Using Idiographic Features to Inform Between-Person Personality Change

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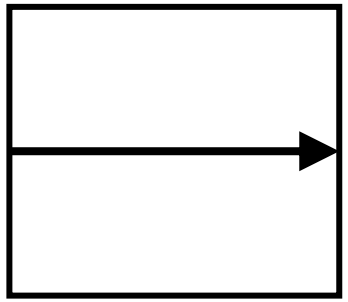
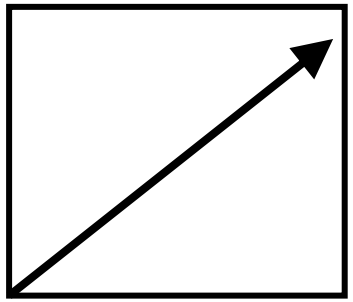
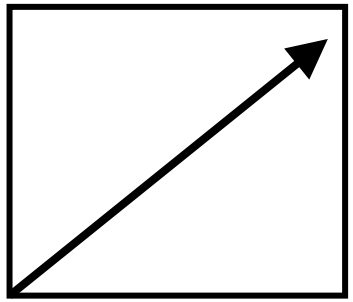
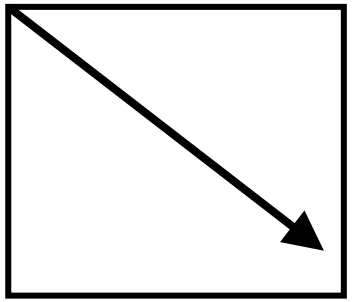
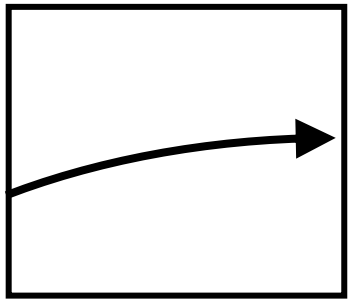
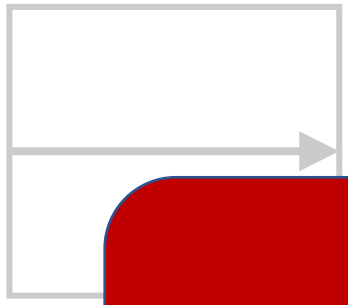
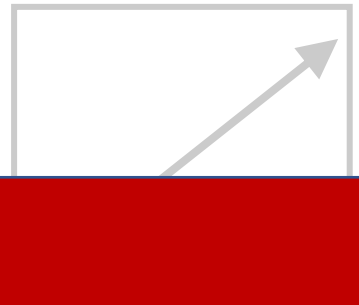
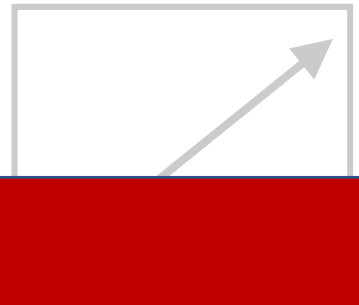
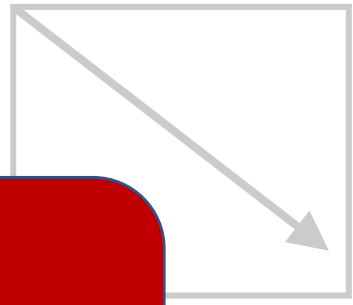
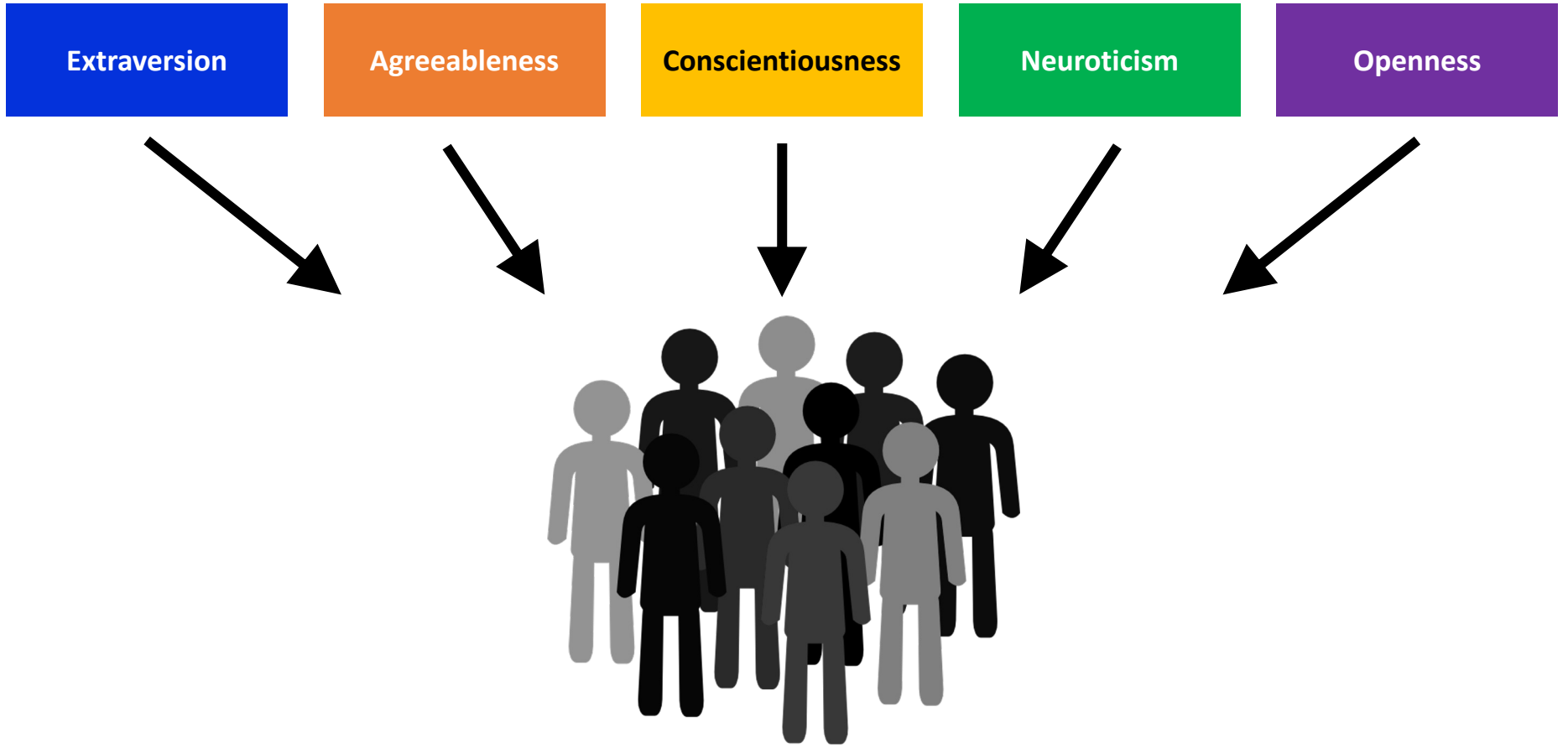
The Big 5	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Direction					
Magnitude	--	.6 SD	1 SD	-.8 SD	.4 SD
Timing	--	Lifespan	Lifespan	10-35	10-20

Roberts, Walton, & Viechtbauer, 2006

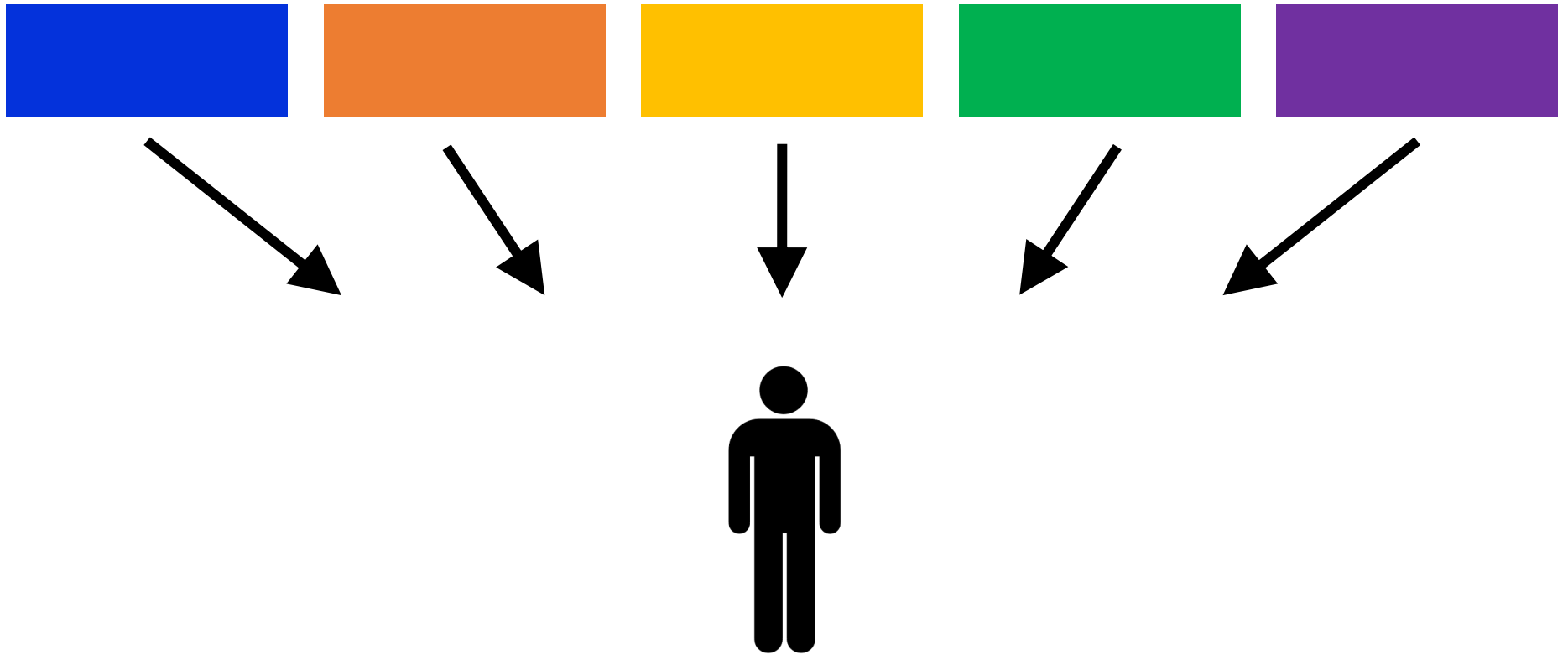
The Big 5	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Direction					
Magnitude				SD	.4 SD
Timing	--	Lifespan	Lifespan	10-35	10-20

Why?

Roberts, Walton, & Viechtbauer, 2006

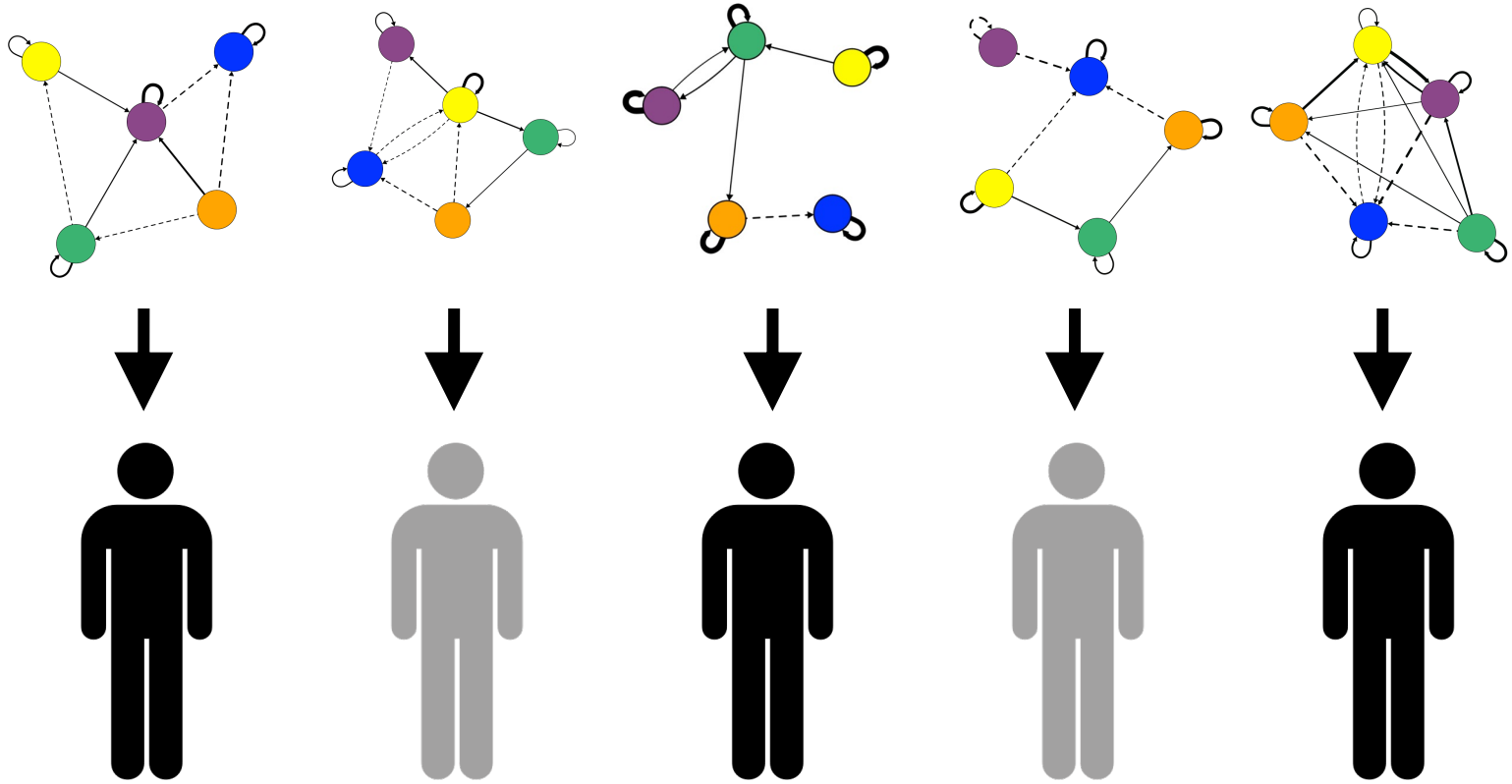


Nomothetic
Between-Person
Variable Centered

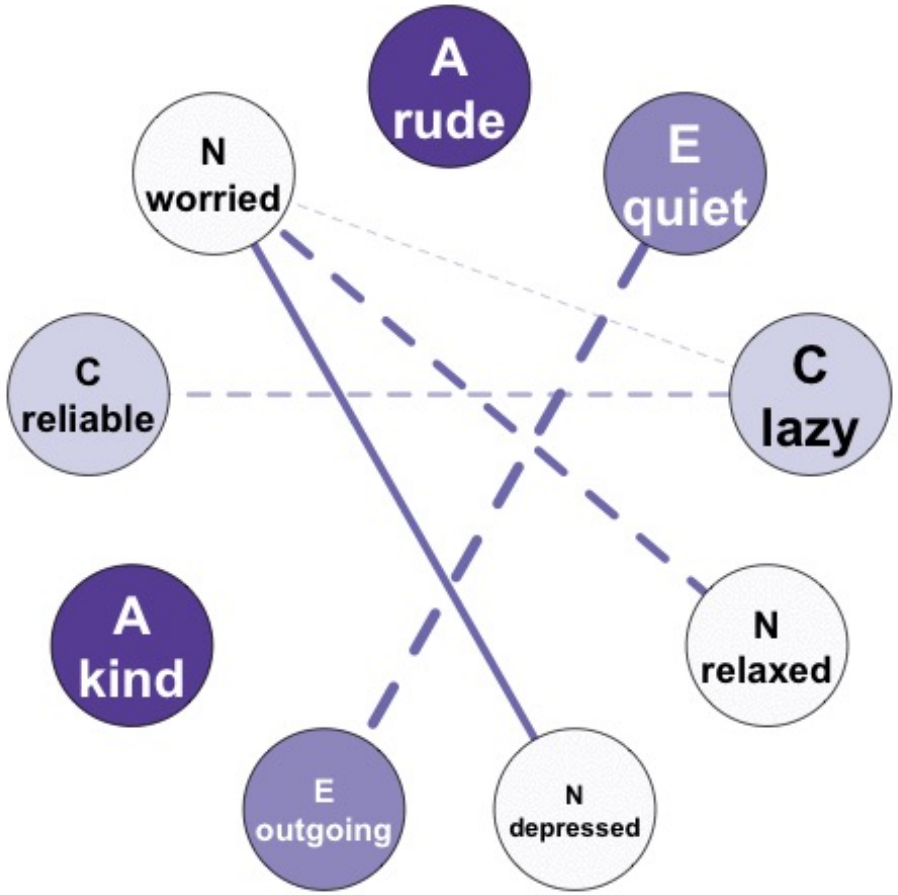


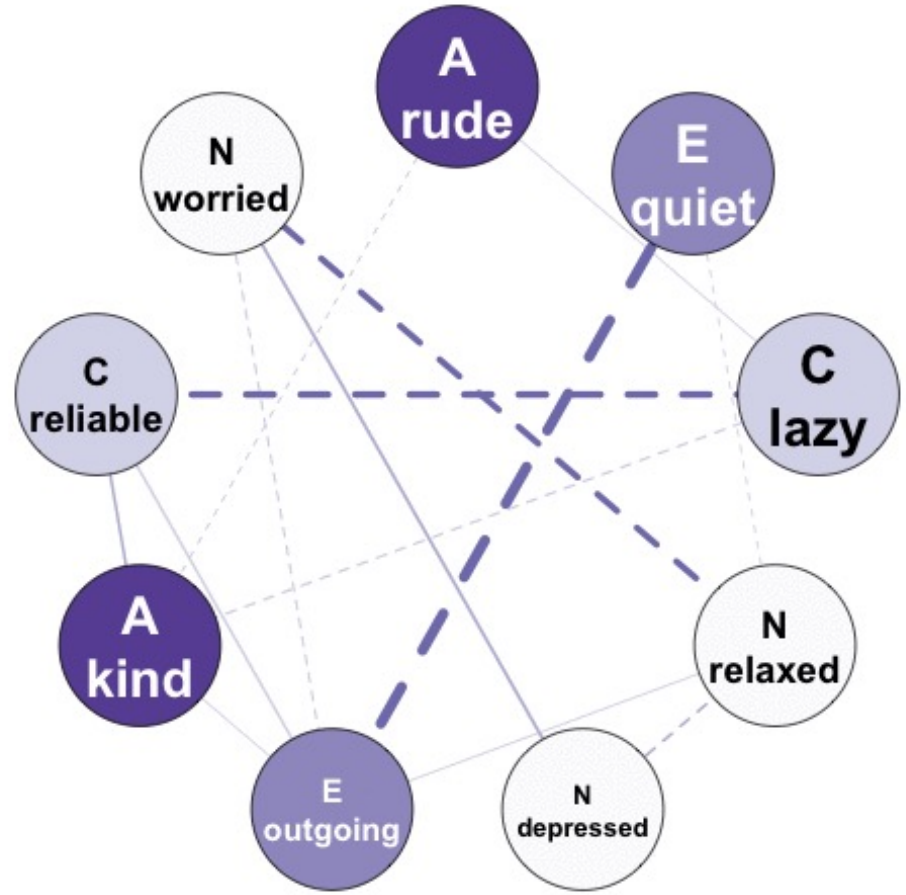
Idiographic
Person-Specific

e.g., Beck & Jackson, 2020a; 2020b

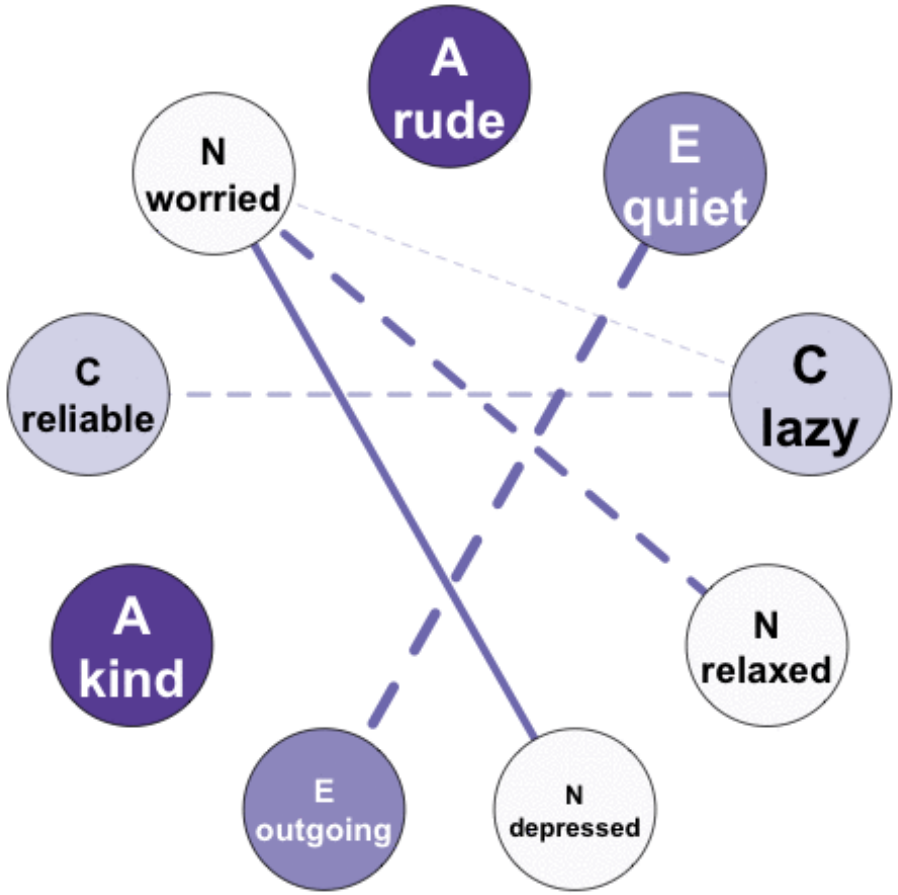


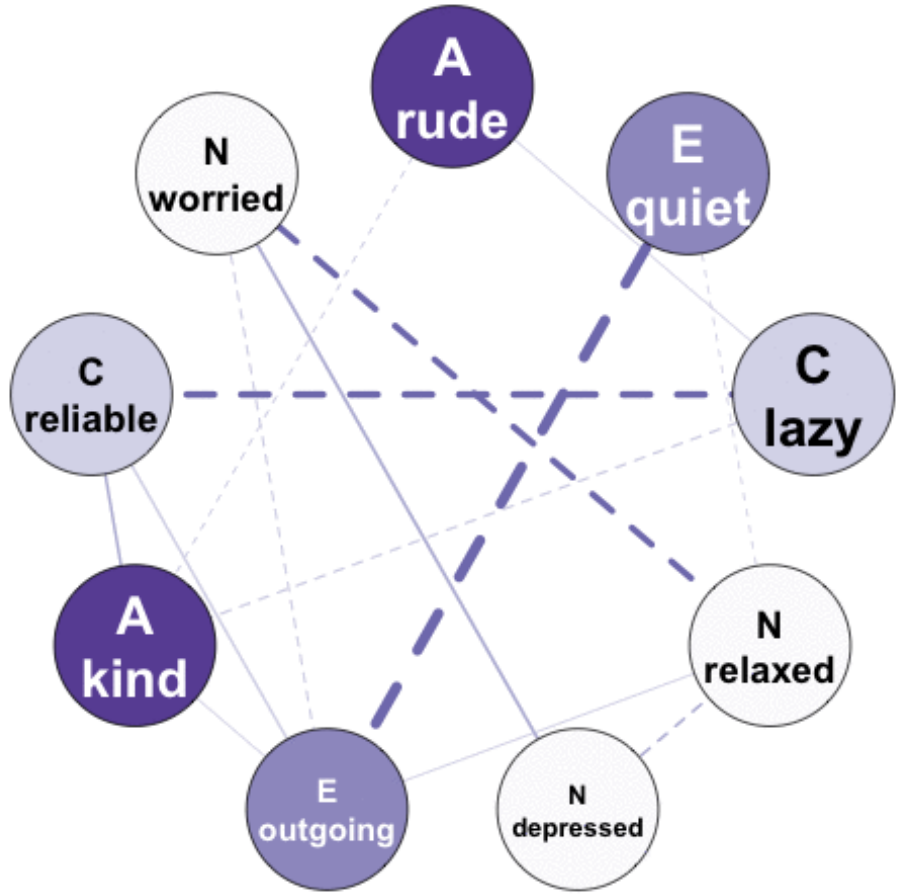
Idiographic
Person-Specific



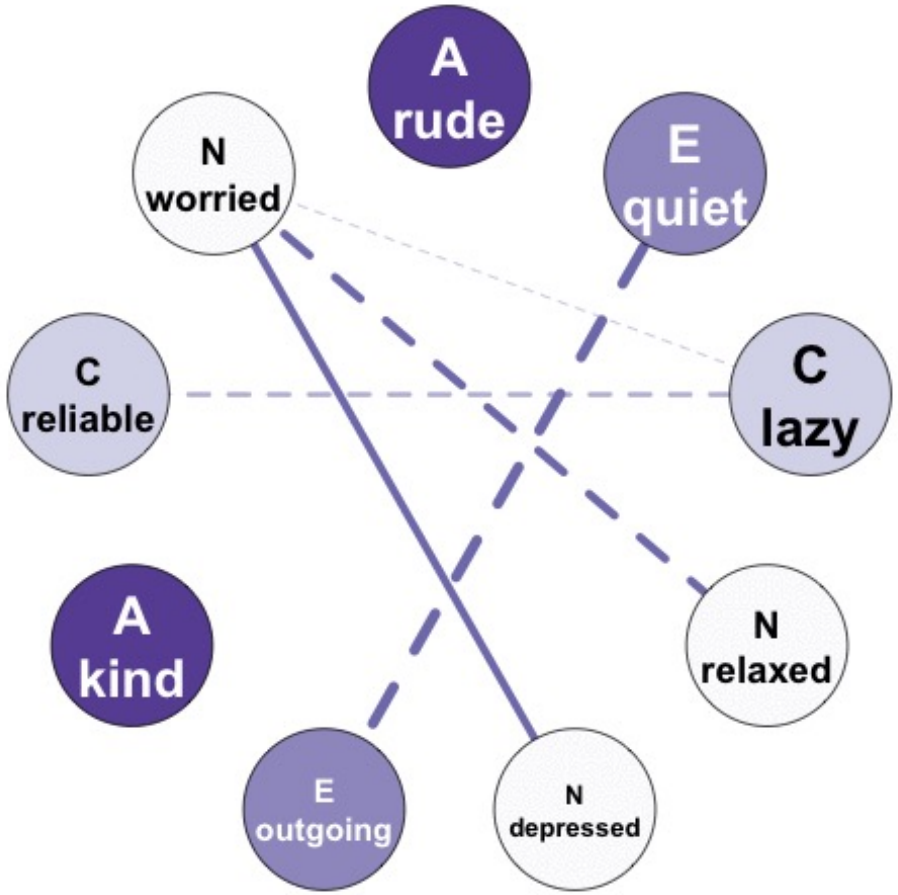


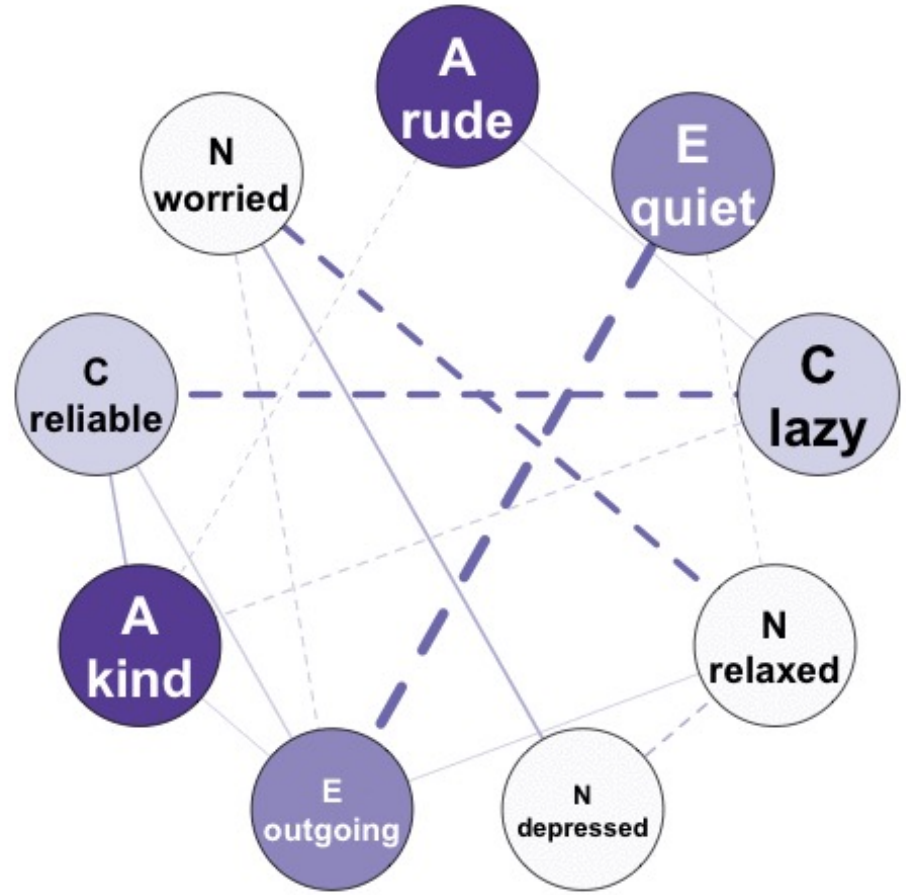
Beck & Jackson (2020a, *JPSP*)





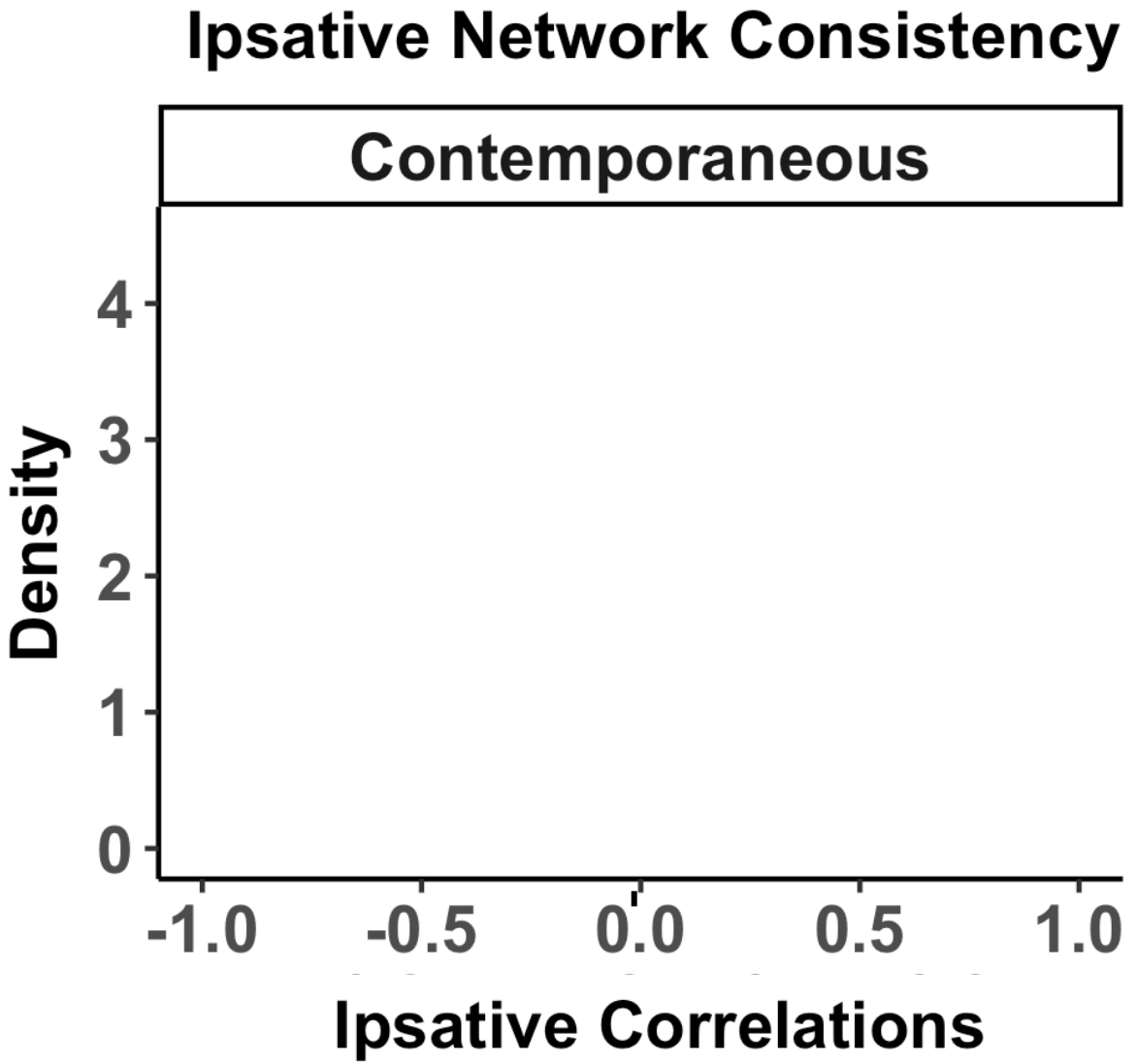
Beck & Jackson (2020a, *JPSP*)





Beck & Jackson (2020a, *JPSP*)

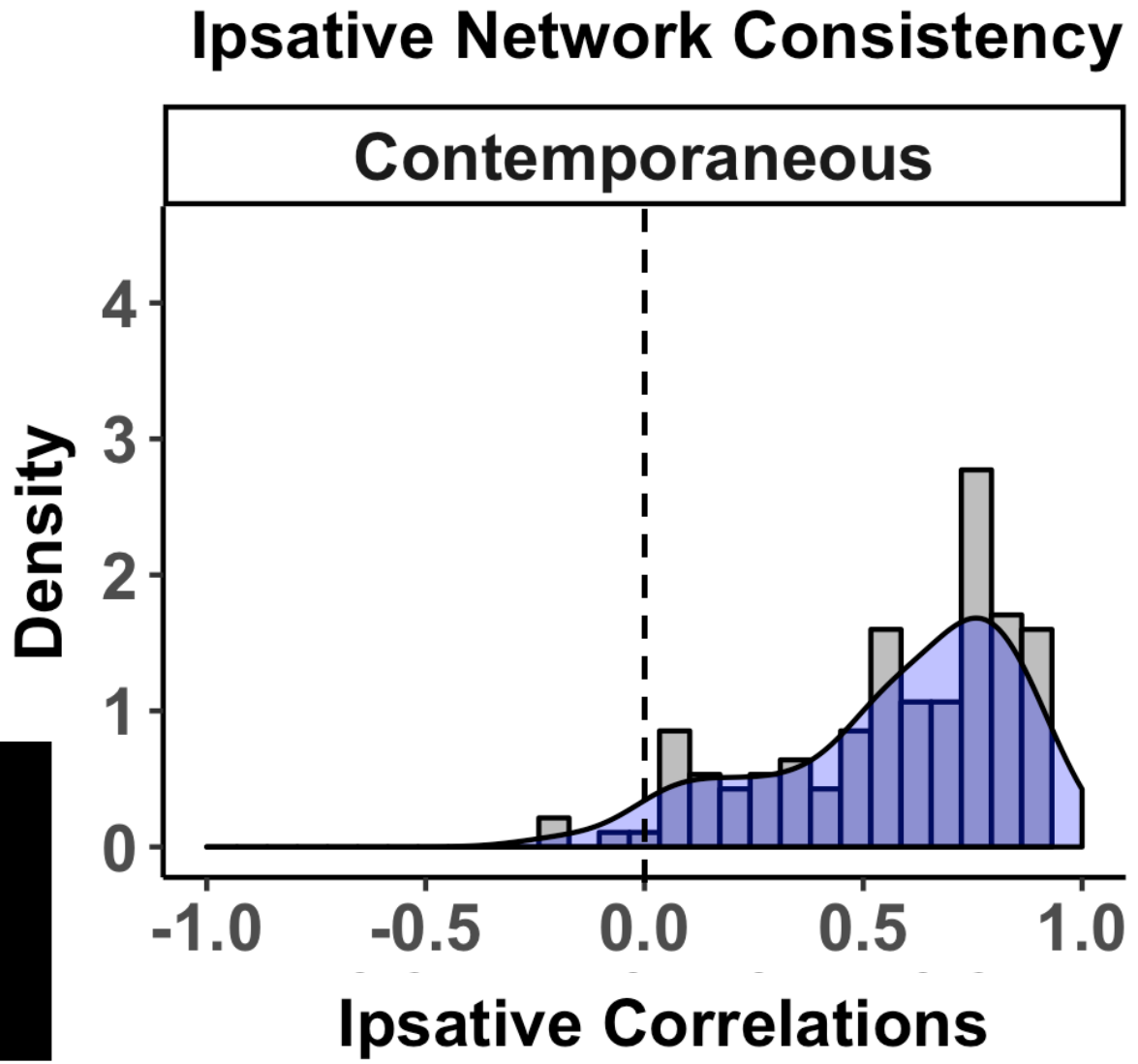
How consistent is idiographic personality across two years?



Beck & Jackson (2020a, *JPSP*)

How consistent is idiographic personality across two years?

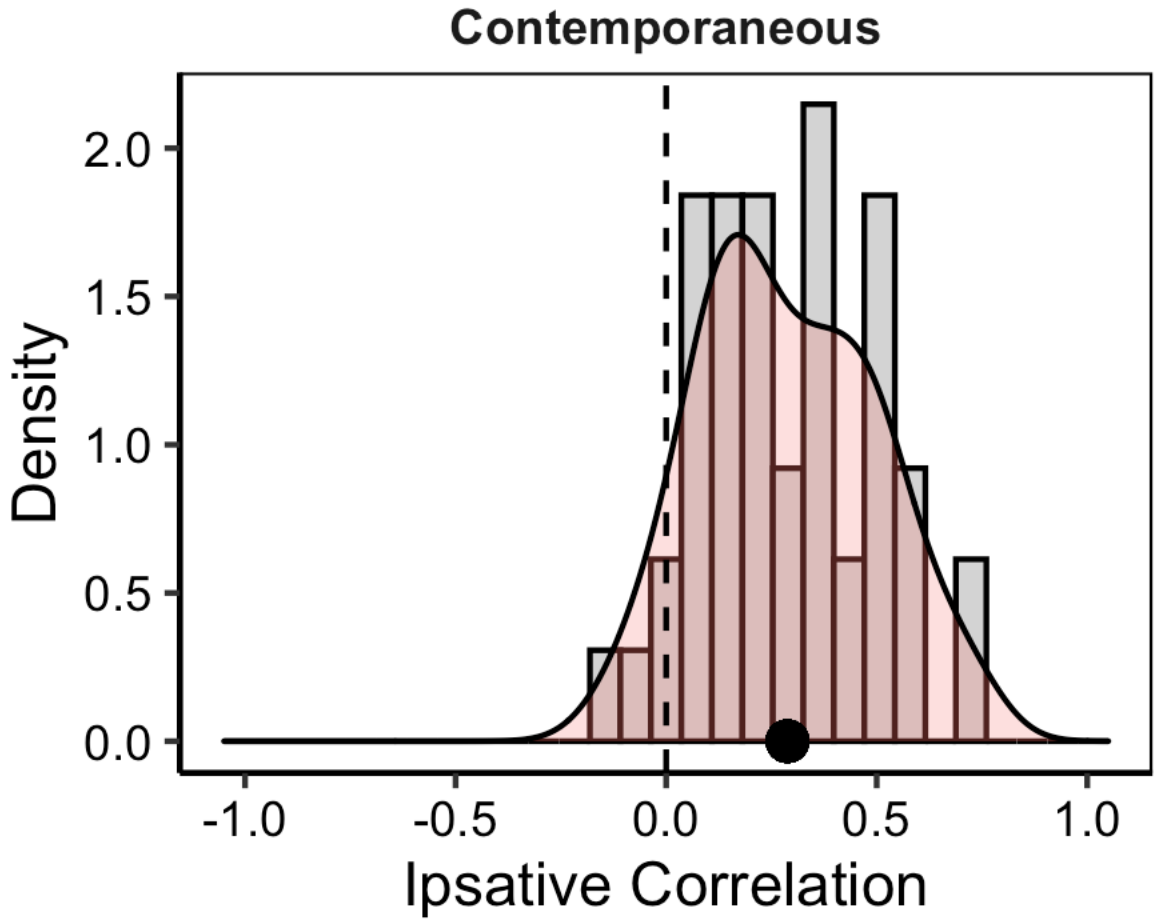
Idiographic Personality is consistent over two years.



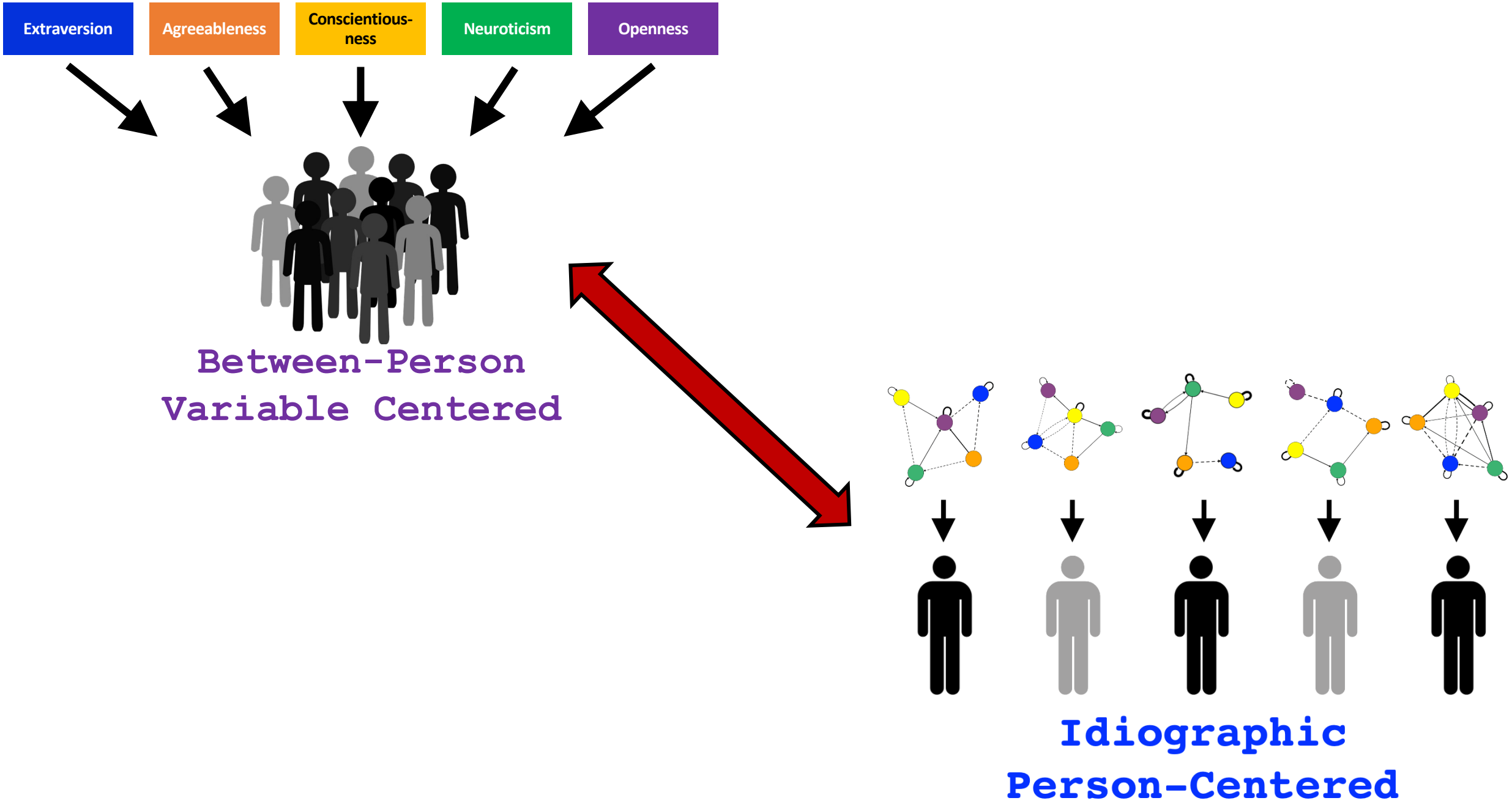
Beck & Jackson (2020a, *JPSP*)

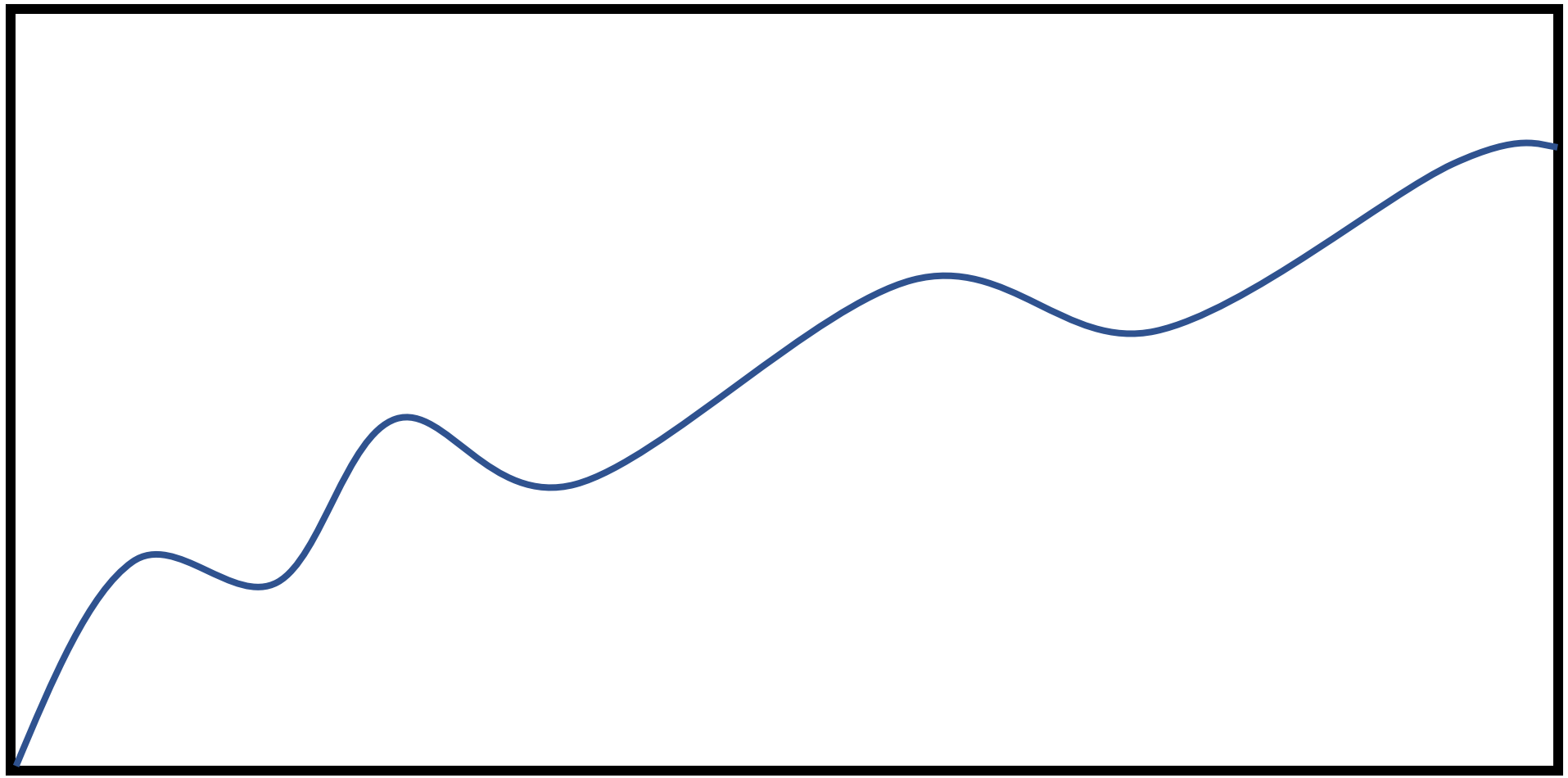
How consistent is idiographic personality across two years?

Idiographic Personality is consistent over two years AND global events.

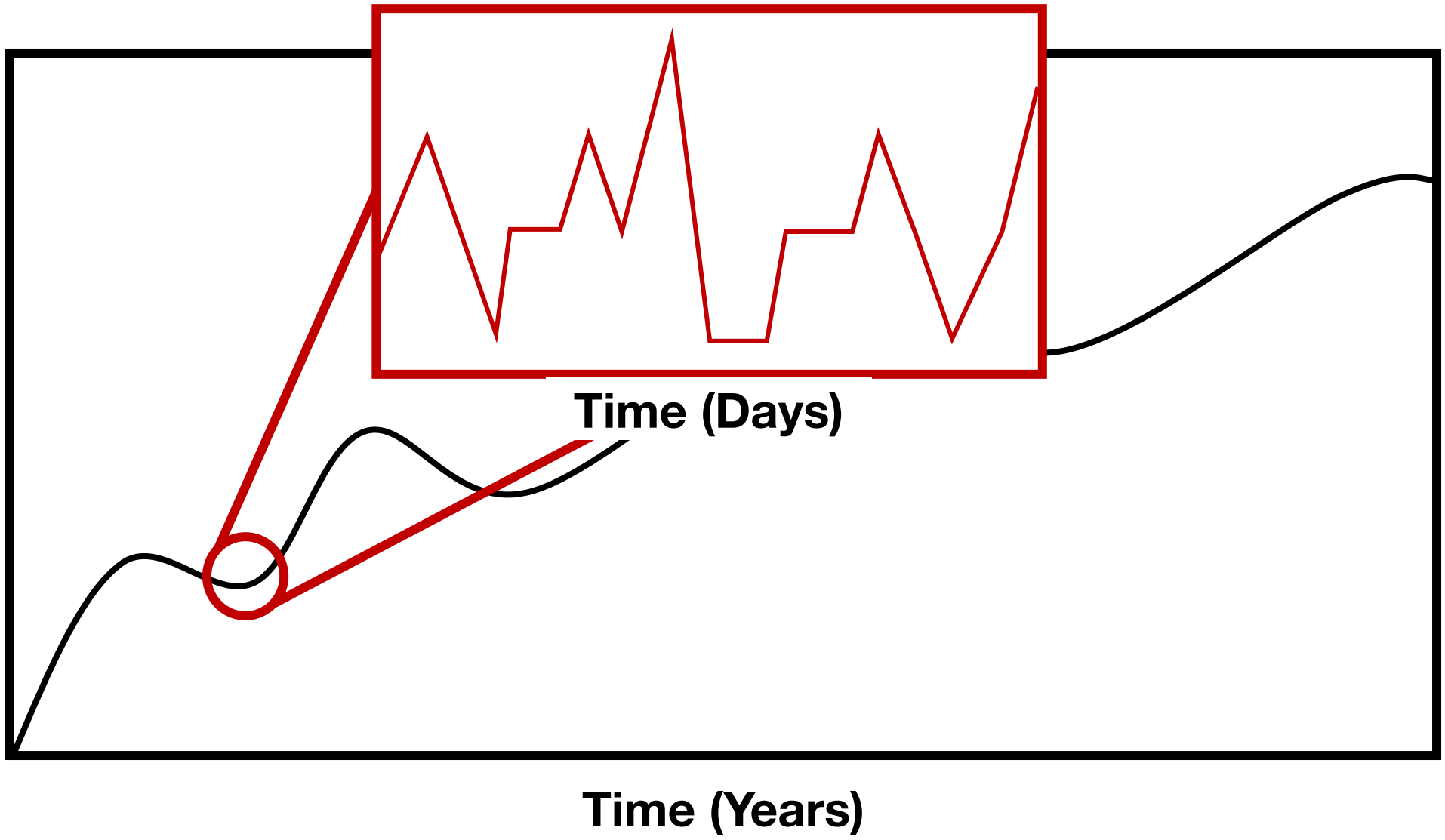


Beck & Jackson (2021b, *EJP*)

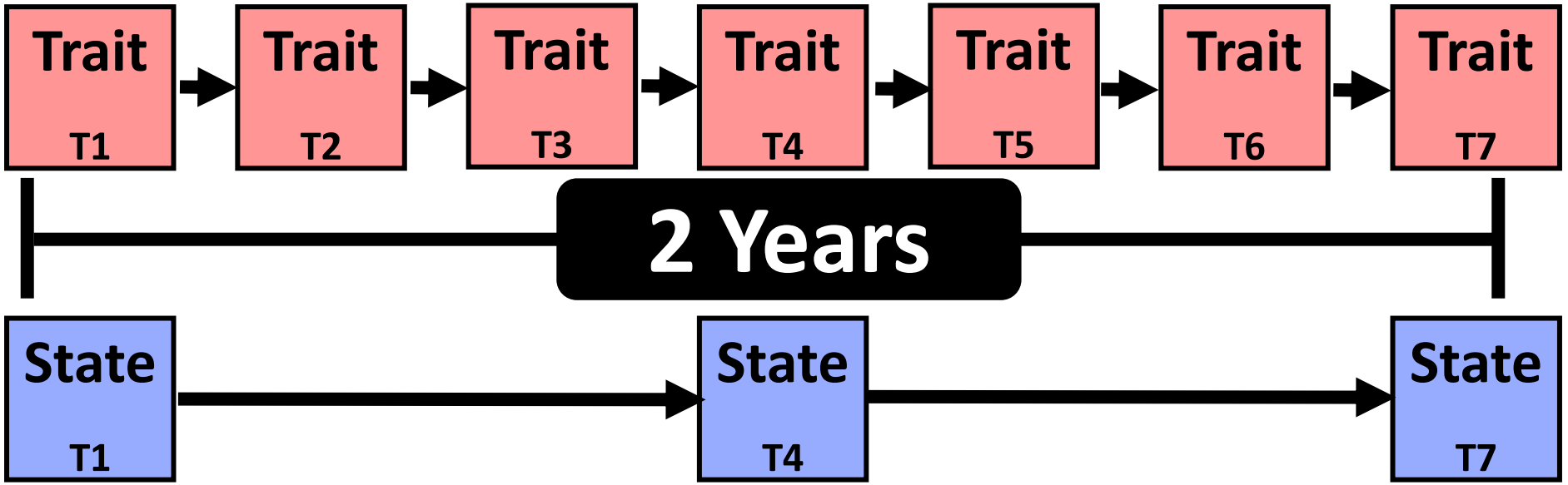

Extraversion
Agreeableness
Conscientious-ness
Neuroticism
Openness
Between-Person
Variable Centered
Idiographic
Person-Centered



Time (Years)


Time (Days)
Time (Years)

Extraversion | Agreeableness | Conscientiousness | Neuroticism | Openness



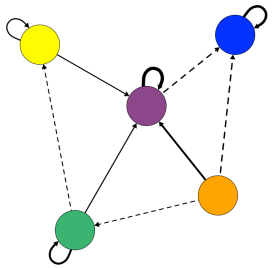
Extraversion

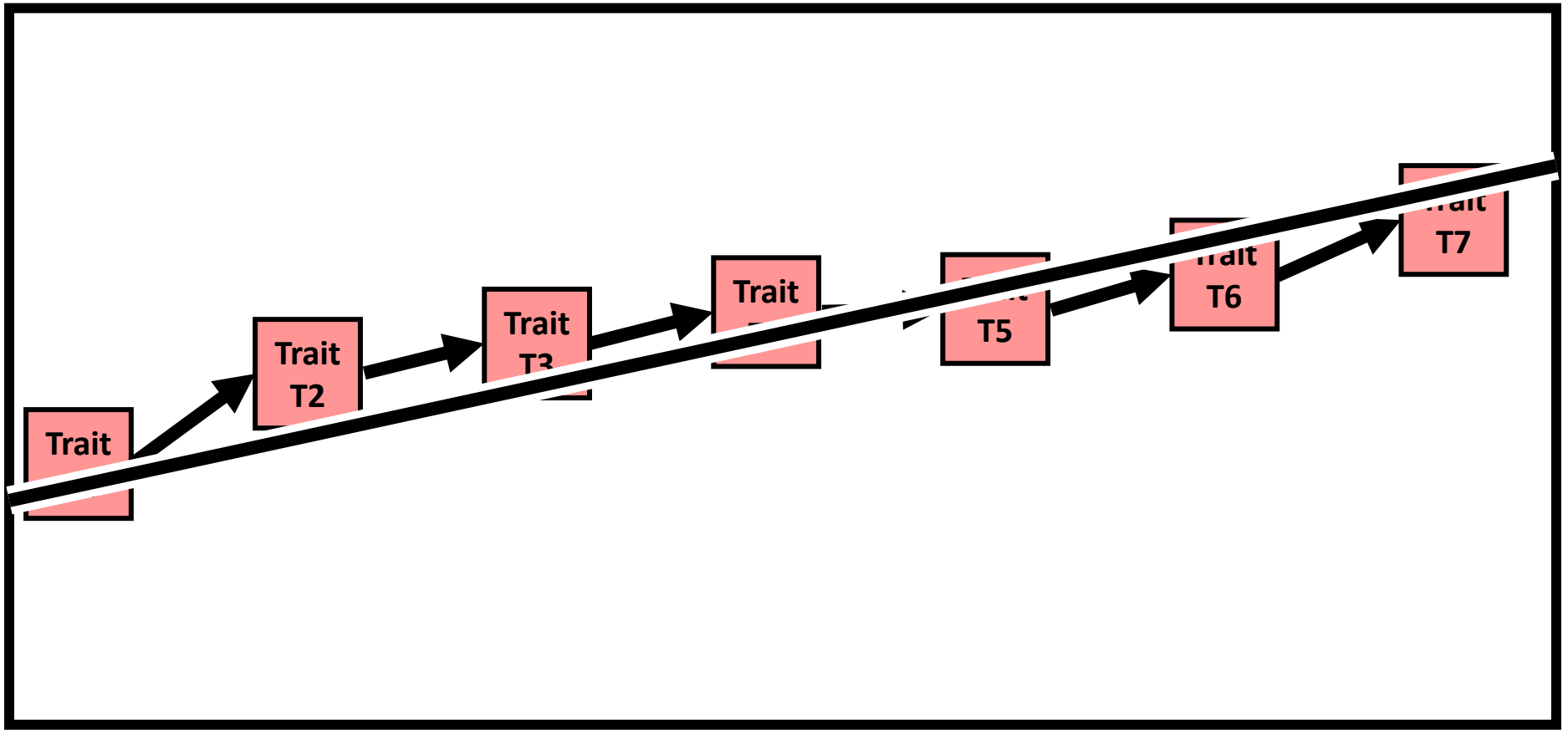
Agreeableness

Conscientiousness

Neuroticism

Openness





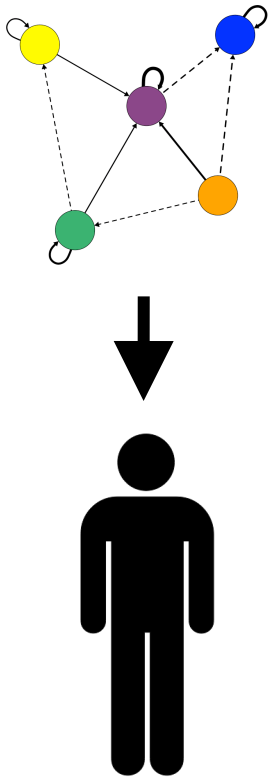
Extraversion

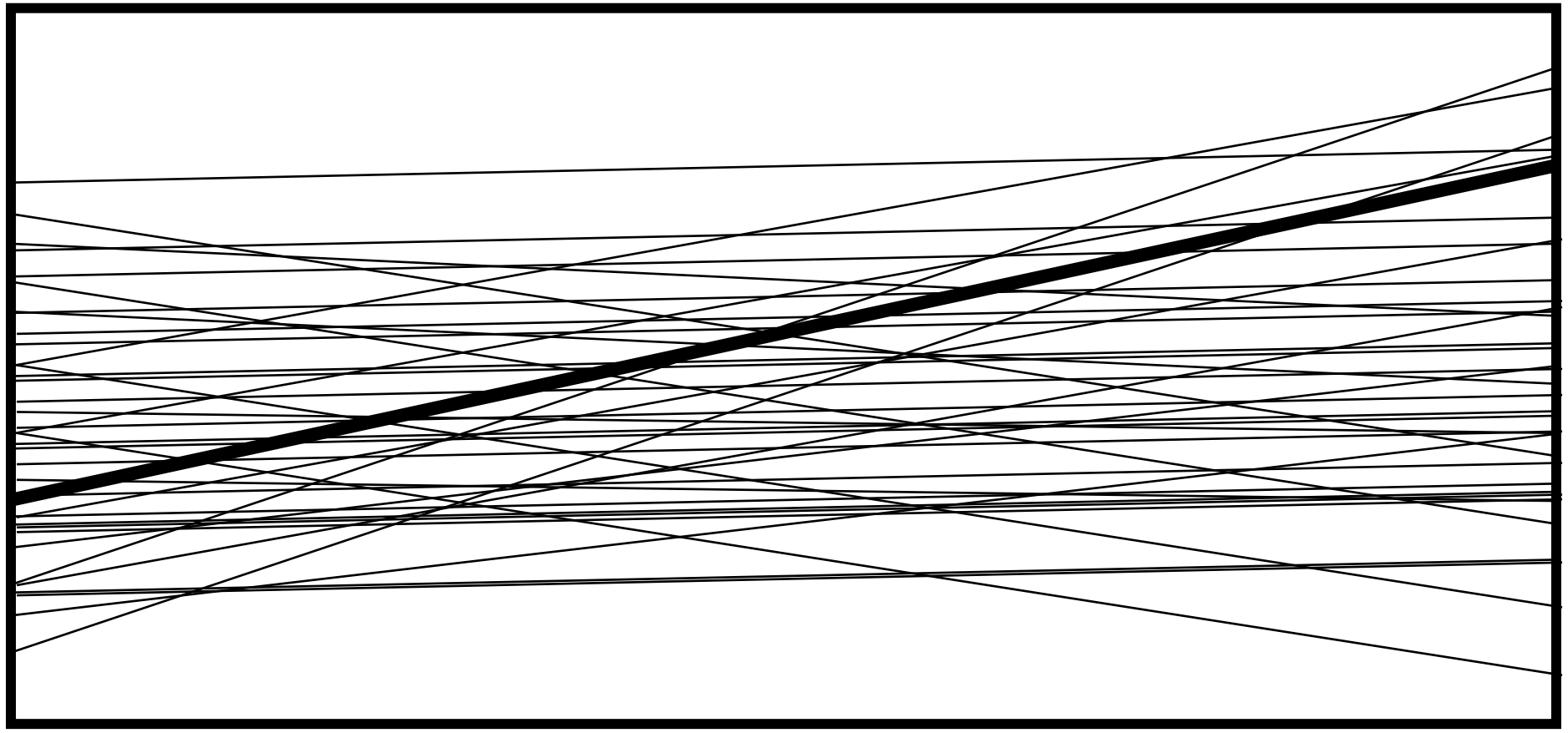
Agreeableness

Conscientiousness

Neuroticism

Openness





Research Framework

Trajectories of Mean-Level Trait Change

Trajectories of Ipsative Trait Consistency

Properties of Idiographic Personality Networks:

- **Density**
- **Entropy**
- **Ipsative (network) consistency**
- **Total Correlation**
- **NMI**

Methods

3 waves of ESM responses and 7 waves of survey responses from the Personality and Interpersonal Roles Study (PAIRS)

N = 434 Washington University in St. Louis undergrads,

Total ESM assessments N = 18,463 (median = 31 responses)

Total survey assessments N = 1301 (median = 3 responses)

Measures

9 items from the Big Five Inventory (BFI)

Procedure

State: 4 assessments / day for 15 days at 3 time points, 1 year apart
Trait: 1 assessment at 7 time points, 3 months apart
Total Assessment Period: 2 years

Basic Multilevel Growth Model

Level 1:

$$Y_{it} = \beta_{0i} + \beta_{1i} * time_{it} + \varepsilon_{it}$$

Level 2:

$$\beta_{0i} = \gamma_{00} + u_{0i}$$

$$\beta_{1i} = \gamma_{10} + u_{1i}$$

This is what we want to predict with idiographic features!

β_{1i} = person-specific slope for individual *i*.

(Extended) Basic Multilevel Growth Model

Level 1:

$$Y_{it} = \beta_{0i} + \beta_{1i} * time_{it} + \varepsilon_{it}$$

Level 2:

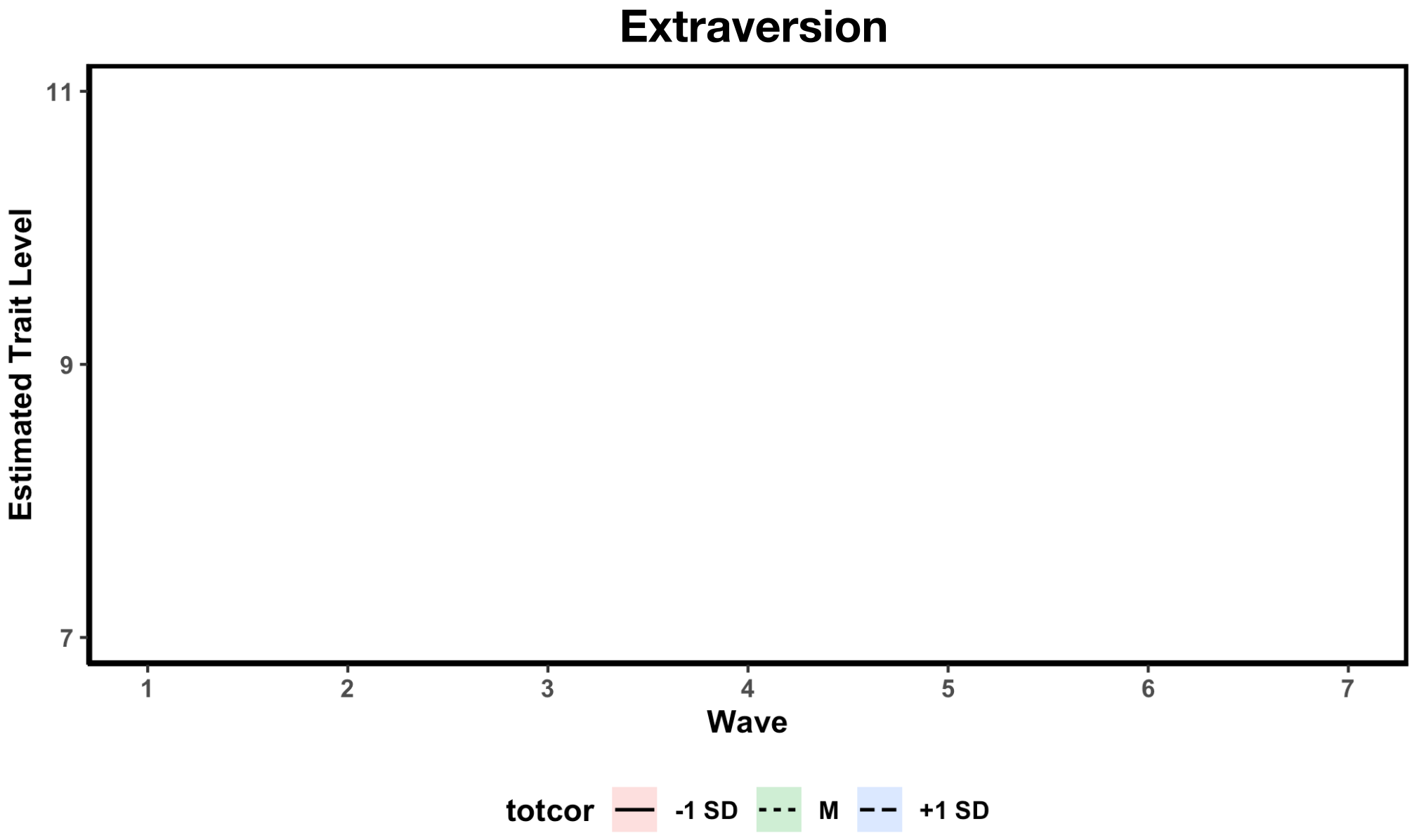
$$\beta_{0i} = \gamma_{00} + \gamma_{01} * X_i + u_{0i}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11} * X_i + u_{1i}$$

β_{1i} = person-specific slope for individual *i.*

γ_{11} = average association between feature and slope.

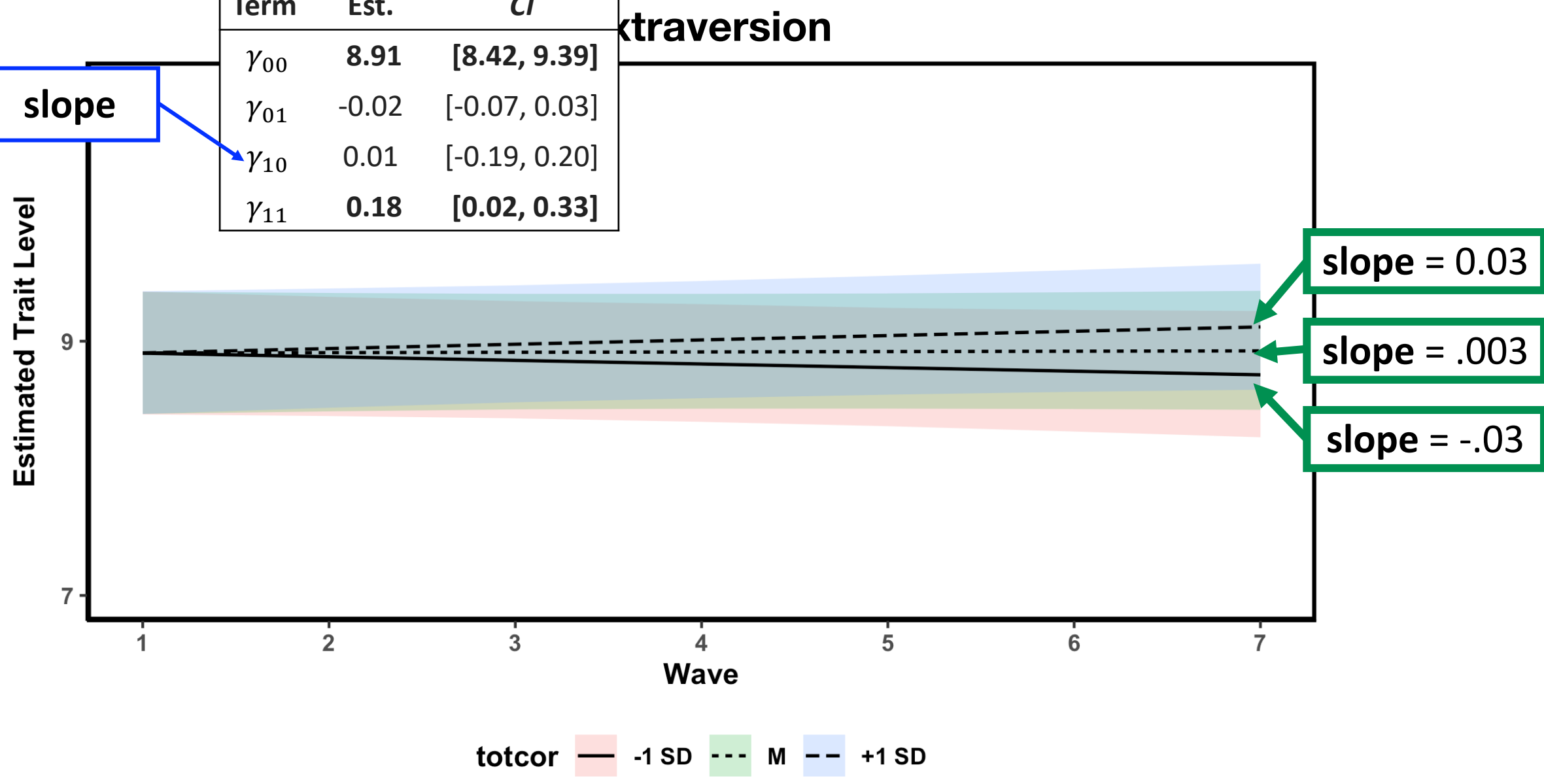
(Extended) Basic Multilevel Growth Model



(Extended) Basic Multilevel Growth Model

Term	Est.	*CI*
γ_{00}	**8.91**	**[8.42, 9.39]**
γ_{01}	-0.02	[-0.07, 0.03]
γ_{10}	0.01	[-0.19, 0.20]
γ_{11}	**0.18**	**[0.02, 0.33]**

slope

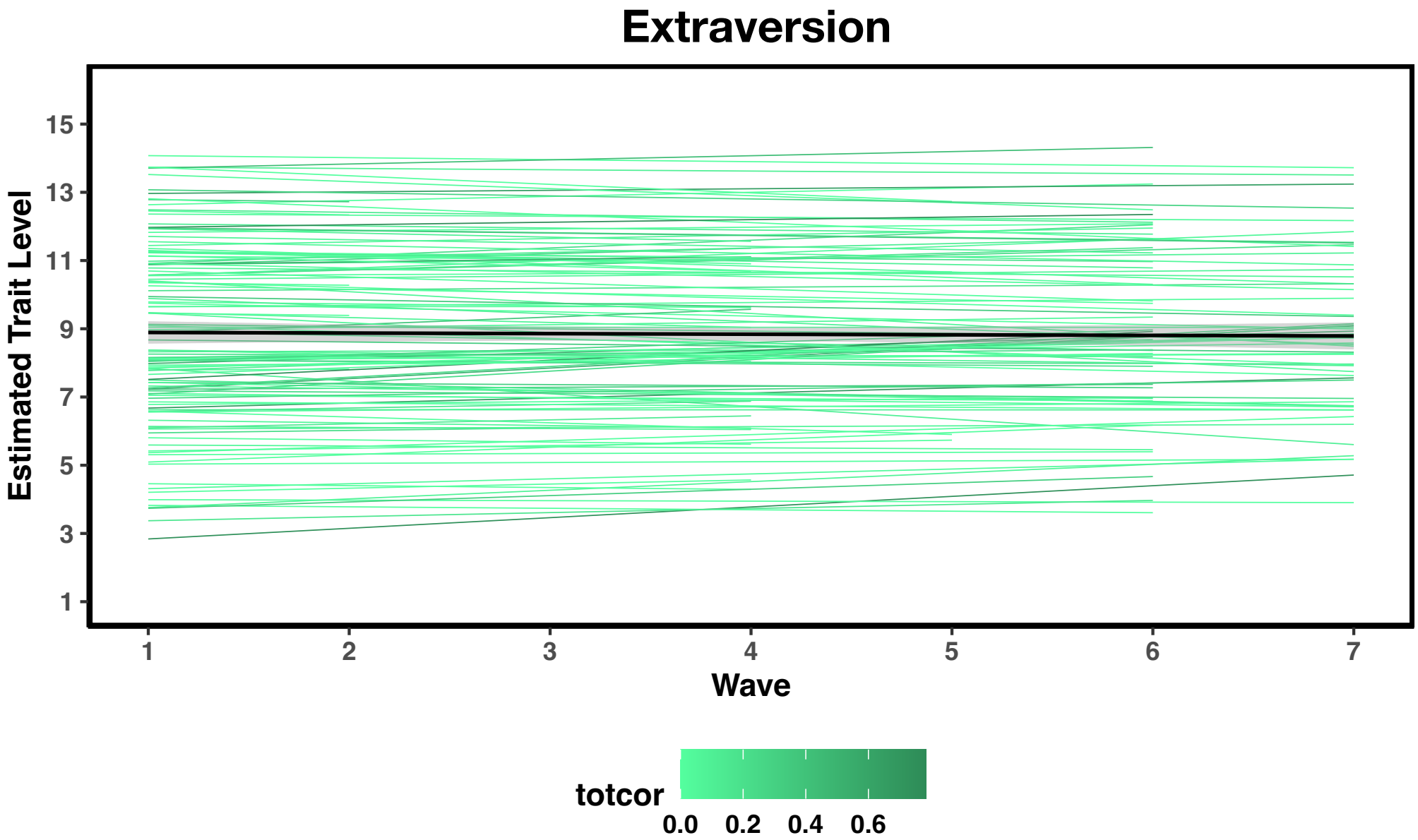


slope = 0.03

slope = .003

slope = -.03

(Extended) Basic Multilevel Growth Model



(Extended) Non-linear Asymptotic Multilevel Growth Model

Level 1:

$$Q_{it} = a_i + (a_i - \beta_{0i}) * e^{(-\beta_{1i} * time_{it})} + \varepsilon_{it}$$

Level 2:

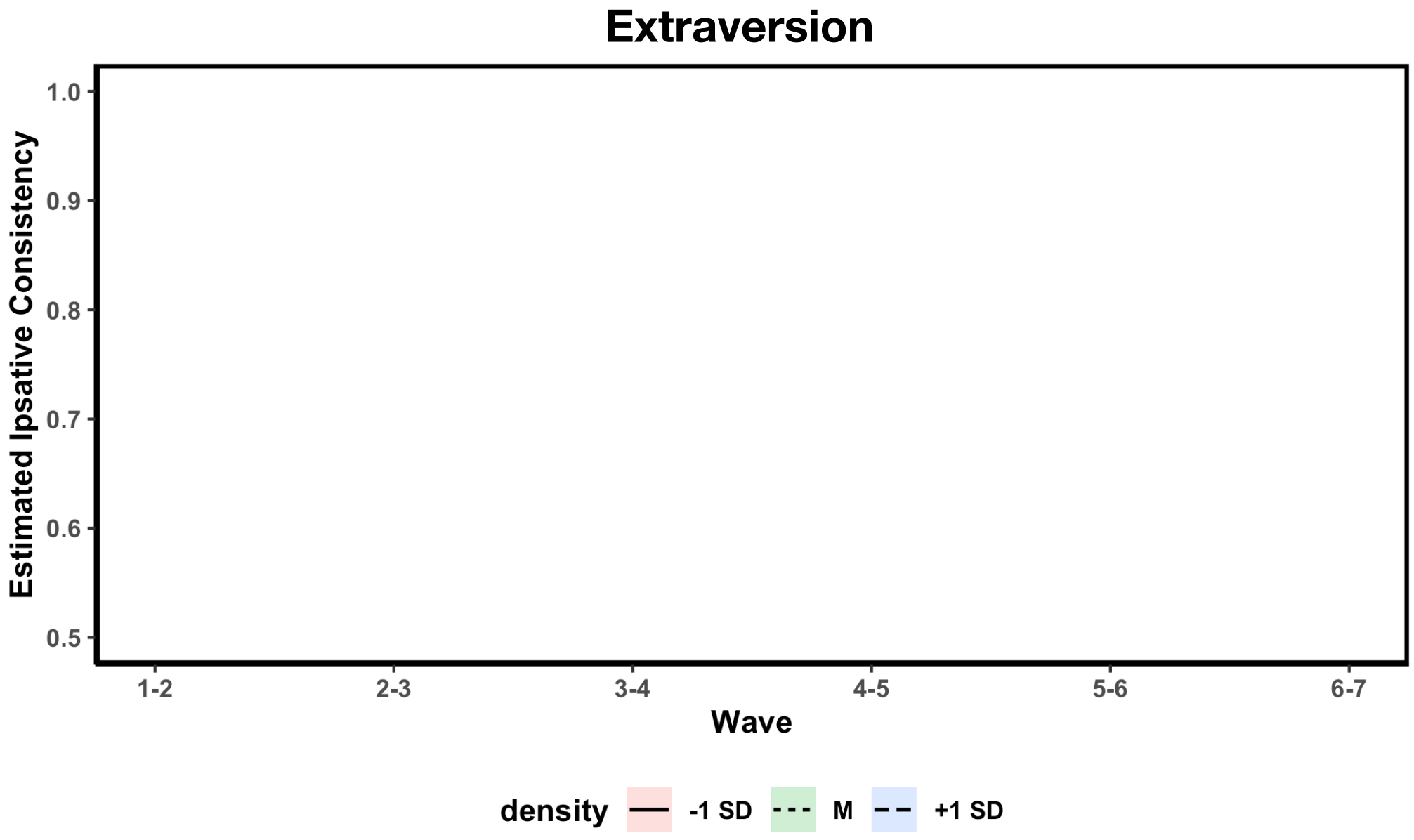
$$\beta_{0i} = \gamma_{00} + \gamma_{01} * X_i + u_{0i}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11} * X_i + u_{1i}$$

β_{1i} = person-specific slope for individual *i.*

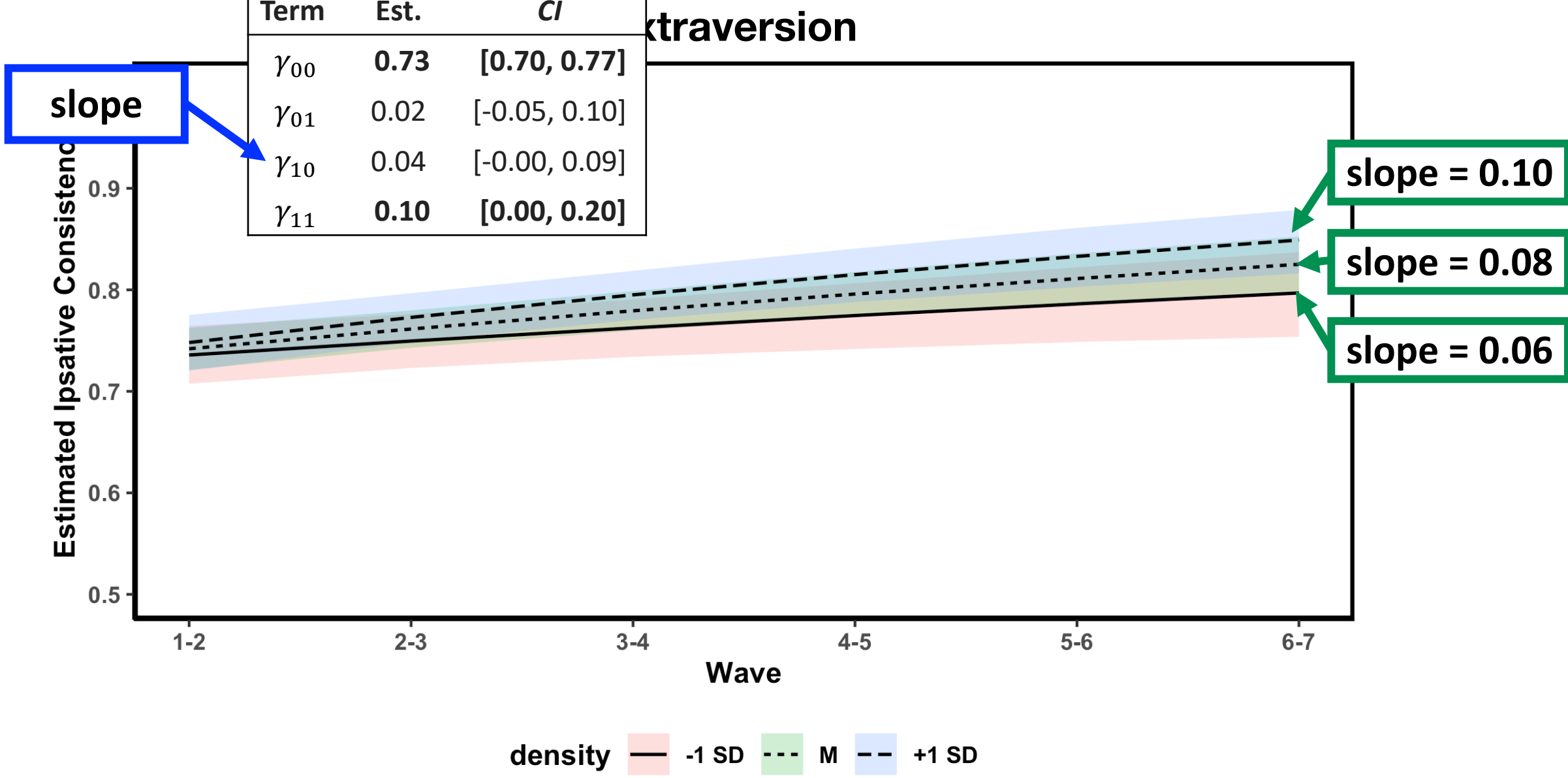
γ_{11} = average association between feature and slope.

(Extended) Non-linear Asymptotic Multilevel Growth Model

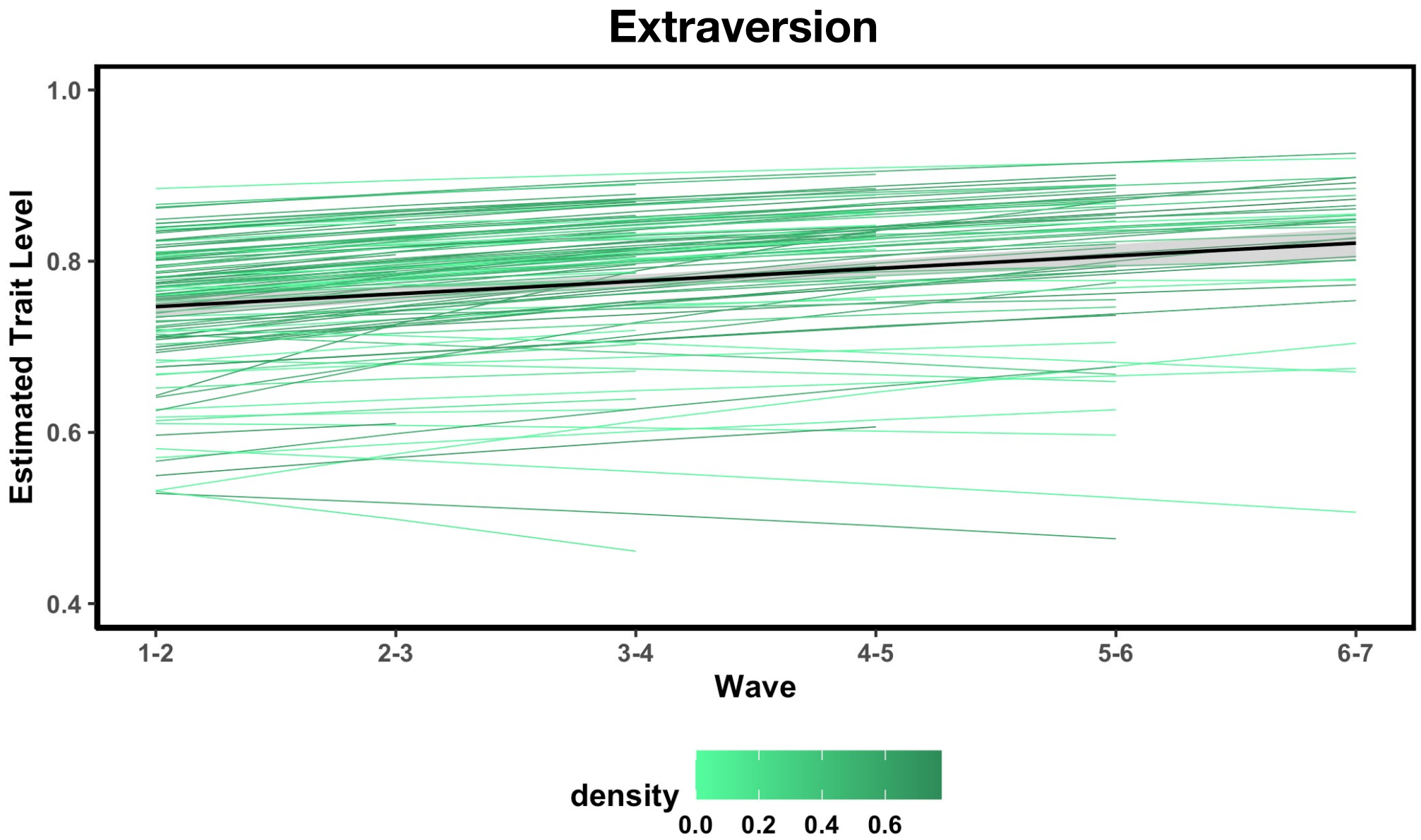


(Extended) Non-linear Asymptotic Multilevel Growth Model

Term	Est.	*CI*
γ_{00}	**0.73**	**[0.70, 0.77]**
γ_{01}	0.02	[-0.05, 0.10]
γ_{10}	0.04	[-0.00, 0.09]
γ_{11}	**0.10**	**[0.00, 0.20]**

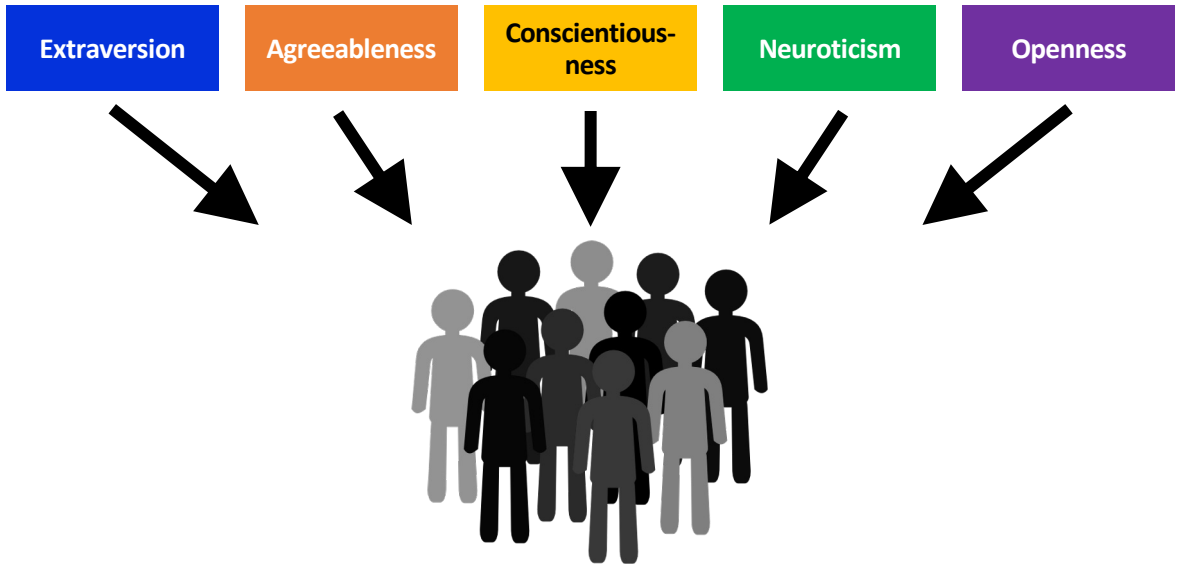


(Extended) Non-linear Asymptotic Multilevel Growth Model

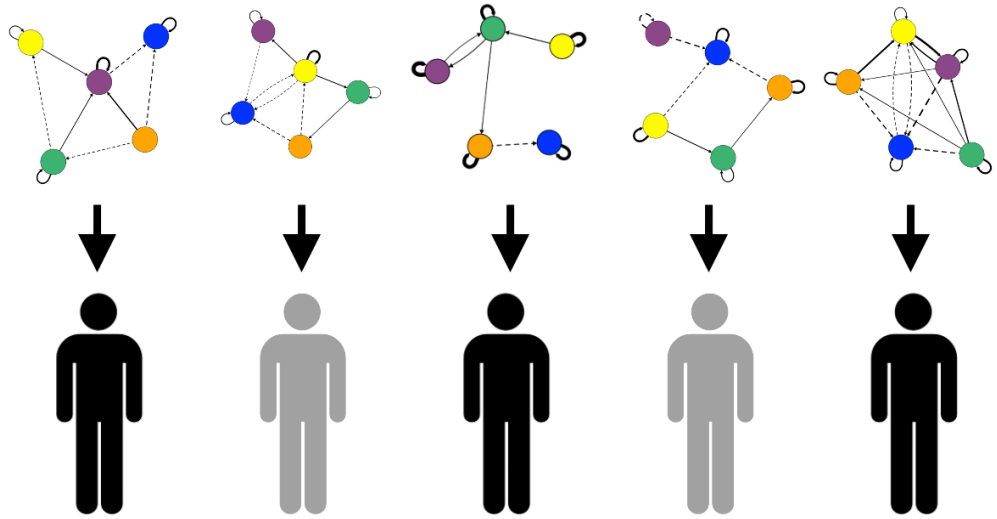


Wrapping Up: Some Goals and Takeaways

It's time to move beyond two sciences of personality.



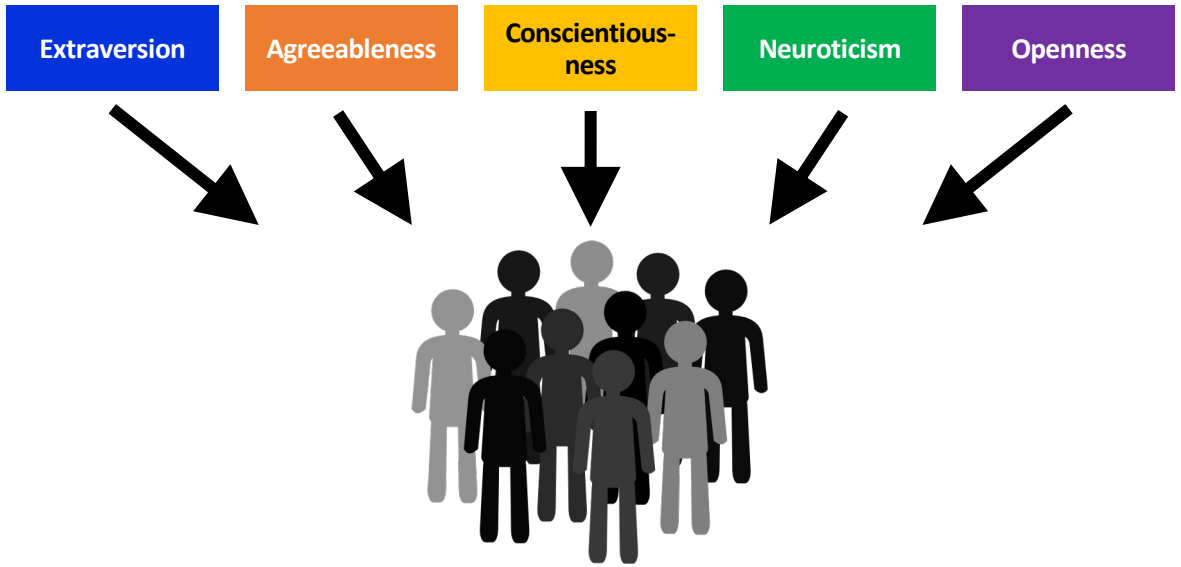
Between-Person
Variable Centered



Idiographic
Person-Centered

Wrapping Up: Some Goals and Takeaways

Instead of growing impatient with the single case and hastening on to generalization, why should we not grow impatient with our generalizations and hasten to the internal pattern?" (Allport, 1961, p. 84)



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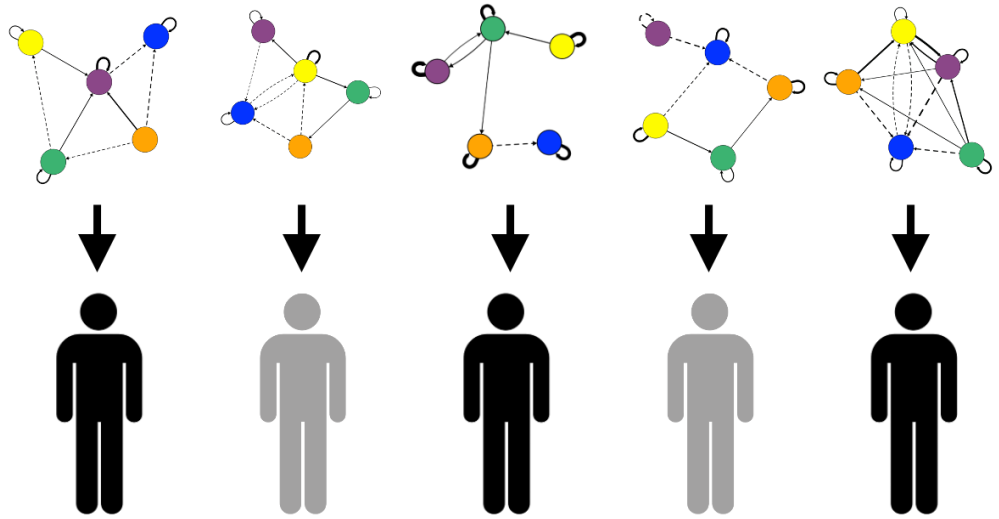

Idiographic
Person-Centered

Wrapping Up: Some Goals and Takeaways

Measurement	Ensuring measures are optimized to detect change
Longitudinal Designs	Longitudinal burst designs to for short- and long-term change
Experimental Designs	Tailored interventions
Qualitative Methods: Folk Theories of Change	Open ended surveys and narrative methods (How do understand change?)
Statistical Models	Examining changing dynamics, not just changing levels

Thank you!

Please send comments, questions, and concerns to:

edbeck@ucdavis.edu

@EmorieBeck

Open data, materials, results, and slides:

https://github.com/emoriebeck/linking-change