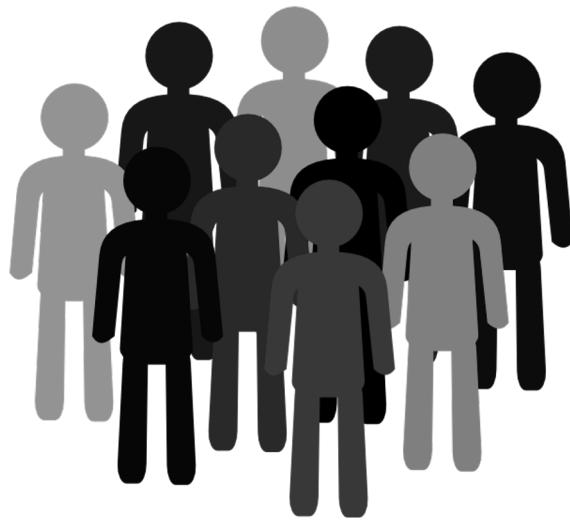
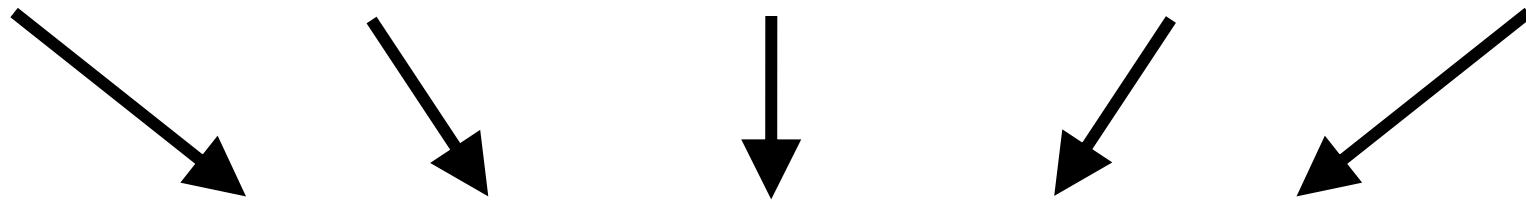


Idiographic Personality: A Methodological Perspective on Measuring and Modeling Individuals

Emorie D. Beck and Joshua J. Jackson

Washington University in St. Louis





Nomothetic

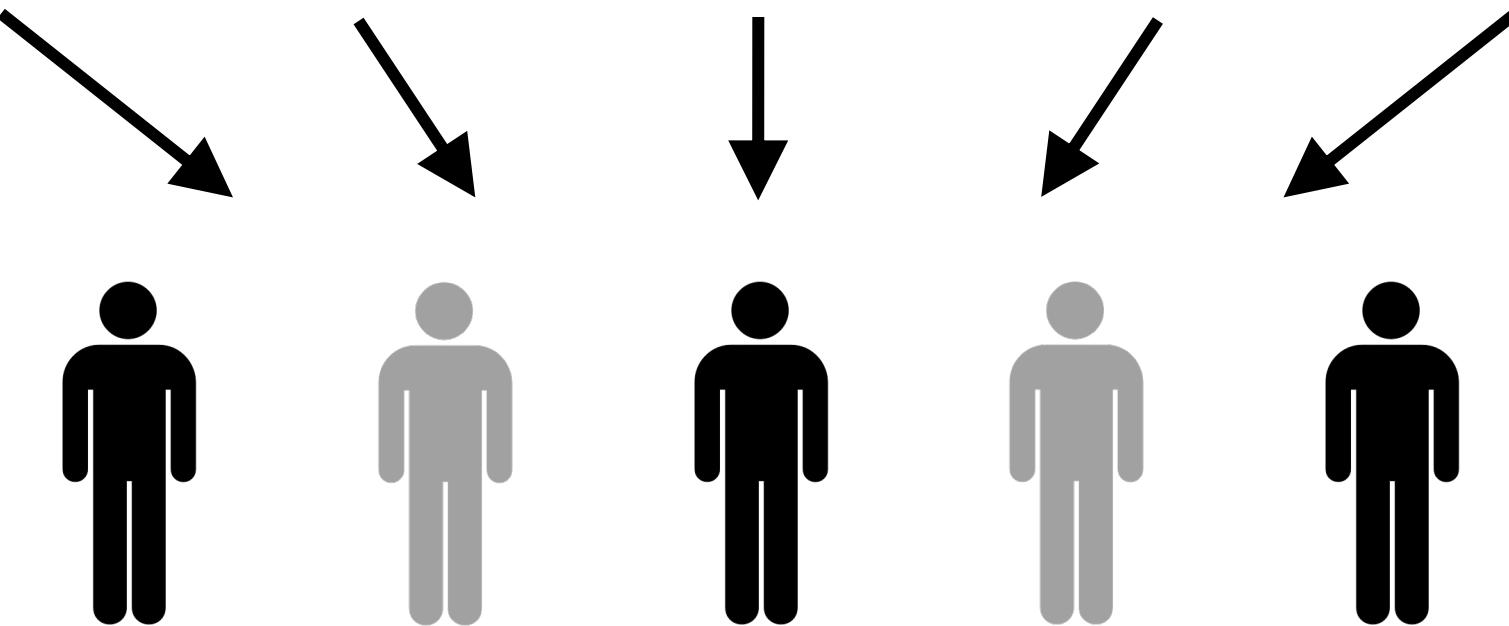
Extraversion

Agreeableness

Conscientiousness

Neuroticism

Openness



Idiographic

Personality

Rude
Quiet
Lazy
Relaxed
Depressed
Outgoing
Kind
Reliable
Worried

Cognitive Affective

Academic Motivation
Around Others
Connected
Positive Emotion
Negative Emotion
Authenticity
Self-Esteem
Happiness
Loneliness

Idiographic Assessment: Graphical Autoregressive Models

$$X_{i,k}(t) = \sum_{j=1}^n \beta_{ij} X_{j,k}(t-1) + \varepsilon_{i,k}(t)$$

k = subjects
 i = item
 j = item
 t = assessment point

Personality

Rude
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Lazy
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Cognitive Affective

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Idiographic Assessment: Graphical Autoregressive Models

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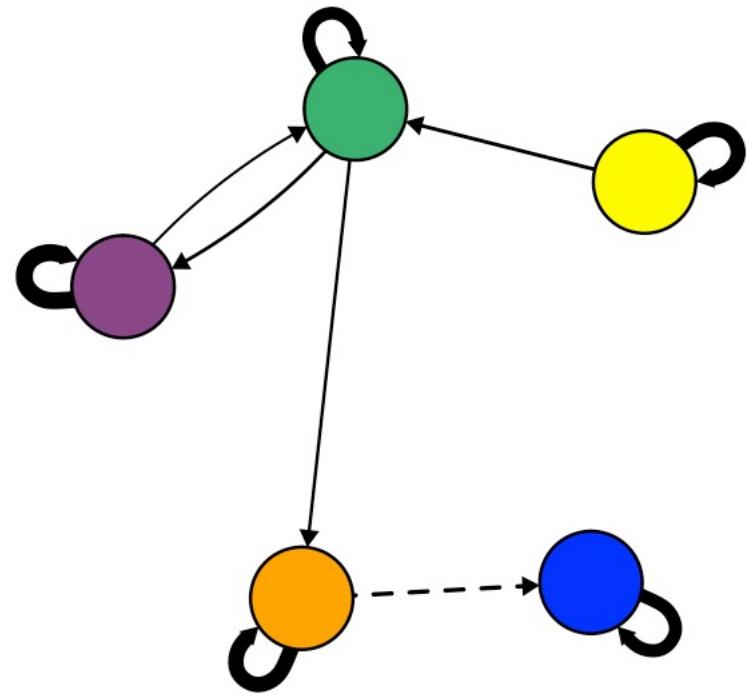
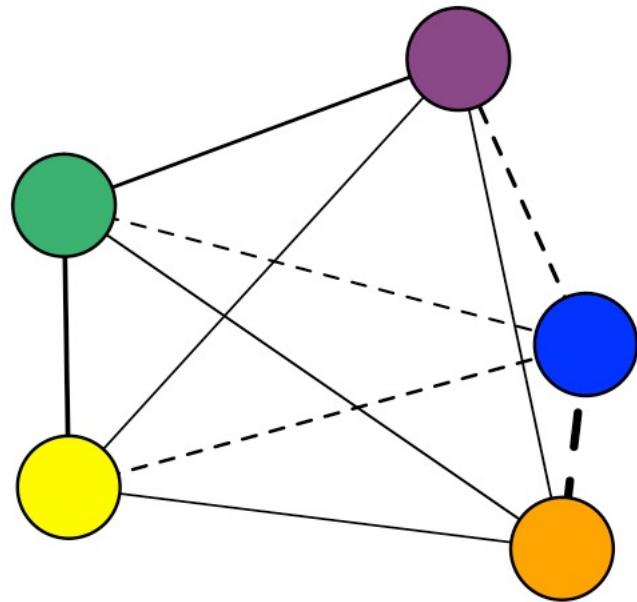
k = subjects
 i = item
 j = item
 t = assessment point

$$\text{PCC}(X_i(t), X_j(t)) = -\frac{K_{ij}}{\sqrt{K_{ii} K_{jj}}}$$

K = concentration matrix
(inverse variance-covariance matrix)

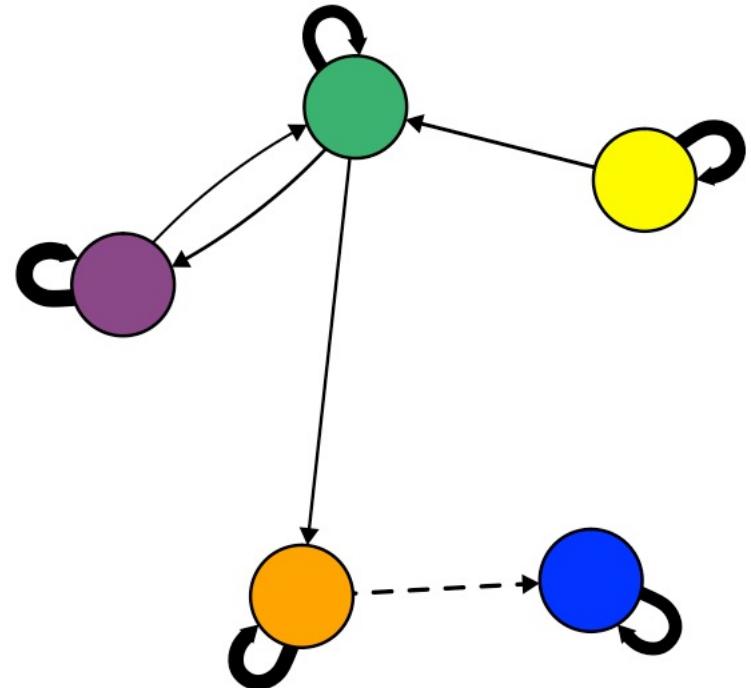
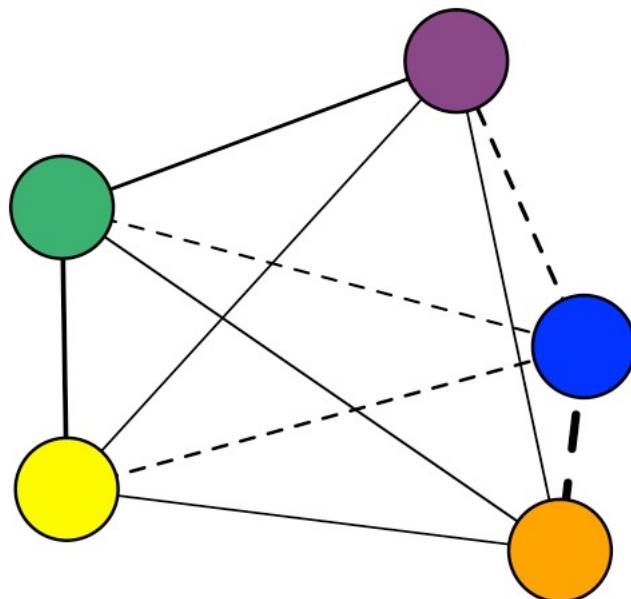
$$\text{PDC}(X_i(t), X_j(t-1)) = \frac{\beta_{ij}}{\sqrt{\Sigma_{ii} K_{jj} + \beta_{ij}^2}}$$

Wild et al., 2010; Epskamp, Waldorp, Möttus, & Borsboom (2018)



Contemporaneous

Concurrent behaviors: *While...*

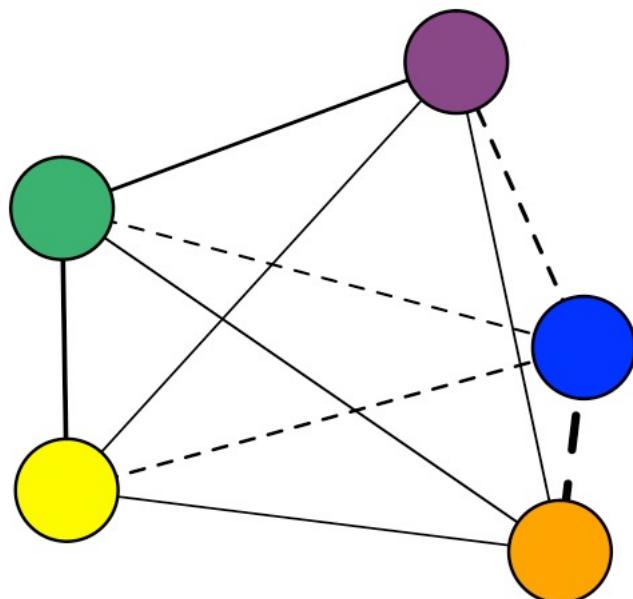


Within Time-Points:

$$X_{it} \leftrightarrow X_{jt}$$

Contemporaneous

Concurrent behaviors: *While...*

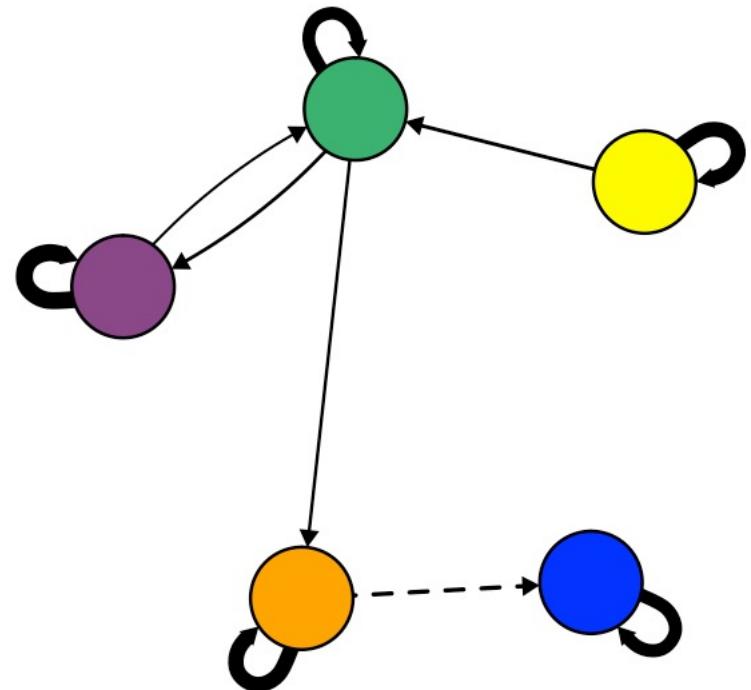


Within Time-Points:

$$X_{it} \leftrightarrow X_{jt}$$

Temporal

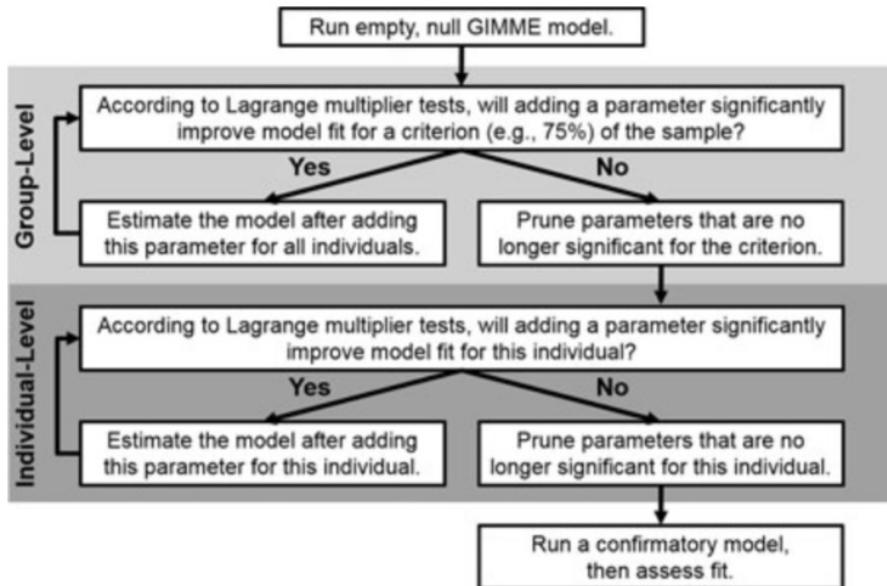
Contingent behaviors: *If... Then...*



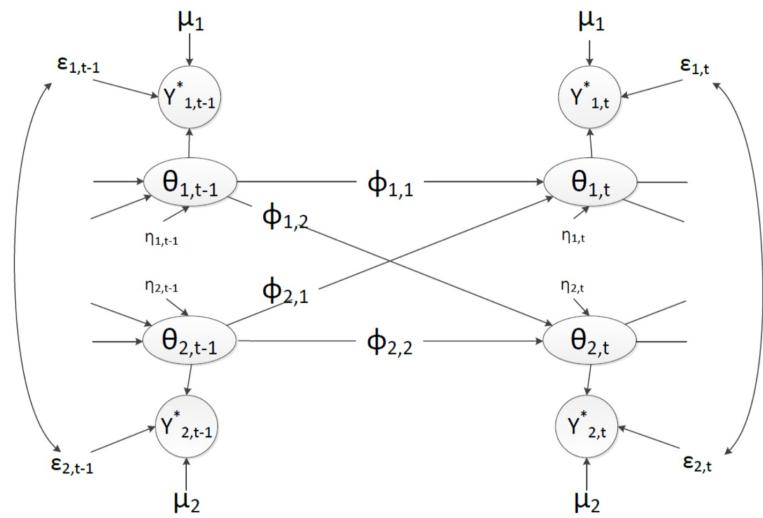
Between Time-Points:

$$X_{it} \rightarrow X_{i, t+1}$$

GIMME



VAR Bayesian Dynamic Model



Beltz & Gates, 2017; Wright et al., 2017

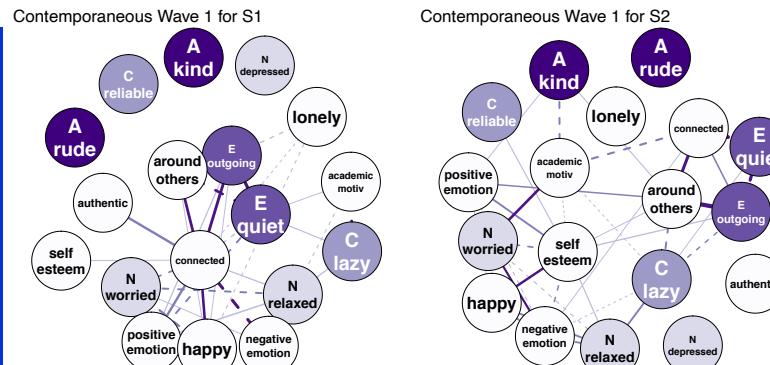
Krone, Albers, Kuppens, & Timmerman, 2017

**What does idiographic
assessment and modeling buy
us, and how do we do it well?**

Promises

Challenges

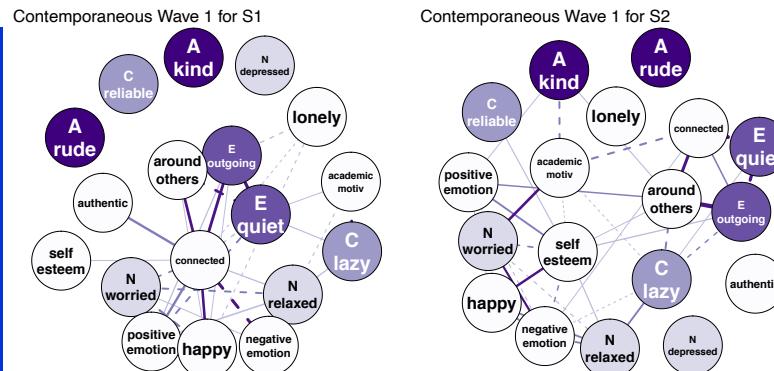
Structure



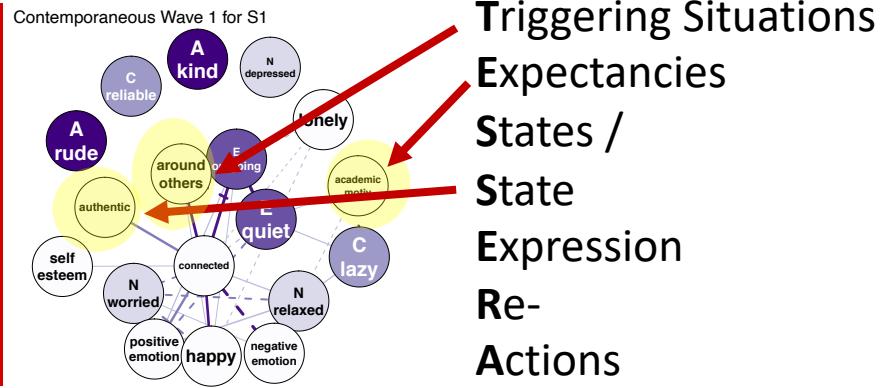
Promises

Challenges

Structure



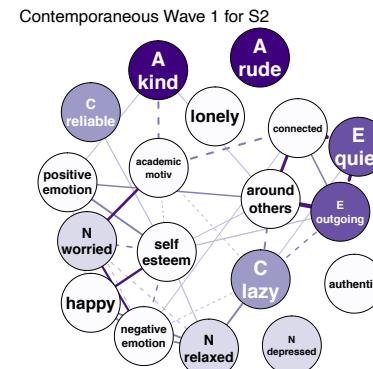
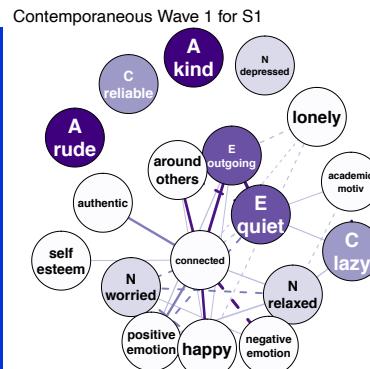
Process



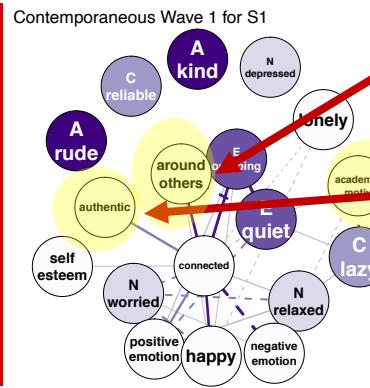
Promises

Challenges

Structure



Process



Triggering Situations
Expectancies
States /
State
Expression
Re-
Actions

Development

psyarxiv.com/pb92q

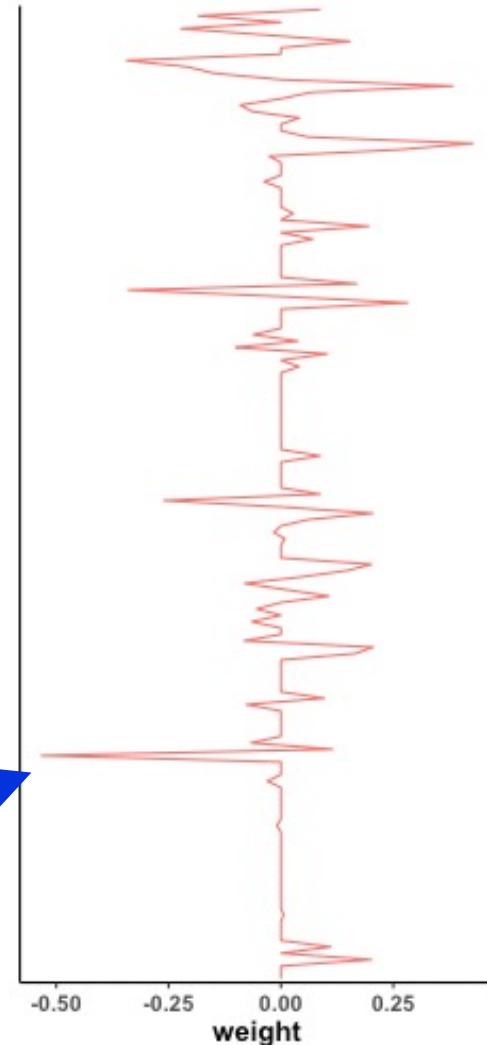
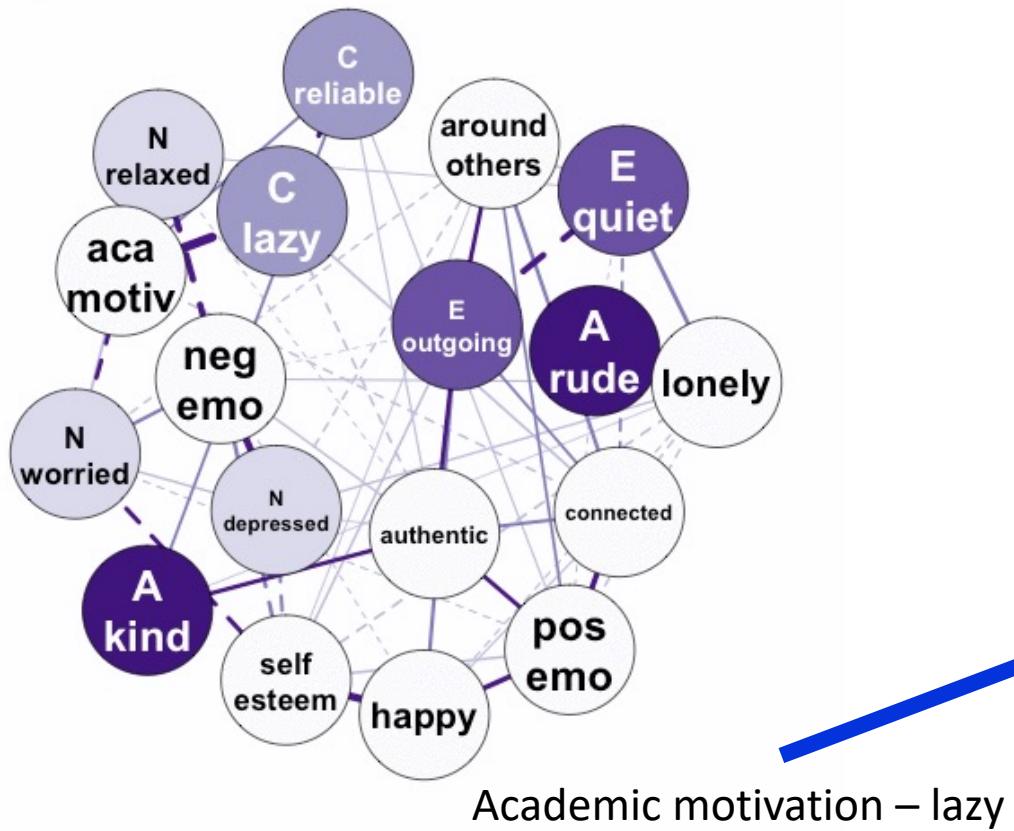
Promises

Challenges

Structure

Structure

Contemporaneous Wave 1 for S882

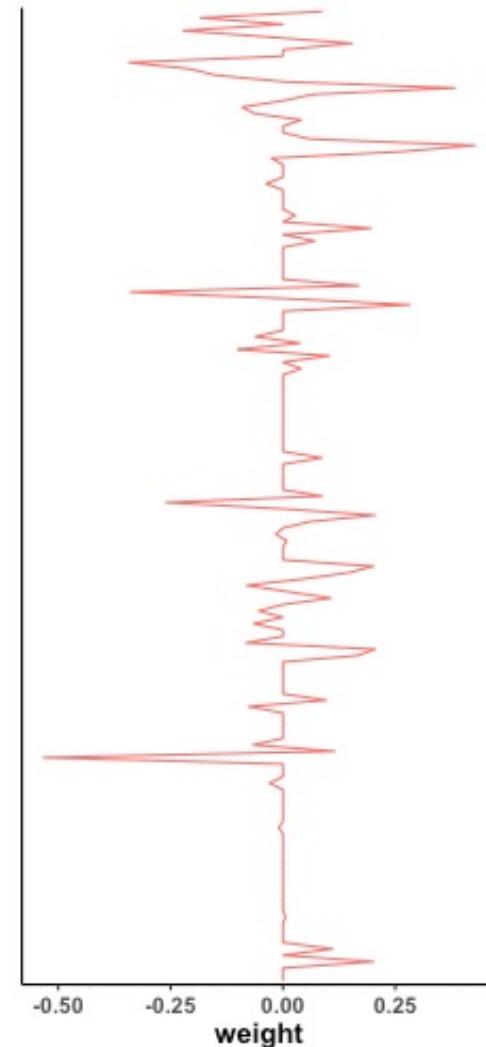
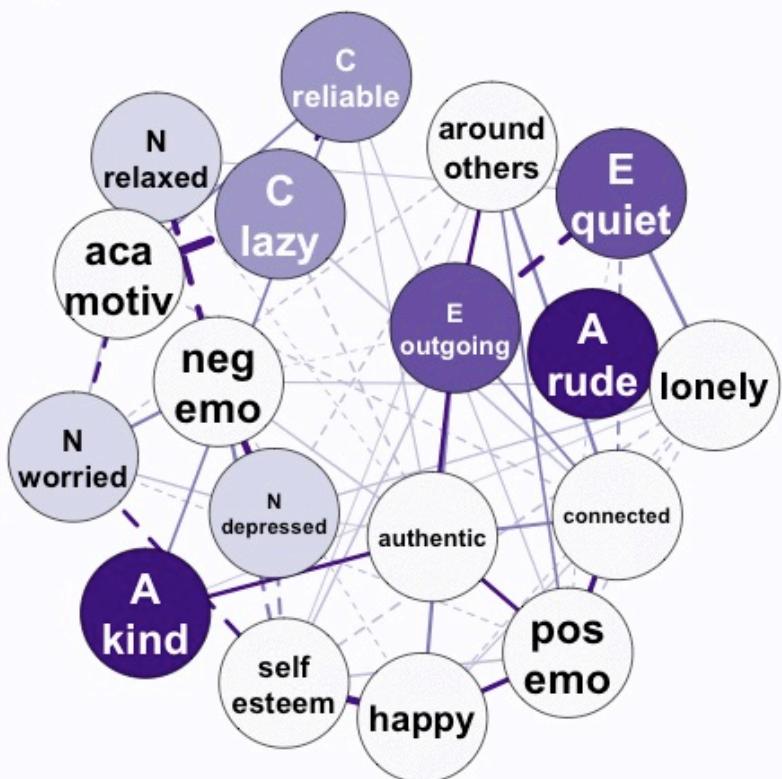


Promises

Challenges

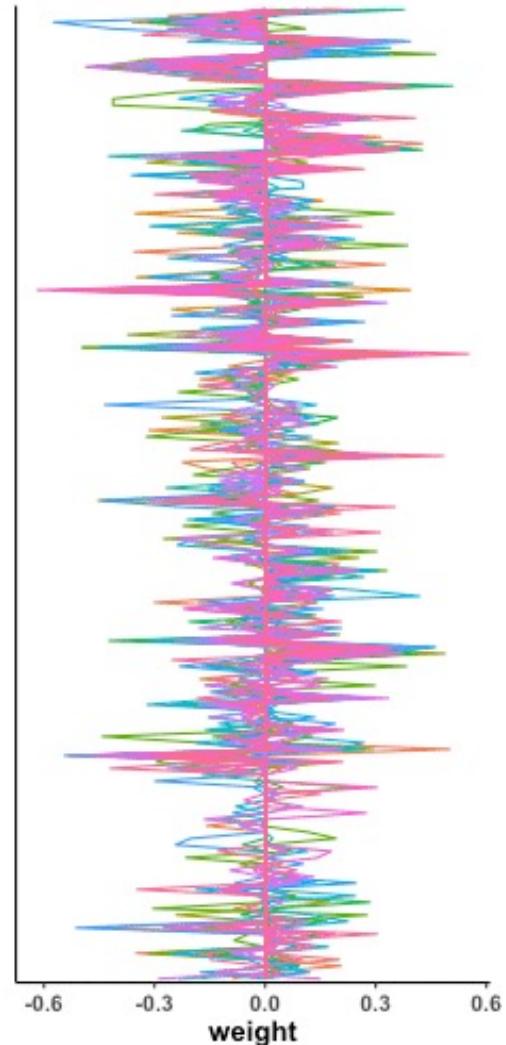
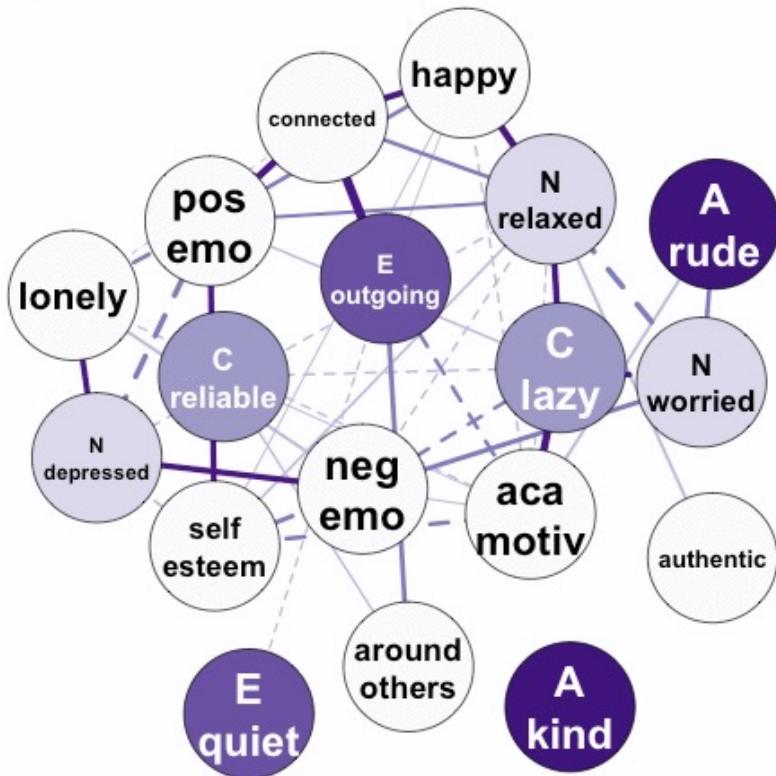
Structure

Contemporaneous Wave 1 for S882



Structure

Contemporaneous Wave 1 for S59665



Personality Processes

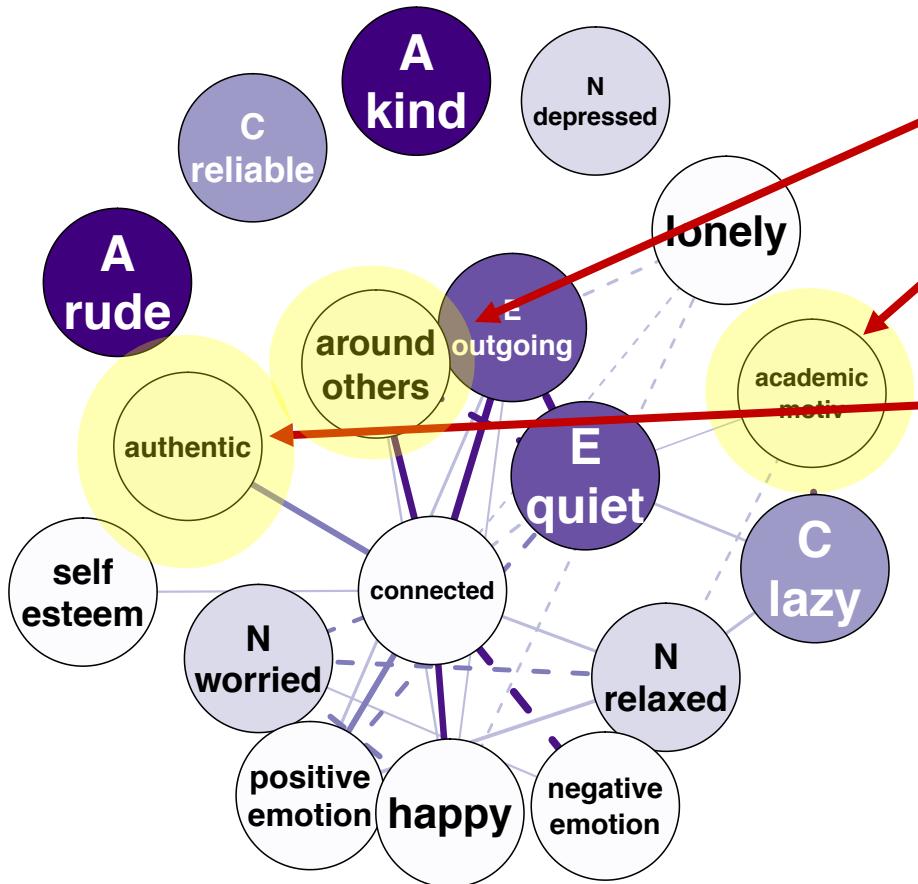
T
E
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A

Personality Processes

T riggering Situations
E xpectancies
S tates /
S tate
E xpression
R e-
A ctions

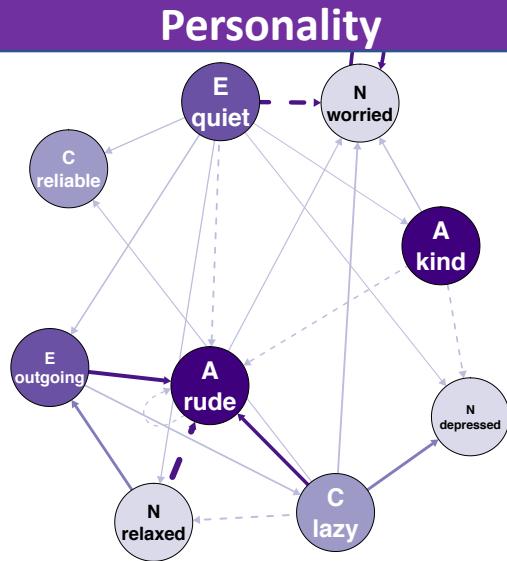
Personality Processes

Contemporaneous Wave 1 for S1



Triggering Situations
Expectancies
States /
State
Expression
Re-
Actions

Personality Processes

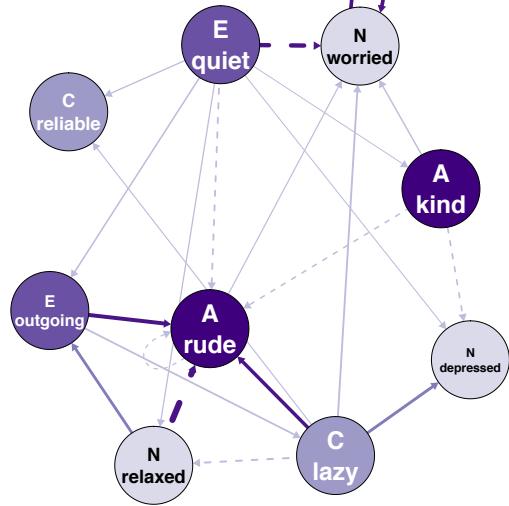


Promises

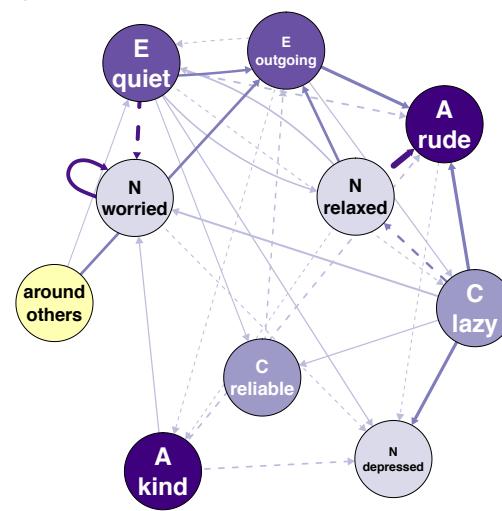
Challenges

Personality Processes

Personality



Personality + Triggering Situations

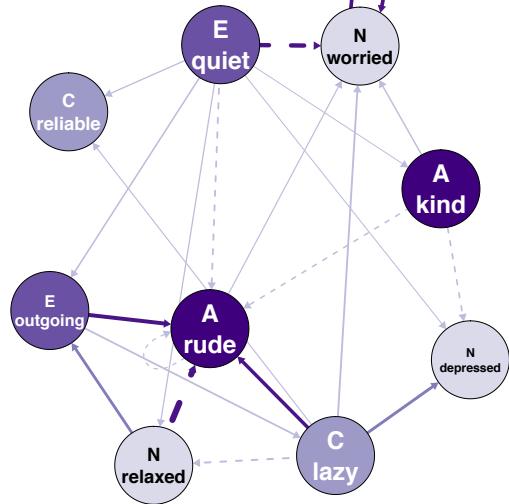


Promises

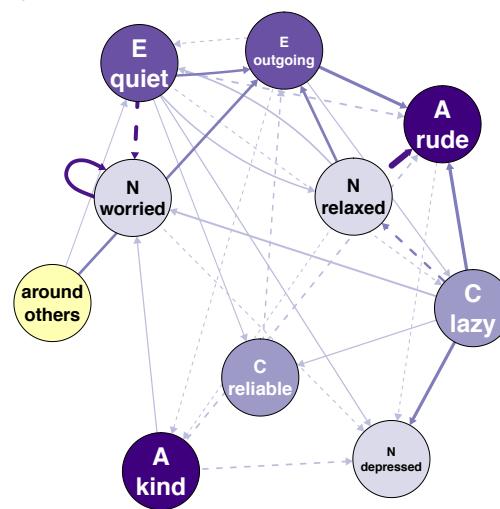
Challenges

Personality Processes

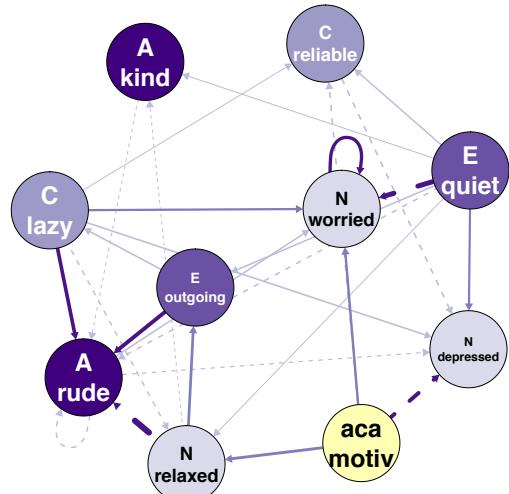
Personality



Personality + Triggering Situations



Personality + Expectancies

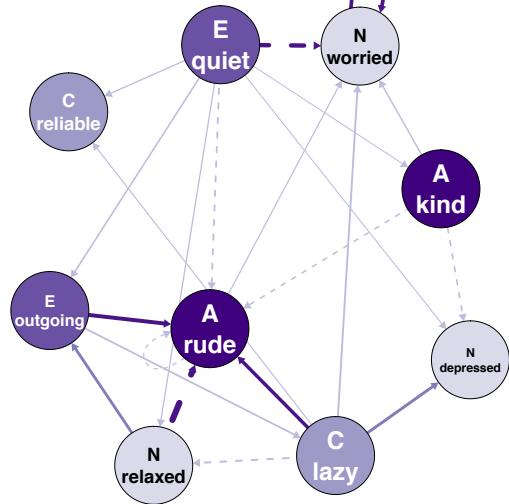


Promises

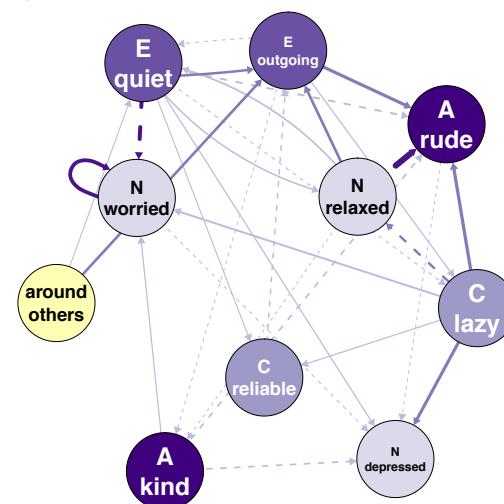
Challenges

Personality Processes

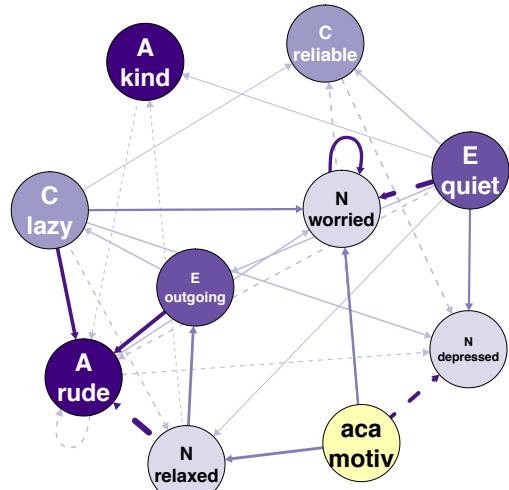
Personality



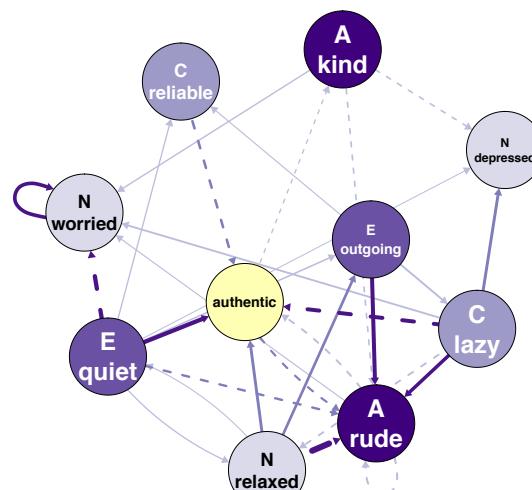
Personality + Triggering Situations



Personality + Expectancies



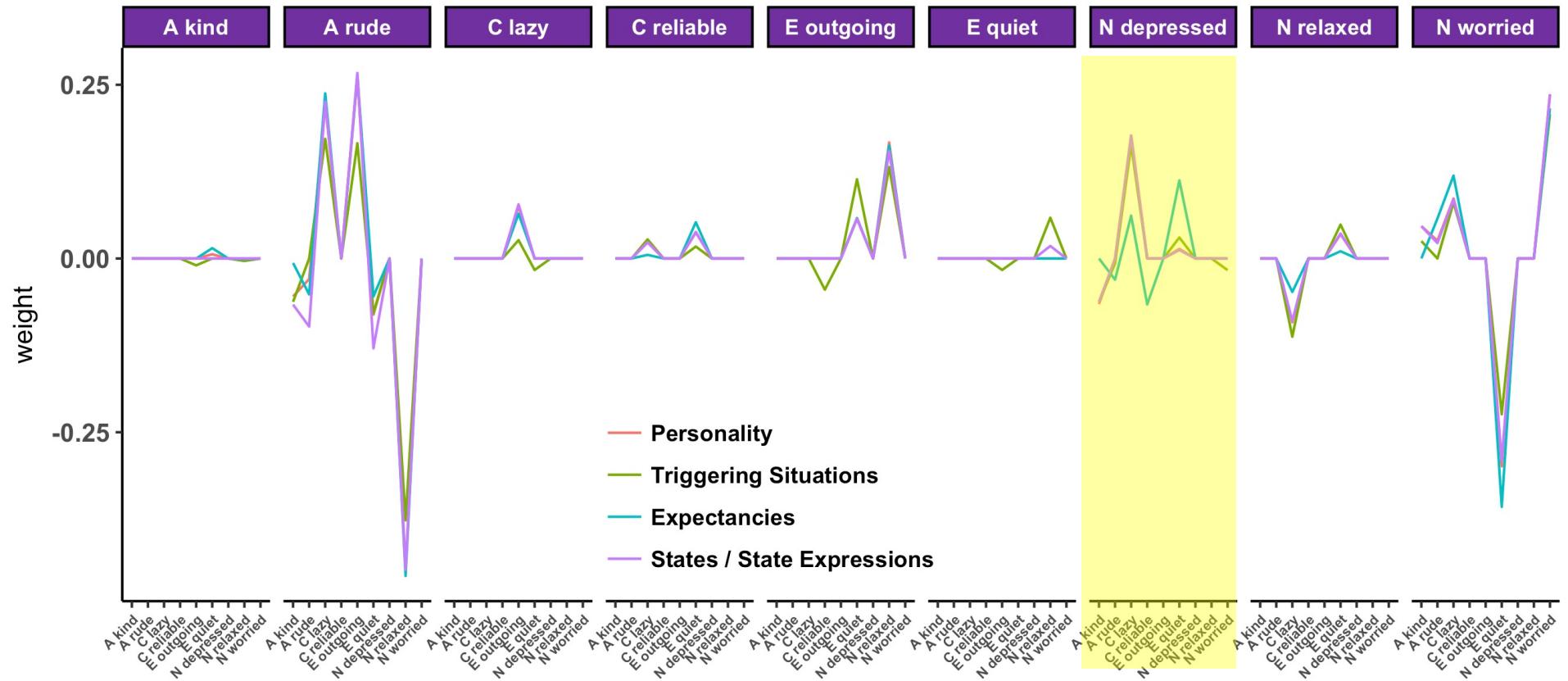
Personality + State Expression



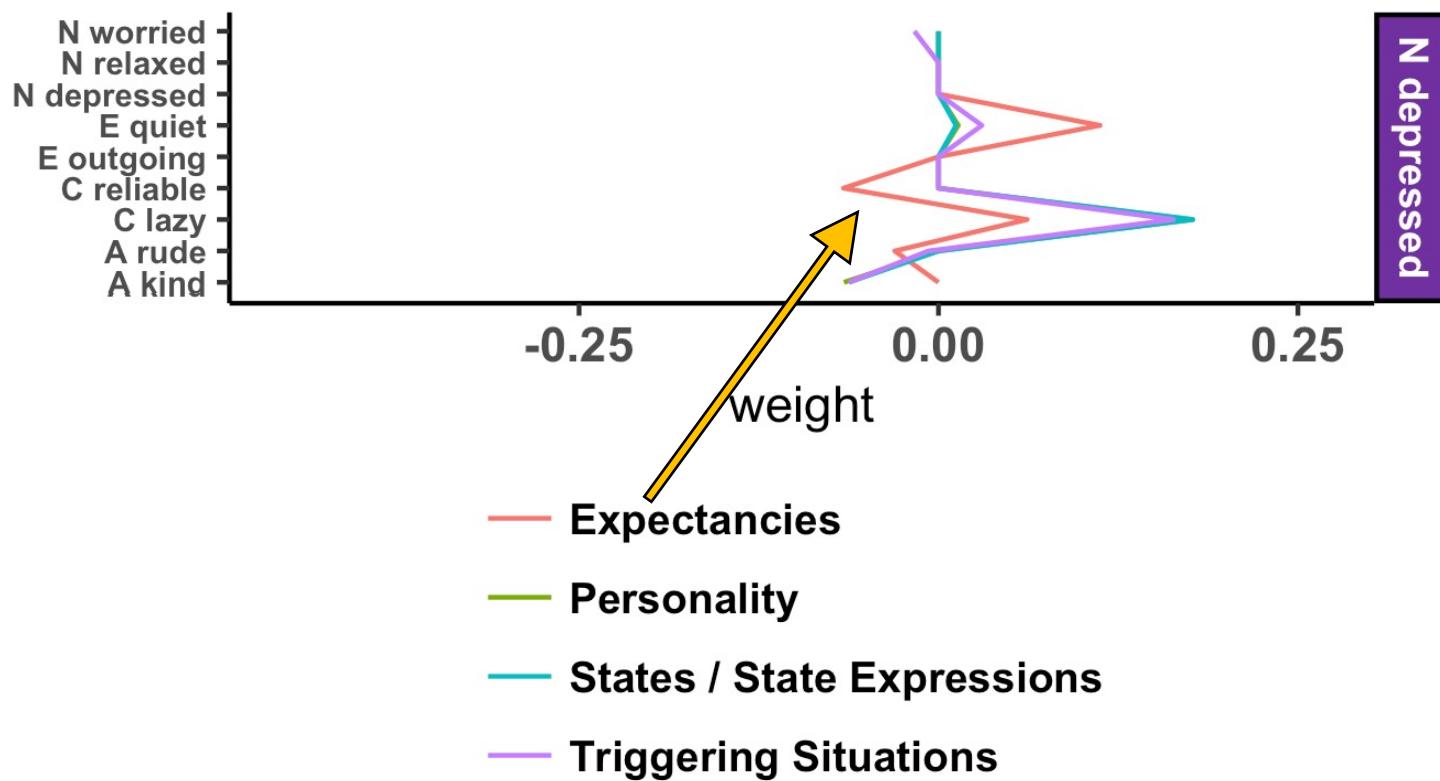
Promises

Challenges

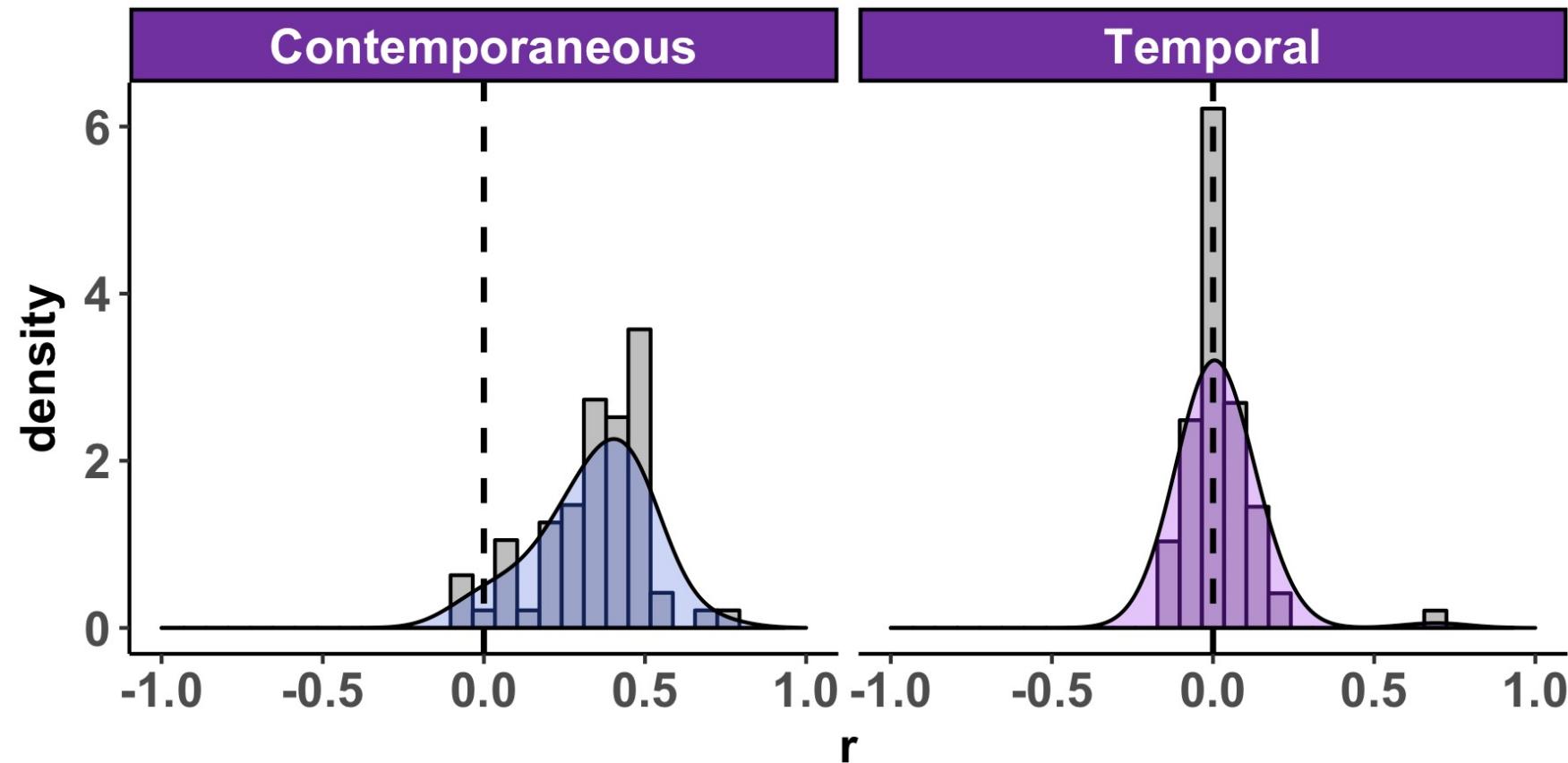
Personality Processes



Personality Processes



Development



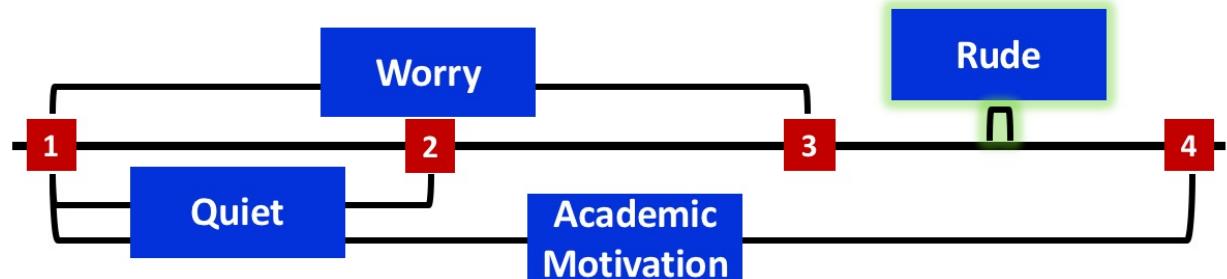
Promises

Challenges

Promises

Challenges

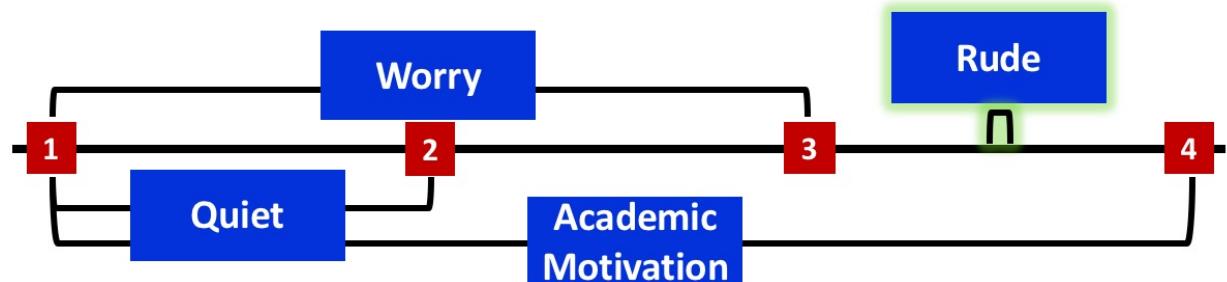
Velocity



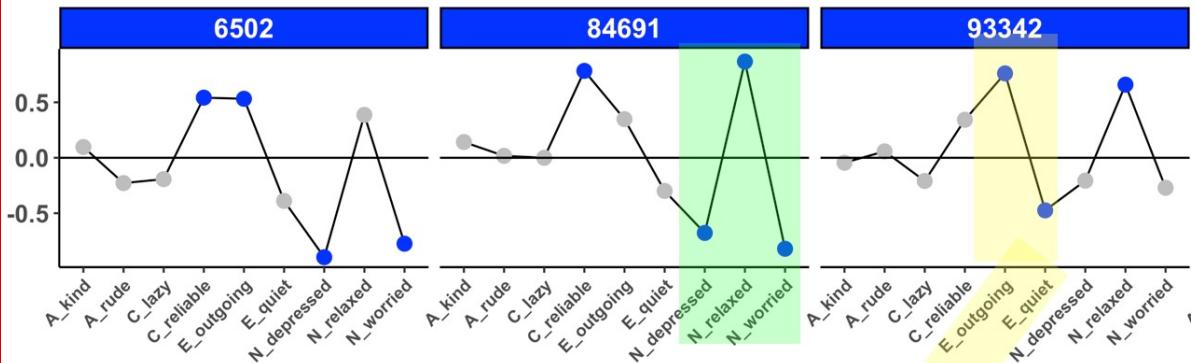
Promises

Velocity

Challenges



Psychometrics



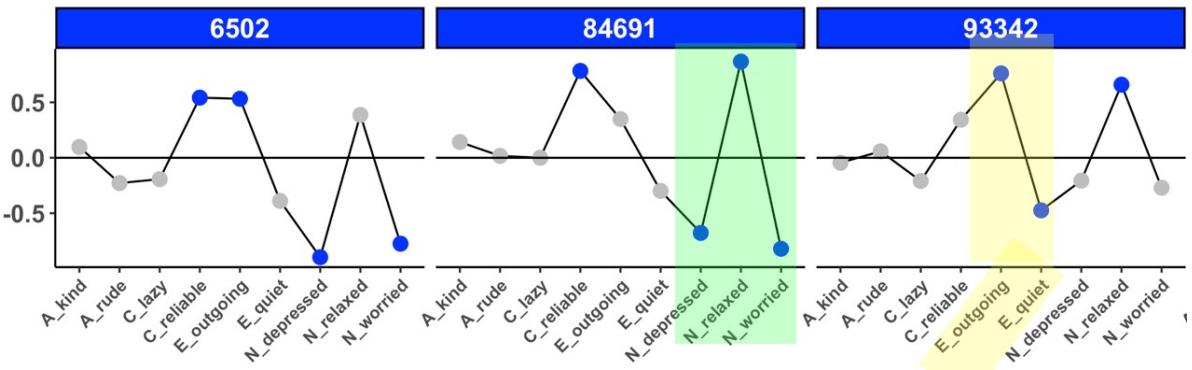
Promises

Challenges

The Time Interval Problem



Psychometrics



Aggregation

Centrality

Density

Clustering

Communities

Promises

Challenges

The Time Interval Problem



Worry

Academic
Motivation

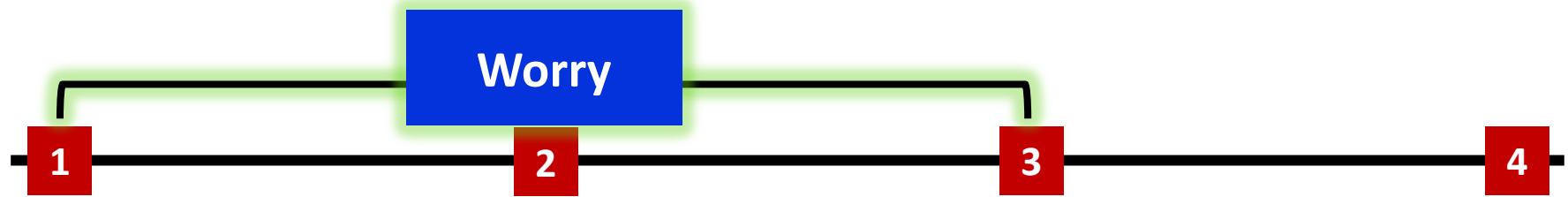
Quiet

Rude

Promises

Challenges

The Time Interval Problem



Academic
Motivation

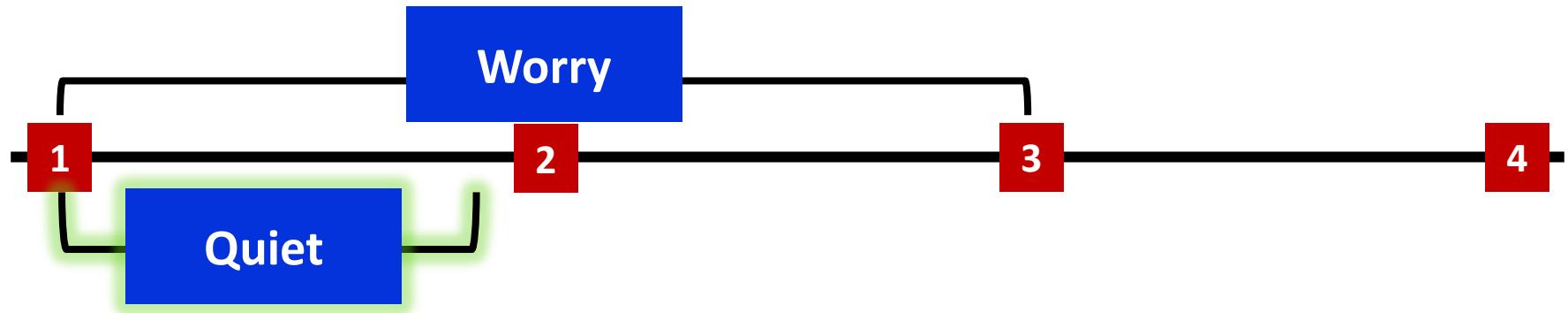
Quiet

Rude

Promises

Challenges

The Time Interval Problem



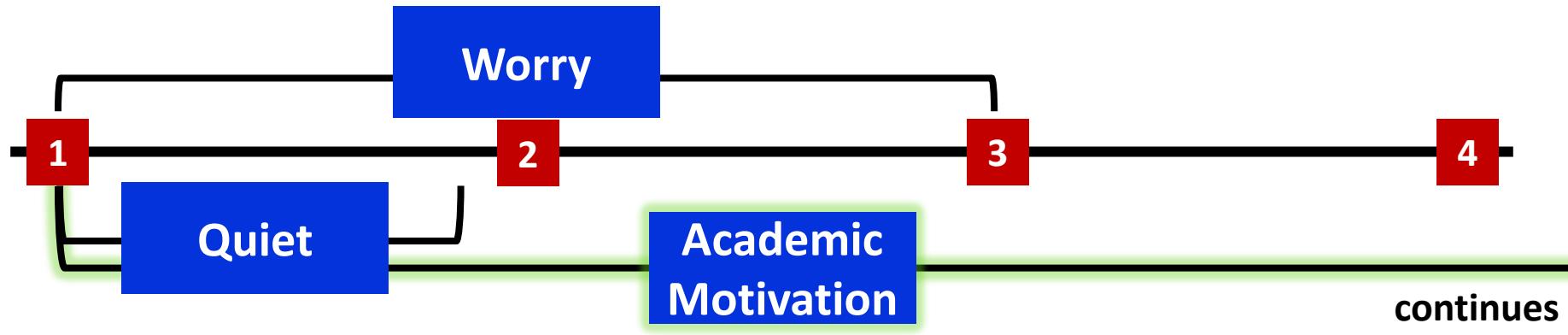
Academic
Motivation

Rude

Promises

Challenges

The Time Interval Problem

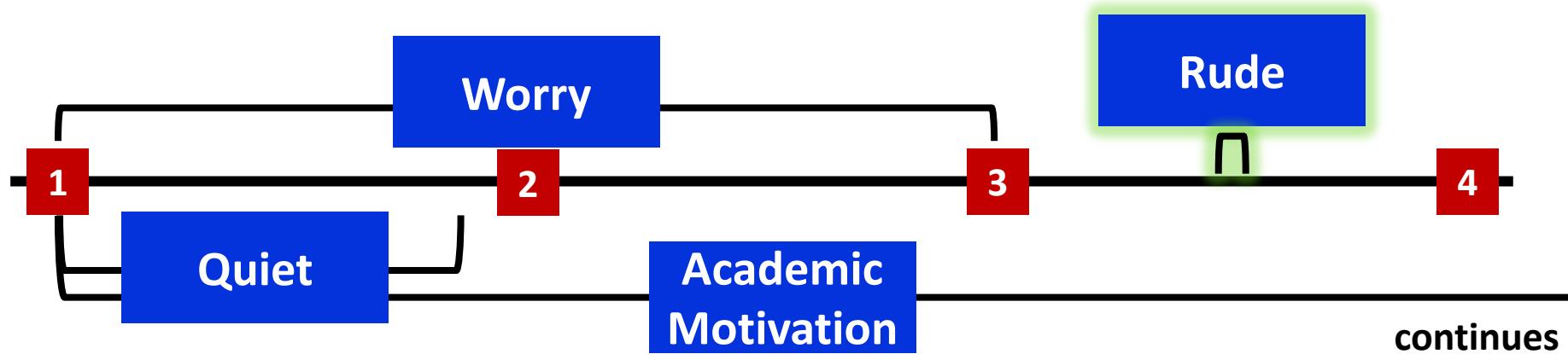


Rude

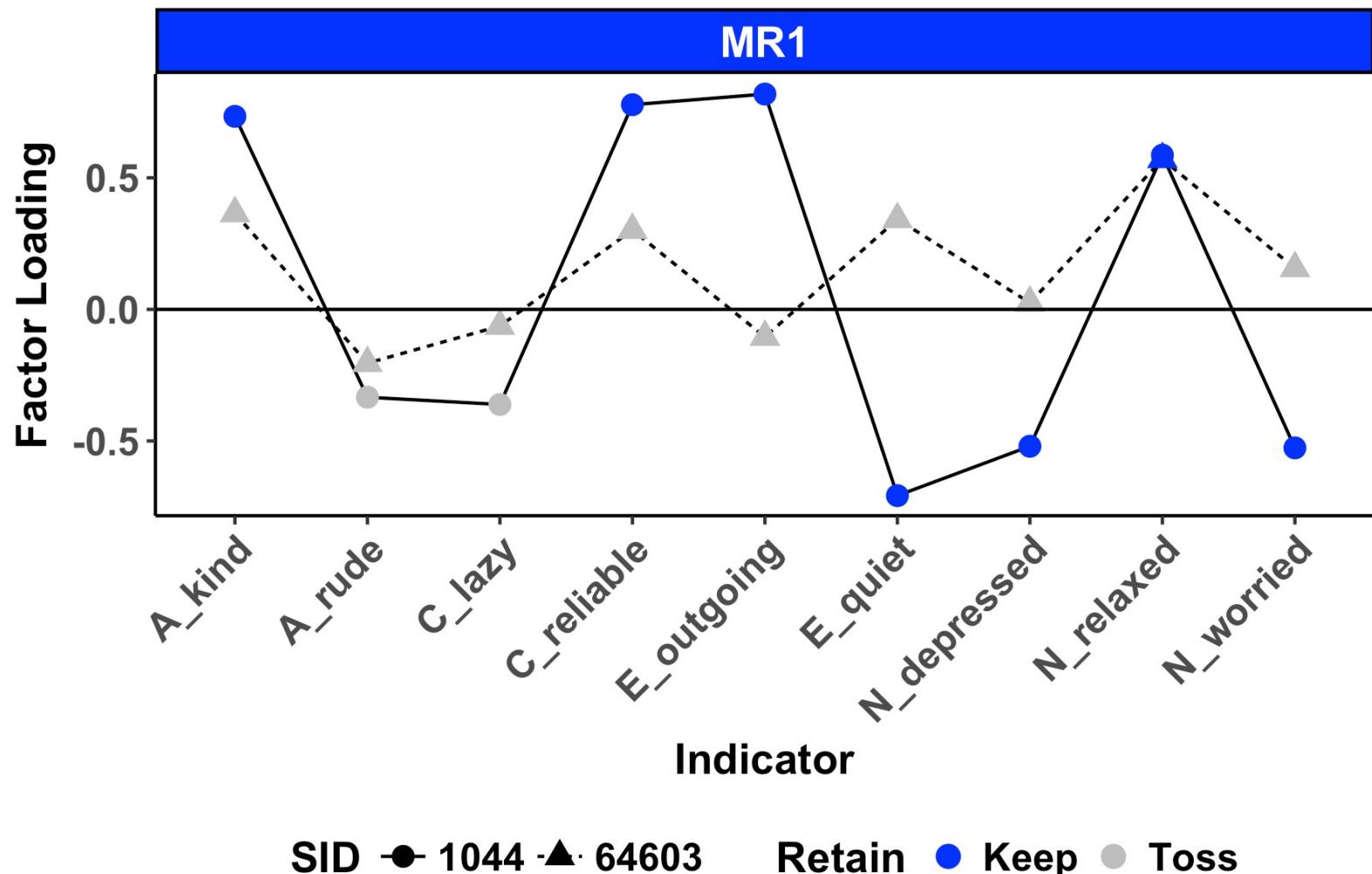
Promises

Challenges

The Time Interval Problem



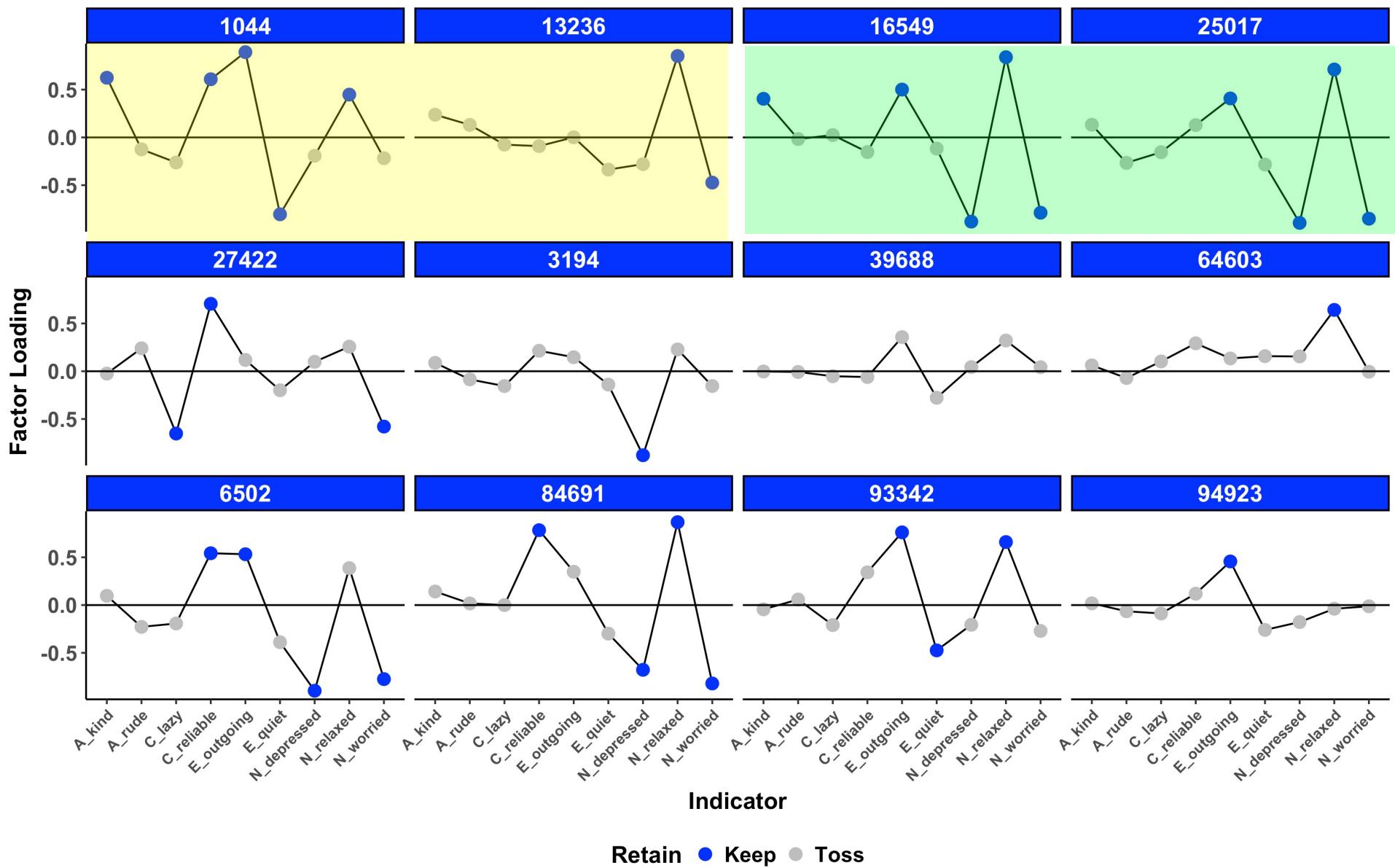
Psychometrics



Promises

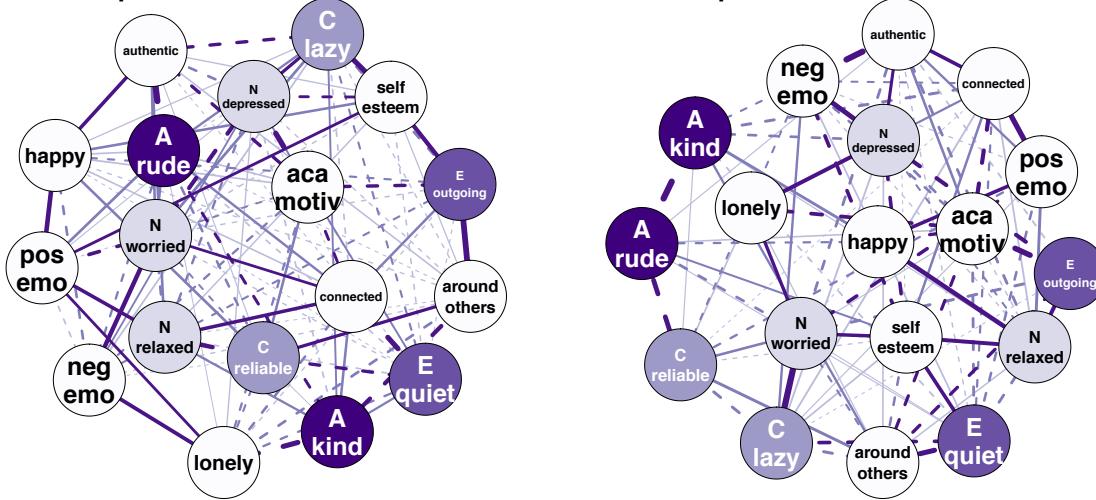
Challenges

Psychometrics

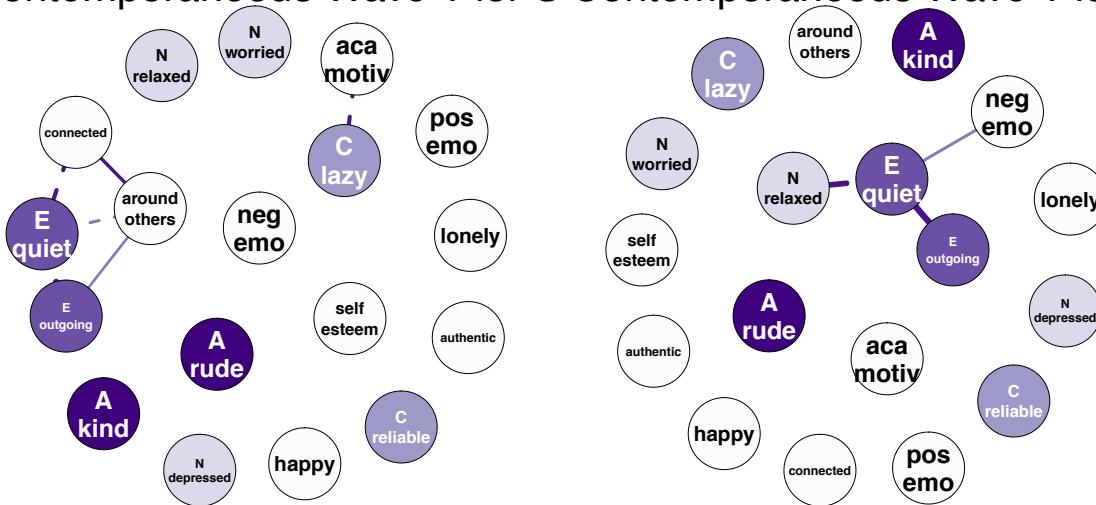


Aggregation

Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S



Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S

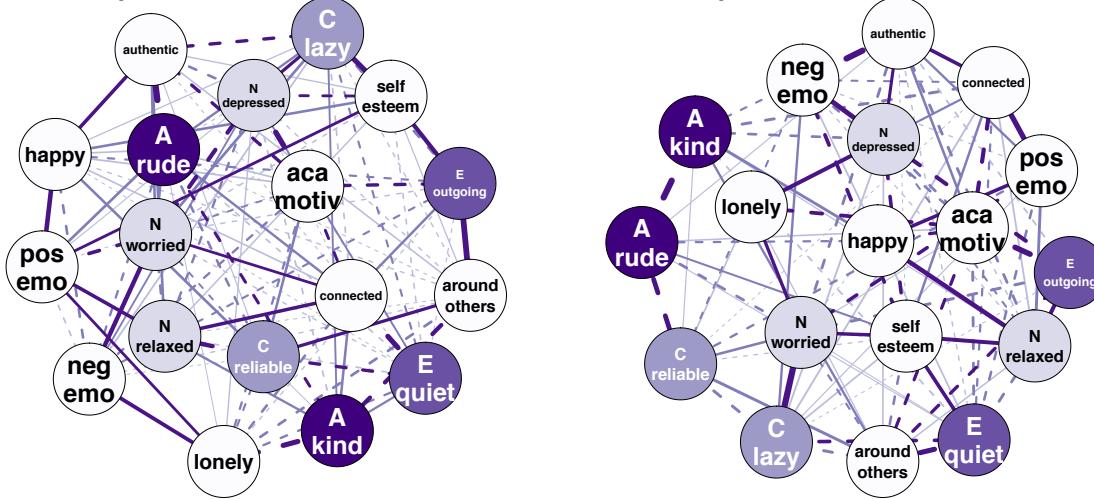


Promises

Challenges

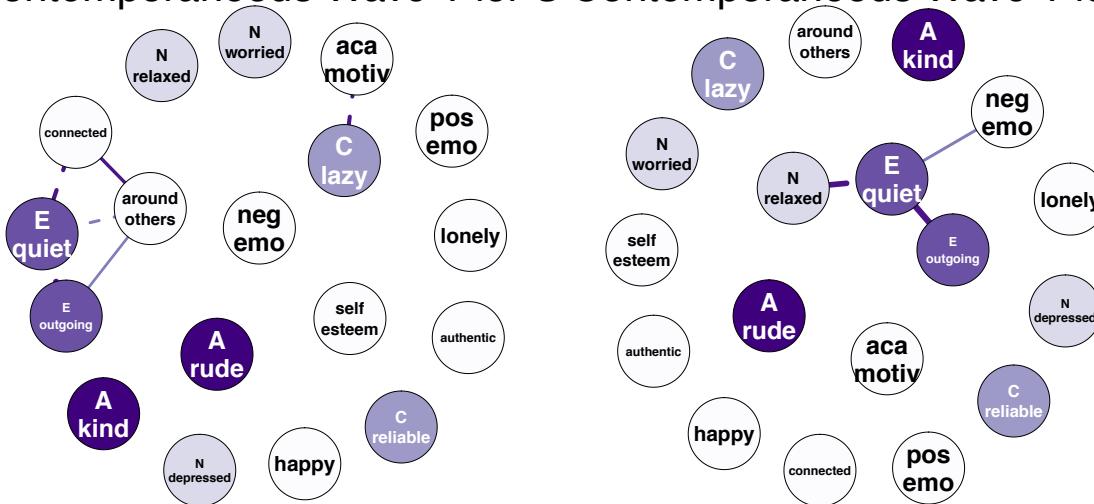
Aggregation

Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S



Centrality

Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S

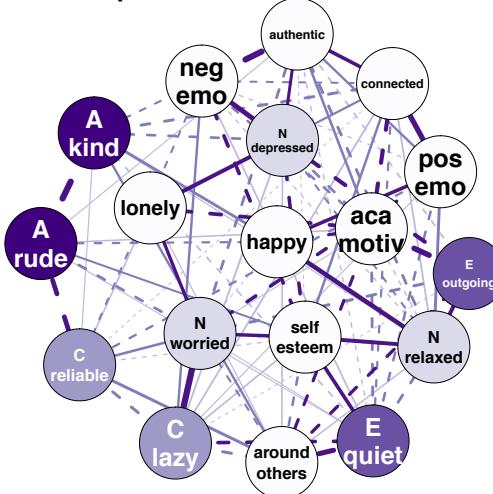
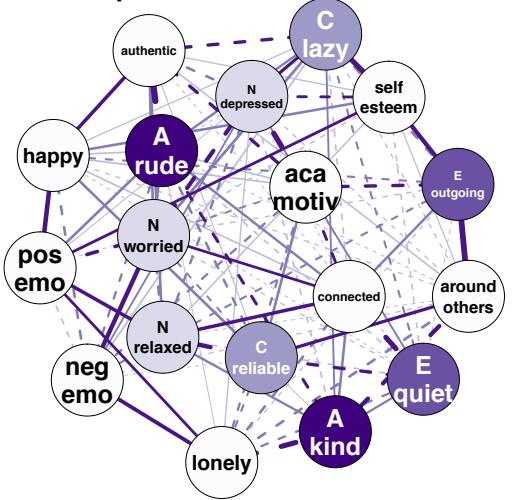


Promises

Challenges

Aggregation

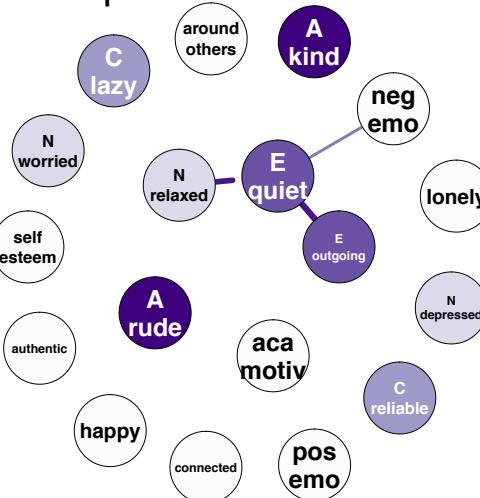
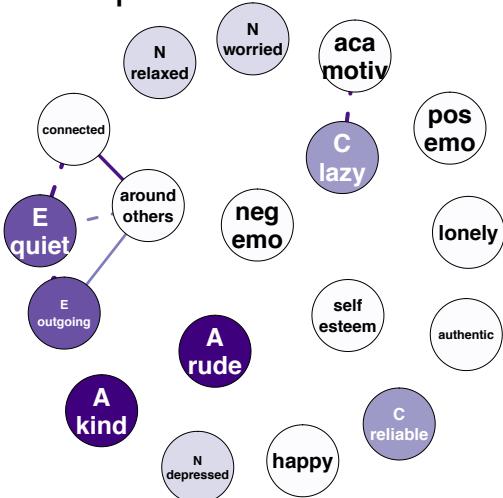
Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S



Centrality

Density

Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S

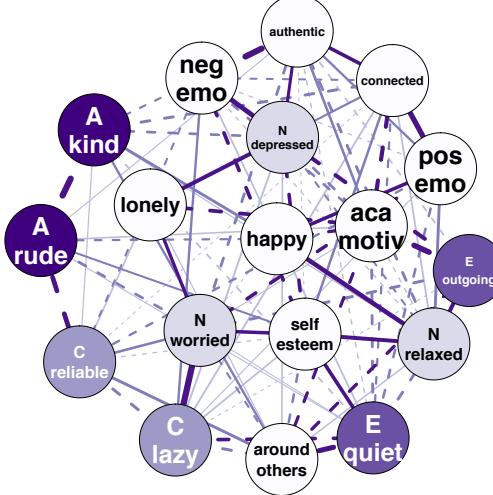
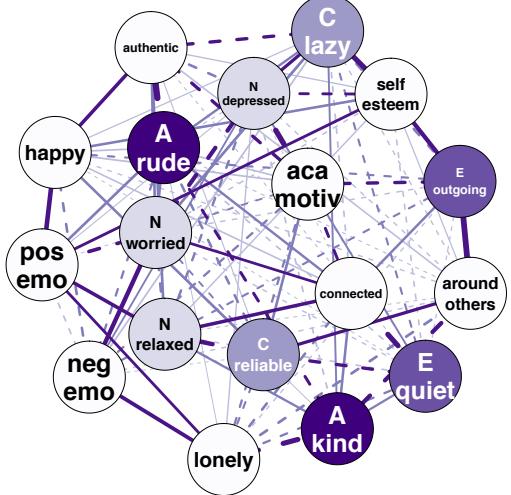


Promises

Challenges

Aggregation

Contemporaneous Wave 1 for S Contemporaneous Wave 1 for S



Centrality

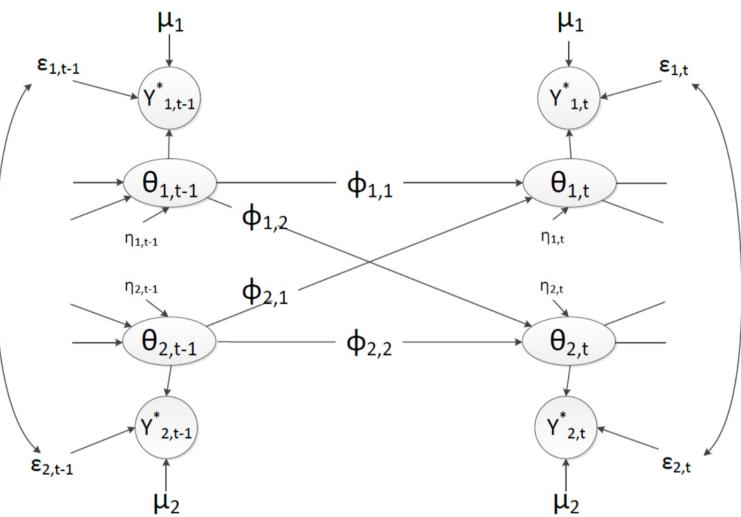
Density

Clustering

Communities

Innovation

Variability



Promises

Challenges

Summary

Structure

The Time Interval
Problem

Process

Psychometrics

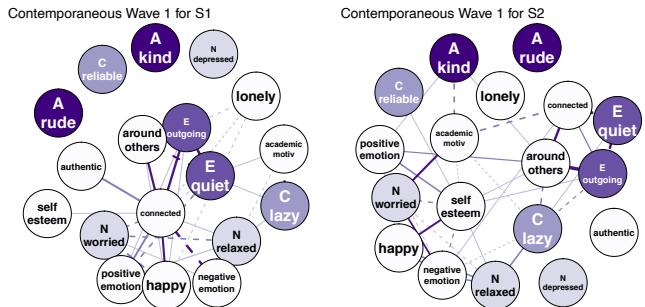
Development

Aggregation

Promises

Challenges

Summary



The Time Interval Problem

Process

Psychometrics

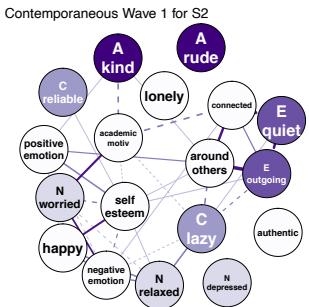
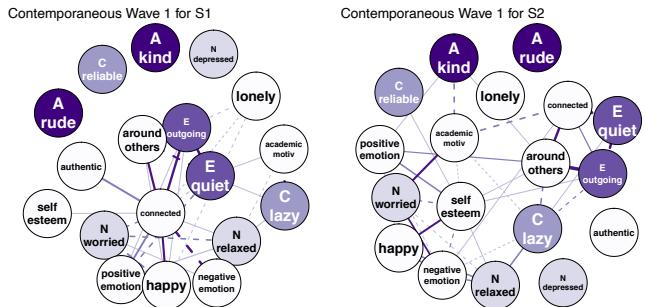
Development

Aggregation

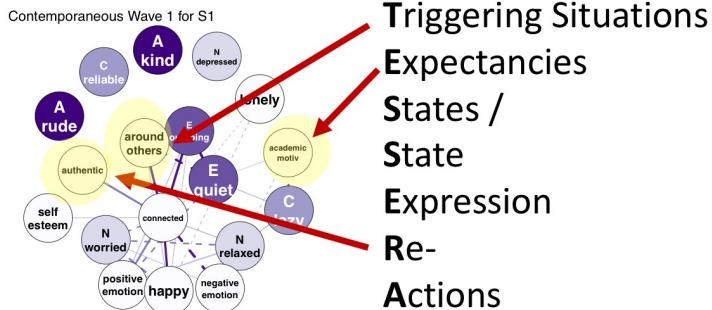
Promises

Challenges

Summary



The Time Interval Problem



**States /
State
Expression
Re-
Actions**

Psychometrics

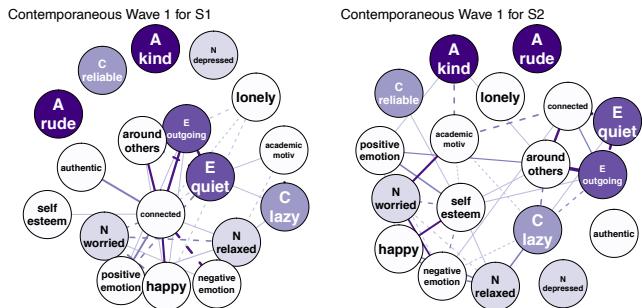
Development

Aggregation

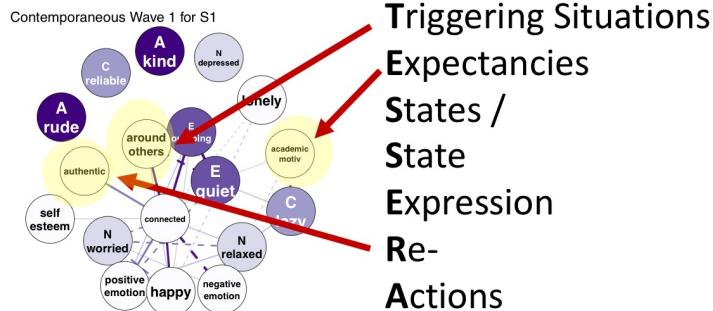
Promises

Challenges

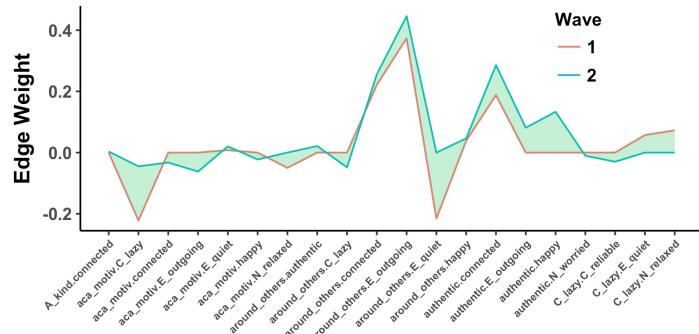
Summary



The Time Interval Problem



Psychometrics

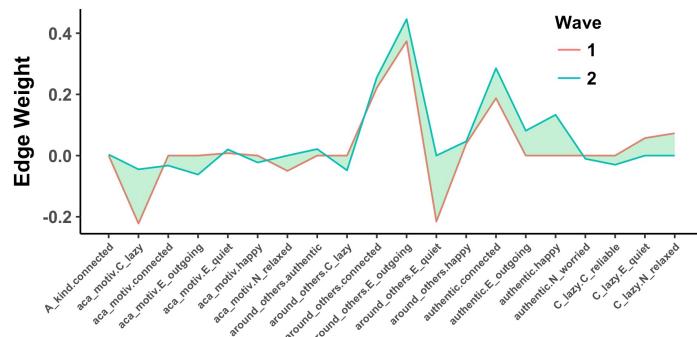
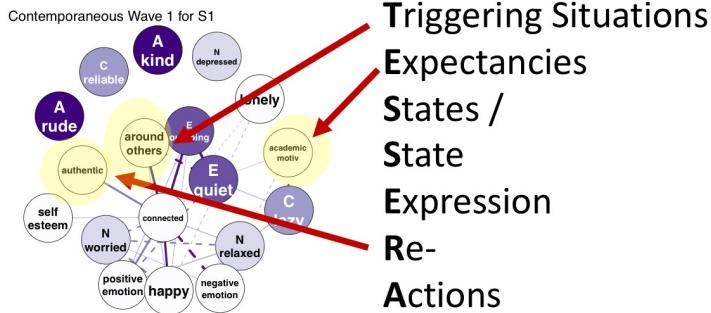
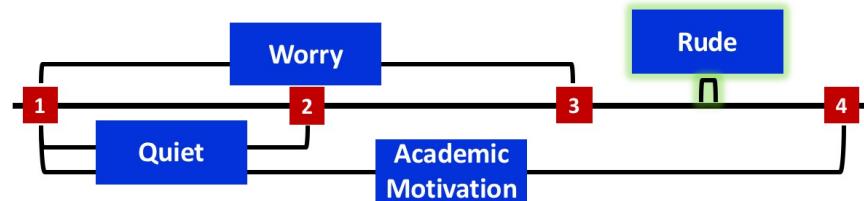
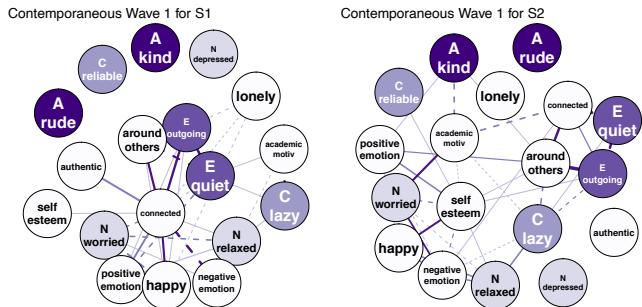


Aggregation

Promises

Challenges

Summary



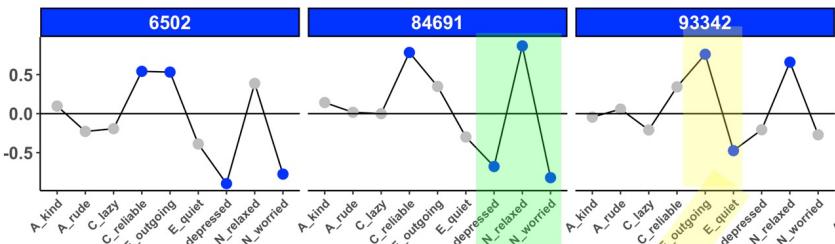
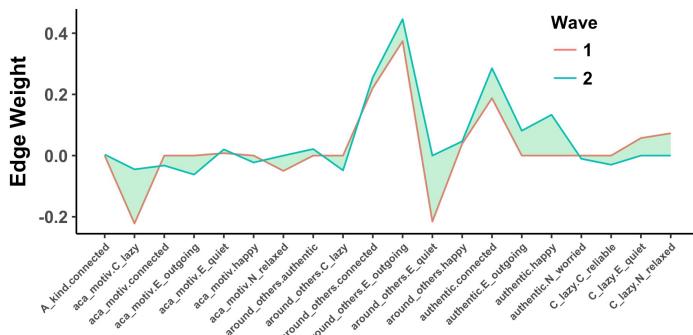
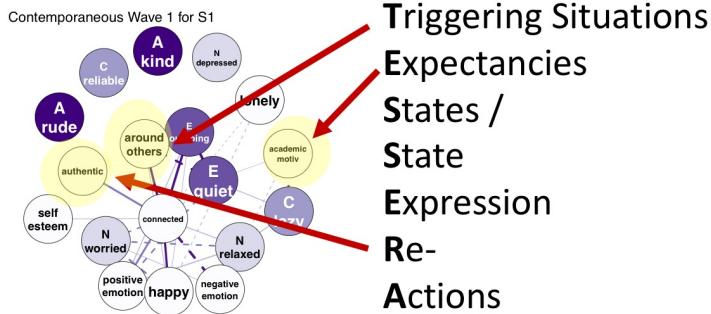
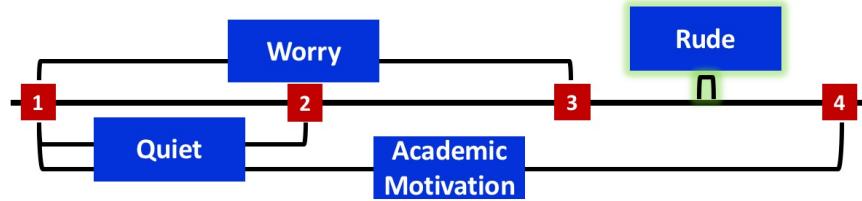
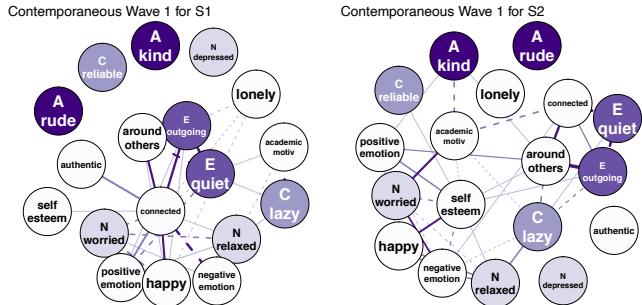
Psychometrics

Aggregation

Promises

Challenges

Summary

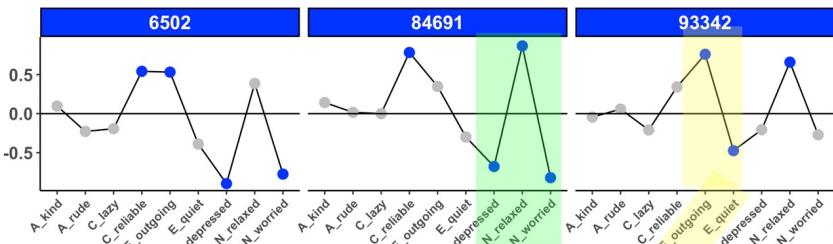
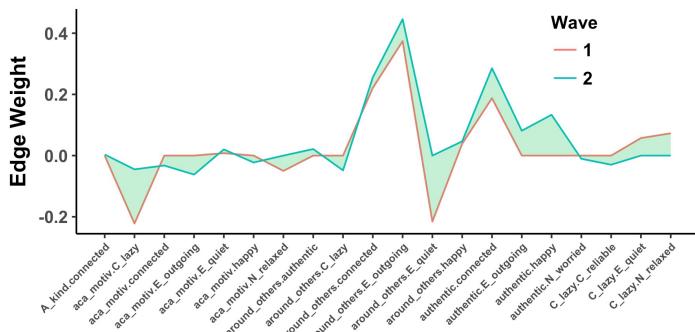
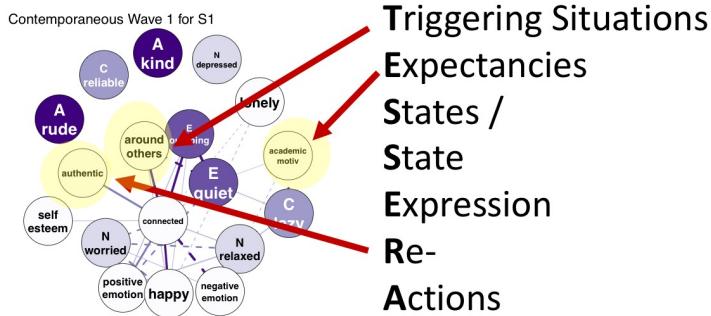
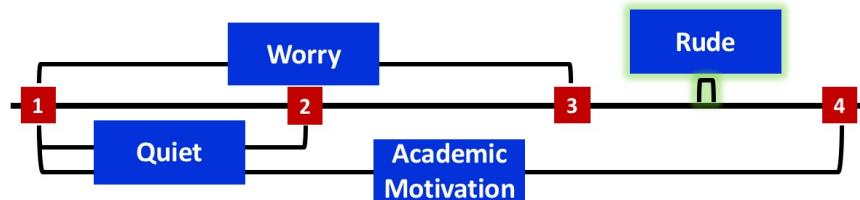
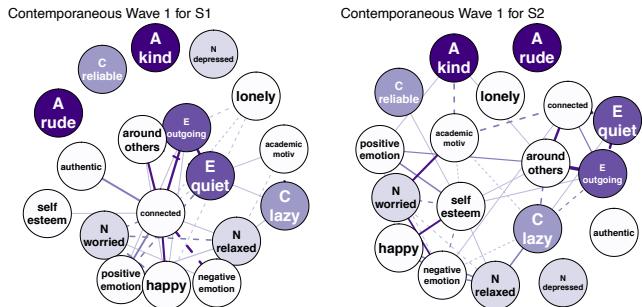


Aggregation

Promises

Challenges

Summary



Centrality

Clustering

Density

Communities

Questions?

Special Thanks to:

Josh Jackson

The PMaD Lab

(And the people who
brought us PAIRS data)



Results:

[https://pmdlab.wustl.edu/
Beck_APS_2018.html](https://pmdlab.wustl.edu/Beck_APS_2018.html)



Data and Code:

https://github.com/emorybeck/APS_2018

Promises

Challenges

Where do we go from here?

Measurement

Methodology

Modeling

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Longitudinal
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Intervention
Studies

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Pre-Defined Idiographic Assessments

Timing of Personality Manifestations

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Sparse Modeling Techniques

Incorporating additional dynamic measures

Multivariate Dynamic Models