



2019 SPSP CONVENTION

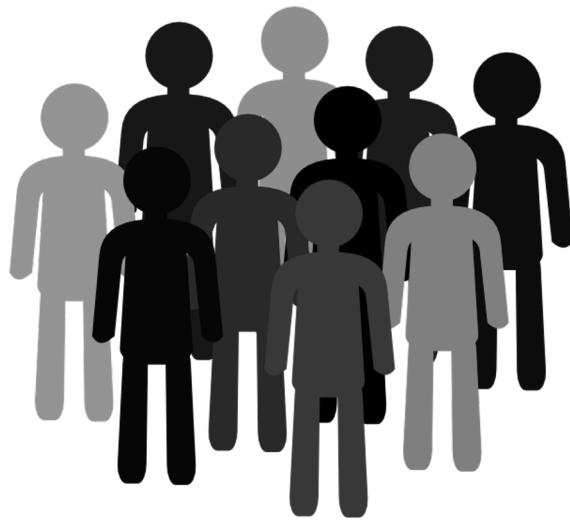
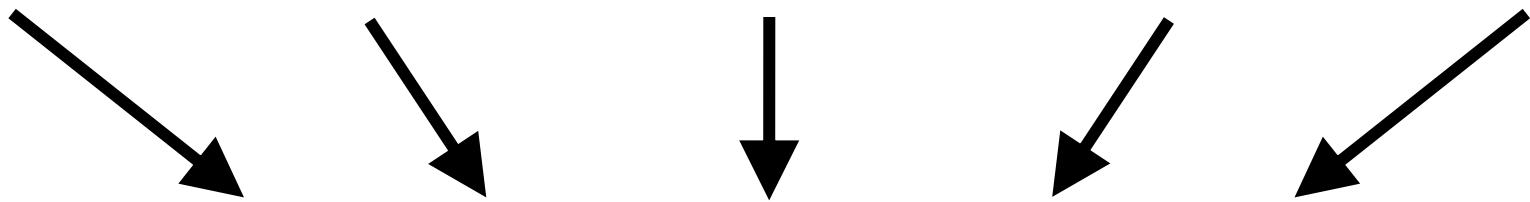
— FEBRUARY 7-9 —



Personalized Interventions: Using Networks to Change Behavior and Predict Outcomes

Emorie D Beck
Washington University in St. Louis





Nomothetic

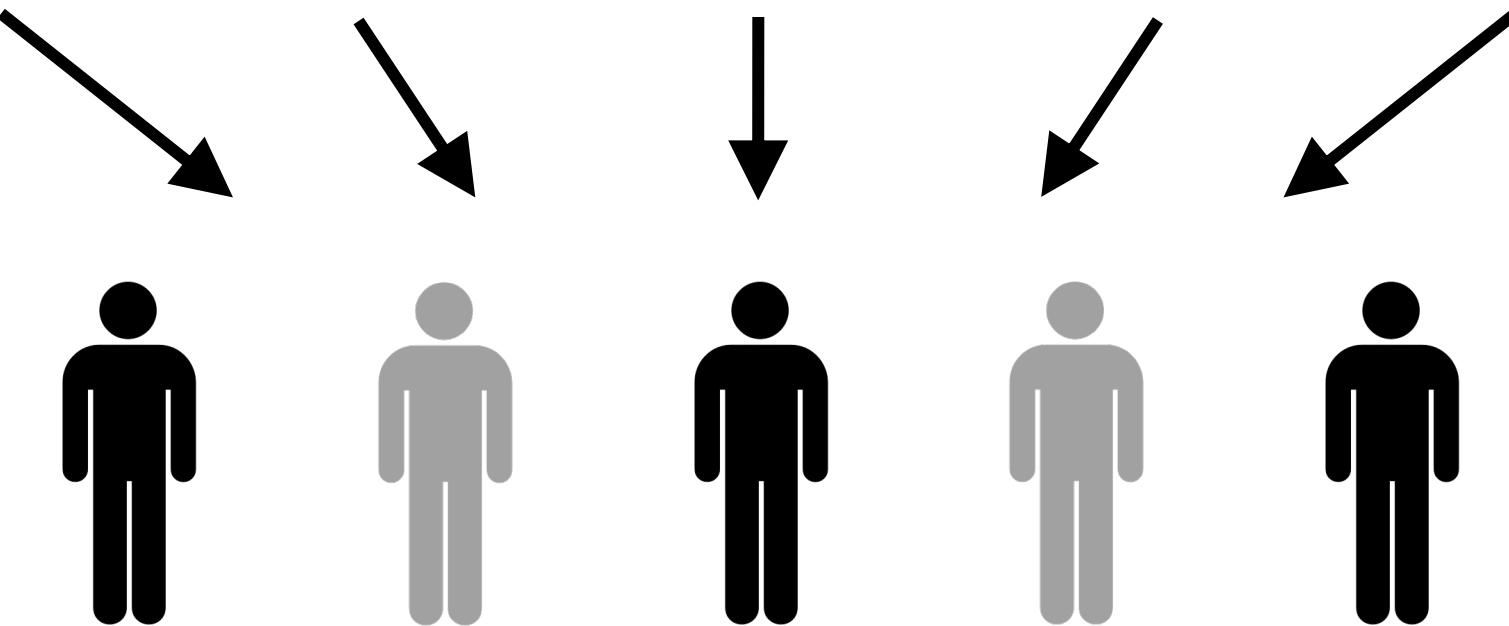
Extraversion

Agreeableness

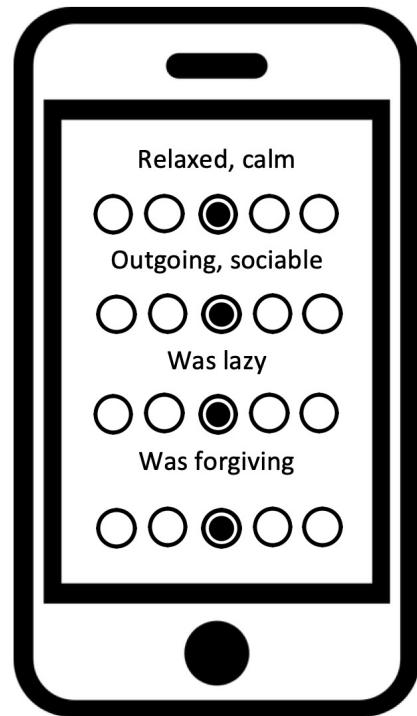
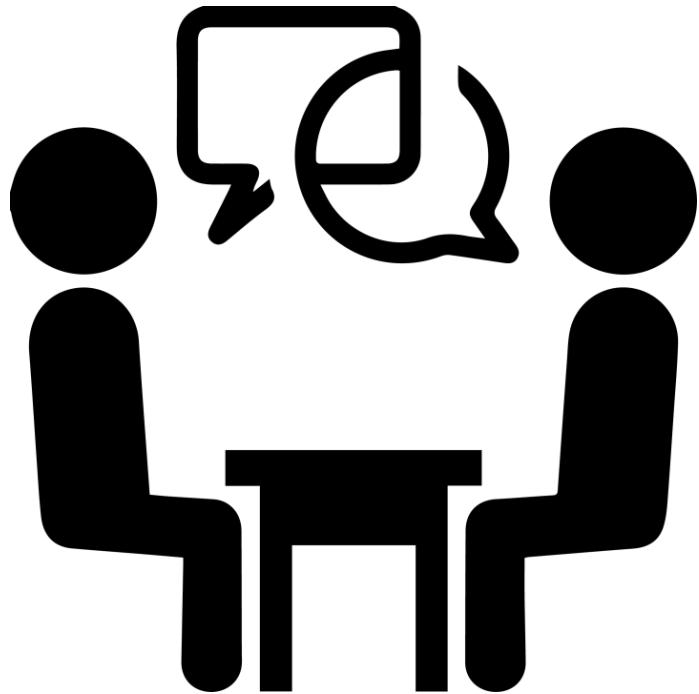
Conscientiousness

Neuroticism

Openness



Idiographic





Contemporaneous

Concurrent behaviors: While...

time



1
2
3
4
5
6
7
8
9
10
11

E					
A	0.02				
C	-0.05	0.08			
N	0.64	-0.12	-0.10		
O	0.26	-0.27	0.43	0.07	

Within Time-Points:

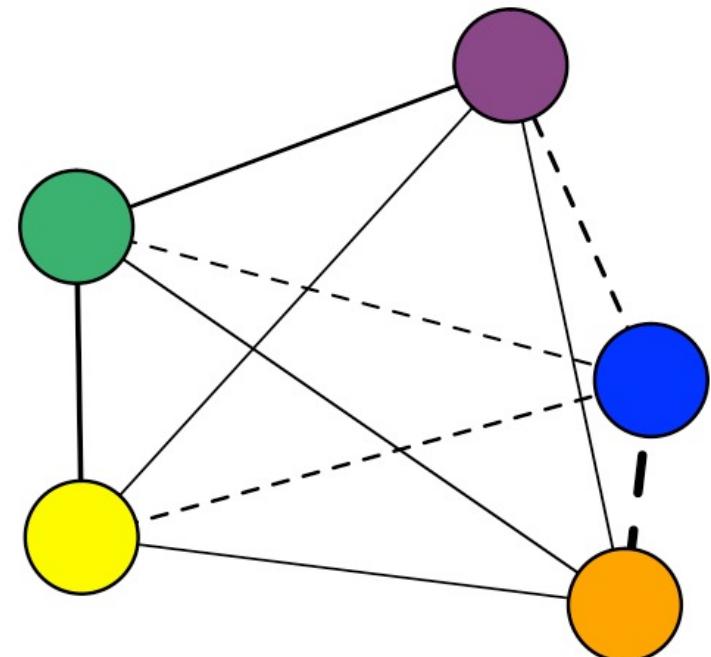
$$X_{it} \leftrightarrow X_{jt}$$

Contemporaneous

Concurrent behaviors: *While...*

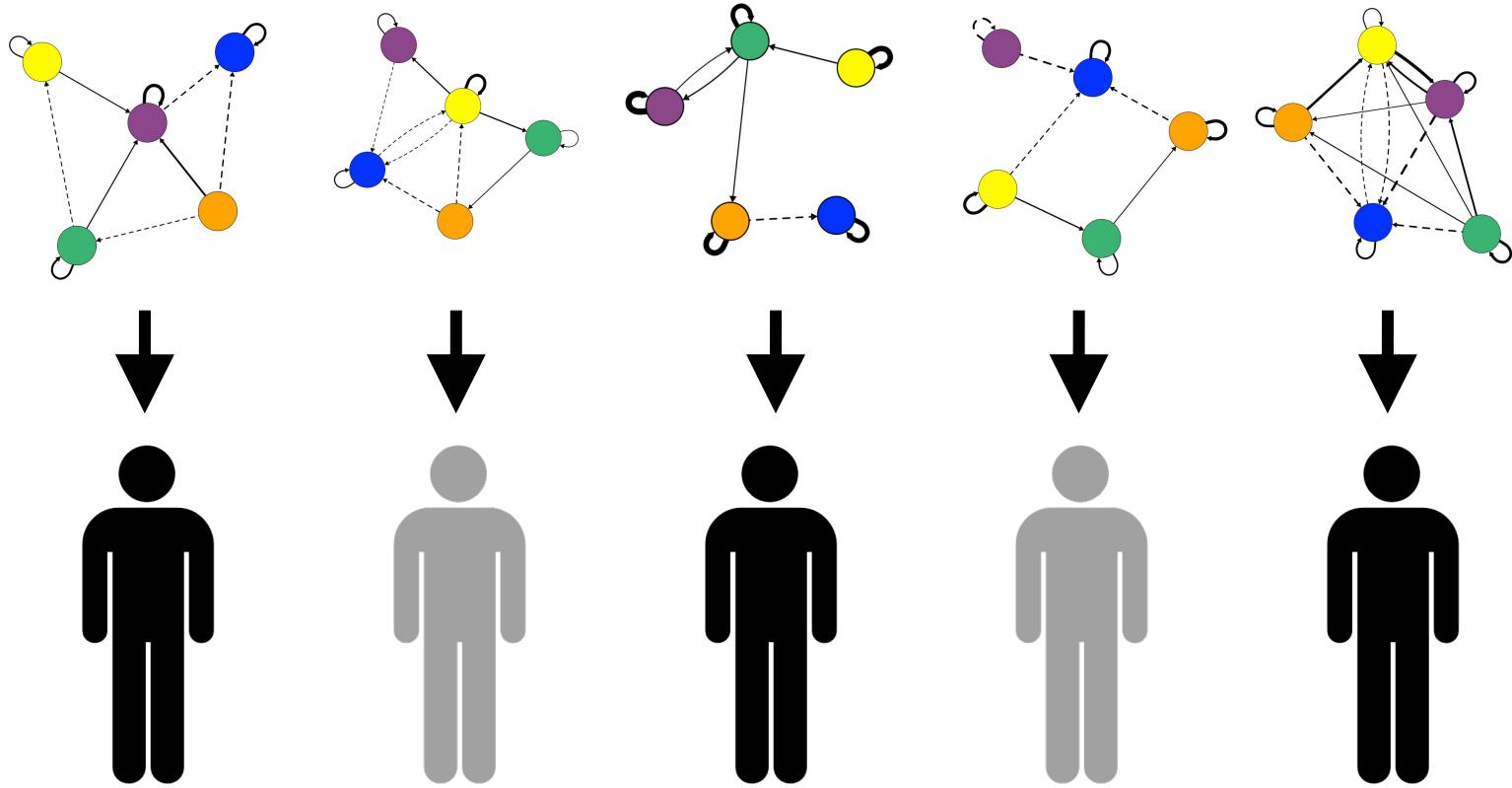
E | A | C | N | O

1	4	2	3	2	4
2	2	3	4	1	4
3	3	3	2	2	4
4	3	1	3	2	3
5	4	4	3	2	2
6	4	1	2	3	4
7	2	2	2	2	1
8	4	2	3	3	4
9	3	2	2	1	2
10	4	2	3	3	3
11	3	1	3	2	5



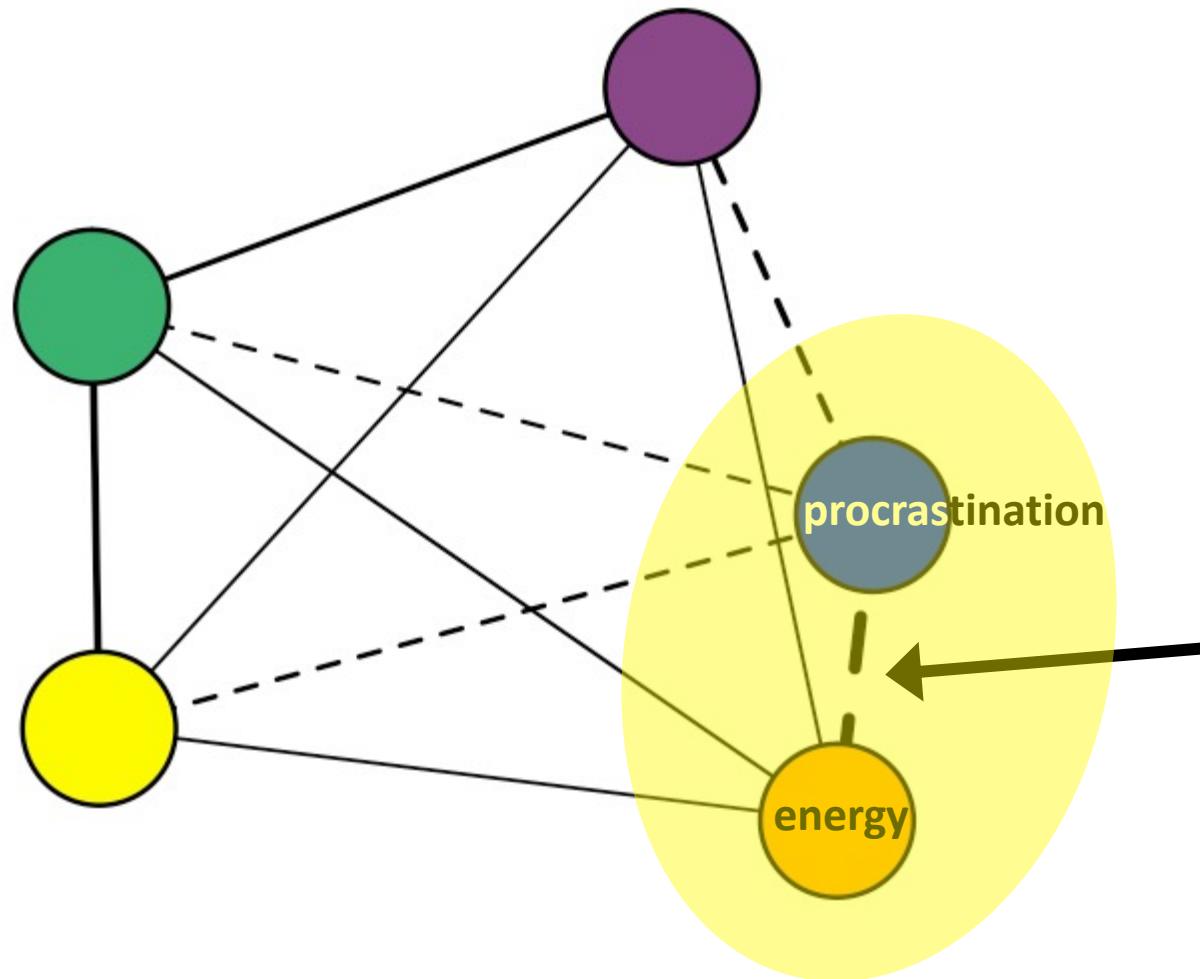
Within Time-Points:

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

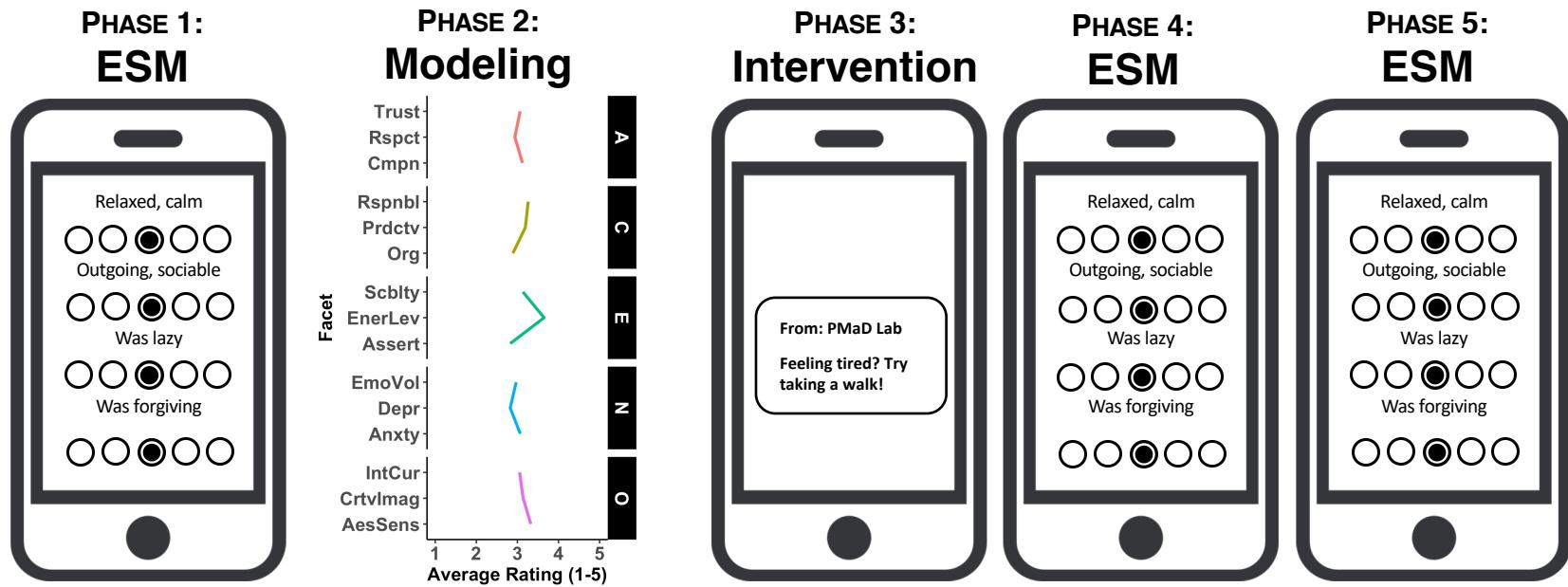


Idiographic

Personalized Interventions

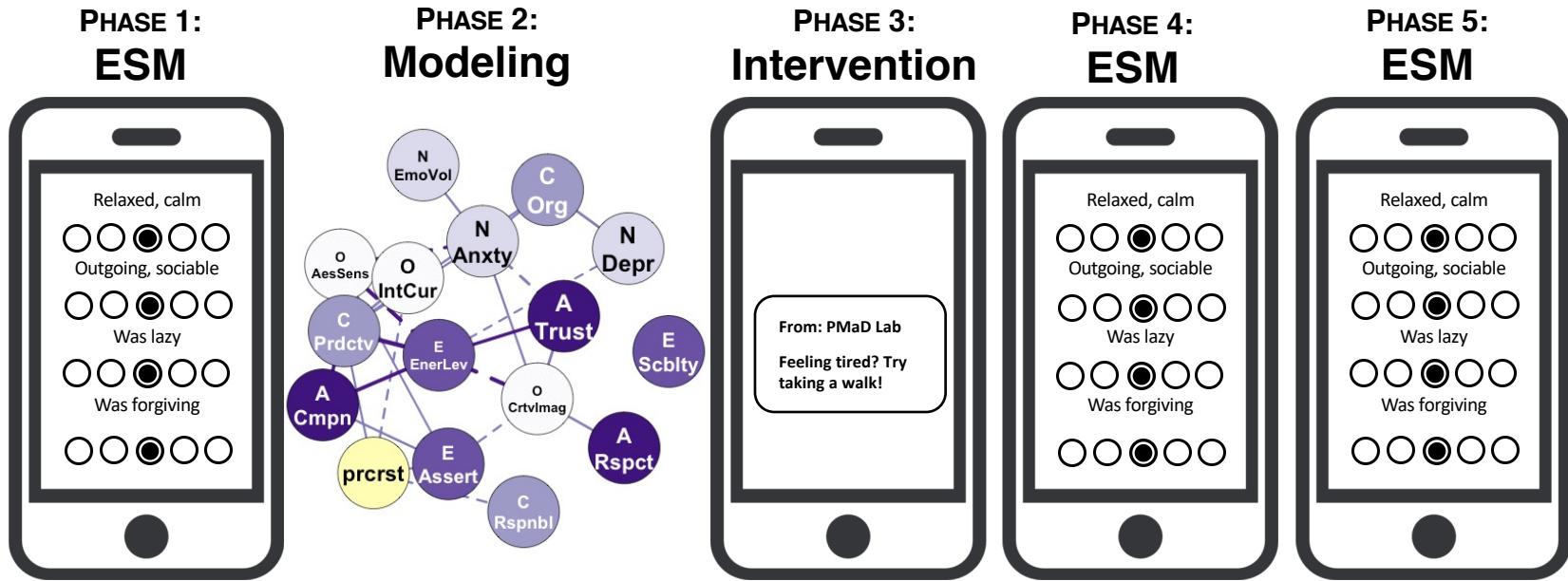


Personalized Interventions



Traditional Approach: Personality Profiles
(More of a trait is good/bad)

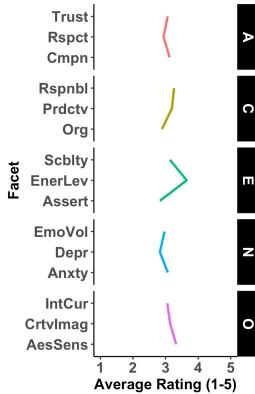
Personalized Interventions



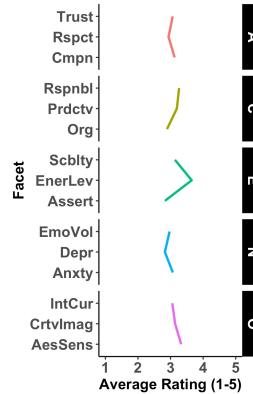
Our Approach: Idiographic Network Profiles
(Specific Personality-Behavior links good/bad)

Target Behavior

Procrastination

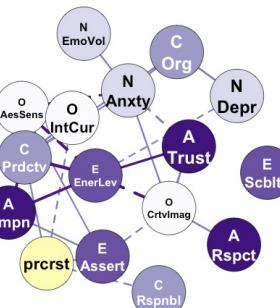
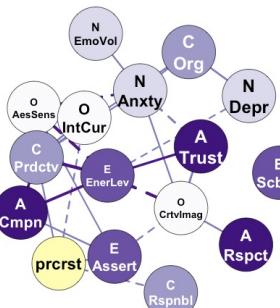


Loneliness



Feedback

Network



12:29 ↗

pmdlab.wustl.edu

Please respond to each question as characteristic of you during whatever you were just doing.

Was relaxed, handled stress well.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Was disorganized.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Felt happy

Strongly Disagree Disagree Neutral Agree Strongly Agree

Found fault with others.

Strongly Disagree Disagree Neutral Agree Strongly Agree

< >   

1: ESM**2: Modeling****3: Intervention****4: ESM****5: ESM**

Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Was outgoing, sociable. Was talkative.	Was compassionate, had a soft heart. Was polite, courteous to others.	Tended to be lazy. Was reliable, could always be counted on.	Was relaxed, handled stress well. Worried a lot.	Had little interest in abstract ideas. Was complex, a deep thinker.

1: ESM

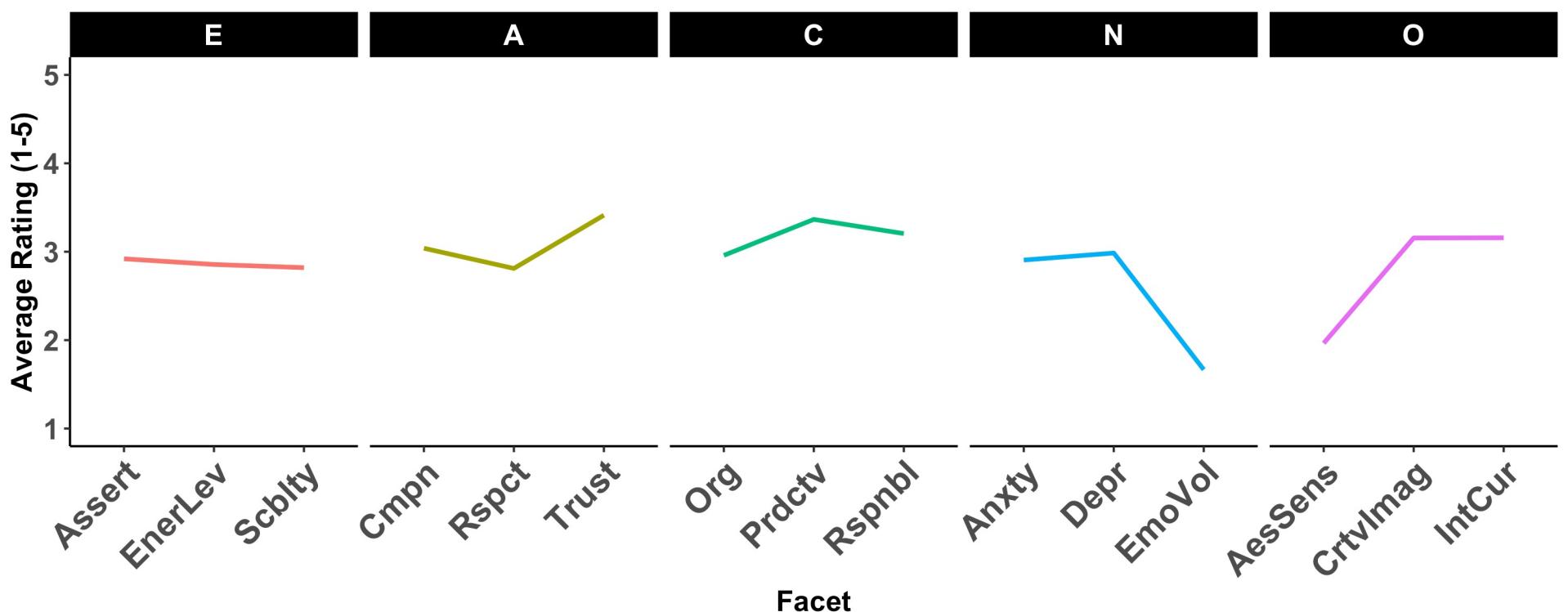
2: Modeling

3: Intervention

4: ESM

5: ESM

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Sociability	Compassion	Responsibility	Anxiety	Intellectual Curiosity



1: ESM

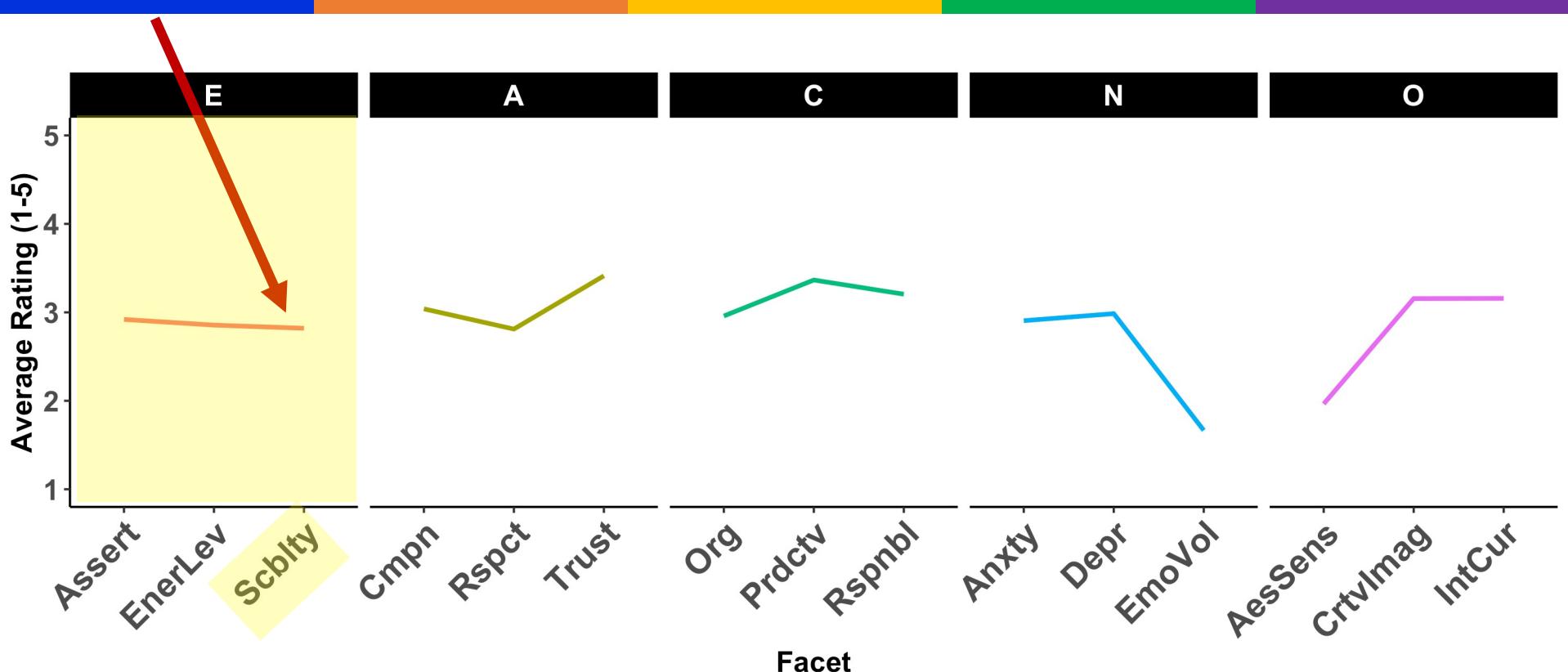
2: Modeling

3: Intervention

4: ESM

5: ESM

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1: ESM

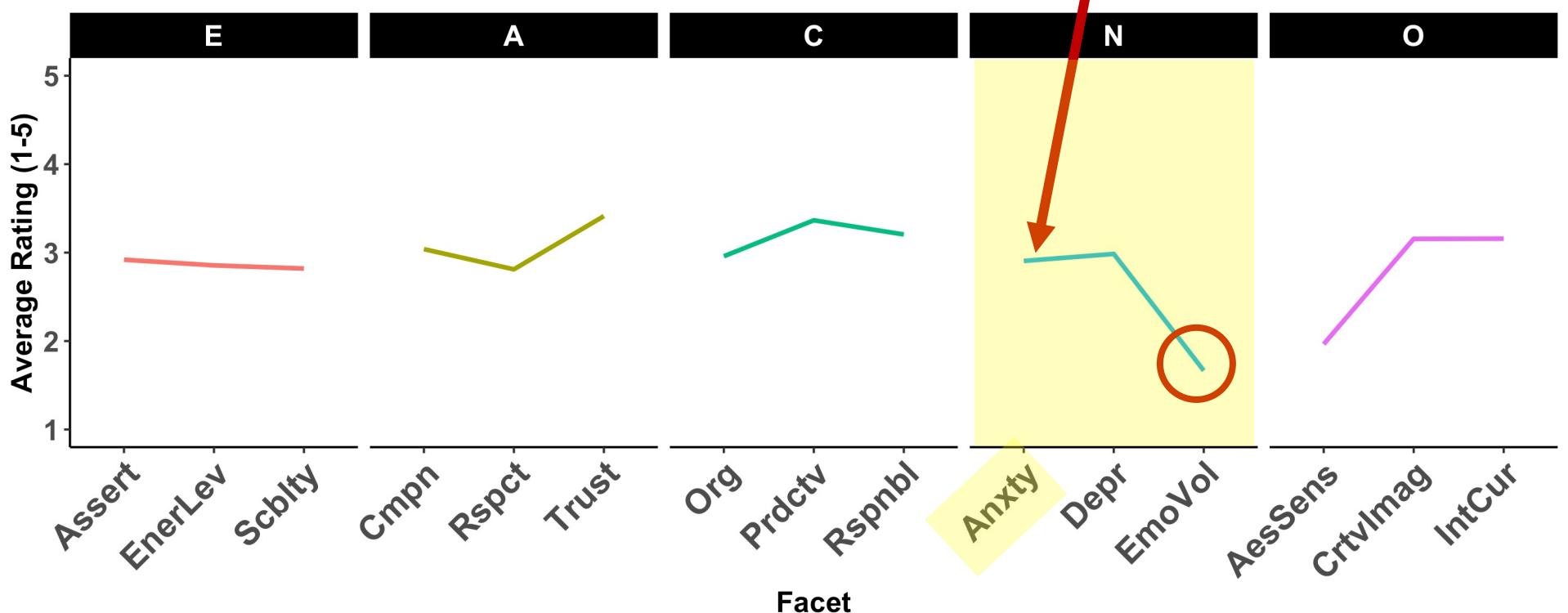
2: Modeling

3: Intervention

4: ESM

5: ESM

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Sociability	Compassion	Responsibility	Anxiety	Intellectual Curiosity



1: ESM	2: Modeling	3: Intervention	4: ESM	5: ESM
Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Was outgoing, sociable.	Was compassionate, had a soft heart.	Was systematic, liked to keep things in order.	Was tense.	Was curious about many different things.
Was talkative.	Was helpful and unselfish with others.	Kept things neat and tidy.	Worried a lot.	Was complex, a deep thinker.
Tended to be quiet.	Felt little sympathy for others.	Tended to be disorganized.	Was relaxed, handled stress well.	Avoided intellectual, philosophical discussions.
Was sometimes shy, introverted.	Was cold and uncaring.	Left a mess, didn't clean up.	Rarely felt anxious or afraid.	Had little interest in abstract ideas.
Had an assertive personality.	Was respectful, treated others with respect.	Was efficient, got things done.	Often felt sad.	Was fascinated by art, music, or literature.
Was dominant, acted as a leader.	Was polite, courteous to others.	Was persistent, worked until the task was finished.	Tended to feel depressed, blue.	Valued art and beauty.
Found it hard to influence people.	Started arguments with others.	Tended to be lazy.	Stayed optimistic after experiencing a setback.	Had few artistic interests.
Preferred to have others take charge.	Was sometimes rude to others.	Had difficulty getting started on tasks.	Felt secure, comfortable with self.	Thought poetry and plays were boring.
Was full of energy.	Had a forgiving nature.	Was dependable, steady.	Was moody, had up and down mood swings.	Was inventive, found clever ways to do things.
Showed a lot of enthusiasm.	Assumed the best about people.	Was reliable, could always be counted on.	Was temperamental, got emotional easily.	Was original, came up with new ideas.
Rarely felt excited or eager.	Tended to find fault with others.	Was somewhat careless.	Was emotionally stable, not easily upset.	Had little creativity.
Was less active than other people.	Was suspicious of others' intentions.	Sometimes behaved irresponsibly.	Kept their emotions under control.	Had difficulty imagining things.

BFI-2 Personality

12:29 ⓘ pmdbl.wustl.edu ⌂

Please respond to each question as characteristic of you during whatever you were just doing.

Was relaxed, handled stress well.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Was disorganized.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Felt happy

Strongly Disagree Disagree Neutral Agree Strongly Agree

Found fault with others.

Strongly Disagree Disagree Neutral Agree Strongly Agree

< > ⌂ ⌂ ⌂

Contexts

12:29 ⓘ pmdbl.wustl.edu ⌂

Indicate which of the following are true about what you were just doing.

Felt tired

Was late for something

Was anxious about school work

Did poorly on an assignment or exam

Had an argument / disagreement with friend

Was watching TV

Was studying or doing school work.

Interacted with a friend

Interacted with family

Procrastinated

Lost something

Felt lonely

Was on the Internet

Was listening to music

Not at all Totally

< > ⌂ ⌂ ⌂

DIAMONDS Situations

12:29 ⓘ pmdbl.wustl.edu ⌂

Indicate which of the following are true about what you were just doing.

Social interactions were possible or required.

Somebody was being threatened, accused, or criticized.

Deep thinking was required.

Somebody was being deceived.

Not at all Totally

< > ⌂ ⌂ ⌂

1: ESM

2: Modeling

3: Intervention

4: ESM

5: ESM

1: ESM

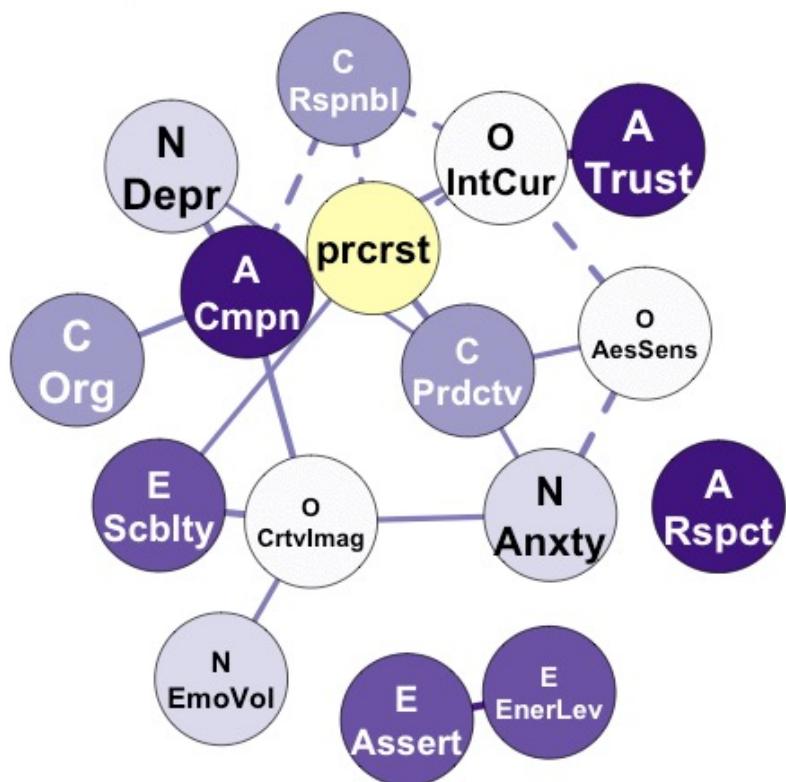
2: Modeling

3: Intervention

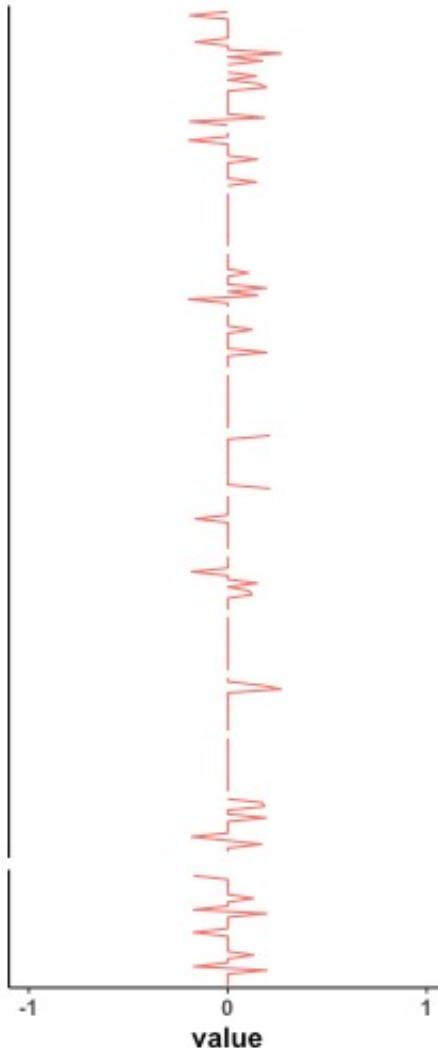
4: ESM

5: ESM

Wave 1: Contemporaneous for S10171



Edges



1: ESM

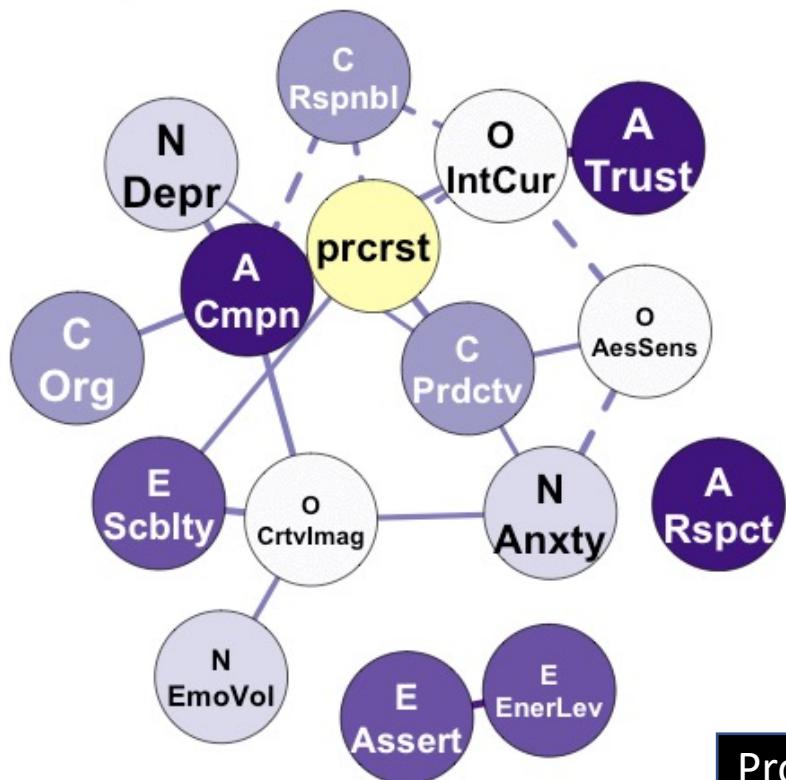
2: Modeling

3: Intervention

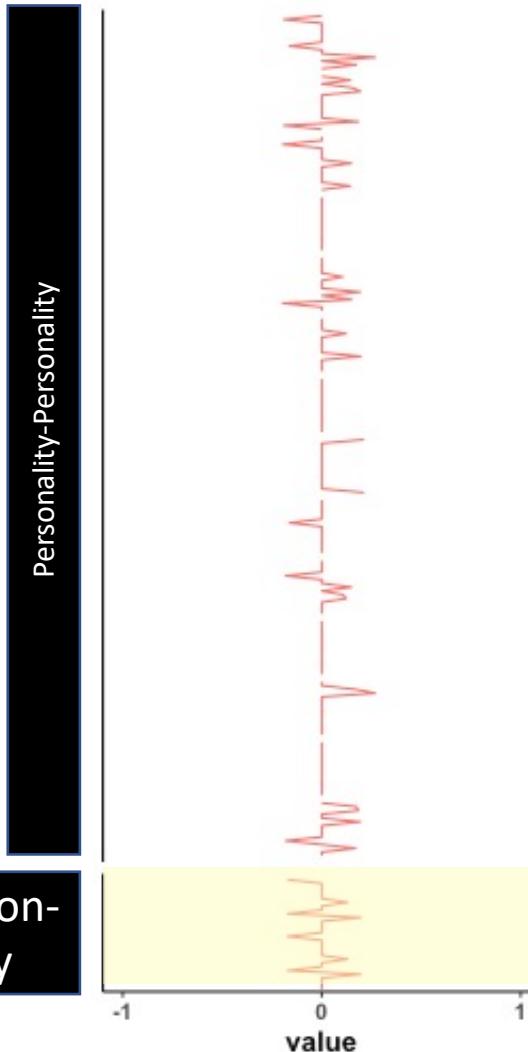
4: ESM

5: ESM

Wave 1: Contemporaneous for S10171



Procrastination-
Personality



1: ESM

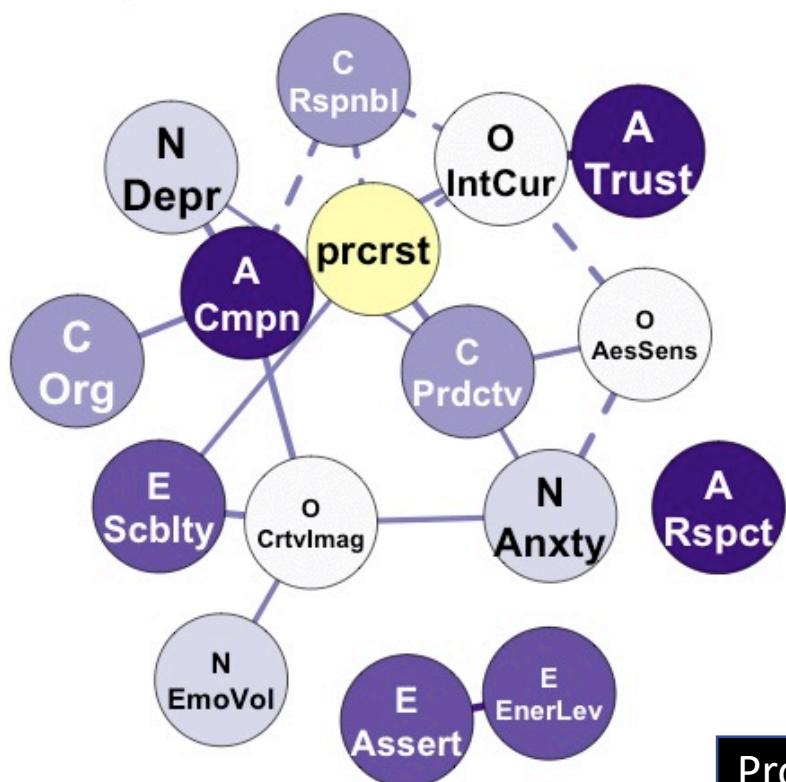
2: Modeling

3: Intervention

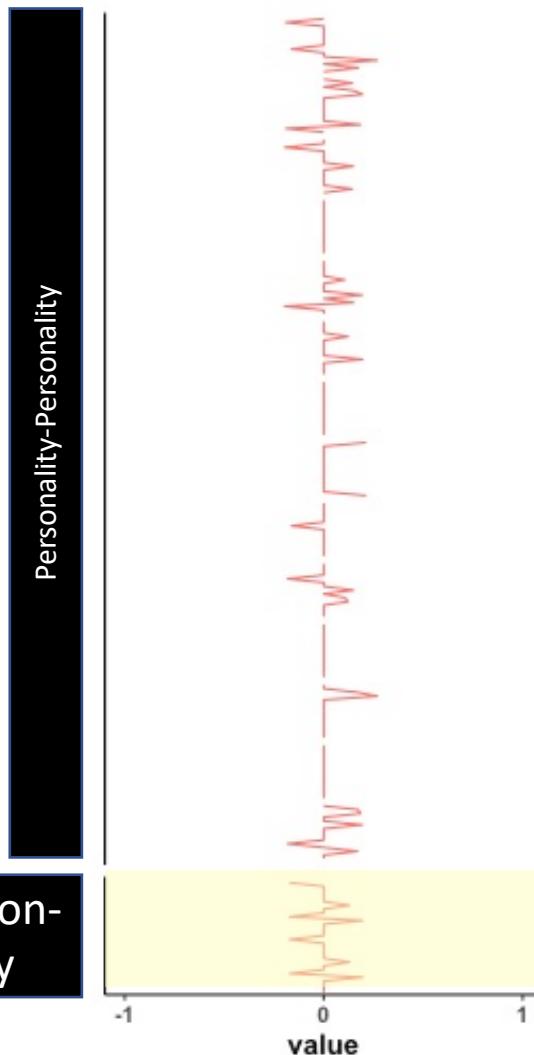
4: ESM

5: ESM

Wave 1: Contemporaneous for S10171



Procrastination-
Personality



1: ESM

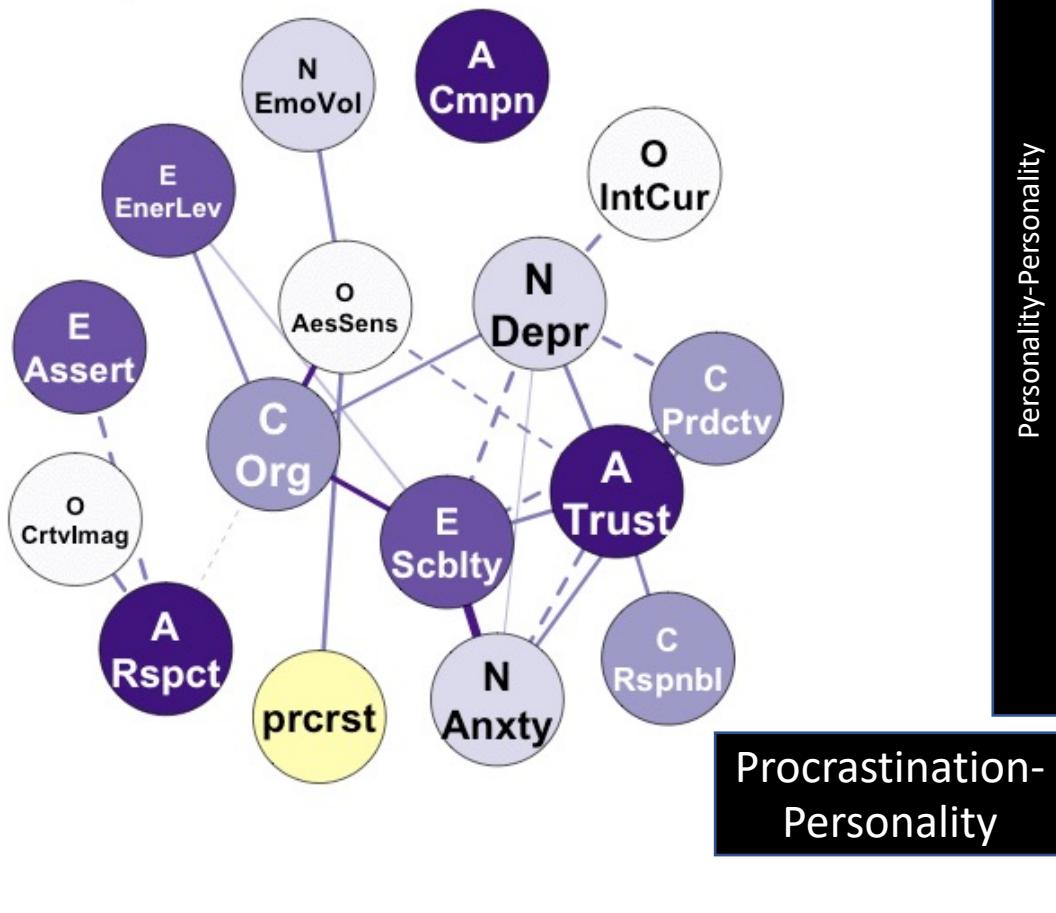
2: Modeling

3: Intervention

4: ESM

5: ESM

Wave 1: Contemporaneous for S443968



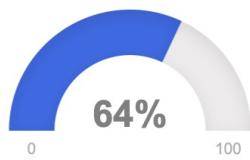
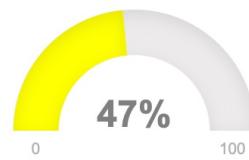
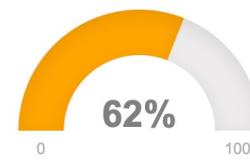
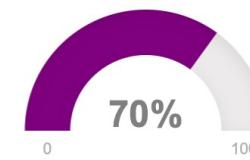
1: ESM

2: Modeling

3: Intervention

4: ESM

5: ESM

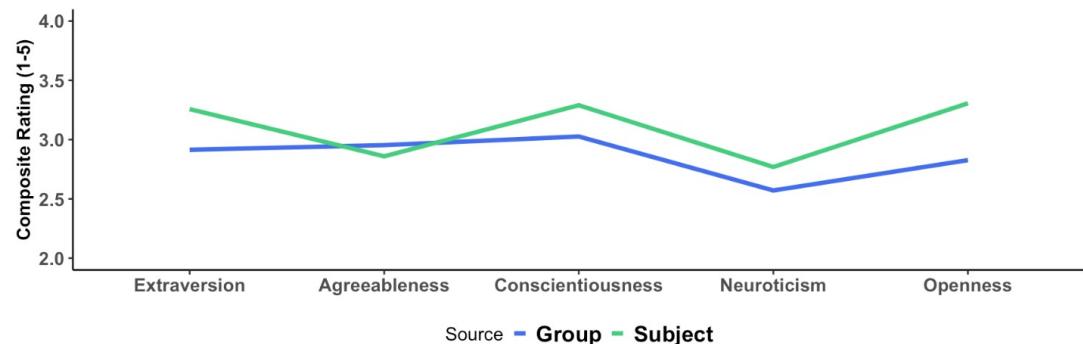
[template Results](#)[Home](#)[Overview](#)[Summary of Your Month](#)[Individualized Results](#)[Your Personalized Strategies](#)Extraversion
PercentileAgreeableness
PercentileConscientiousness
PercentileNeuroticism
PercentileOpenness
Percentile

Welcome to your personalized results

This document summarizes your personal results from the two weeks of surveys you completed. Our hope is that (1) this document provides you with some self-insight that you would not get from taking a regular personality quiz and that (2) you can use what you learn to improve your life by reducing your procrastination or loneliness.

Before we dive into your results, though, you should take a minute to learn a little more about the surveys you completed. In each survey, we asked you to do a number of different things from generating a word related to others to reporting what you were doing. If you'd like to learn more, these are summarized below (Measures).

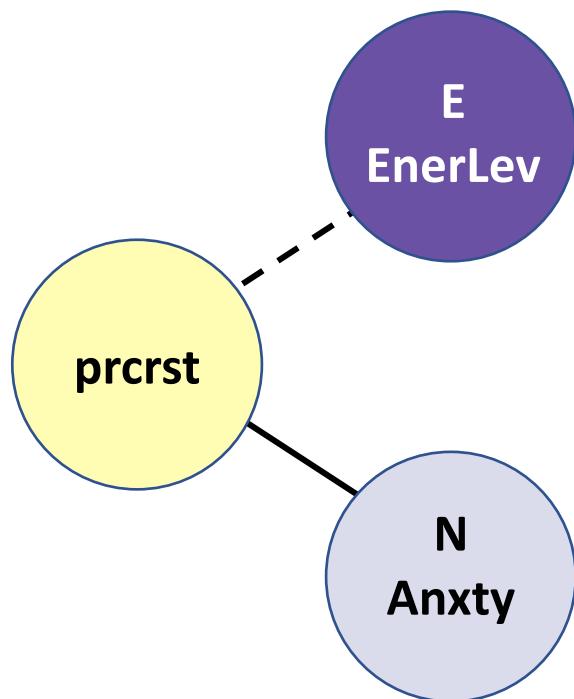
Once you're ready, look at the "What's Next" panel to see what you are going to do in the future.

[What's Next?](#)[Measures](#)

The next step is to review your responses from the surveys you took, so you can use them to improve your life.

Behavior-Personality Link

Personalized Strategy



Take a walk.

Log distracting
thoughts.

-0.2Procrastination-Organization
"While" Link**-0.07**Procrastination-
Emotional Volatility
"While" Link**0**Procrastination ->
Organization "from"
Link**0**Procrastination ->
Emotional
Volatility "from"
Link**0.02**Procrastination <-
Organization "to"
Link**0**Procrastination <-
Emotional Volatility
"to" Link

Strategies

Below, we give you a set of strategies to use based on the relationship between your behaviors and Procrastination. Refer back to these often for inspiration about to tackle Procrastination in your life.

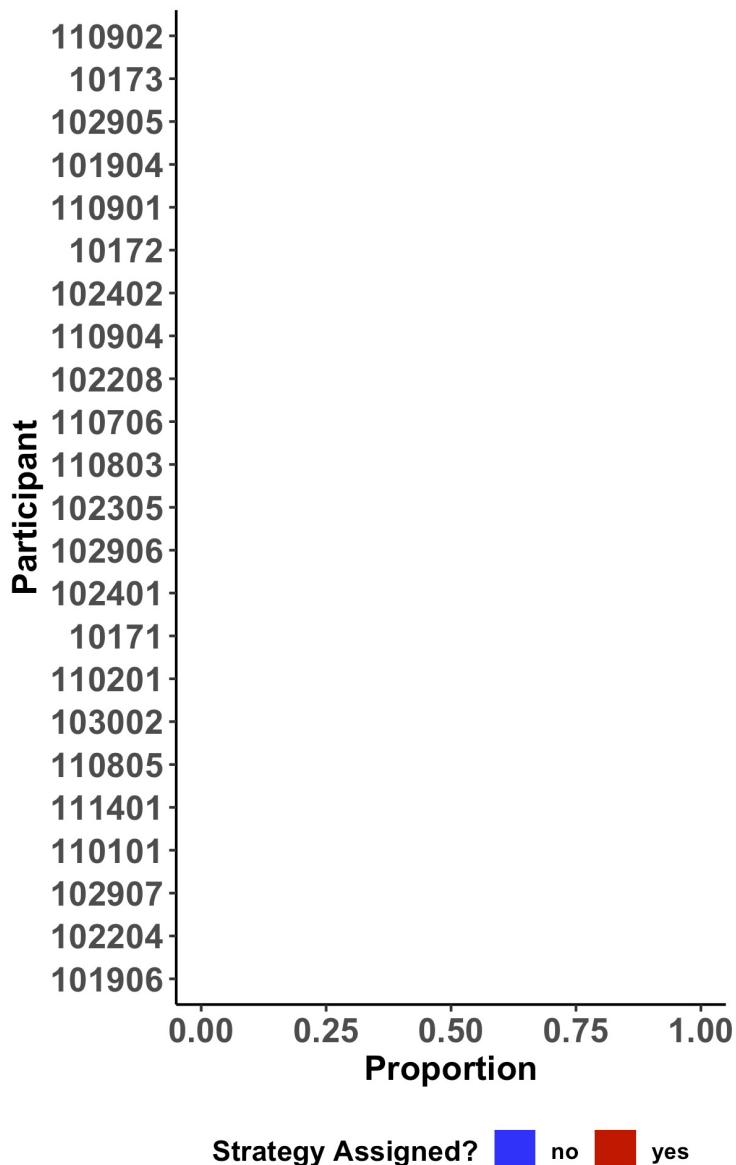
Pay special attention to the strategies themselves and refer to the longer descriptions as needed when you need more guidance.

You'll use these strategies to set daily goals to help you tackle Procrastination. Evidence suggests that goals like these are most successful when planned out in advance in an if...then format. So, for example, if I am procrastinating, I will take a walk. You can think of Procrastination as the "if", and the strategies below as your "thens." The idea is that when you catch yourself procrastinating you can then use your strategies to interrupt that.

Cognitions

Everyone has ideas about what they *should* be doing and what others are doing that they are not. Sometimes, this is reasonable and sometimes it isn't. How do you tell the difference? There are several different ways but most come back to catching yourself and asking whether a belief is reasonable. For example, are you avoiding studying for a statistics test because you think you simply can't learn statistics? What evidence do you have for this? Is it possible that your belief that you can't is influencing your ability to study effectively? You can teach yourself to challenge these beliefs until it becomes natural.

Strategy	Description
Close your eyes and breathe for one minute.	When the demands of life get to be too much, it is easy to get swept away by thoughts and emotions. One way to cope with these is to take a "mindful minute" where you let the feelings flow through you without engaging with them. One way to do that is focus on your breath. When thoughts arise, note them and continue to focus on your breathing. You might try a short guided meditation app if you struggle with this.
Log distracting thoughts	Most people experience a constant stream of thoughts. Particularly for behaviors like procrastination, it is easy to allow the feeling to sweep your thoughts down a rabbit hole of all the things you could or should be doing. The bad news is that this compounds your worries by wasting your time. The next time you notice yourself getting distracted by a stream of thoughts, write them down in your logger. Then, return to them later when you have time to reengage with them fully and attentively.



Did
participants
use their
assigned
strategies?

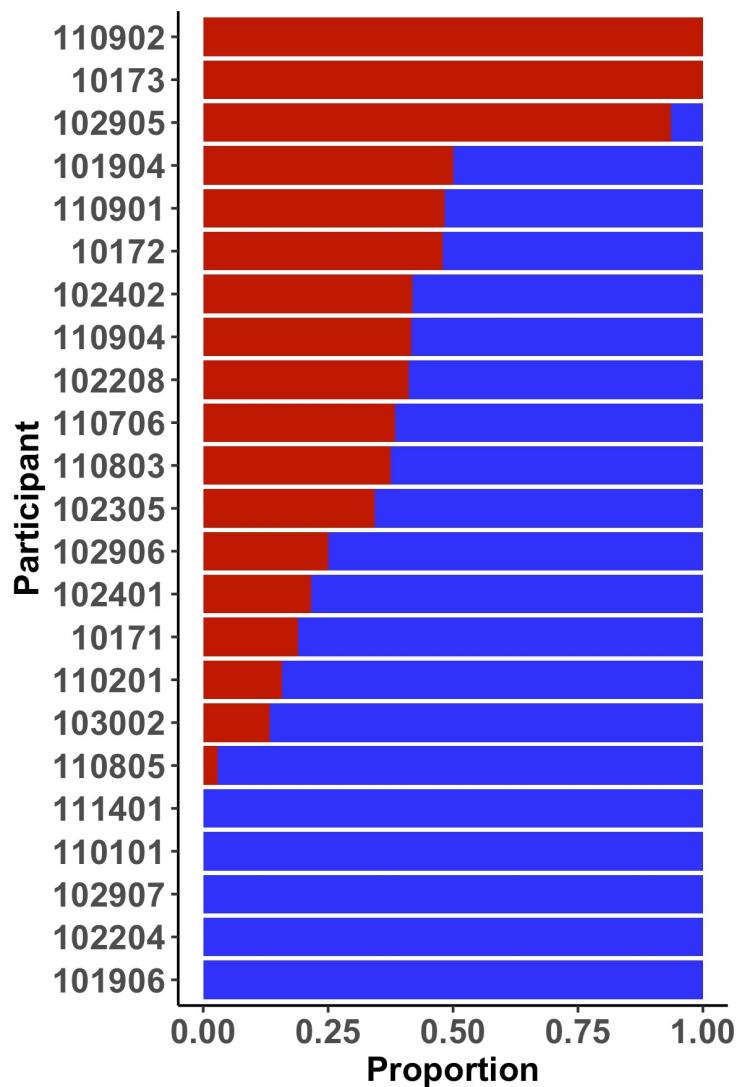
1: ESM

2: Modeling

3: Intervention

4: ESM

5: ESM



Rewarded yourself for meeting studying goals

Changed location to avoid distractions

Take a walk

Identified study goals before starting a session

Scheduled study time

Take a 2 minute break to sketch out an idea.

Ranked tasks by priority

Chunked study content

Use a software like Freedom to block messages and the web

Close your eyes and breathe for one minute.

Wrote down a daily plan

Did a weekly review

Planned a session following class

Used free time during the school day to study

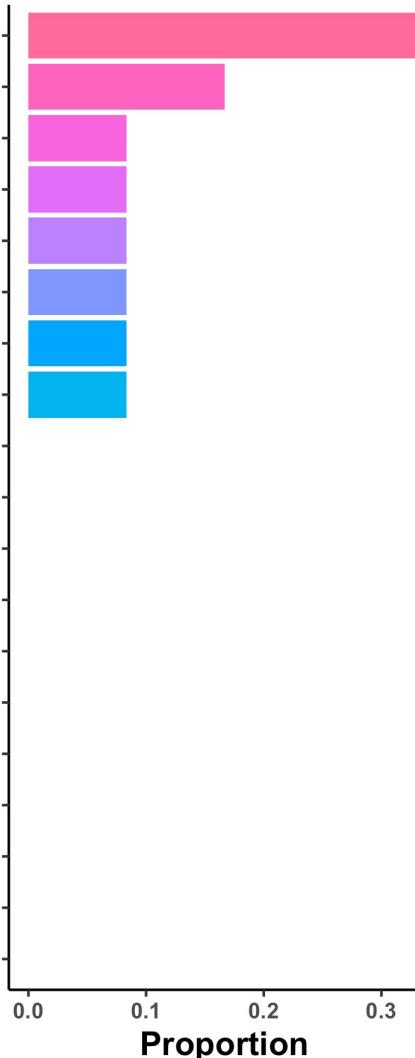
Plan a study session around content, not time

Took a scheduled study break

Log distracting thoughts

Avoided late night studying or studying while tired.

Avoided late night studying or studying while tired.



Procrastination network

Scheduled study time

Take a 2 minute break to sketch out an idea.

Ranked tasks by priority

Close your eyes and breathe for one minute.

Ask a family or friend to check in with you at a specified time

Called a friend you hadn't spoken to today

Write your current thoughts and feelings and write down a positive reframing of them

Avoided late night studying or studying while tired.

Took a scheduled study break

Identified study goals before starting a session

Took a scheduled study break

Use a software like Freedom to block messages and the web

Take a 2 minute break to sketch out an idea.

Chunked study content

Write your current thoughts and feelings and write down a positive reframing of them

Avoided late night studying or studying while tired.

0.00

0.05

0.10

0.15

Proportion

1: ESM

2: Modeling

3: Intervention

4: ESM

5: ESM

1: ESM

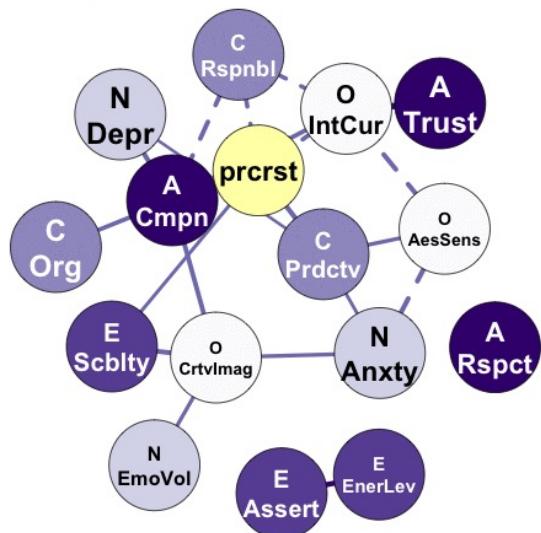
2: Modeling

3: Intervention

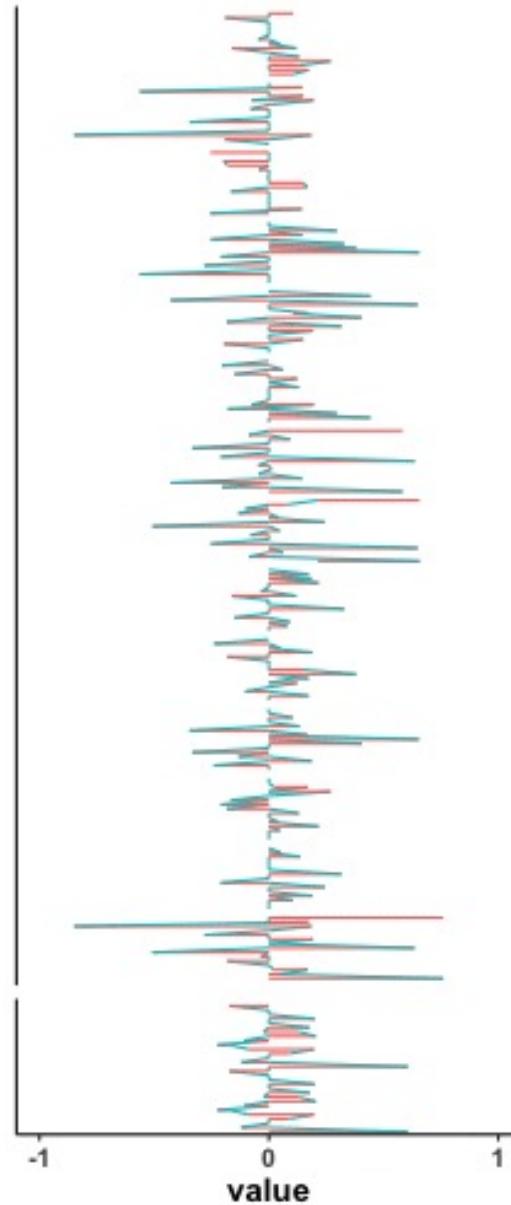
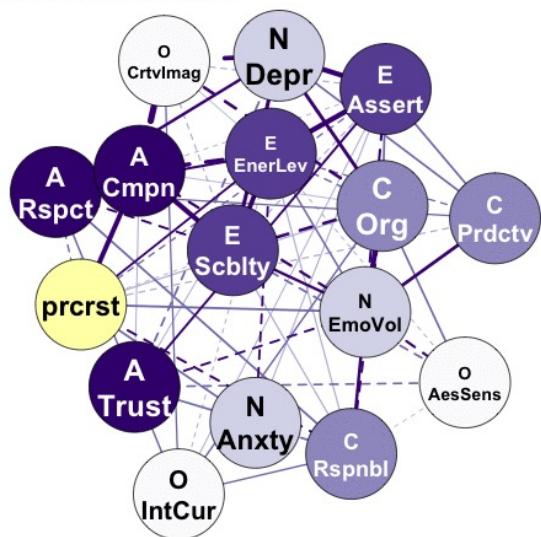
4: ESM

5: ESM

Wave 1: Contemporaneous for S10171



Wave 2: Contemporaneous for S10171



1: ESM

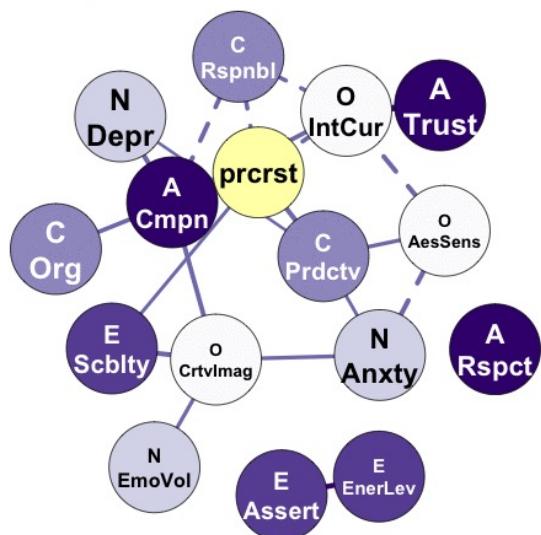
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3: Intervention

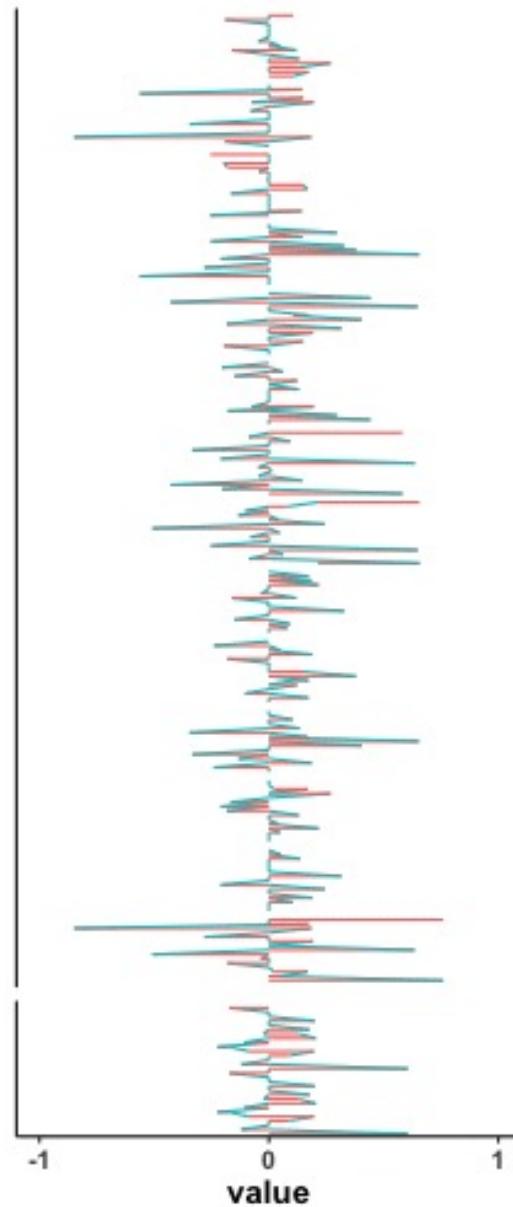
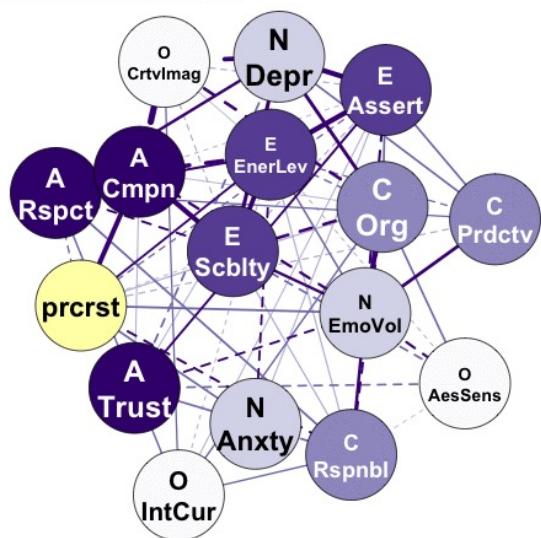
4: ESM

5: ESM

Wave 1: Contemporaneous for S10171



Wave 2: Contemporaneous for S10171



1: ESM

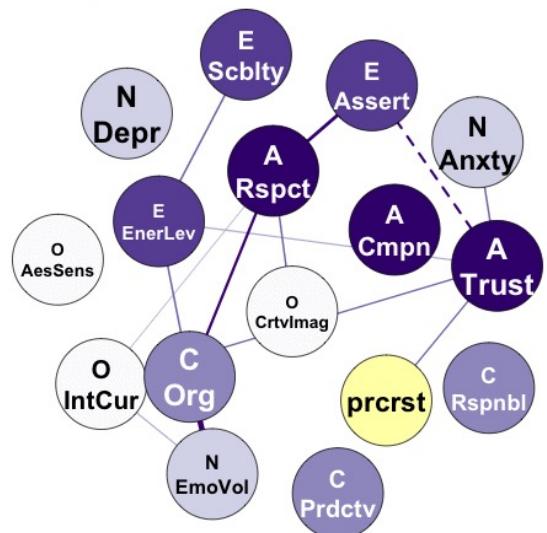
2: Modeling

3: Intervention

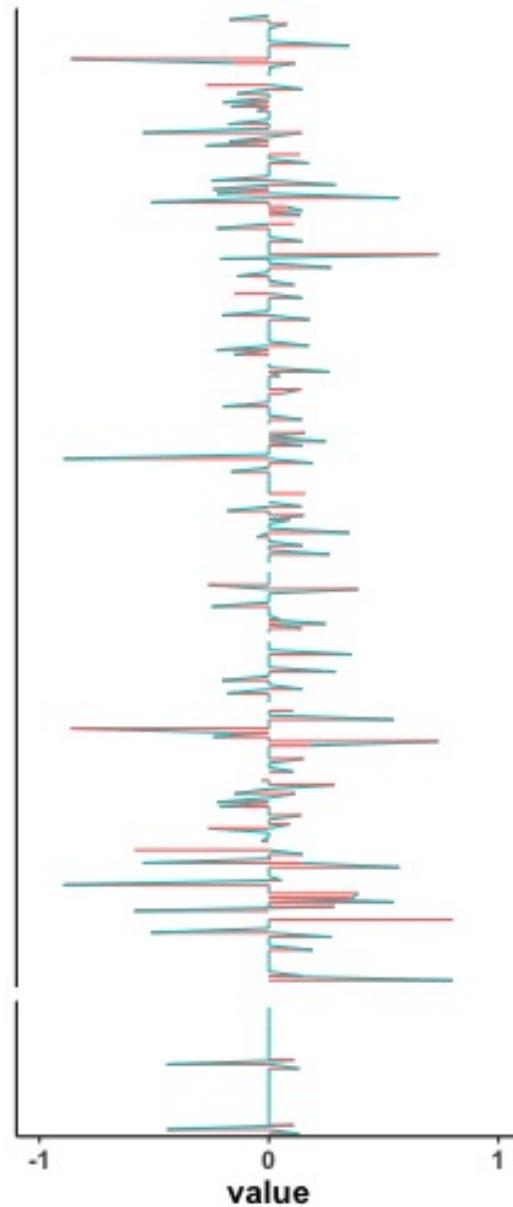
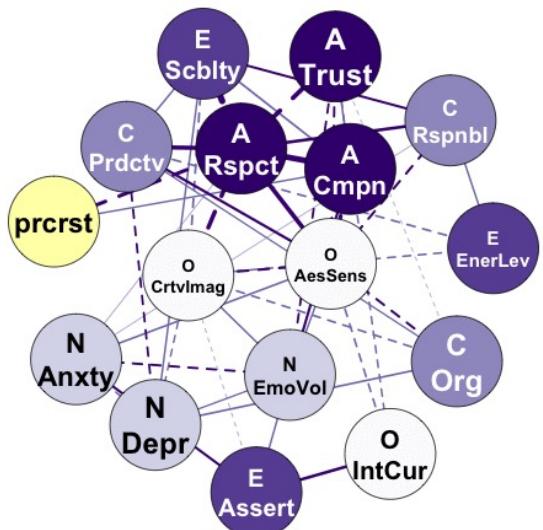
4: ESM

5: ESM

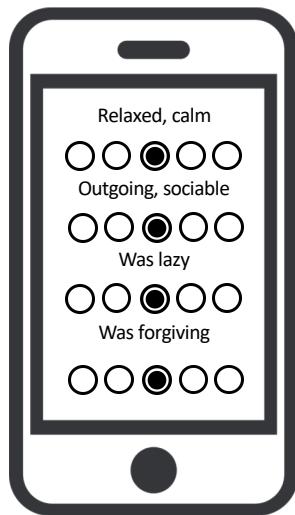
Wave 1: Contemporaneous for S110904



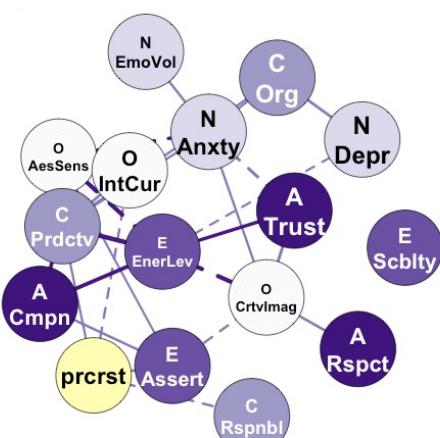
Wave 2: Contemporaneous for S110904



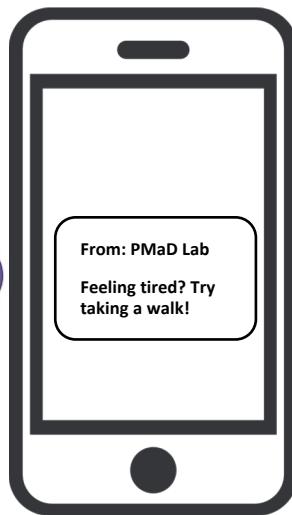
**PHASE 1:
ESM**



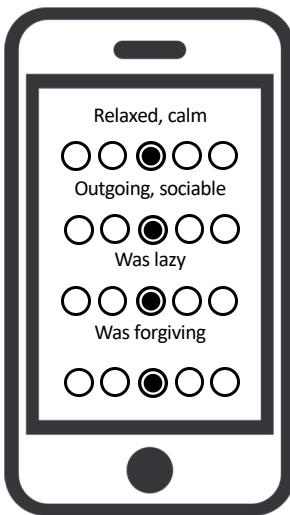
**PHASE 2:
Modeling**



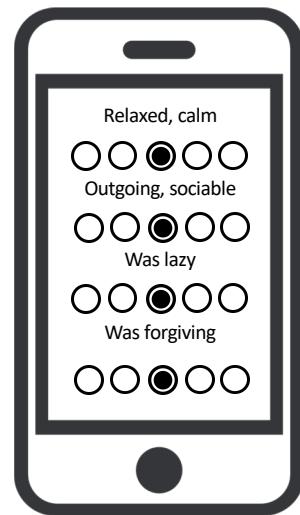
**PHASE 3:
Intervention**



**PHASE 4:
ESM**



**PHASE 5:
ESM**



N = 102

N = 23

N = 13

Total N =
3614

Total N =
340

Total N =
411

Median N
= 43

Median N
= 16

Median N
= 38

Individual differences in idiographic personality structure

**Individual differences in
idiographic personality
structure**

**Planned missing designs
are proving useful in
ESM assessments**

**Individual differences in
idiographic personality
structure**

**Planned missing designs
are proving useful in
ESM assessments**

**Individual differences in
structure provide insight
into unique strategies**

**Individual differences in
idiographic personality
structure**

**Planned missing designs
are proving useful in
ESM assessments**

**Individual differences in
structure provide insight
into unique strategies**

**Personalized
interventions are feasible
and scalable**

Thank you!

Special thanks to:

SPSP

Josh Jackson

Pat Hill

Leah Schultz

Emily Hansen

Lian Steinberg

Jessie Rich

Chloe Marshall

Rachel Best

