How is a trait (not) like a skill?

Similarities and differences in structure, assessment, development, and outcomes

JUST DO IT.

WCP 2024

Christopher J. Soto, Colby College, USA

Personality traits and non-cognitive skills: A brief and selective history

- 1940s-1960s
  - Initial discovery of the Big Five in early lexical studies
- 1980s
  - Large-scale lexical and questionnaire studies of the Big Five
- 1990s
  - Big Five catch on in personality psychology
- 2000s
  - Big Five used to study trait structure, assessment, development and outcomes
  - Heckman introduces “non-cognitive skills” in economics
- 2010s
  - Big Five personality research continues
  - Economists measure non-cognitive skills in many studies
  - Policy makers become interested in socio-emotional skills

A fateful lunch in September, 2017

- The OECD is planning a large-scale, international study of social and emotional skills.
  - The study's Technical Advisory Group includes economists and personality psychologists.
- The TAG meets to discuss the study's measure of social, emotional, and behavioral (SEB) skills.
  - The study's conceptual language is all about skills.
  - The study's measure clearly assesses traits.
- Brent Roberts and I chat at lunch.
  - What if we measured and studied SEB skills as… skils?

We were not the first people to have this idea

- 1960s
  - Wallace argues for the study of personality skills rather than dispositions
- 1970s-1980s
  - Turner and colleagues study the predictive validity of typical and maximal personality measures.
  - Paulhus and Martin study interpersonal traits and capabilities.
- So what if we extended the idea of skills to the full range of Big Five behaviors?

How are personality traits and skills similar and different?

- Conceptualization?
- Structure?
- Assessment?
- Development?
- Outcomes?

Part 1

Conceptualization, structure, and assessment of traits and skills

Conceptualization of personality traits vs. social, emotional, and behavioral skills

- **Personality traits**: Characteristic patterns of thinking, feeling, and behaving.
  - How someone ***tends to behave***, averaged across situations.

- **SEB skills**: Functional capacities that people use to maintain ***social*** relationships, regulate ***emotions***, and manage goal- and learning-directed ***behaviors***.
  - How someone is ***capable of behaving***, when needed.

- Trait and skill levels can be congruent or discrepant.
  - Example: Introvert who can vs. can't act as a leader.

Soto, Napolitano, & Roberts (2021, *Current Directions in Psychological Science*)

Structure and assessment of traits and skills: What should we expect?

- **Hypothesis:** We can identify SEB skills in five major domains.
  - Parallel the Big Five traits, but conceptualized in terms of behavioral capacities rather than tendencies.

- **Hypothesis:** We can measure these SEB skill domains using a skills inventory.
  - With all the usual caveats about self and observer reports.

- **Question:** Would the content of some domains shift in translation from traits to skills?

Joint structure of traits and skills

Personality Traits	SEB Skills
Extraversion	Social Engagement Skills
Agreeableness	Cooperation Skills
Conscientiousness	Self-Management Skills
Emotional Stability vs. Neuroticism	Emotional Resilience Skills
Openness to Experience	Innovation Skills

Abrahams, Pancorbo, et al., (2019); Soto, Napolitano, et al. (2021); Walton, Murano, et al. (2023)

Assessing traits vs. skills

Trait/Skill domain	Personality traits: I am someone who… (BFI-2)	SEB skills How well can you… (BESSI)
Extraversion/ Social Engagement Skills	Is outgoing, sociable.	Start a conversation.
Emotional Stability/ Emotional Resilience Skills	Rarely feels anxious or afraid.	Calm down when feeling anxious.
Conscientiousness/ Self-Management Skills	Is persistent, works until the task is finished.	Keep working until a task is finished.
Agreeableness/ Cooperation Skills	Is helpful and unselfish with others.	Understand how other people feel.
Openness to Experience/ Innovation Skills	Is curious about many different things.	Come up with new ideas.

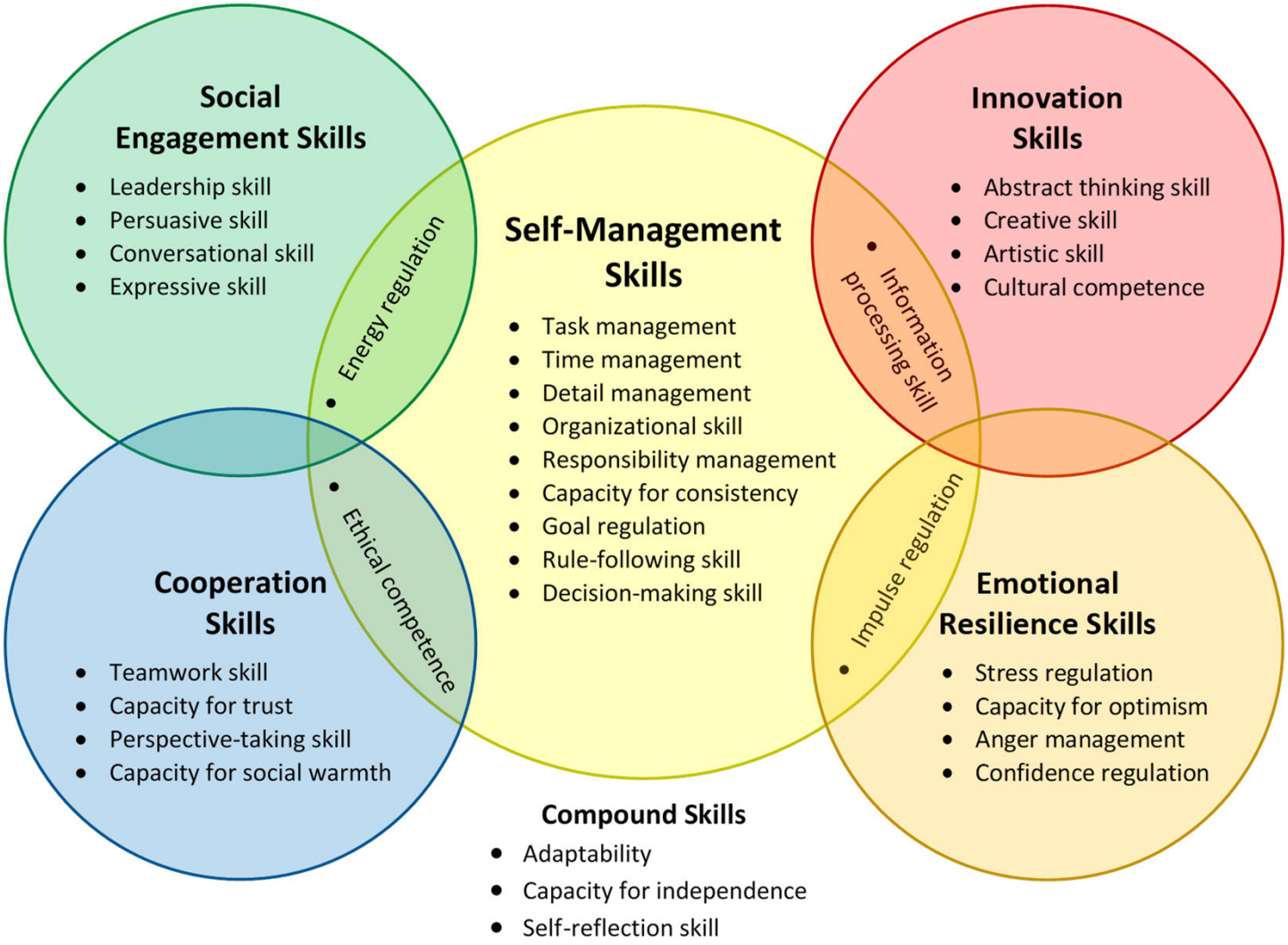
Soto & John, (2017, *JPSP*), Soto, Napolitano, Sewell, Yoon, & Roberts (2022, *JPSP*)

Assessing skills: The BESSI

1. Reviewed hierarchical models and measures that assessed traits at both the domain and facet levels.
   - Identified all non-redundant facets that could be conceptualized as skills, rather than only as traits.
2. Identified 33 candidate skill facets.
   - Drafted 8 to 13 items per facet.
3. Collected data from four independent samples.
   - Adolescents and adults; self and observer reports.
4. Used item, scale, and factor analyses to select the final BESSI facets and items.
   - 32 specific skill facets; 192 items (6 per facet).

Soto, Napolitano, Sewell, Yoon, & Roberts (2022, *JPSP*)

Assessing skills: The BESSI



Soto, Napolitano, Sewell, Yoon, & Roberts (2022, *JPSP*)

Structure and assessment of traits and skills: What can we conclude

- **Hypothesis:** We can identify SEB skills in five major domains.
  - Yep.
- **Hypothesis:** We can measure these SEB skill domains using a skills inventory.
  - Yep.
- **Question:** Would the content of some domains shift in translation from traits to skills?
  - Yep. Conscientiousness/Self-Management became the most prominent skill domain.

Part 2

Mean-level and individual development of traits and skills

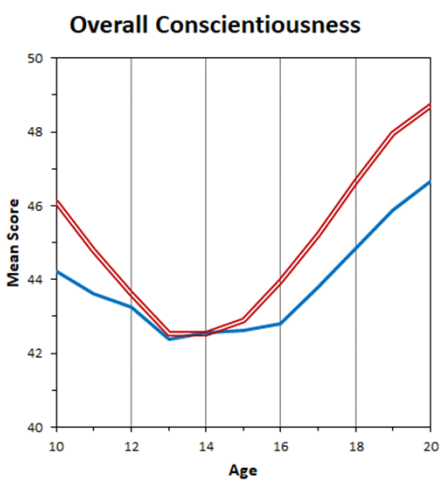
Development of traits and skills: What should we expect?

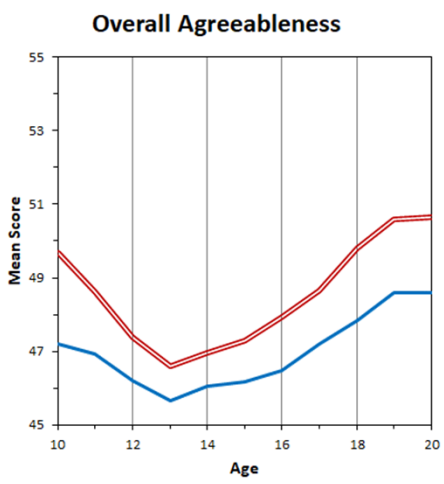
- **Question:** Do mean-level age trends for SEB skills parallel personality traits?
  - Maybe yes, due to similar behavioral content.
  - Maybe skill trends more positive, due to accumulated practice.

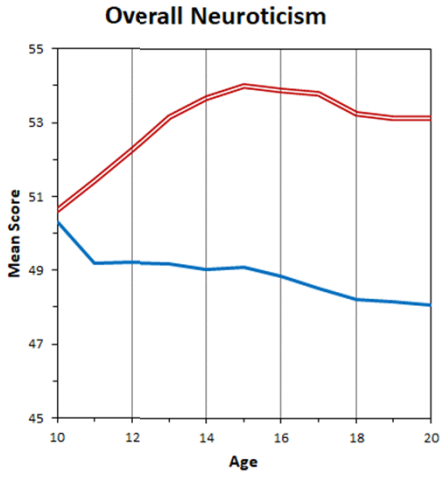
- **Question:** Do SEB skills show greater individual differences in change than personality traits?
  - Maybe yes, if skills are more malleable than traits.
  - Maybe no, due to similar behavioral content.

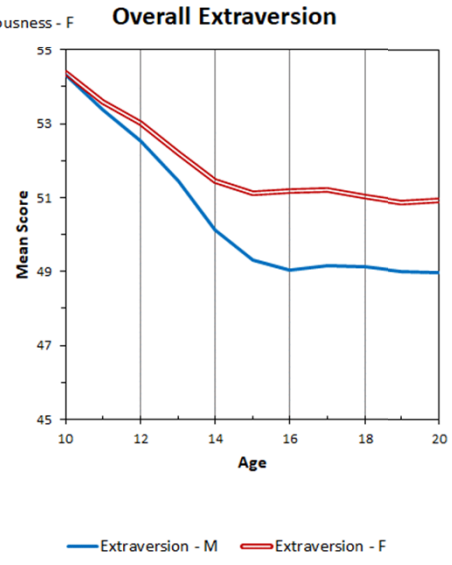
- **Hypothesis:** People can intentionally improve their SEB skills through practice and feedback.
  - Just like any other kind of skill.

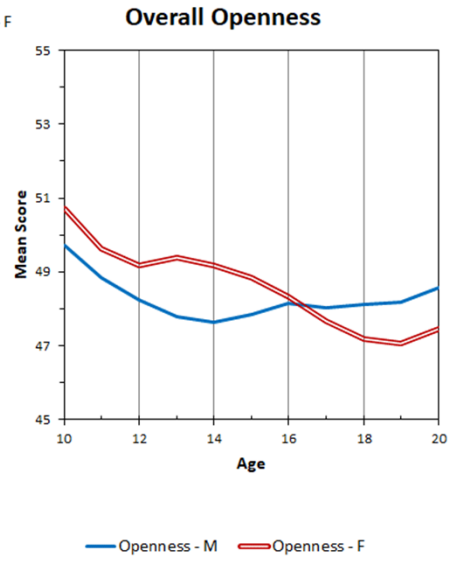
Mean-level development of traits in adolescence





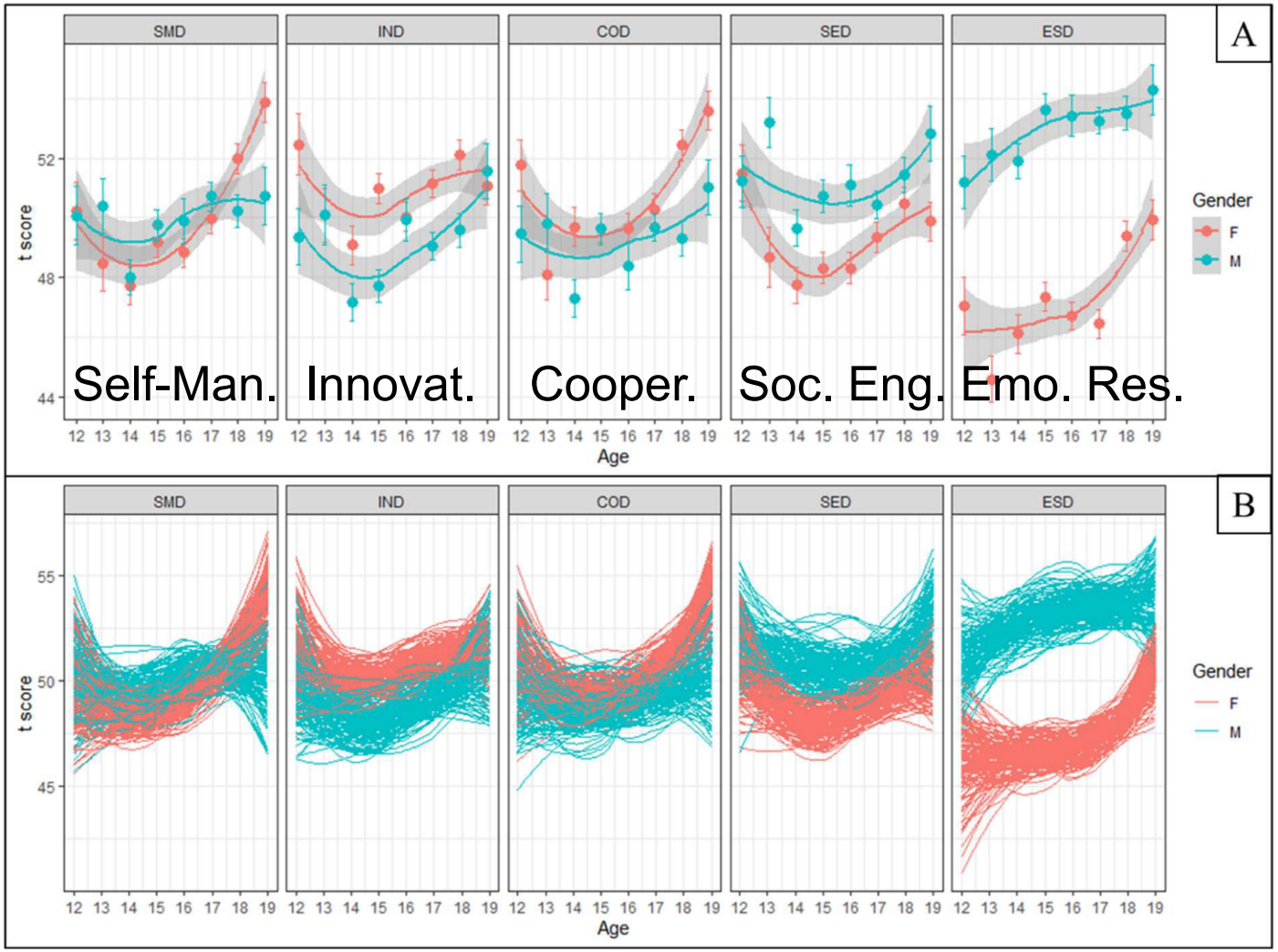






Soto, John, Gosling, & Potter (2011, *JPSP*)

Mean-level development of skills in adolescence



Feraco & Meneghetti (2023, *Journal of Intelligence*)

Individual differences in change for traits vs. skills

	Variance in 4-month change	Variance in 8-month change
Traits (BFI-2)		
Extraversion	.02	.00
Agreeableness	.01	.01
Conscientiousness	.24*	.02
Neuroticism	.11*	.16**
Openness to Experience	.13*	.07
Skills (BESSI)		
Social Engagement	.14***	.17***
Cooperation	.10***	.17***
Self-Management	.16***	.21***
Emotional Resilience	.11***	.18***
Innovation	.22***	.27***

Napolitano, Soto, Sewell, Yoon, & Roberts (under revision)

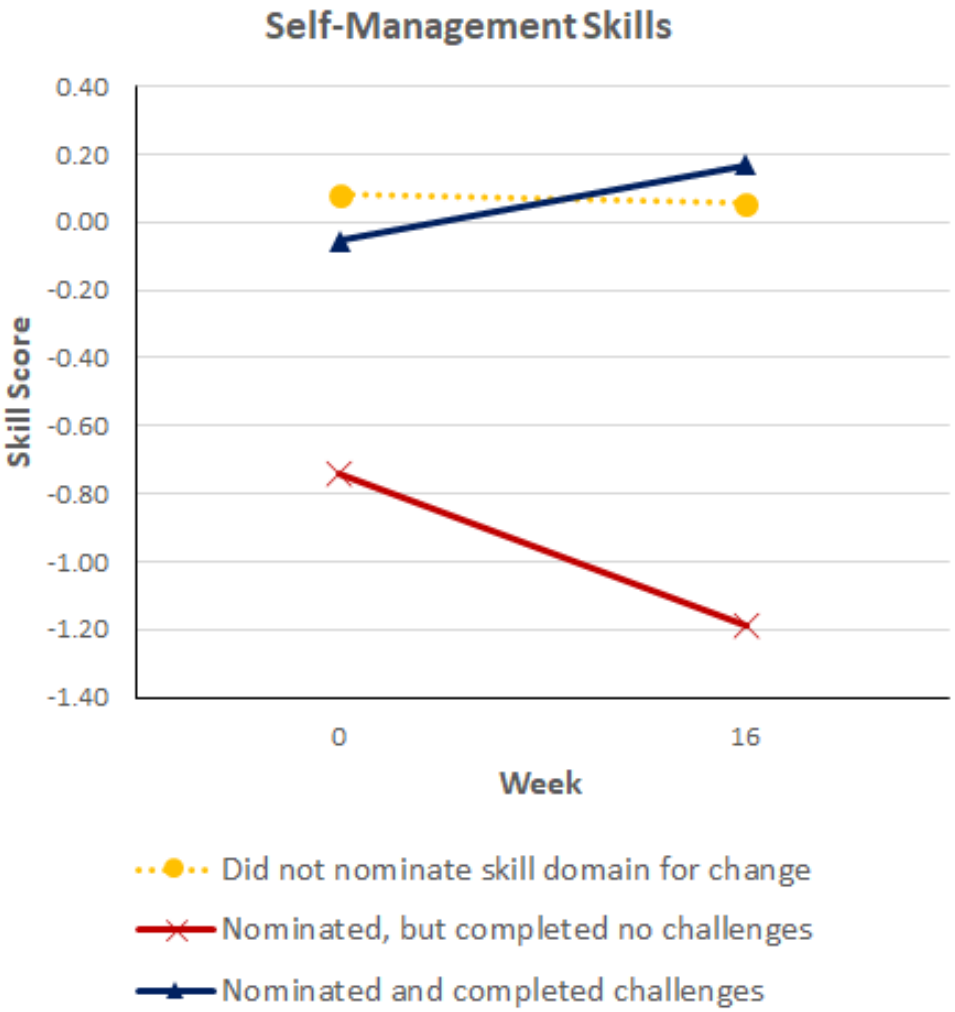
Volitional development of SEB skills: A behavioral challenge intervention

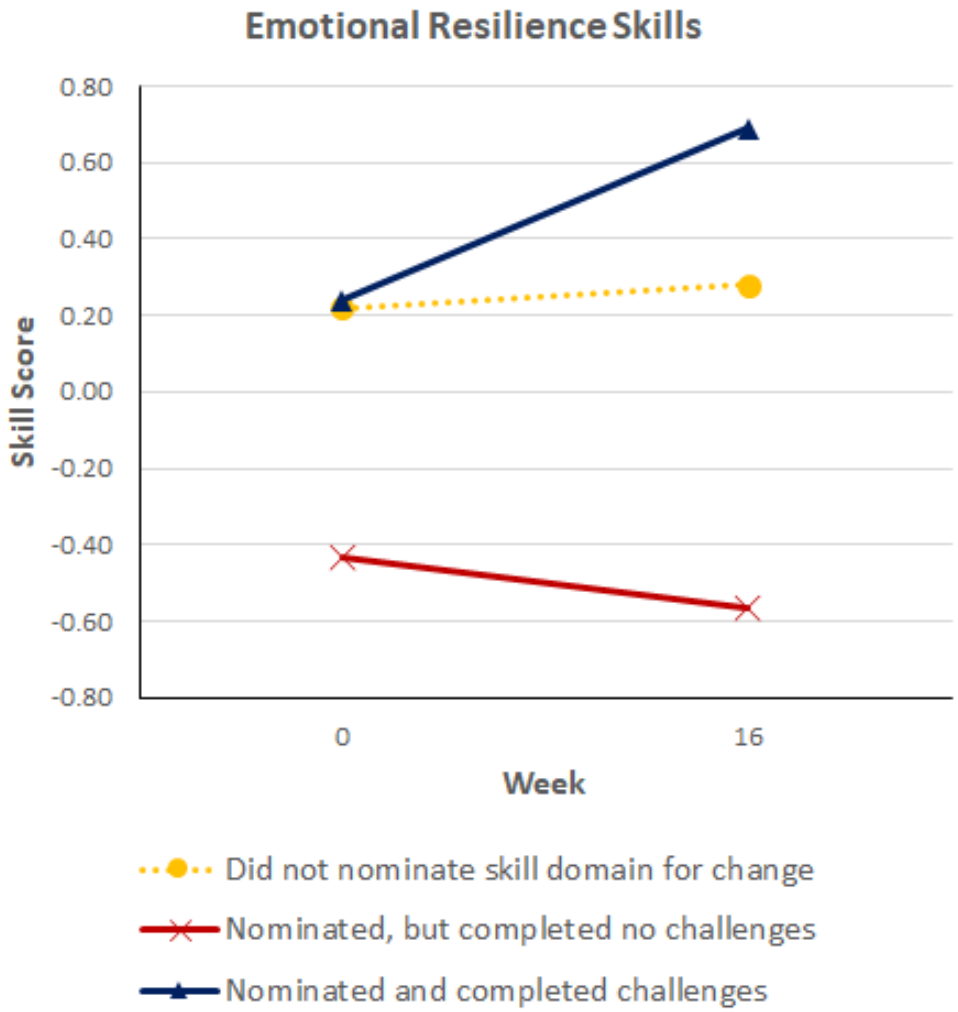
- Week 1
  - Report current SEB skills and Big Five traits.
  - Nominate the skill domain(s) they wanted to change.
  - Set behavioral challenges to practice their target skills.

- Weeks 2-16
  - Report current SEB skills and Big Five traits.
  - Evaluate success on the previous week's challenges.
  - Set behavioral challenges to practice their target skills.

Soto, Hudson, Napolitano, Sewell, Yoon, & Roberts (in prep)

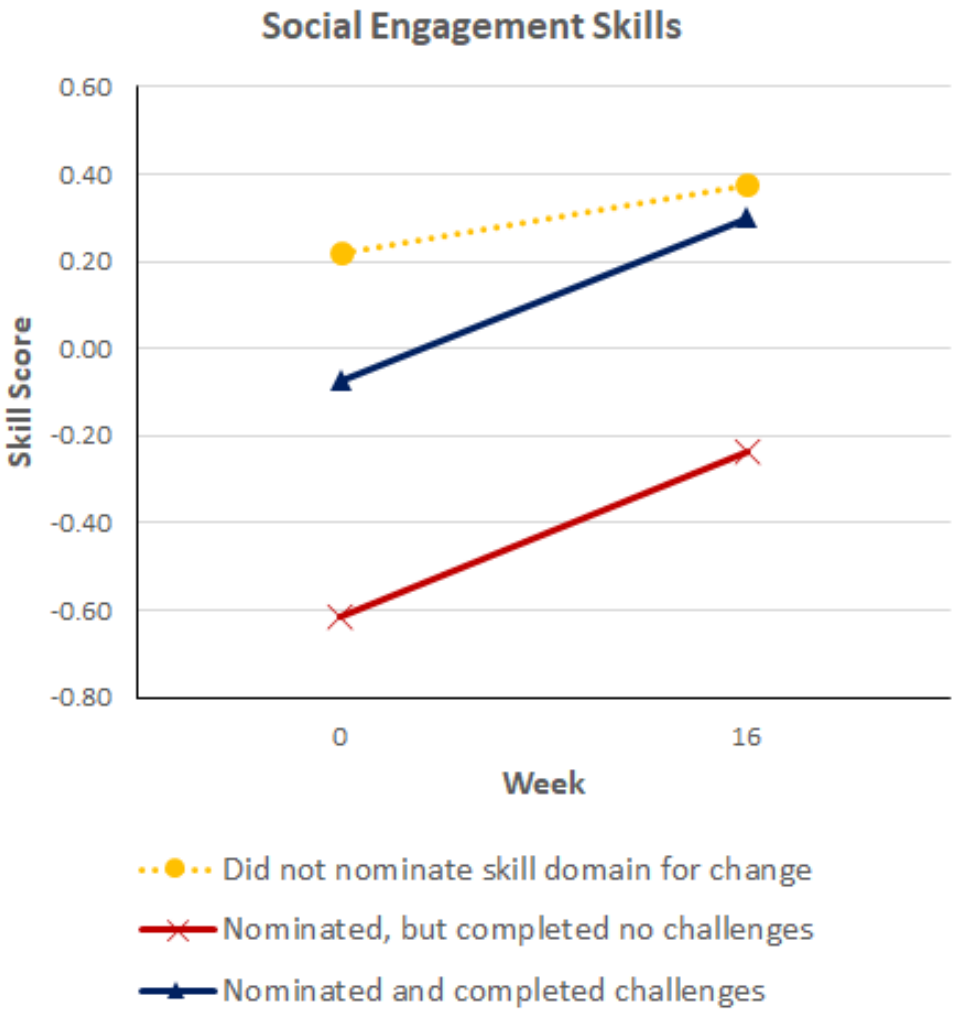
Volitional development of SEB skills: Self-management and emotional resilience

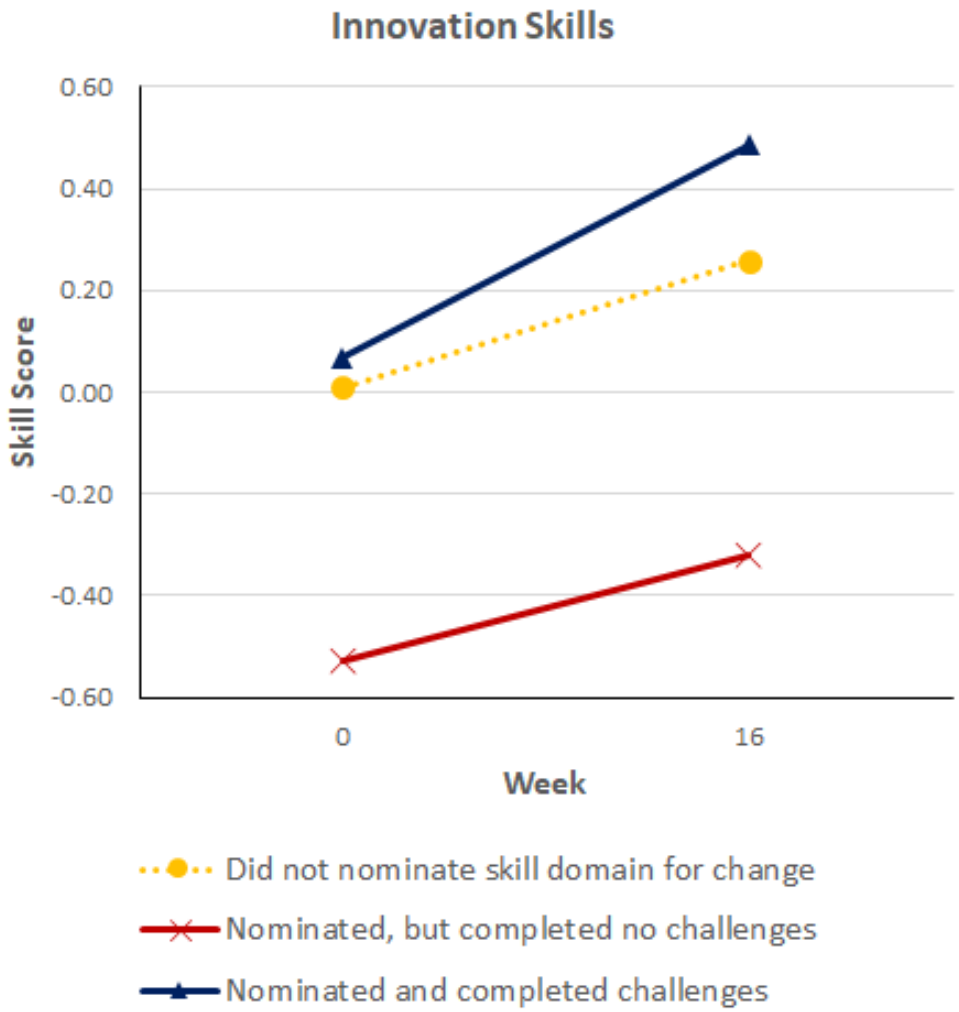




Soto, Hudson, Napolitano, Sewell, Yoon, & Roberts (in prep)

Volitional development of SEB skills: Social engagement and innovation





Soto, Hudson, Napolitano, Sewell, Yoon, & Roberts (in prep)

Development of traits and skills: What can we conclude?

- **Question:** Do mean-level age trends for SEB skills parallel personality traits?
  - Yes, in adolescence.
  - Don't know about younger and older ages (yet).

- **Question:** Do SEB skills show greater individual differences in change than personality traits?
  - Yes, maybe skills are more malleable than traits.

- **Hypothesis:** People can intentionally improve their SEB skills through practice and feedback.
  - Yes, for at least four skill domains.
  - Bigger effects on skills than traits.

Part 3

Outcomes of traits and skills

Outcomes of traits and skills: What should we expect?

- **Hypothesis:** Cross-sectionally, SEB skills will relate with consequential outcomes.
  - Including social relationships, academics, health, and well-being.
- **Hypothesis:** Longitudinally, *changes* in SEB skills will relate with *changes* in outcomes.
  - Due to the malleability of skills and effects of improving them.
- **Question:** Will skills provide incremental validity over traits for predicting outcomes?
  - Maybe no, due to similar behavioral content.
  - Maybe yes, due to the difference between capacities and tendencies.

Skills predict life outcomes

Standardized regression coefficients	Self-Management	Social Engagement	Cooperation Skills	Emotional Resilience	Innovation Skills
School GPA	.45				
Academic engagement	.62			.15	
Investigative interests					.25
Artistic interests					.63
Social interests			.21		
Enterprising interests		.23			
Social status		.44		.18	
Friendship quality		.15	.34		
Parent relation. quality	.34				
Exercise		.43			
Life satisfaction	.18	.16		.30	

Soto, Napolitano, Sewell, Yoon, & Roberts (2022, *JPSP*)

So do naturally occurring skill ***changes***

Pre-registered hypothesized latent change correlations between SEB skills and related psychological constructs

	Self-management	Social engagement	Cooperation	Emotional resilience	Innovation
Correlated change T1/T3: 22/29 (76%) hypotheses supported					
SECA Self-management	.29***				
SECA Resp. Decision making	.13***				
SECA Relationship skills		.08*	.22***		
SECA Self-awareness			.33***	.37***	
SECA Social awareness					
Realistic interests				.02	
Investigative interests					.17***
Artistic interests			.03		.13***
Social interests			.10**		
Enterprising interests		.09**			
Conventional interests	.01				
Grades	01				
B. Acad. Engagement	.24***			.05	
E. Acad. Engagement	.18***			.16***	
Life Satisfaction	.13***	.17***		.26***	
Peer Acceptance		.00	-.07*		
Friendship quality		.25***	.25***		
Anxiety		-.02		-.22***	
Depression		-.27***		-.29***	

Note. All factors scores derive from models controlling for participant gender and grade.

Napolitano, Soto, Sewell, Yoon, & Roberts (under revision)

And so do ***volitional*** skill changes

Change correlations	Self-Management	Social Engagement	Cooperation Skills	Emotional Resilience	Innovation Skills
Academic engagement	.25			.17	
Social status		.16	.13		
Friendship quality			.21		
Civic engagement	.27	.35			.36
Exercise		.10			
Physical health				.15	
Mental health				.33	
Affective well-being				.32	
Life satisfaction		.13		.18	

Soto, Hudson, Napolitano, Sewell, Yoon, & Roberts (in prep)

And skills provide (modest) incremental validity over traits

- Soto, Napolitano, et al. (2024, *SPPS*)
  - Occupational interests, peer acceptance, relationship quality, civic engagement, subjective well-being
  - Average ΔR^2 = .06
- Soto et al., (2023, *JRP*); Yoon et al. (2024, *PLoS*)
  - ACT standardized test performance, ΔR^2 = .01 to .06
- Ringwald, Napolitano, et al. (psyarxiv.com/d2z5b/)
  - Response surface analysis of skill-trait mismatches
  - High skill levels (relative to trait levels) predict greater academic engagement, civic values, relationship quality, and life satisfaction.

Outcomes of traits and skills: What can we conclude?

- **Hypothesis:** Cross-sectionally, SEB skills will relate with consequential outcomes.
  - Yep.
- **Hypothesis:** Longitudinally, *changes* in SEB skills will relate with *changes* in outcomes.
  - Yep.
- **Question:** Will skills provide incremental validity over traits for predicting outcomes?
  - Yes, but modestly.

Final thoughts

So… How is a trait (not) like a skill?

- Key similarities
  - Five (or so) major domains
  - Mean-level dips in adolescence
  - Volitional change is possible
  - Predict important outcomes

- Key differences
  - Conceptualization and assessment of what someone ***tends to do*** vs. ***can do when needed***
  - Self-management is the most prominent skill domain
  - Skills show greater individual differences in change
  - Sometimes show differential prediction

Open questions about skills and traits

- What's the developmental relationship between skills and traits?
  - Skills beget traits?
  - Traits beget skills?
- Do traits and skills best predict different outcomes?
  - Traits and gradually accumulating outcomes?
  - Skills and high-stakes situations?
- Are skills more malleable and teachable than traits?
  - Volitional change
  - Targeted interventions

Should personality psychologists study skills or traits?

- Yes.

- Key advantages of studying traits
  - We know a lot about them from the past ~100 years.
    - "If it ain't broke, don't fix it."
  - They are less obviously evaluative than skills.

- Key advantages of studying skills
  - There are a lot more open questions to answer.
  - Appealing to practitioners and policy makers.
    - "All the validity of traits, but none of the baggage."

To learn more…

- BESSI freely available for research use at sebskills.com.
  - Short forms (96, 45, and 20 items).
  - Translations (German, Italian, Spanish, and counting).
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To learn more…

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christopher.soto@colby.edu
http://sebskills.com