WHAT ARE VALUES IN PUBLIC HEALTH?

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Outline

1. Values
2. Value maps
3. Emotions
4. Vaccinations
5. Objective values
Need for Values in Public Health

1. Policies about health care
2. Health care expenditures
3. Education about health practices
4. Professional behaviors
What are Values?

3-analysis

Exemplars: health, education, science, human rights, integrity, creativity...

Typical features: positive feelings, lead to action, influence judgments,

Explains: judgments, behaviors

Explained by: ?

Theories of Values

1. Preferences?
2. Abstract ideas?
3. Subjective opinions?
4. Values are mental processes that combine cognitions and emotions in the brain. Values are semantic pointers. Values operate in systems that can be mapped.
Cognitive-Affective Maps

New kind of concept map that represents values and emotions.

Nodes represent concepts and objects.
- Positive: green ovals
- Negative: red hexagons
- Neutral: yellow rectangles

Lines represent mutual support (solid) or incompatibility (dotted).
Cognitive-Affective Maps

- Positive element
- Neutral element
- Mutual support
- Strongly positive element
- Incompatibility
- Negative element
Value Map: Public Health

- health
- improve delivery
- scientific research
- education
- prevention
- collective action
- human right
- protect vulnerable
- disease
Theories of Emotion

1. Emotion is a property of non-material souls.

2. Emotion is cognitive appraisal (Nussbaum, Ortony, Scherer, etc.).

3. Emotion is physiological perception & embodiment (James, Damasio, Prinz, Niedenthal, etc.).

4. Emotion is social/linguistic construction (Harre, etc.).
5. Emotions are Semantic Pointers

Emotion = bind (concept or belief, cognitive appraisal, physiological perception)

Example: being happy to be in Barcelona = bind (Barcelona, appraisal, physiology)

Concepts, beliefs, appraisal, and physiology are all patterns of neural firing.

Binding is by convolution as performed in the Semantic Pointer Architecture.

The New Synthesis

Thesis (1950s): Intelligence results from the processing of physical symbols (Herbert Simon, traditional AI, ACT).

Antithesis (1980s): Intelligence results from sub-symbolic processes in neural networks, operating with distributed representations.

Synthesis: Neural networks are capable of symbolic processes, using semantic pointers.

Semantic Pointers (Eliasmith 2013)

Semantic pointers are patterns of neural firing that:

1. provide shallow meaning through symbol-like relations to the world and other representations;
2. expand to provide deeper meaning with relations to perceptual, motor, and emotional information;
3. support complex syntactic operations;
4. help to control the flow of information through a cognitive system to accomplish its goals.
Thagard & Schröder, 2014.
Values are Semantic Pointers

Value = bind (concept or belief, cognitive appraisal, physiological perception)

Example: valuing health = bind (health, appraisal, physiology)

Result: health is part of a system of values that provides the basis for personal decisions that fit with your own values and needs.
Vaccination Debates

1. Should children be vaccinated?

2. Should parents be required to vaccinate their children?

3. How can parents be educated concerning the values of vaccines?
Vaccination Skeptics

- Pharmacy companies
- Scientific research
- Personal experience
- Alternative treatments
- Health
- Vaccines
- Side effects
- Dangerous chemicals
- Autism
- Disease
Vaccination Defenders

- health
  - promote
  - vaccines
  - scientific research
  - protect

- disease

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Social Cognitive-Emotional Workup of Vaccination: A

Concepts and values: vaccination, virus, medicine

Images: pictures

Beliefs: vaccines are untested and cause illnesses

Rules: vaccinate -> sick child

Multimodal rules, e.g. <shot> -> <hurt>
Social Cognitive-Emotional Workup of Vaccination: B

Analogies: Vaccines are time bombs.

Emotions: fear, hope, pride

Inferences: coherence, motivated, fear-driven

Communication: transfer and instillation of semantic pointers
Emotional Communication

Mirror neurons
Emotional contagion via mimicry
Attachment-based learning
Empathy and emotional analogy
Altruism and sympathy
Emotional cuing, e.g. anger -> guilt
Power: provide something desired, or threaten something feared
Propaganda, advertising
Vaccination Education

Communication transfers emotional values, not just facts.
Communication is nonverbal (facial expressions, body language, tone of voice, images), not just words.
Sources of Objectivity

1. A priori, necessary truths

2. Happiness

3. Needs
   a. Biological: water, food, shelter, medical
   b. Social: relatedness, competence, autonomy

Values are objective if their appraisals are based on biological and social needs.

Thagard 2010: *The Brain and the Meaning of Life.*
Conclusions

1. Values are brain processes that integrate cognition and emotion.
2. Values form coherent systems that can be mapped.
3. Education about vaccinations is emotional as well as cognitive.
4. Values can be objective if based on needs.