

Systems Intelligence Inventory

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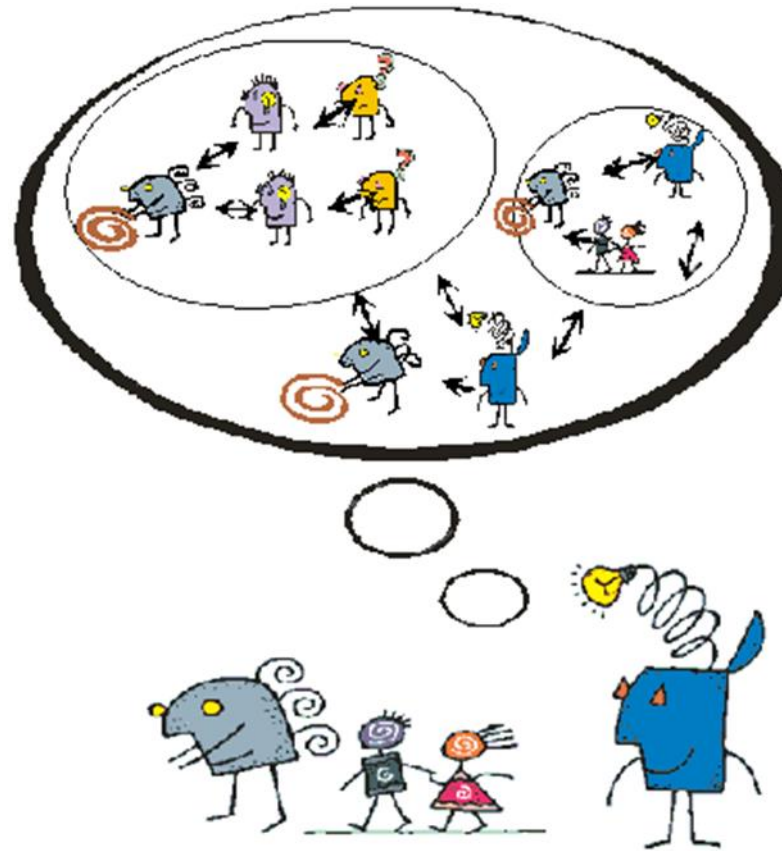
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Starting point: Thinking about thinking



We live in systems

- **We always live and act as a part of a whole** with interactions **i.e. a system** (family, school, work, community, etc.)
- We cannot avoid the influence of the system on us and our influence on the systems and stay outside of it

Systems Intelligence (SI)

- Intelligent behaviour in the context of complex systems involving interaction, dynamics and feedback
- **Acting as part of the system, trying to understand and look for constructive ways from within the system**

Saarinen, E. and Hämmäläinen, R. P. 2004. Connecting Engineering Thinking with Human Sensitivity. *Systems Intelligence*, pp. 9-37

SI research in different contexts

- Articles and theses
 - Systems Thinking
 - Communication
 - Leadership
 - Positive organizational scholarship
 - Psychoanalytic therapy
 - Mother – child interaction
 - SI in conflict resolution



Can I improve in SI?

The SI self-test

- SI Inventory is a self-report questionnaire:
 - 50 questions/items
 - 7-point scale from “never” to “always”
 - Takes 5 to 10 minutes
 - Results compared to distribution of scores of over 2000 participants
- Questionnaire is available on the web in English and Finnish: <http://systemsintelligence.aalto.fi/>

Some of the questions

I quickly get a sense of what matters

I critically evaluate my ways of thinking

I view things from many different perspectives

I praise people for their achievements

I am willing to take advice

I successfully manage problematic situations

Studies

- Study 1: Developing the inventory and testing
 - Students, public and private employees
 - Identification of SI factors with exploratory analysis
 - Validation of the resulting inventory with confirmatory analysis
- Study 2: Comparison of the results to Emotional Intelligence and the Five Factor Model of personality

Results

- Confirmed the existence of the eight factors of Systems Intelligence
- Some factors are correlated with Emotional Intelligence, some are related to other personality traits
- The SI Inventory is capable of measuring new skills over the other measurements

Factors of SI

Perceiving

Systemic Perception

Attunement

Attitude

Positive Attitude

Spirited Discovery

Thinking

Reflection

Wise Action

Acting

Positive Engagement

Effective Responsiveness

Perceiving

- **Systemic Perception**

Seeing, identifying and recognising systems, patterns, and interconnections, having situational awareness

- **Attunement**

Engaging intersubjectively, being present, mindful, situationally sensitive and open

Attitude

- **Positive Attitude**

Keeping a positive outlook, not getting stuck on negative impressions and effects

- **Spirited Discovery**

Engaging with new ideas, embracing change

Thinking

- **Reflection**

Reflecting upon one's thinking and actions, challenging one's own behaviour

- **Wise Action**

Exercising long-term thinking and realising its implications, understanding that consequences may take time to develop

Acting

- **Positive Engagement**

Taking systemic leverage points and means successfully into action **with people**

- **Effective Responsiveness**

Taking systemic leverage points and means successfully into action **with the environment**, being able to dance with systems

Personal SI results

Your style

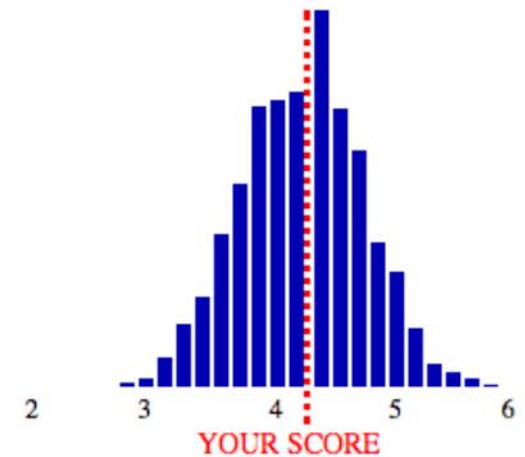
Based on your answers, it seems that your strengths include

- **Wisdom:** You can face things maturely and consider your actions.
- **Reflection:** You are able to analyze your own thinking and acting. This is a remarkable strength of yours.
- **Attunement:** You have an open mind. You listen and understand other people.

If you're interested in developing yourself, here are a couple of suggestions:

- **Engagement with People:** Show more interest towards people and their doings. Ask, listen, praise and cheer!
- **Effective Responsiveness:** Think what would be the real solution in difficult situations and take/seize the challenge.

Distribution of SI scores among people who have completed this self-evaluation



Who is high in SI?

- How do different groups of people differ:
 - Males versus females?
 - Young people (<30y) versus older people (>30y)?
 - Managers versus non-managers?

Gender: Little difference

Factor	Male	Female	Sig. ¹
Systemic Perception	4.33	4.19	*
Attunement	4.28	4.52	***
Positive Attitude	3.62	3.46	**
Spirited Discovery	4.14	4.14	
Reflection	4.25	4.33	
Wise Action	4.24	3.97	***
Positive Engagement	3.76	3.97	*
Effective Responsiveness	4.16	4.29	

¹ Mann-Whitney U test statistical significance values:

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Age improves your SI

Factor	<30 years old	>30 years old	Sig. ¹
Systemic Perception	4.21	4.38	**
Attunement	4.34	4.50	*
Positive Attitude	3.48	3.72	**
Spirited Discovery	4.06	4.34	***
Reflection	4.22	4.44	**
Wise Action	4.08	4.19	
Positive Engagement	3.75	4.11	***
Effective Responsiveness	4.16	4.37	**

¹ Mann-Whitney U test statistical significance values:

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Are managers high in SI?

Factor	Manages	Non-managers	Sig. ¹
Systemic Perception	4.51	4.26	***
Attunement	4.77	4.66	*
Positive Attitude	3.97	3.79	*
Spirited Discovery	4.43	4.24	**
Reflection	4.46	4.20	***
Wise Action	4.43	4.24	*
Positive Engagement	4.44	4.07	***
Effective Responsiveness	4.72	4.52	***

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Future research

- How does the context affect the results?
 - Do people evaluate themselves differently in their personal life compared to their professional life?
- How to improve one's systems intelligence in different environments
 - Leadership, schools, and everyday life
- SI as a tool for developing/evaluating social innovations and technology?

SI web site

<http://systemsintelligence.aalto.fi/>

- Papers and publications
- Link to the questionnaire

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