get upset easily.
APati10
I react strongly to criticism.
AFlex4
I get stressed out easily.
EAnxi3
I tire out quickly.
XLive9
I have great stamina.
XLive2
akes a lot to make me feel angry at someone.
APati1
APati7
I often feel blue.
XLive10
I feel healthy and vibrant most of the time.
I rarely feel depressed.
EAnxi7
XLive5
I am usually active and full of energy.
XLive3
I seldom
I rarely feel angry
I rarely complain.
APati5
APati2
AGent1
I have
I have a lot of fun.
I lose my temper.
APati9
I am usually a patient person.
APati3
I panic easily.
alm under pressure.
EAnxi5
EAnxi9
I maintain high energy throughout the day.
XLive8
XLive1
Associa...

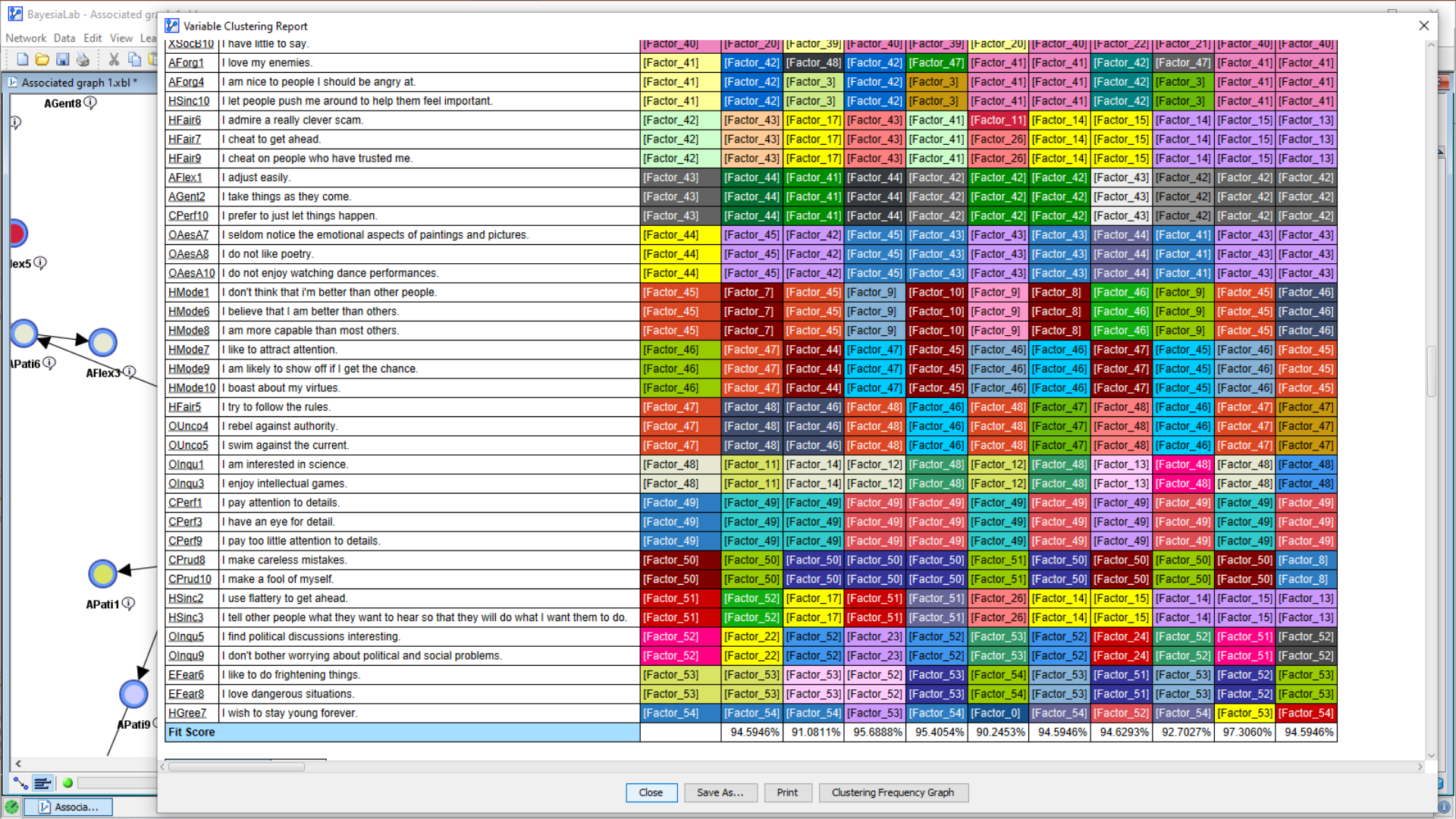

BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Mapping
Dendrogram
ize others' shortcomings.
I am sensitive to the needs of others.
I am good at making impromptu speeches.
I make friends easily.
I show my sadness.
am annoyed by others' mistakes.
I get irritated easily.
I panic easily.
I worry about things.
I seem to derive less enjoyment from interacting with people than c
I distrust people.
imperfect work.
I am usually active and full of energy.
I seldom get mad.
I don't talk a lot.
I laugh a lot.
I make rash decisions.
I begin to panic when there is danger.
I am lik
I hate being the center of attent
I make a fool of myself.
I like to do frightening things.
Close
Save As...
Print
I hate being the center of attention.
I don't mind being the center of attention.
I don't like to draw attention to myself.
I keep in the background.
I would not enjoy being a famous celebrity.
I like to attract attention.
I am likely to show off if I get the chance.
I boast about my virtues.
I put on a show to impress people.
I play a role in order to impress people.
I don't pretend to be more than I am.
I act like different people in different situations.
I find it necessary to please the people who have power.
ll other people what they want to hear so that they will do wh...
I use flattery to get ahead.
I have a strong need for power.
I would like to have more power than other people.
I seek status.
I don't strive for elegance in my appearance.
I love luxury.
I prefer to eat at expensive restaurants.
I wish to stay young forever.
I need the approval of others.
I need reassurance.
I seek support.
I let myself be influenced by others.
I try to impress others.
I want to be liked.
I like to be thought of as a normal kind of person.
I enjoy being thought of as a normal mainstream person.
I would hate to be considered odd or strange.
I like to be viewed as proper and conventional.
I consider myself an average person.
I see myself as an average person.
I am just an ordinary person.
Close
Save As...
Print



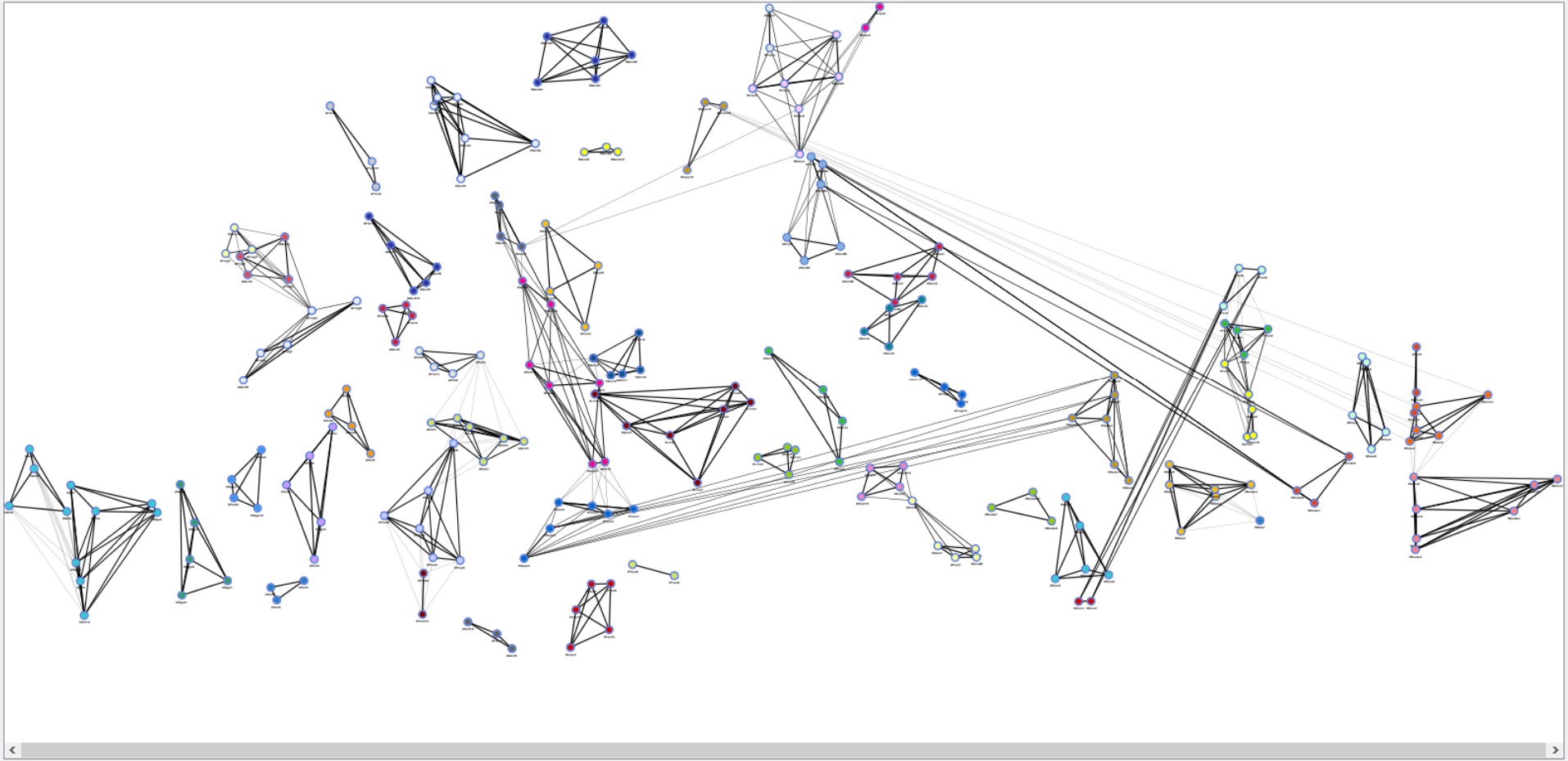
Classes	Nodes	Comments
[Factor_0]	ESent3	I cry during movies.
	ESent6	I rarely cry during sad movies.
	ESent2	I immediately feel sad when hearing of an unhappy event.
	ESent5	I am deeply moved by others' misfortunes.
	ESent7	I seldom feel weepy while reading the sad part of a story.
	ESent8	I am seldom bothered by the apparent suffering of strangers.
	EAnxi8	I am not easily disturbed by events.
[Factor_1]	XSocB1	I am good at making impromptu speeches.
	XSocB4	I have leadership abilities.
	XSocB6	I would be afraid to give a speech in public.
	XSocB5	I have a strong personality.
	XExpr2	I am never at a loss for words.
	XLive7	I feel that I have a lot of inner strength.
[Factor_2]	EAnxi5	I panic easily.
	APati10	I get upset easily.
	EAnxi3	I get stressed out easily.
	EAnxi9	I remain calm under pressure.
	ESent10	I seldom get emotional.
	ESent9	I don't understand people who get emotional.
	AFlex4	I react strongly to criticism.
[Factor_3]	HMode4	I consider myself an average person.
	OUnco9	I like to be thought of as a normal kind of person.
	HMode3	I am just an ordinary person.
	HMode2	I see myself as an average person.
	OUnco7	I enjoy being thought of as a normal mainstream person.
	OUnco6	I would hate to be considered odd or strange.
	OUnco8	I like to be viewed as proper and conventional.
[Factor_4]	EFear2	I begin to panic when there is danger.
	EFear4	I tremble in dangerous situations.
	EDepe4	I need protection.
	EFear1	I am a physical coward.
	EDepe5	I often need help.
	EFear3	I would fear walking in a high-crime part of a city.
[Factor_5]	APati5	I seldom get mad.
	APati7	I get angry easily.
	APati2	I rarely feel angry with people.
	APati1	I find that it takes a lot to make me feel angry at someone.


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Multi-Run
Resampling
Missing Values Analysis
Multi-Quadrant Analysis
Evidence Instantiation
Assessment
Dynamic Bayesian Networks
GIS Mapping
Design of Experiments
WebSimulator Editor
Compare
Arc Confidence
Variable Clustering
Target Evaluation
Multi-Target Evaluation
Jackknife
Bootstrap
Data Perturbation
Associated graph 1.xbl *
AGent8
XExpr4
APati6
AFlex3
APati4
APati8
APati10
AFlex4
EAnxi10
EAnxi6
EAnxi4
EAnxi1
EAnxi2
EAnxi3
XLive9
XLive2
XLive10
XLive5
XLive3
XLive1
APati1
APati7
APati5
APati2
AGent1
APati9
APati3
EAnxi7
EAnxi5
EAnxi9
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Associated graph 1.xbl *
Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,008.919
Mean Value: 4.204
AGent8
ESent9
XExpr9
EDepe6
XExpr4
ESent10
APati6
AFlex3
APati4
APati8
APati10
AFlex4
APati1
APati7
APati5
APati2
AGent1
APati9
APati3
EAnxi5
EAnxi9
EAnxi7
XLive9
XLive2
XLive5
XLive3
XLive1
Variable Clustering Cross-Validation by Data Perturbation
Learning Settings
Learning Algorithm
Maximum Spanning Tree
Learning Settings
Select Score to Use:
Minimum Description Length
Pearson's Correlation
Startup Options
Delete All Arcs
Analysis Settings
Maximum Cluster Size
7
Post-Processing of Leaf Nodes
Cross-Validation Settings
Number of Tests
10
Standard Deviation
1
Fixed Seed:
31
Output Directory
Browse
OK
Cancel

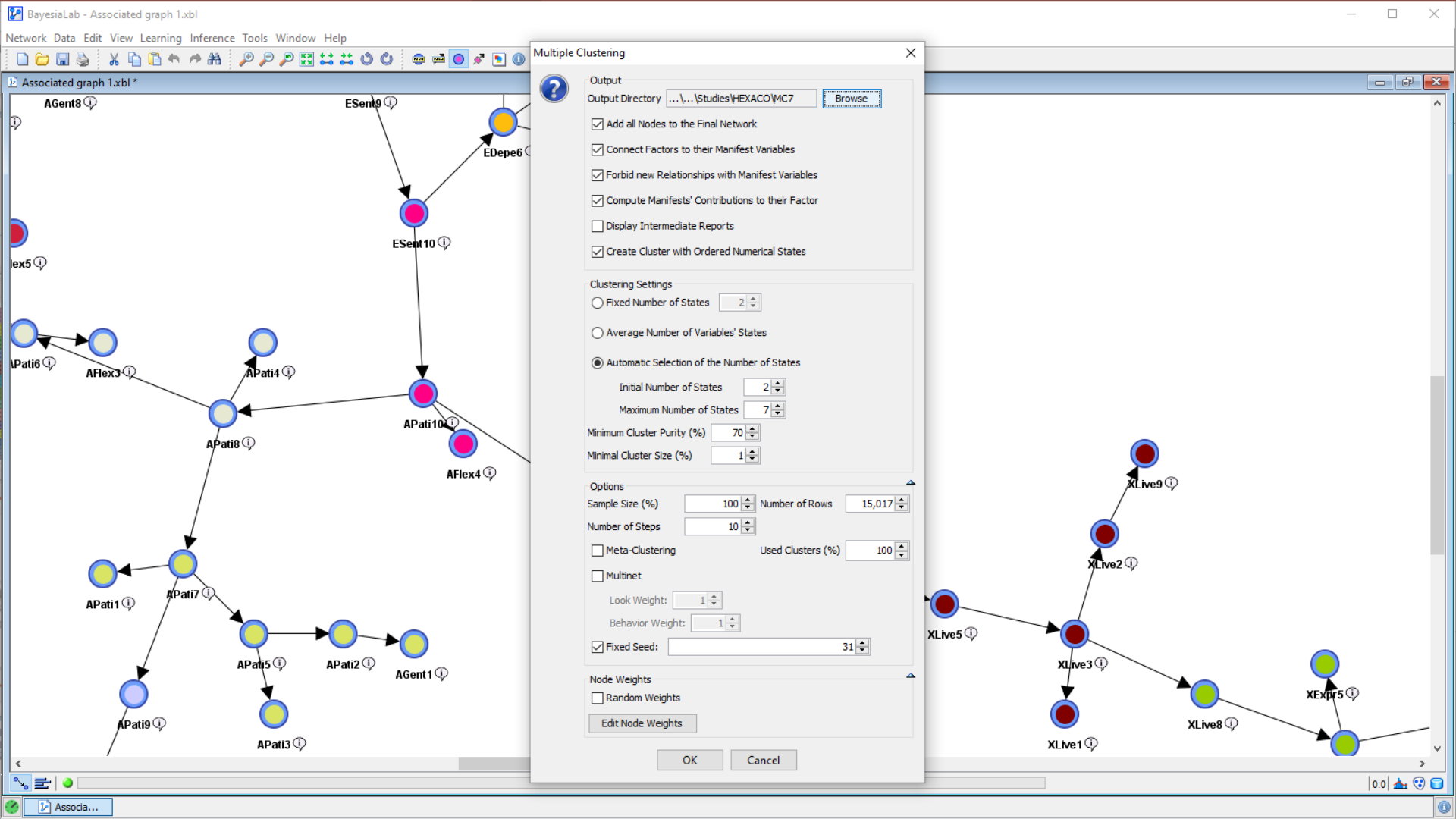

BayesiaLab - Associated gr
Network Data Edit View Lea
Associated graph 1.xbl *
AGent8
lex5
APati6
AFlex3
APati1
APati9
Variable Clustering Report
XSocB10 I have little to say. [Factor_40] [Factor_20] [Factor_39] [Factor_40] [Factor_39] [Factor_20] [Factor_40] [Factor_22] [Factor_21] [Factor_40] [Factor_40]
AForg1 I love my enemies. [Factor_41] [Factor_42] [Factor_48] [Factor_42] [Factor_47] [Factor_41] [Factor_41] [Factor_42] [Factor_47] [Factor_41] [Factor_41]
AForg4 I am nice to people I should be angry at. [Factor_41] [Factor_42] [Factor_3] [Factor_42] [Factor_3] [Factor_41] [Factor_41] [Factor_42] [Factor_3] [Factor_41] [Factor_41]
HSinc10 I let people push me around to help them feel important. [Factor_41] [Factor_42] [Factor_3] [Factor_42] [Factor_3] [Factor_41] [Factor_41] [Factor_42] [Factor_3] [Factor_41] [Factor_41]
HFair6 I admire a really clever scam. [Factor_42] [Factor_43] [Factor_17] [Factor_43] [Factor_41] [Factor_11] [Factor_14] [Factor_15] [Factor_14] [Factor_15] [Factor_13]
HFair7 I cheat to get ahead. [Factor_42] [Factor_43] [Factor_17] [Factor_43] [Factor_41] [Factor_26] [Factor_14] [Factor_15] [Factor_14] [Factor_15] [Factor_13]
HFair9 I cheat on people who have trusted me. [Factor_42] [Factor_43] [Factor_17] [Factor_43] [Factor_41] [Factor_26] [Factor_14] [Factor_15] [Factor_14] [Factor_15] [Factor_13]
AFlex1 I adjust easily. [Factor_43] [Factor_44] [Factor_41] [Factor_44] [Factor_42] [Factor_42] [Factor_42] [Factor_43] [Factor_42] [Factor_42] [Factor_42]
AGent2 I take things as they come. [Factor_43] [Factor_44] [Factor_41] [Factor_44] [Factor_42] [Factor_42] [Factor_42] [Factor_43] [Factor_42] [Factor_42] [Factor_42]
CPerf10 I prefer to just let things happen. [Factor_43] [Factor_44] [Factor_41] [Factor_44] [Factor_42] [Factor_42] [Factor_42] [Factor_43] [Factor_42] [Factor_42] [Factor_42]
OAesA7 I seldom notice the emotional aspects of paintings and pictures. [Factor_44] [Factor_45] [Factor_42] [Factor_45] [Factor_43] [Factor_43] [Factor_43] [Factor_44] [Factor_41] [Factor_43] [Factor_43]
OAesA8 I do not like poetry. [Factor_44] [Factor_45] [Factor_42] [Factor_45] [Factor_43] [Factor_43] [Factor_43] [Factor_44] [Factor_41] [Factor_43] [Factor_43]
OAesA10 I do not enjoy watching dance performances. [Factor_44] [Factor_45] [Factor_42] [Factor_45] [Factor_43] [Factor_43] [Factor_43] [Factor_44] [Factor_41] [Factor_43] [Factor_43]
HMode1 I don't think that i'm better than other people. [Factor_45] [Factor_7] [Factor_45] [Factor_9] [Factor_10] [Factor_9] [Factor_8] [Factor_46] [Factor_9] [Factor_45] [Factor_46]
HMode6 I believe that I am better than others. [Factor_45] [Factor_7] [Factor_45] [Factor_9] [Factor_10] [Factor_9] [Factor_8] [Factor_46] [Factor_9] [Factor_45] [Factor_46]
HMode8 I am more capable than most others. [Factor_45] [Factor_7] [Factor_45] [Factor_9] [Factor_10] [Factor_9] [Factor_8] [Factor_46] [Factor_9] [Factor_45] [Factor_46]
HMode7 I like to attract attention. [Factor_46] [Factor_47] [Factor_44] [Factor_47] [Factor_45] [Factor_46] [Factor_46] [Factor_47] [Factor_45] [Factor_46] [Factor_45]
HMode9 I am likely to show off if I get the chance. [Factor_46] [Factor_47] [Factor_44] [Factor_47] [Factor_45] [Factor_46] [Factor_46] [Factor_47] [Factor_45] [Factor_46] [Factor_45]
HMode10 I boast about my virtues. [Factor_46] [Factor_47] [Factor_44] [Factor_47] [Factor_45] [Factor_46] [Factor_46] [Factor_47] [Factor_45] [Factor_46] [Factor_45]
HFair5 I try to follow the rules. [Factor_47] [Factor_48] [Factor_46] [Factor_48] [Factor_46] [Factor_48] [Factor_47] [Factor_48] [Factor_46] [Factor_47] [Factor_47]
OUnco4 I rebel against authority. [Factor_47] [Factor_48] [Factor_46] [Factor_48] [Factor_46] [Factor_48] [Factor_47] [Factor_48] [Factor_46] [Factor_47] [Factor_47]
OUnco5 I swim against the current. [Factor_47] [Factor_48] [Factor_46] [Factor_48] [Factor_46] [Factor_48] [Factor_47] [Factor_48] [Factor_46] [Factor_47] [Factor_47]
OInqu1 I am interested in science. [Factor_48] [Factor_11] [Factor_14] [Factor_12] [Factor_48] [Factor_12] [Factor_48] [Factor_13] [Factor_48] [Factor_48] [Factor_48]
OInqu3 I enjoy intellectual games. [Factor_48] [Factor_11] [Factor_14] [Factor_12] [Factor_48] [Factor_12] [Factor_48] [Factor_13] [Factor_48] [Factor_48] [Factor_48]
CPerf1 I pay attention to details. [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49]
CPerf3 I have an eye for detail. [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49]
CPerf9 I pay too little attention to details. [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49] [Factor_49]
CPrud8 I make careless mistakes. [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_51] [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_8]
CPrud10 I make a fool of myself. [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_51] [Factor_50] [Factor_50] [Factor_50] [Factor_50] [Factor_8]
HSinc2 I use flattery to get ahead. [Factor_51] [Factor_52] [Factor_17] [Factor_51] [Factor_51] [Factor_26] [Factor_14] [Factor_15] [Factor_14] [Factor_15] [Factor_13]
HSinc3 I tell other people what they want to hear so that they will do what I want them to do. [Factor_51] [Factor_52] [Factor_17] [Factor_51] [Factor_51] [Factor_26] [Factor_14] [Factor_15] [Factor_14] [Factor_15] [Factor_13]
OInqu5 I find political discussions interesting. [Factor_52] [Factor_22] [Factor_52] [Factor_23] [Factor_52] [Factor_53] [Factor_52] [Factor_24] [Factor_52] [Factor_51] [Factor_52]
OInqu9 I don't bother worrying about political and social problems. [Factor_52] [Factor_22] [Factor_52] [Factor_23] [Factor_52] [Factor_53] [Factor_52] [Factor_24] [Factor_52] [Factor_51] [Factor_52]
EFear6 I like to do frightening things. [Factor_53] [Factor_53] [Factor_53] [Factor_52] [Factor_53] [Factor_54] [Factor_53] [Factor_51] [Factor_53] [Factor_52] [Factor_53]
EFear8 I love dangerous situations. [Factor_53] [Factor_53] [Factor_53] [Factor_52] [Factor_53] [Factor_54] [Factor_53] [Factor_51] [Factor_53] [Factor_52] [Factor_53]
HGree7 I wish to stay young forever. [Factor_54] [Factor_54] [Factor_54] [Factor_53] [Factor_54] [Factor_0] [Factor_54] [Factor_52] [Factor_54] [Factor_53] [Factor_54]
Fit Score 94.5946% 91.0811% 95.6888% 95.4054% 90.2453% 94.5946% 94.6293% 92.7027% 97.3060% 94.5946%
Close
Save As...
Print
Clustering Frequency Graph

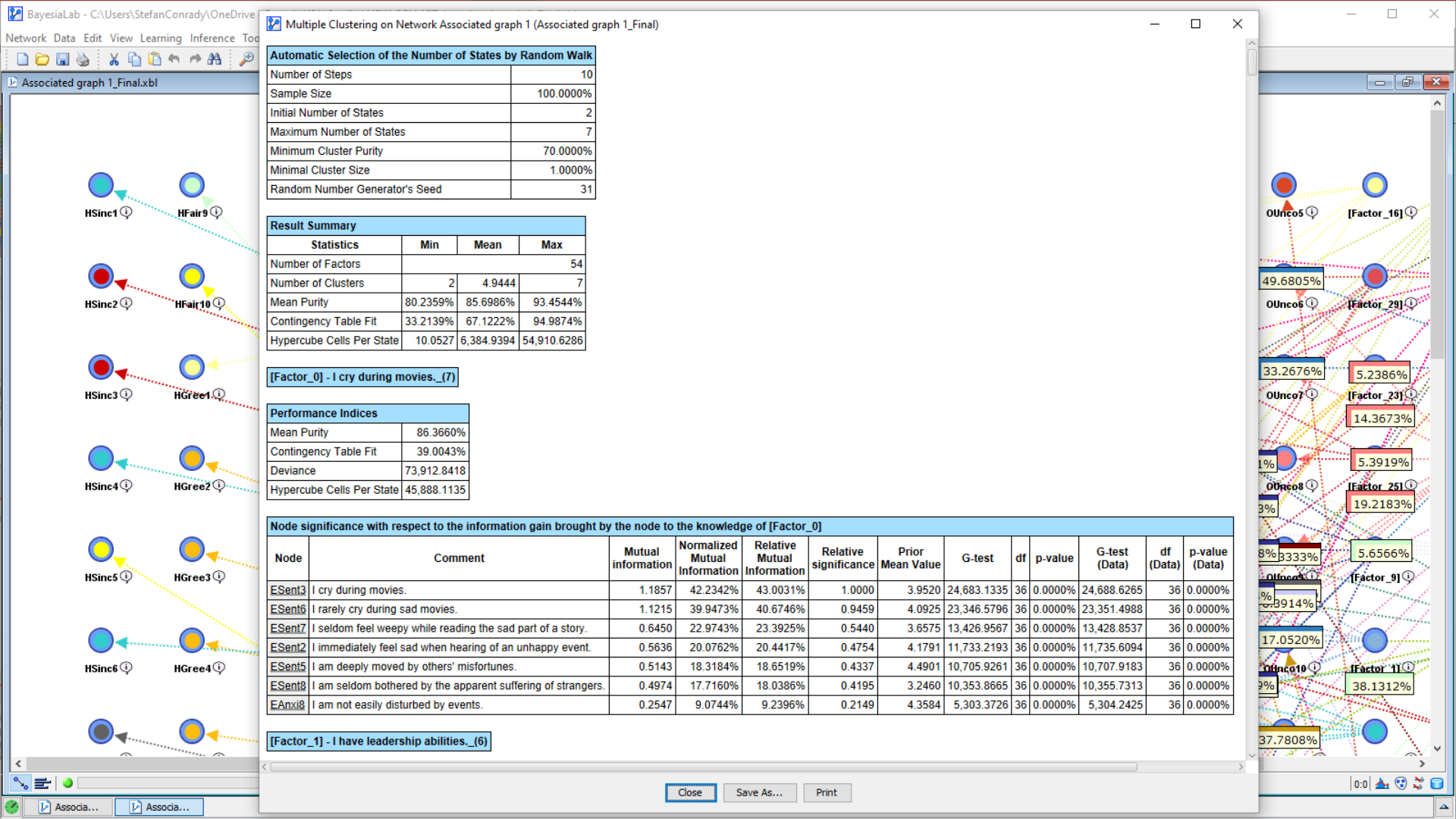
Structure Comparison



Clustering Frequency Graph

Close | Save As... | Print


BayesiaLab - Associated graph 1.xbl
Network Data Edit View Learning Inference Tools Window Help
Associated graph 1.xbl *
AGent8
ESent9
EDepe6
ESent10
lex5
APati6
AFlex3
APati4
APati8
APati10
AFlex4
APati1
APati7
APati5
APati2
AGent1
APati9
APati3
XLive9
XLive2
XLive5
XLive3
XLive8
XExpr5
XLive1
Multiple Clustering
Output
Output Directory ...\...\Studies\HEXACO\MC7
Browse
Add all Nodes to the Final Network
Connect Factors to their Manifest Variables
Forbid new Relationships with Manifest Variables
Compute Manifests' Contributions to their Factor
Display Intermediate Reports
Create Cluster with Ordered Numerical States
Clustering Settings
Fixed Number of States 2
Average Number of Variables' States
Automatic Selection of the Number of States
Initial Number of States 2
Maximum Number of States 7
Minimum Cluster Purity (%) 70
Minimal Cluster Size (%) 1
Options
Sample Size (%) 100
Number of Rows 15,017
Number of Steps 10
Meta-Clustering
Used Clusters (%) 100
Multinet
Look Weight: 1
Behavior Weight: 1
Fixed Seed: 31
Node Weights
Random Weights
Edit Node Weights
OK
Cancel



Automatic Selection of the Number of States by Random Walk	
Number of Steps	10
Sample Size	100.0000%
Initial Number of States	2
Maximum Number of States	7
Minimum Cluster Purity	70.0000%
Minimal Cluster Size	1.0000%
Random Number Generator's Seed	31

Result Summary			
Statistics	Min	Mean	Max
Number of Factors			54
Number of Clusters	2	4.9444	7
Mean Purity	80.2359%	85.6986%	93.4544%
Contingency Table Fit	33.2139%	67.1222%	94.9874%
Hypercube Cells Per State	10.0527	6,384.9394	54,910.6286

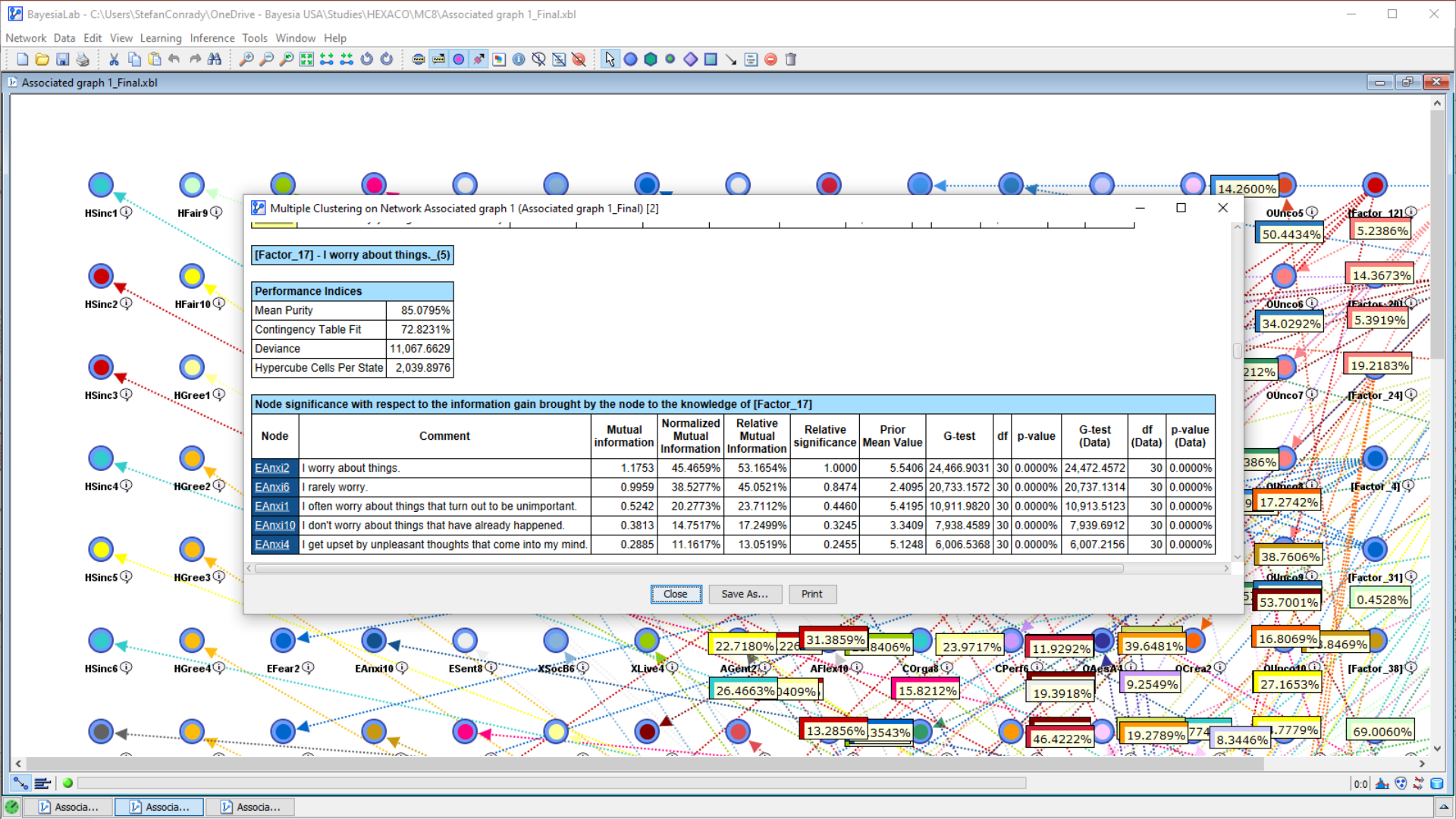
[Factor_0] - I cry during movies._(7)

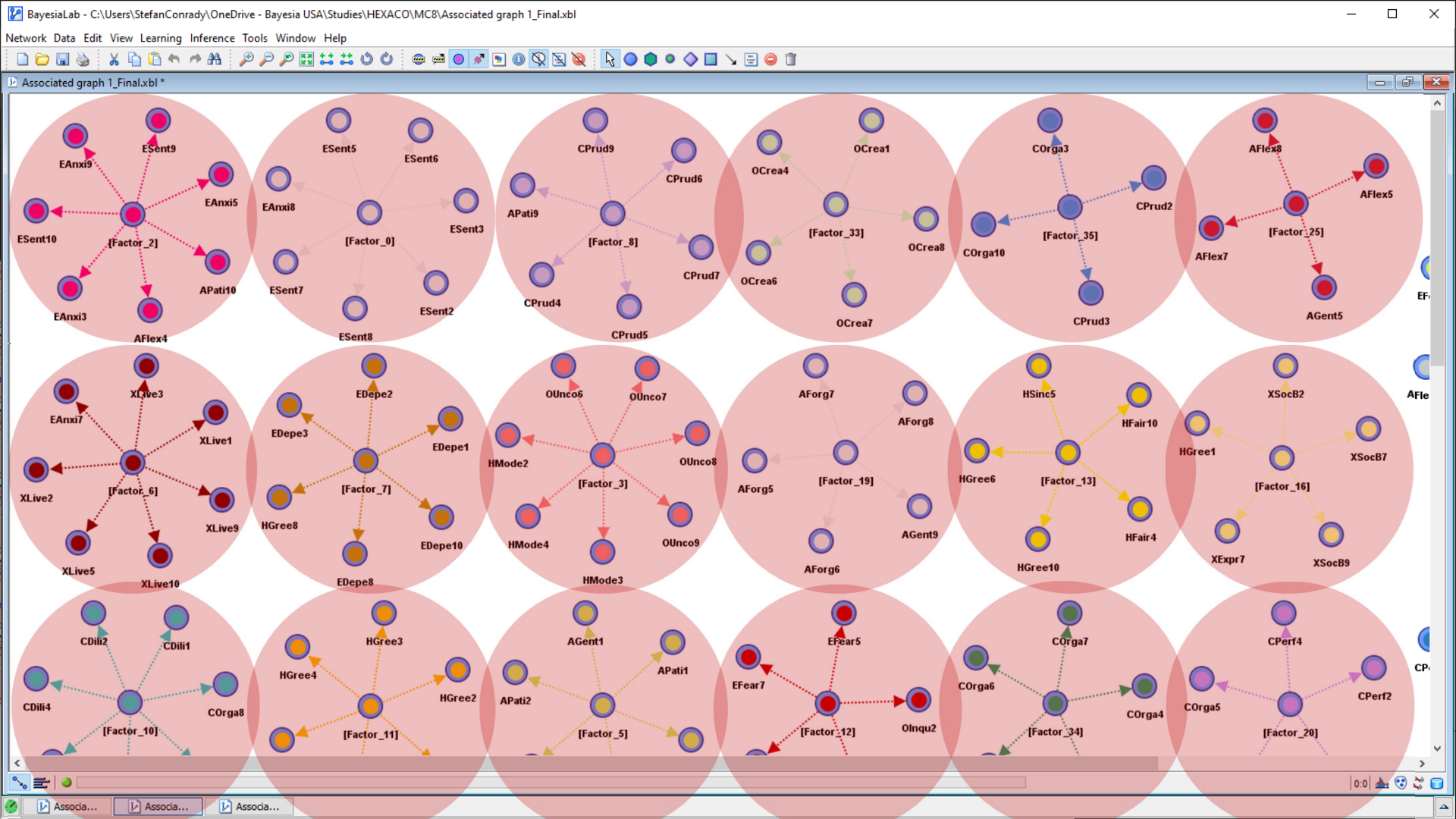
Performance Indices	
Mean Purity	86.3660%
Contingency Table Fit	39.0043%
Deviance	73,912.8418
Hypercube Cells Per State	45,888.1135

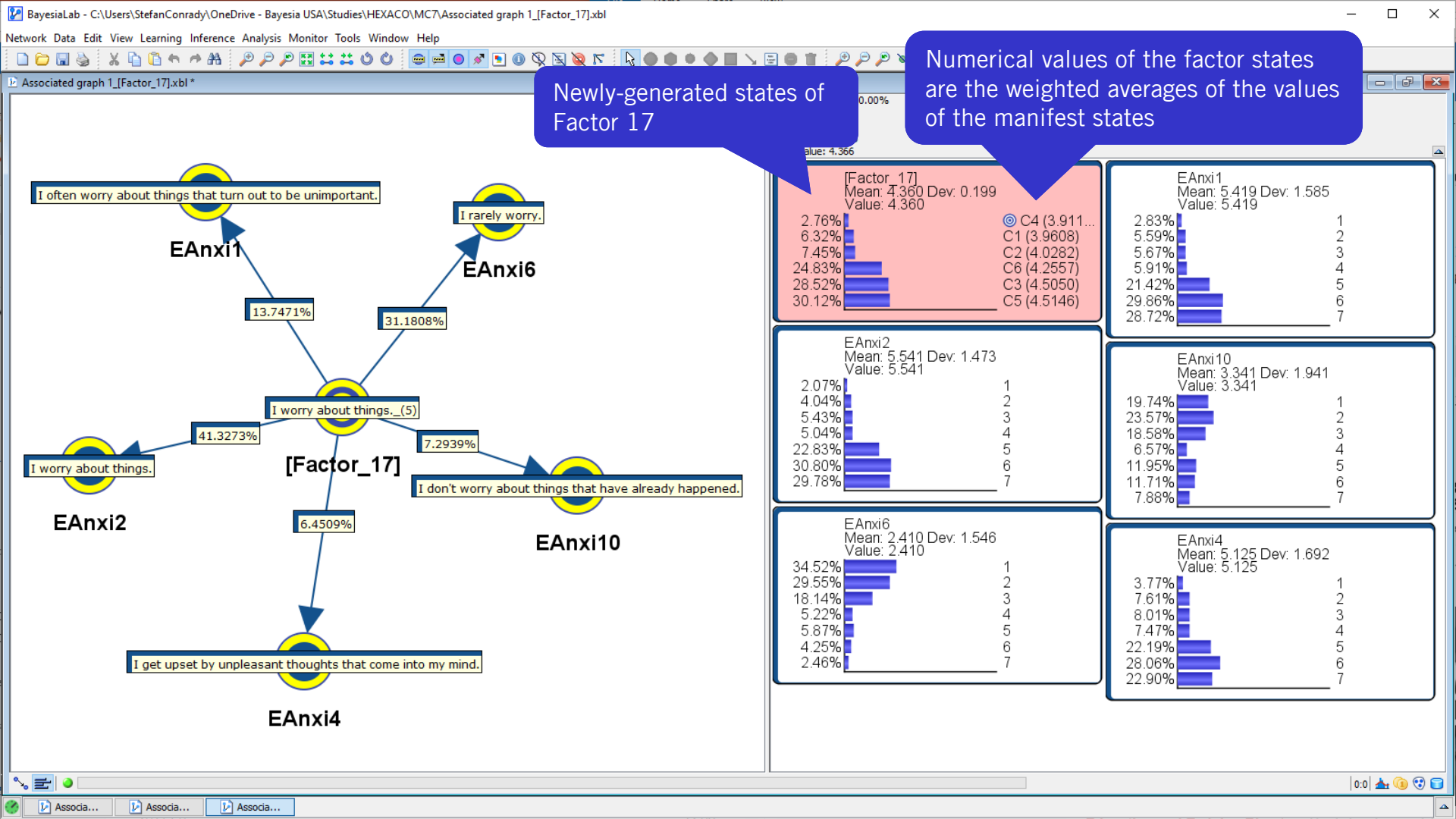
Node significance with respect to the information gain brought by the node to the knowledge of [Factor_0]

Node	Comment	Mutual information	Normalized Mutual Information	Relative Mutual Information	Relative significance	Prior Mean Value	G-test	df	p-value	G-test (Data)	df (Data)	p-value (Data)
ESent3	I cry during movies.	1.1857	42.2342%	43.0031%	1.0000	3.9520	24,683.1335	36	0.0000%	24,688.6265	36	0.0000%
ESent6	I rarely cry during sad movies.	1.1215	39.9473%	40.6746%	0.9459	4.0925	23,346.5796	36	0.0000%	23,351.4988	36	0.0000%
ESent7	I seldom feel weepy while reading the sad part of a story.	0.6450	22.9743%	23.3925%	0.5440	3.6575	13,426.9567	36	0.0000%	13,428.8537	36	0.0000%
ESent2	I immediately feel sad when hearing of an unhappy event.	0.5636	20.0762%	20.4417%	0.4754	4.1791	11,733.2193	36	0.0000%	11,735.6094	36	0.0000%
ESent5	I am deeply moved by others' misfortunes.	0.5143	18.3184%	18.6519%	0.4337	4.4901	10,705.9261	36	0.0000%	10,707.9183	36	0.0000%
ESent8	I am seldom bothered by the apparent suffering of strangers.	0.4974	17.7160%	18.0386%	0.4195	3.2460	10,353.8665	36	0.0000%	10,355.7313	36	0.0000%
EAnxi8	I am not easily disturbed by events.	0.2547	9.0744%	9.2396%	0.2149	4.3584	5,303.3726	36	0.0000%	5,304.2425	36	0.0000%

[Factor_1] - I have leadership abilities._(6)


BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC8\Associated graph 1_Final.xbl
Network Data Edit View Learning Inference Tools Window Help
Associated graph 1_Final.xbl
Multiple Clustering on Network Associated graph 1 (Associated graph 1_Final) [2]
[Factor_17] - I worry about things._(5)
Performance Indices
Mean Purity 85.0795%
Contingency Table Fit 72.8231%
Deviance 11,067.6629
Hypercube Cells Per State 2,039.8976
Node significance with respect to the information gain brought by the node to the knowledge of [Factor_17]
Node | Comment | Mutual information | Normalized Mutual Information | Relative Mutual Information | Relative significance | Prior Mean Value | G-test | df | p-value | G-test (Data) | df (Data) | p-value (Data)
EAnxi2 | I worry about things. | 1.1753 | 45.4659% | 53.1654% | 1.0000 | 5.5406 | 24,466.9031 | 30 | 0.0000% | 24,472.4572 | 30 | 0.0000%
EAnxi6 | I rarely worry. | 0.9959 | 38.5277% | 45.0521% | 0.8474 | 2.4095 | 20,733.1572 | 30 | 0.0000% | 20,737.1314 | 30 | 0.0000%
EAnxi1 | I often worry about things that turn out to be unimportant. | 0.5242 | 20.2773% | 23.7112% | 0.4460 | 5.4195 | 10,911.9820 | 30 | 0.0000% | 10,913.5123 | 30 | 0.0000%
EAnxi10 | I don't worry about things that have already happened. | 0.3813 | 14.7517% | 17.2499% | 0.3245 | 3.3409 | 7,938.4589 | 30 | 0.0000% | 7,939.6912 | 30 | 0.0000%
EAnxi4 | I get upset by unpleasant thoughts that come into my mind. | 0.2885 | 11.1617% | 13.0519% | 0.2455 | 5.1248 | 6,006.5368 | 30 | 0.0000% | 6,007.2156 | 30 | 0.0000%
Close
Save As...
Print
HSinc1
HFair9
HSinc2
HFair10
HSinc3
HGree1
HSinc4
HGree2
HSinc5
HGree3
HSinc6
HGree4
EFear2
EAnxi10
ESent8
XSocB6
XLive4
AGent2
AFlex10
COrga8
CPerf6
OAesA4
OCrea2
OUnco5
OUnco6
OUnco7
OUnco8
OUnco9
OUnco10
[Factor_12]
[Factor_20]
[Factor_24]
[Factor_4]
[Factor_31]
[Factor_38]
14.2600%
50.4434%
5.2386%
14.3673%
34.0292%
5.3919%
19.2183%
17.2742%
38.7606%
53.7001%
0.4528%
16.8069%
27.1653%
69.0060%
22.7180%
31.3859%
23.9717%
11.9292%
39.6481%
26.4663%
15.8212%
19.3918%
9.2549%
13.2856%
46.4222%
19.2789%
8.3446%

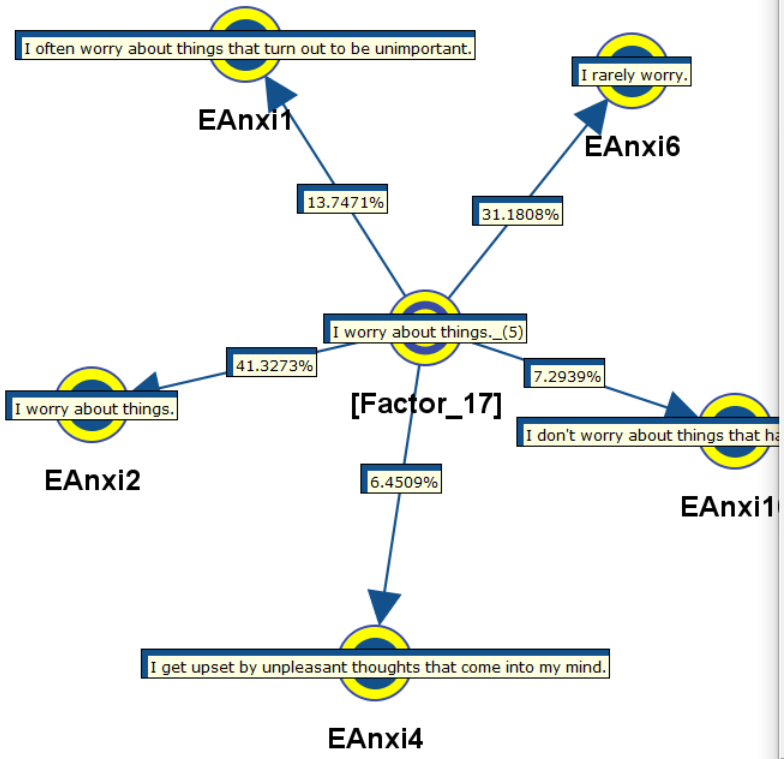

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC8\Associated graph 1_Final.xbl
Network Data Edit View Learning Inference Tools Window Help
Associated graph 1_Final.xbl *
EAnxi9
ESent9
EAnxi5
ESent10
[Factor_2]
APati10
EAnxi3
AFlex4
ESent5
ESent6
EAnxi8
[Factor_0]
ESent3
ESent7
ESent2
ESent8
CPrud9
CPrud6
APati9
[Factor_8]
CPrud7
CPrud4
CPrud5
OCrea1
OCrea4
[Factor_33]
OCrea8
OCrea6
OCrea7
COrga3
CPrud2
COrga10
[Factor_35]
CPrud3
AFlex8
AFlex5
AFlex7
[Factor_25]
AGent5
XLive3
EAnxi7
XLive1
XLive2
[Factor_6]
XLive9
XLive5
XLive10
EDepe2
EDepe3
EDepe1
[Factor_7]
HGree8
EDepe10
EDepe8
OUnco6
OUnco7
HMode2
[Factor_3]
OUnco8
HMode4
OUnco9
HMode3
AForg7
AForg8
AForg5
[Factor_19]
AGent9
AForg6
HSinc5
HFair10
HGree6
[Factor_13]
HFair4
HGree10
XSocB2
HGree1
XSocB7
[Factor_16]
XExpr7
XSocB9
CDili2
CDili1
CDili4
[Factor_10]
COrga8
HGree3
HGree4
HGree2
[Factor_11]
AGent1
APati1
APati2
[Factor_5]
EFear5
EFear7
[Factor_12]
OInqu2
COrga7
COrga6
COrga4
[Factor_34]
CPerf4
COrga5
CPerf2
[Factor_20]


BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC7\Associated graph 1_[Factor_17].xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Associated graph 1_[Factor_17].xbl *
Newly-generated states of Factor 17
Numerical values of the factor states are the weighted averages of the values of the manifest states
I often worry about things that turn out to be unimportant.
EAnxi1
I rarely worry.
EAnxi6
13.7471%
31.1808%
I worry about things._(5)
41.3273%
7.2939%
I worry about things.
EAnxi2
[Factor_17]
I don't worry about things that have already happened.
EAnxi10
6.4509%
I get upset by unpleasant thoughts that come into my mind.
EAnxi4
[Factor_17]
Mean: 4.360 Dev: 0.199
Value: 4.360
2.76% C4 (3.911...
6.32% C1 (3.9608)
7.45% C2 (4.0282)
24.83% C6 (4.2557)
28.52% C3 (4.5050)
30.12% C5 (4.5146)
EAnxi1
Mean: 5.419 Dev: 1.585
Value: 5.419
2.83% 1
5.59% 2
5.67% 3
5.91% 4
21.42% 5
29.86% 6
28.72% 7
EAnxi2
Mean: 5.541 Dev: 1.473
Value: 5.541
2.07% 1
4.04% 2
5.43% 3
5.04% 4
22.83% 5
30.80% 6
29.78% 7
EAnxi10
Mean: 3.341 Dev: 1.941
Value: 3.341
19.74% 1
23.57% 2
18.58% 3
6.57% 4
11.95% 5
11.71% 6
7.88% 7
EAnxi6
Mean: 2.410 Dev: 1.546
Value: 2.410
34.52% 1
29.55% 2
18.14% 3
5.22% 4
5.87% 5
4.25% 6
2.46% 7
EAnxi4
Mean: 5.125 Dev: 1.692
Value: 5.125
3.77% 1
7.61% 2
8.01% 3
7.47% 4
22.19% 5
28.06% 6
22.90% 7

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC7\Associated graph 1_[Factor_17].xbl

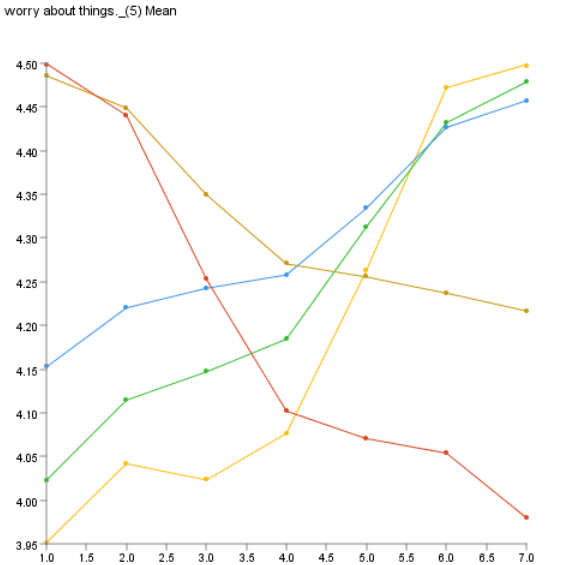
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help

Associated graph 1_[Factor_17].xbl *



Target Mean Analysis

Node:
x:
y:



Variables

- *All Curves*
- I worry about things.
- I often worry about things that turn out to be unimportant.
- I get upset by unpleasant thoughts that come into my mind.
- I don't worry about things that have already happened.
- I rarely worry.

Close Save

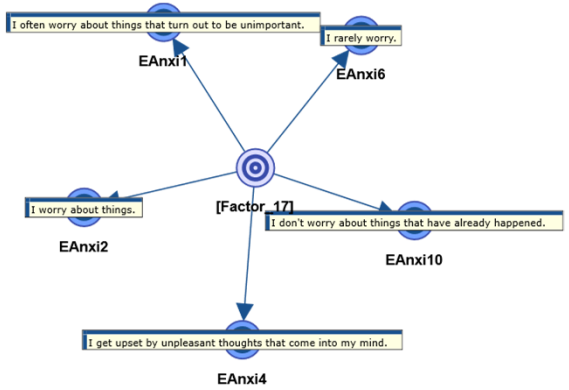
Quality of Representation

Key Measures

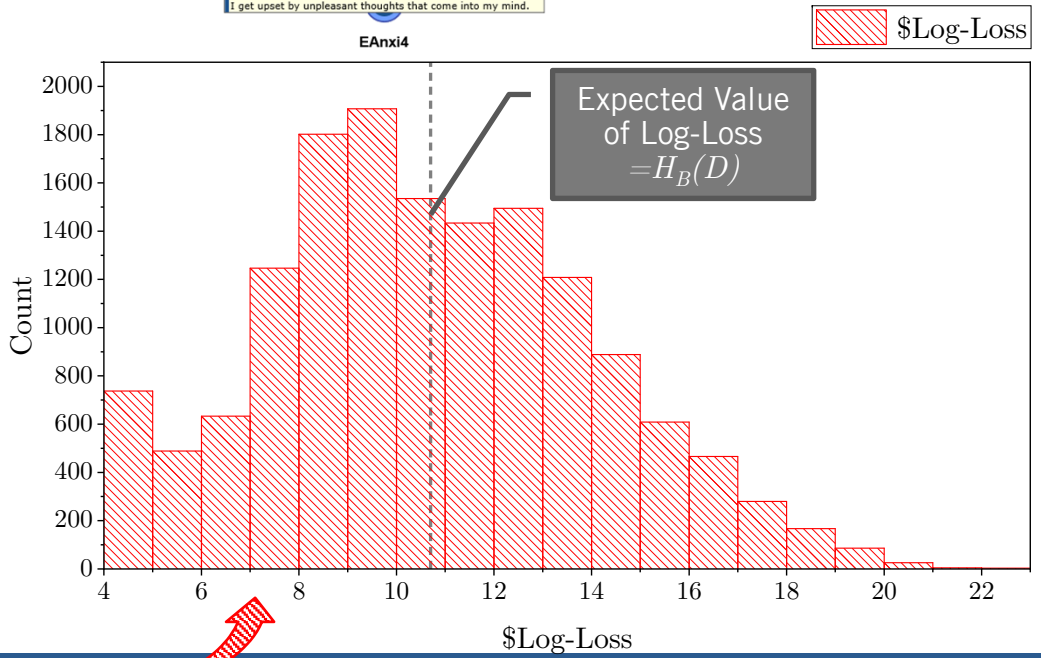
- **Contingency Table Fit**
    - Log-Loss Distribution
    - Entropy
- **Purity**
- Deviance
- Hypercube Cells Per State

Quality Measures

Log-Loss Distribution of Factor 17



EAnxi1	EAnxi2	EAnxi4	EAnxi6	EAnxi10	$Log-Loss
5	6	6	2	2	7.45
7	6	6	2	2	7.22
6	6	6	1	2	7.39
7	5	7	2	5	13.16
2	2	4	4	5	16.40
5	5	3	3	3	9.37
5	6	5	1	3	10.66
5	6	6	3	5	10.89
7	7	7	1	1	4.59
5	5	5	3	5	8.58
5	5	2	3	3	9.63
7	5	6	2	2	10.23
7	7	7	1	1	4.59
7	7	7	1	4	8.73
7	7	7	1	1	4.59

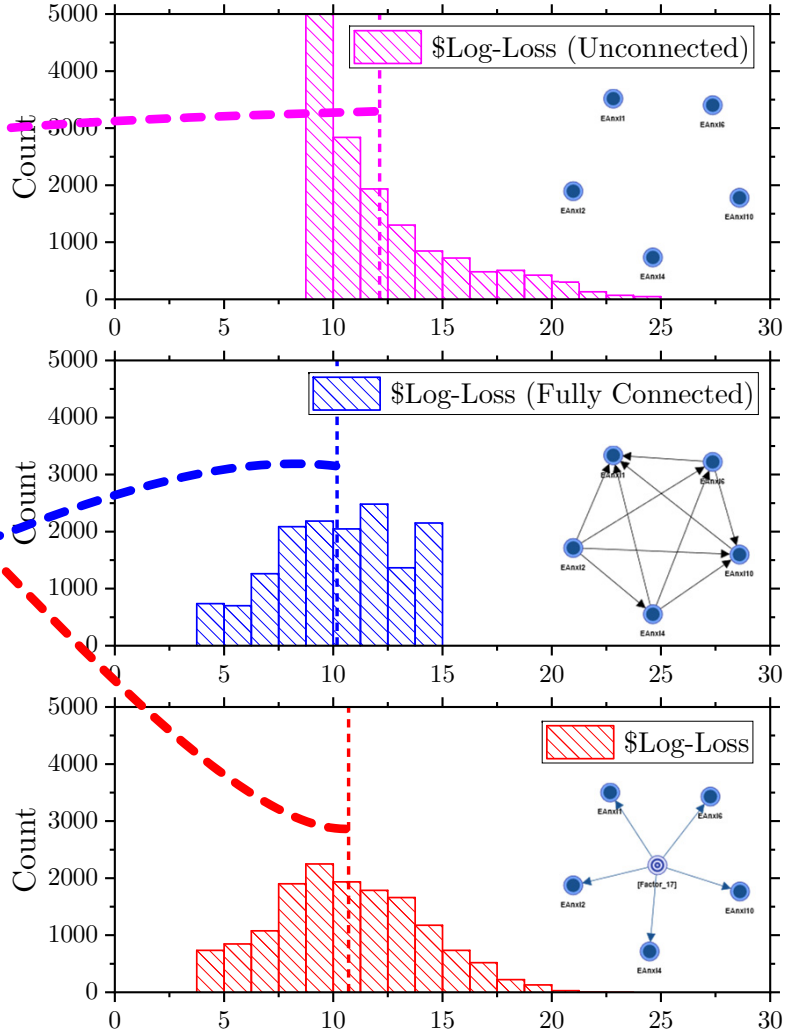


Quality Measures

Contingency Table Fit (CTF)

$$C_B = 100 \times \frac{H_U(D) - H_B(D)}{H_U(D) - H_F(D)}$$

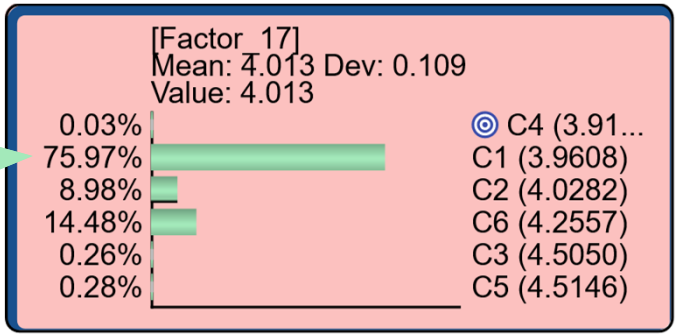
- The CTF measures the quality of the representation of the Joint Probability Distribution by the network.

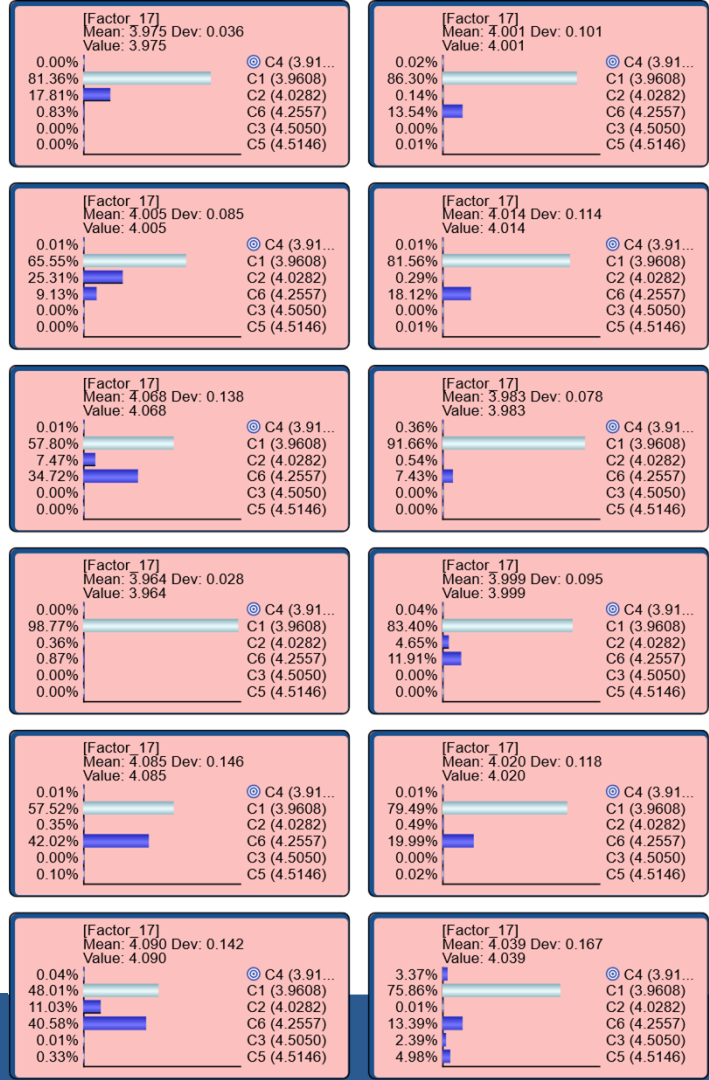


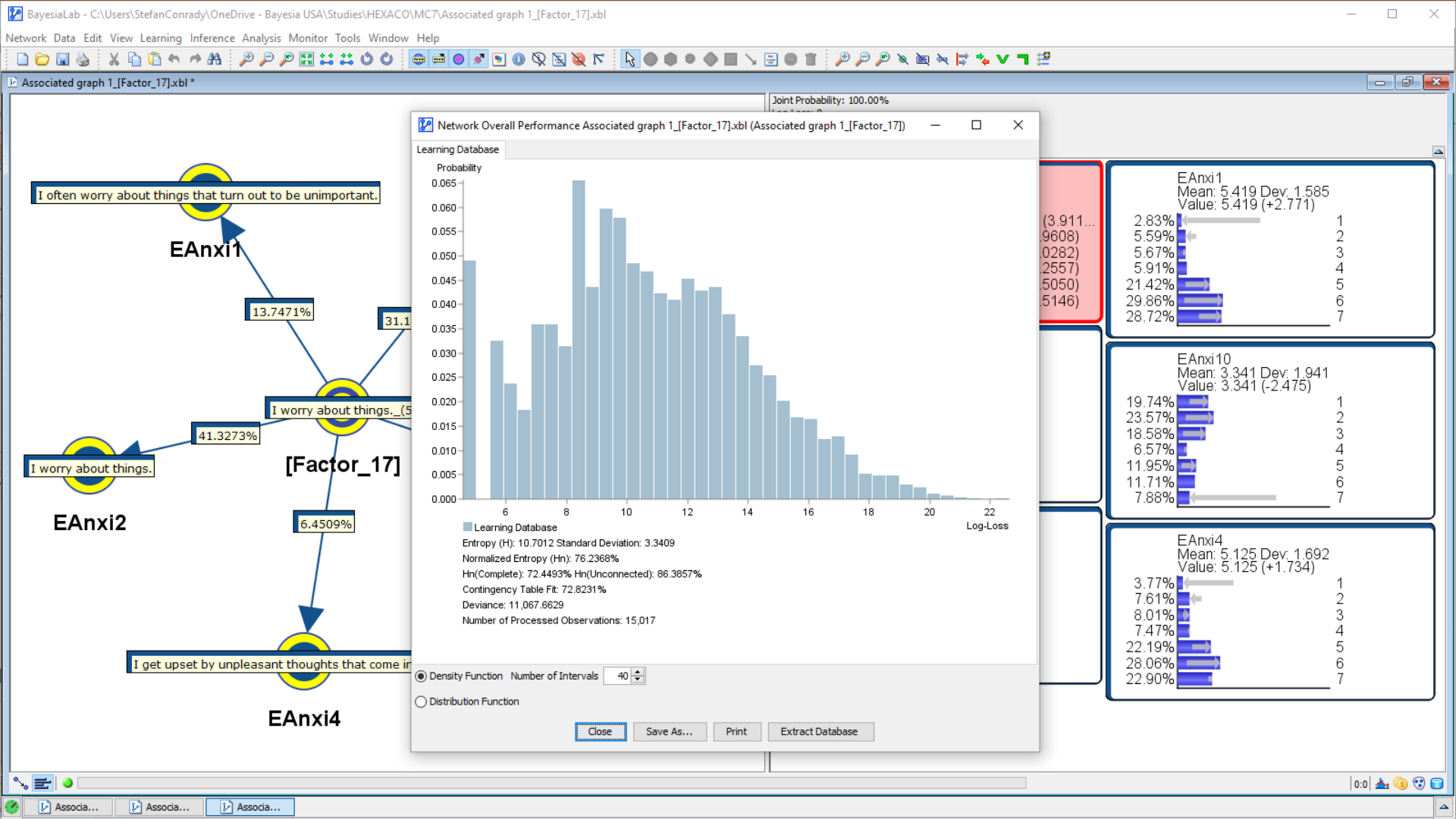
BayesiaLab Workflow

Purity of State C1

State C1 is 76% “pure”






BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC7\Associated graph 1_[Factor_17].xbl
Network Data Edit View Learning Inference Analysis Monitor Tools Window Help
Associated graph 1_[Factor_17].xbl *
Joint Probability: 100.00%
I often worry about things that turn out to be unimportant.
EAnxi1
13.7471%
I worry about things._(5
41.3273%
I worry about things.
EAnxi2
[Factor_17]
6.4509%
I get upset by unpleasant thoughts that come in
EAnxi4
Network Overall Performance Associated graph 1_[Factor_17].xbl (Associated graph 1_[Factor_17])
Learning Database
Probability
0.065
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
6
8
10
12
14
16
18
20
22
Log-Loss
Learning Database
Entropy (H): 10.7012 Standard Deviation: 3.3409
Normalized Entropy (Hn): 76.2368%
Hn(Complete): 72.4493% Hn(Unconnected): 86.3857%
Contingency Table Fit: 72.8231%
Deviance: 11,067.6629
Number of Processed Observations: 15,017
Density Function
Number of Intervals
40
Distribution Function
Close
Save As...
Print
Extract Database
EAnxi1
Mean: 5.419 Dev: 1.585
Value: 5.419 (+2.771)
2.83% 1
5.59% 2
5.67% 3
5.91% 4
21.42% 5
29.86% 6
28.72% 7
EAnxi10
Mean: 3.341 Dev: 1.941
Value: 3.341 (-2.475)
19.74% 1
23.57% 2
18.58% 3
6.57% 4
11.95% 5
11.71% 6
7.88% 7
EAnxi4
Mean: 5.125 Dev: 1.692
Value: 5.125 (+1.734)
3.77% 1
7.61% 2
8.01% 3
7.47% 4
22.19% 5
28.06% 6
22.90% 7

BayesiaLab - C:\Users\StefanConrady\OneDrive - Bayesia USA\Studies\HEXACO\MC10\Associated graph 2_Final.xbl

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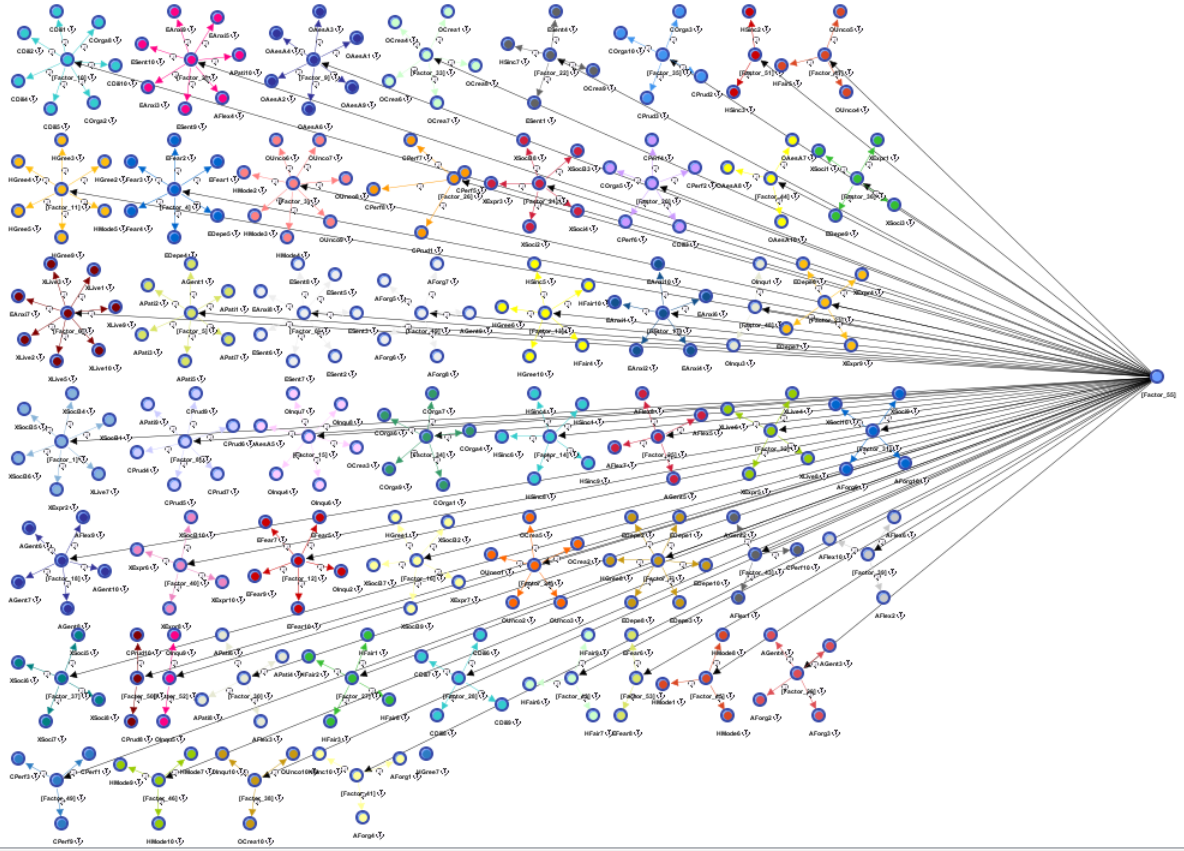
Associated graph 2_Final.xbl *



Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,239.818
Mean Value: 4.203

0:0

Associa...

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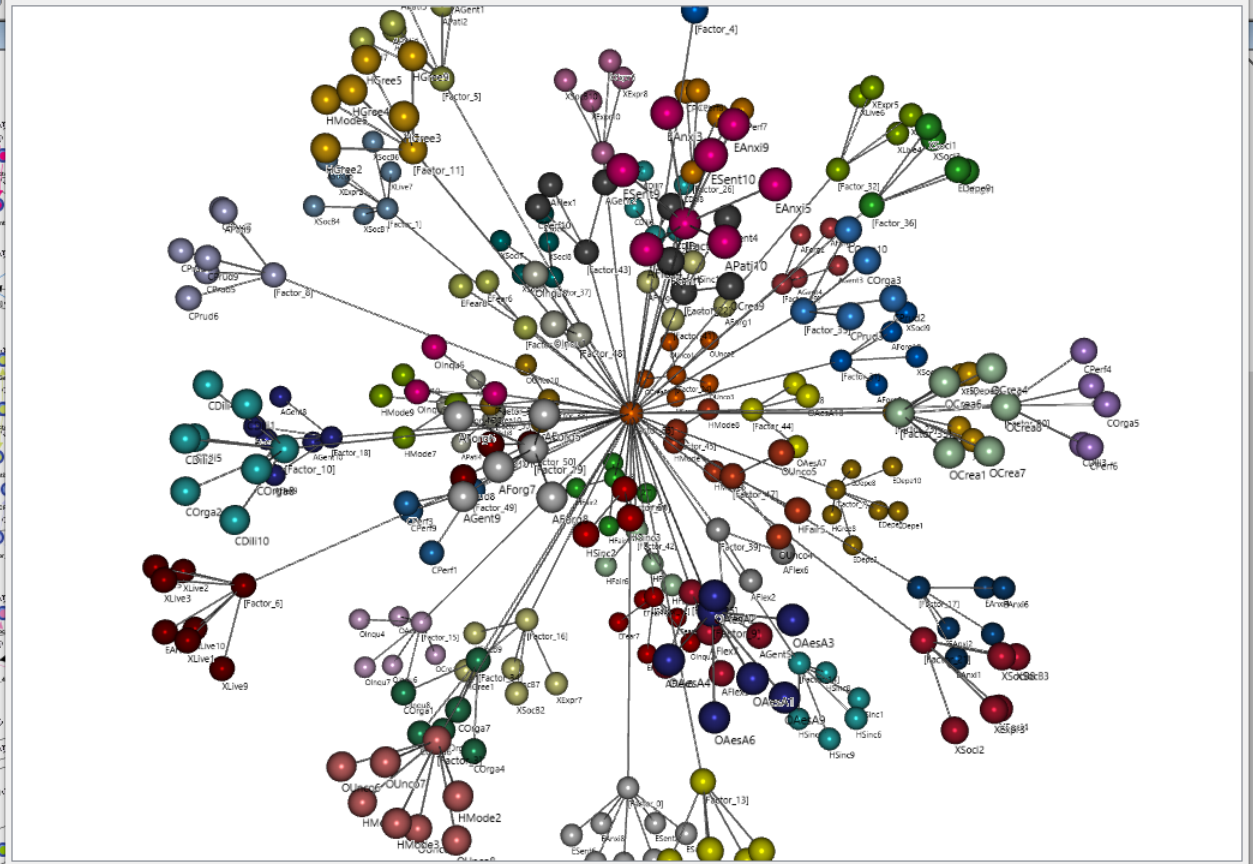
Network Data Edit View Learning Inference An

Associated graph 2_Final.xbl *

Mapping



Node Analysis

Size None

Color None

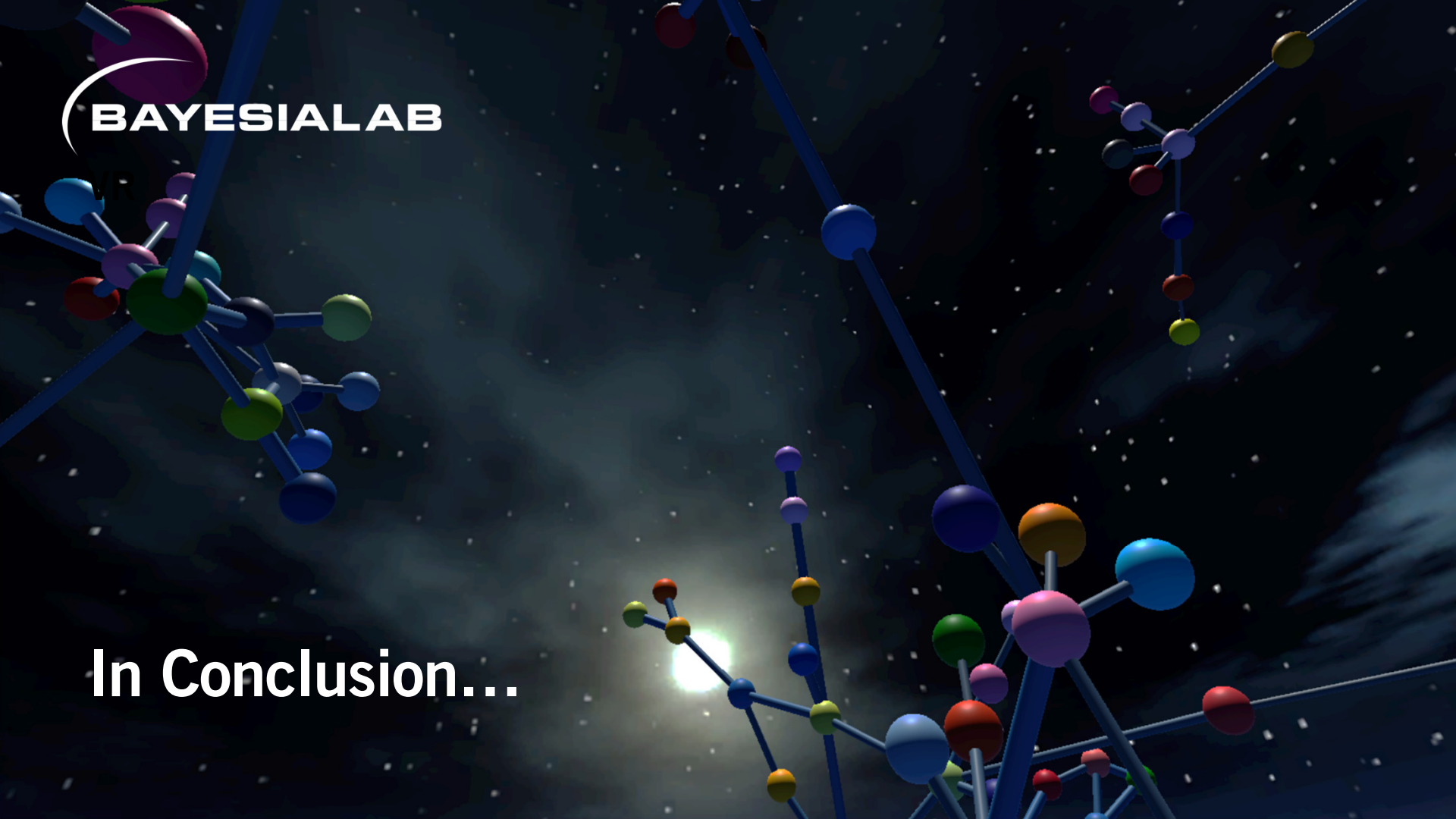
Arc Analysis

None

Close Save As... Print Export 3D Model

Joint Probability: 100.00%
Log-Loss: 0
Cases: 15,017
Total Value: 1,239.818
Mean Value: 4.203

Associa...


BAYESIALAB
In Conclusion…

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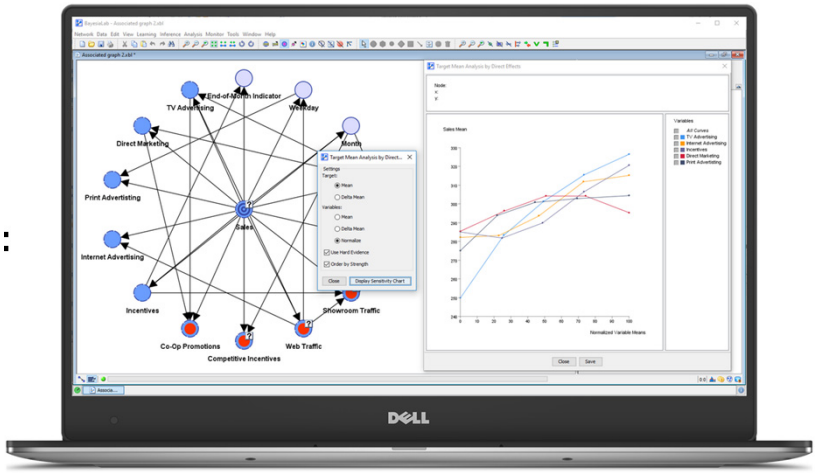

Upcoming Events

Webinars & Seminars:

- July 13 Webinar: Building a Technical Fault Diagnosis System
- July 27 Webinar: Adversarial Reasoning

Register here: bayesia.com/events

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- July 23–25
  San Francisco, CA
- August 29–31
  London, UK
- September 26–28
  New Delhi, India
- October 29–31
  Chicago, IL
- December 4–6
  New York, NY

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Thank You!

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