

Free Will and the Future

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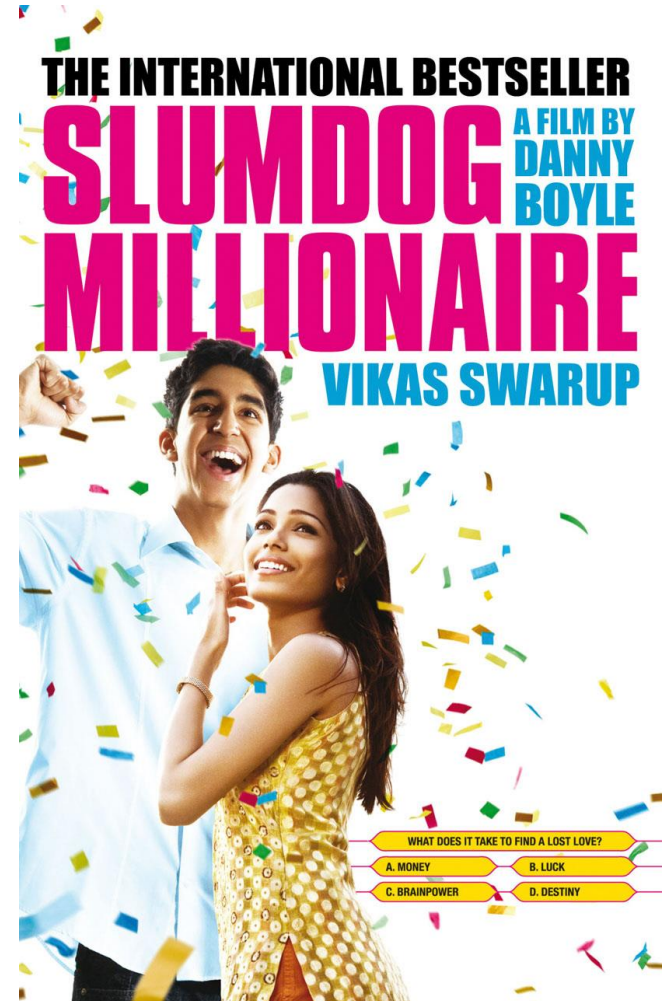
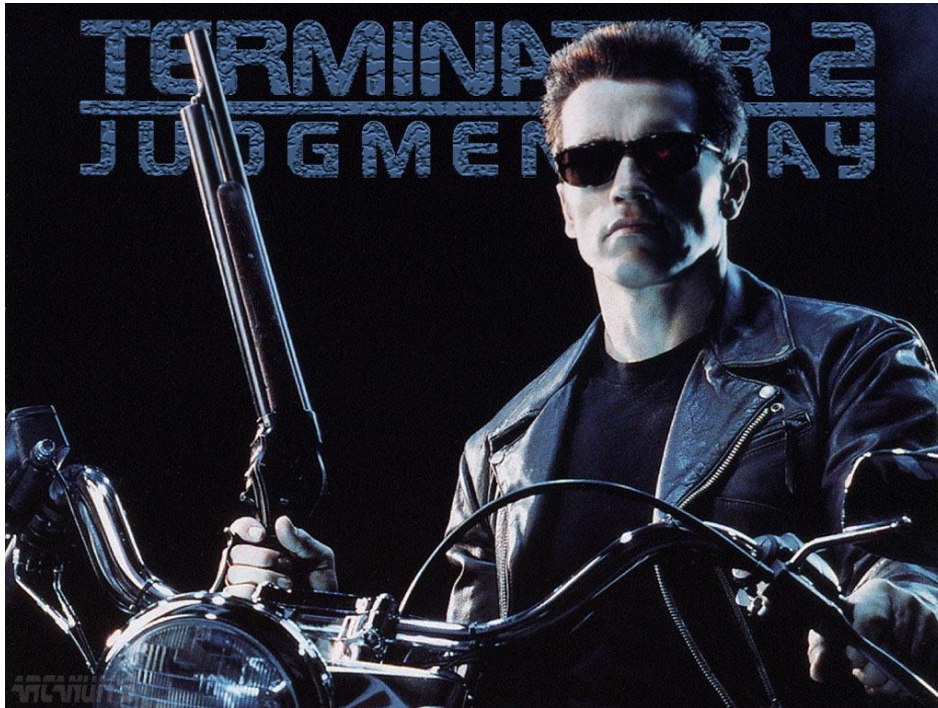
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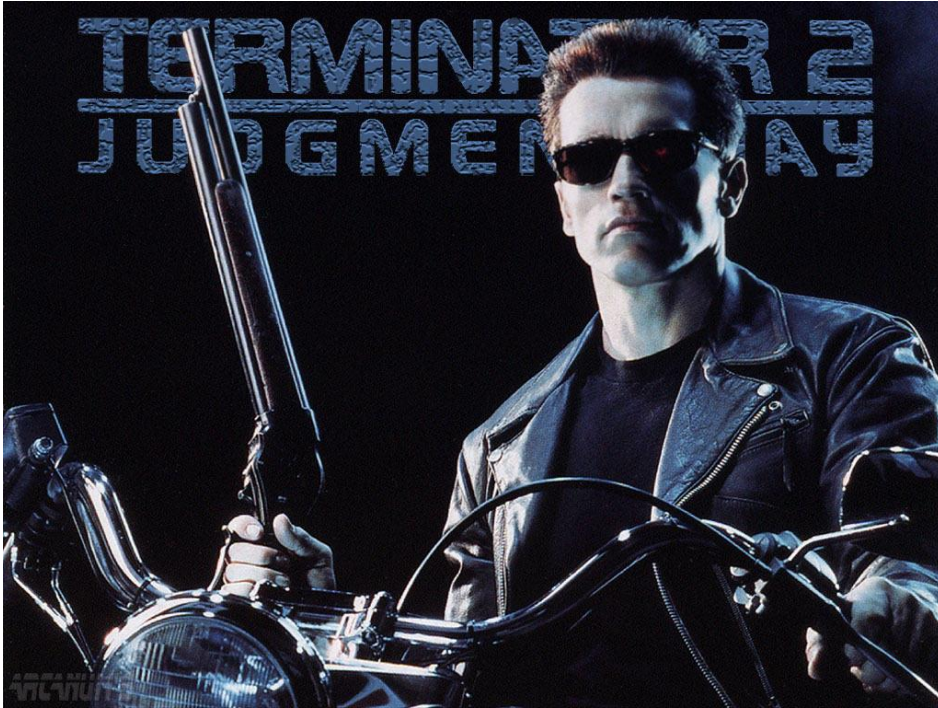
How Shall We Think of the Future?

- Two different visions
 - One, the unfolding of inevitable, pre-determined events
 - Two, as *possibilities*
 - Are more things possible than actually happen?

Slumdog Vs. Terminator



Slumdog Vs. Terminator

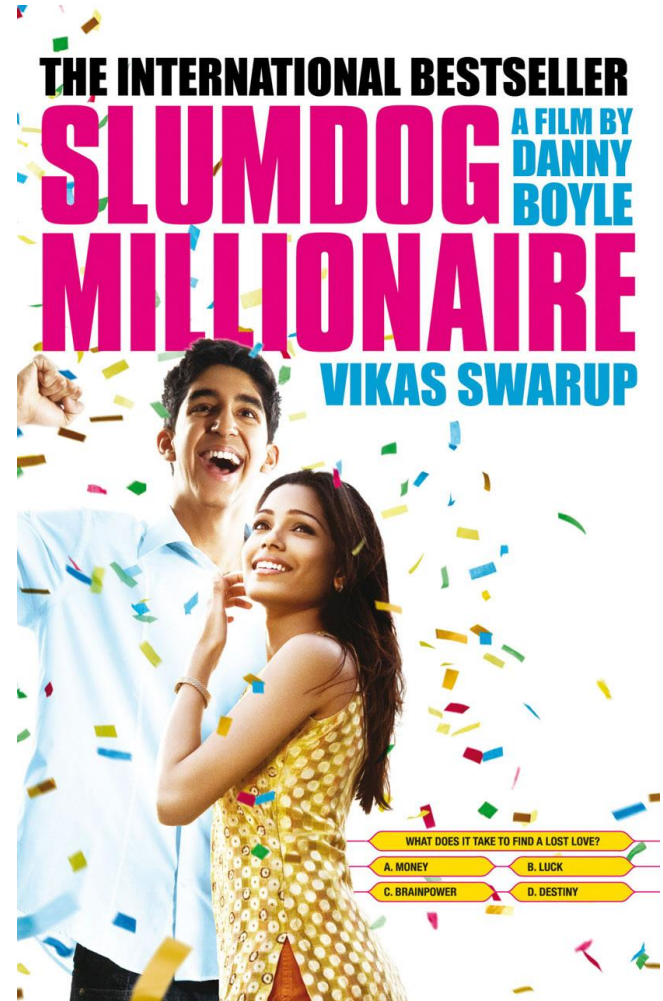


- “There is no fate but what we make for ourselves”

Slumdog Vs. Terminator

“Question: How did he do it? (A) He cheated. (B) He is lucky. (C) He’s a genius. (D) It is written”

Answer: D



Different Visions of the Future

- Many possibilities, paths leading in different directions, choices
- OR
- Everything is **determined** in advance, and there is only one possible future
- *The first offers much scope for free will; the second, not so much*

Determinism

- Pierre Simon LaPlace (1749-1827)
- If we could know the precise situation of every particle in the universe now, plus all the laws of nature, we could calculate the future with complete accuracy and precision
- Thus, there is only one possible future, and it is already *determined*

Debating Free Will... But What Is It?

- Exemption from causality ?
- Souls/minds causing behavior ?
- Decide on your own ?
 - Acting against external pressure ?
- Morally responsible choices ?
- Legal, political freedom?

The Classic (but Wrong?) Debate: Determinism Vs. Free Will

- Determinism is the view that causal principles of “laws of nature” make one single future path inevitable
- Some say, because everything has a cause, there can be no free will
- But causality is not the problem
- There are many kinds of causes, and free will could be just one more
- Also psychology’s causes are probabilistic, not deterministic

Uselessness of Determinism

(Causal Inevitability: Only One Possible Future)

- Unworkable as basis for psychological theory, for understanding mind and behavior
- Psychological phenomena involve multiple possible alternatives...

Might Happen *and* Might Not Happen

- Essential to human psychology: many phenomena & processes are based on multiple possibilities
- (Assuming multiple possible futures violates determinism)

Things That Might Happen Yet Might *Not* Happen

- Threat, danger, opportunity, affordance
- Success, failure, competition
- Choice among alternatives, control
- Moral judgment, responsibility
- Contingencies, planning, revising
- Negotiation, compromise
- Promise, obligation, commitment

Death, the Inevitable Future?

- Some theories say most psychology, even most human activity, is affected by knowing that we will all die, inevitably
- But people hardly ever think about that
- In contrast, a particular threat of dying will attract much thinking
 - *Might die but might not*
 - *Pragmatic thinking: to avoid dying*

Uselessness of Determinism *cont'd*

- Unworkable as basis for understanding mind
- Psychological phenomena involve multiple possible alternatives
- **Situation structure** contains possibilities
- **Agency, control, choice** inherently based on multiple possibilities

Uselessness of Determinism

- ALSO determinism is unworkable as basis for living daily life:
- The purpose of thinking about the future is pragmatic
 - Plan what to do
 - Prepare for what is coming
 - Adjust ourselves to future events

- “We cannot choose to act as if we have no choice.”

-- J. Sherman

- The human psyche is in part something that makes choices
- Human choosing is different and more advanced than what other apes do
- We can understand free will as being what is special & different about human choosing

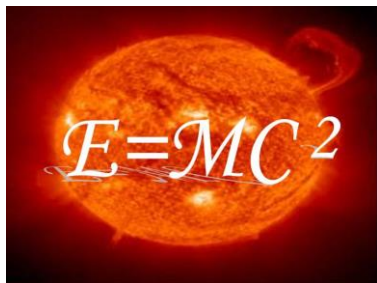
Social Scientist's Task(s) for Understanding Free Will

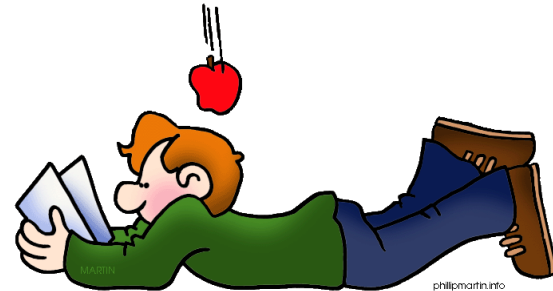
- Explain how (and why) humans developed new form of action control
- Explain how people behave in situations that have multiple possible outcomes

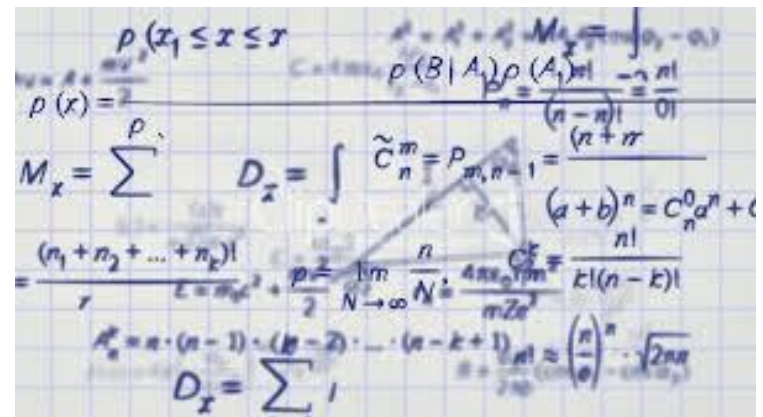
Anderson: More is Different

- Can everything ultimately be explained by the laws of physics?

$$\mathbf{F=MA}$$


$$E=MC^2$$





Handwritten mathematical formulas including:

- $p(x_1 \leq x \leq x)$
- $p(x) = \frac{p}{2}$
- $M_x = \sum p_i$
- $D_x = \int \tilde{C}_n^m = p_{m,n-1} = \frac{(n-n)!}{(n+n)!} \frac{1}{0!}$
- $(a+b)^n = C_n^0 a^n + \dots$
- $\frac{(n_1+n_2+\dots+n_k)!}{r} = \frac{p}{2} \frac{1}{N} \frac{n}{N \rightarrow \infty} \frac{4\pi n_0}{nZe^2} \frac{1}{n^2}$
- $A_n^k = n \cdot (n-1) \cdot (n-2) \cdot \dots \cdot (n-k+1) \cdot n! \approx \left(\frac{n}{e}\right)^n \cdot \sqrt{2\pi n}$
- $D_x = \sum 1$

Anderson: More is Different

- Can everything ultimately be explained by the laws of physics?
- ***No !***

Anderson: More is Different

- Can everything ultimately be explained by the laws of physics?
- **No !**
- Nothing can violate them.
- But there are other causes that work with and through them.

Anderson: More is Different

- Economics, Sociology
- Psychology
- Physiology
- Biology
- Chemistry
- Physics

*“There are only molecules.
Everything else is sociology.”*

- James Watson



Chemicals: Atoms / Molecules

Oxygen

Carbon

Hydrogen

Nitrogen

Calcium

Phosphorus

Potassium

Sulfur

Sodium

Magnesium

Copper, Zinc, Selenium, Molybdenum, Fluorine, Chlorine, Iodine, Manganese, Cobalt, Iron, Lithium, Strontium, Aluminum, Lead, Vanadium, Arsenic, Bromine

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*Copper, Zinc, Selenium, Molybdenum, Fluorine,
Iron, Lithium, Strontium, Aluminum, Lead, Vanadium*



Cobalt,

Scientific Theory of Free Will...

- Causal
- Not supernatural
- Consistent with evolution
- All or nothing?

Not All or Nothing

- Some acts are freer than others
- Individual capacity fluctuates
 - *Evolution used the body's energy to produce free will*

In (Psychological) Practice, What is Free Will?

- Self-control
- Decision making
- Initiative (active rather than passive behavior)

Free Will

- As a high level of self-organization
- Action based on ideas, meanings
 - *Including ideas about the future*
- Autonomy
- Responsibility

Evolution of Free Will



Complex Decisions



What Free Will Evolved for

- Natural selection as success at survival & reproduction
- Humankind's **unusual** strategy

What Makes Us Human?

- *The distinctively human traits are those designed to enable us to create, sustain, and function in **culture***

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What Makes Us Human?

- *The distinctively human traits are those designed to enable us to create, sustain, and function in **culture***
 - E.g., evolved capabilities for language
 - And so free will !

Animal Behavior

- Stuck in time
 - *Here and now*
- Respond to immediate stimulus
- Instincts, inner drives, reinforcement history
 - *Relatively little executive function*
- ...Unsuitable for culture





Nurse Liesl and Doctor Guenther

ATGATT





Human Behavior

- Behavior can be natural
- Or cultural
- (or both)
- To act culturally is to be free of the *natural* response patterns
 - *Natural impulse versus civilized restraint*
 - *Focus of social & legal responsibilities*

Evolution of Action Control

- Plant vs. animal life
 - *Brains*
- Animal behavior: classical vs. operant conditioning
 - *Fixed vs. voluntary behavior*
- Human agency (“free will”)
 - *Socially meaningful reasons*
 - Acting based on ideas !
 - *Cultural animals*
 - *Base action on future, not past*

Evolution of Free Will

- For functioning in culture
- Payoff: improved survival, reproduction
 - Because of cultural environment
- Free from Skinnerian, Pavlovian laws of stimulus-bound behavior
 - *Freedom is partial at best*
- Cultural system can function only if people cooperate to some degree
 - *Free will is for following rules!*

*Free will
is for following
rules!*

*(Free will is for enabling
individual animals to pursue
enlightened self-interest in
a social environment with
many rules.)*

Causality is not the center of the free will problem

- **Responsible autonomy** is what society needs, for social systems to function
- **Autonomy** = self-government
 - Take care of yourself, make choices as a single being
- **Responsibility** = understand and accept consequences of your actions
 - Can operate within rules of social system

Causality is not the issue

- **Responsible autonomy** is what society needs, for social systems (culture) to function
- New form of agency required, different from other animals
 - Moral agent
 - Economic agent
 - Information agent
- How did that emerge?

What about the Future?

- Free will assumes multiple possible futures
- Need to predict possibilities, sequences, consequences

Experience Sampling Study



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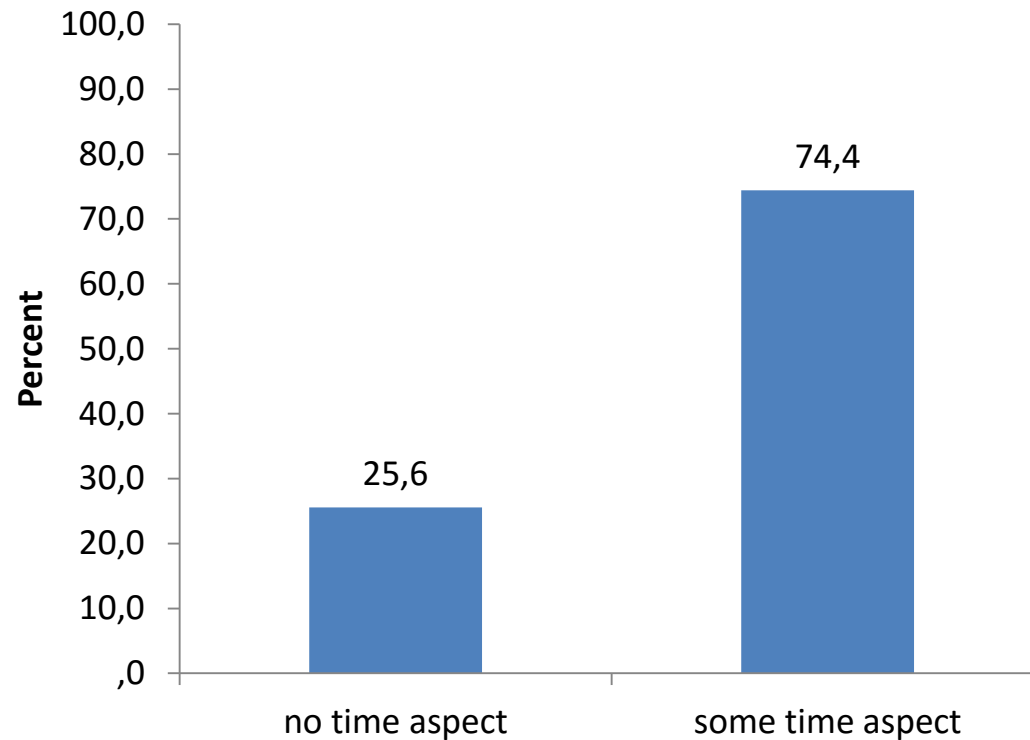
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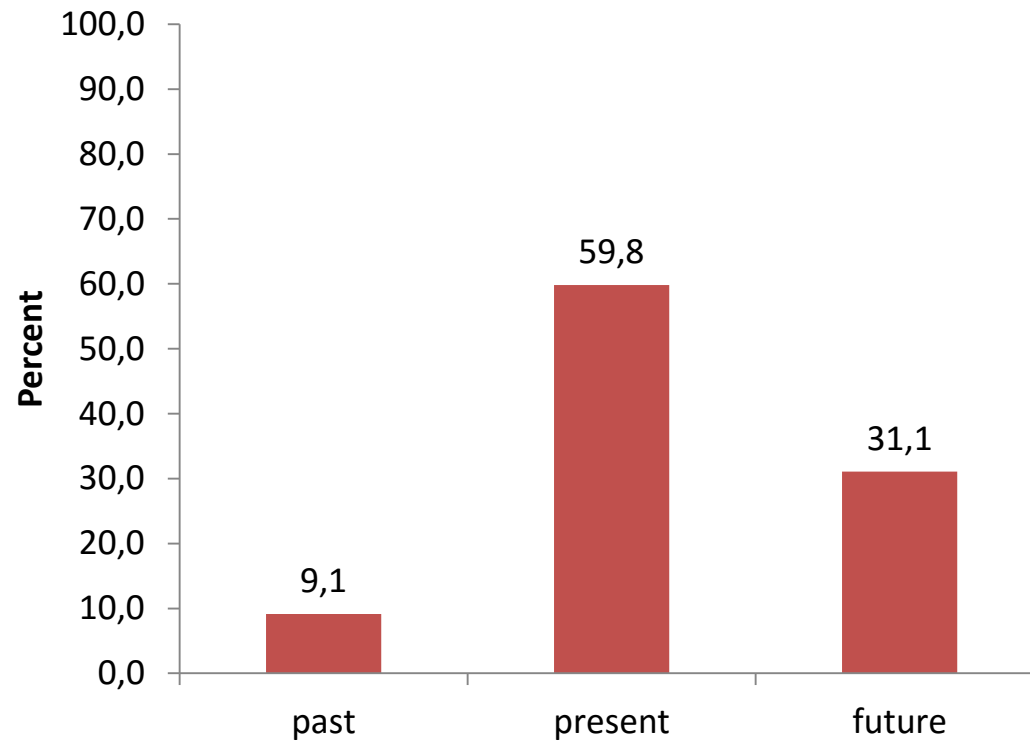
GREGORY

③

Whether thoughts have time aspect



Within Thoughts that Invoke Time



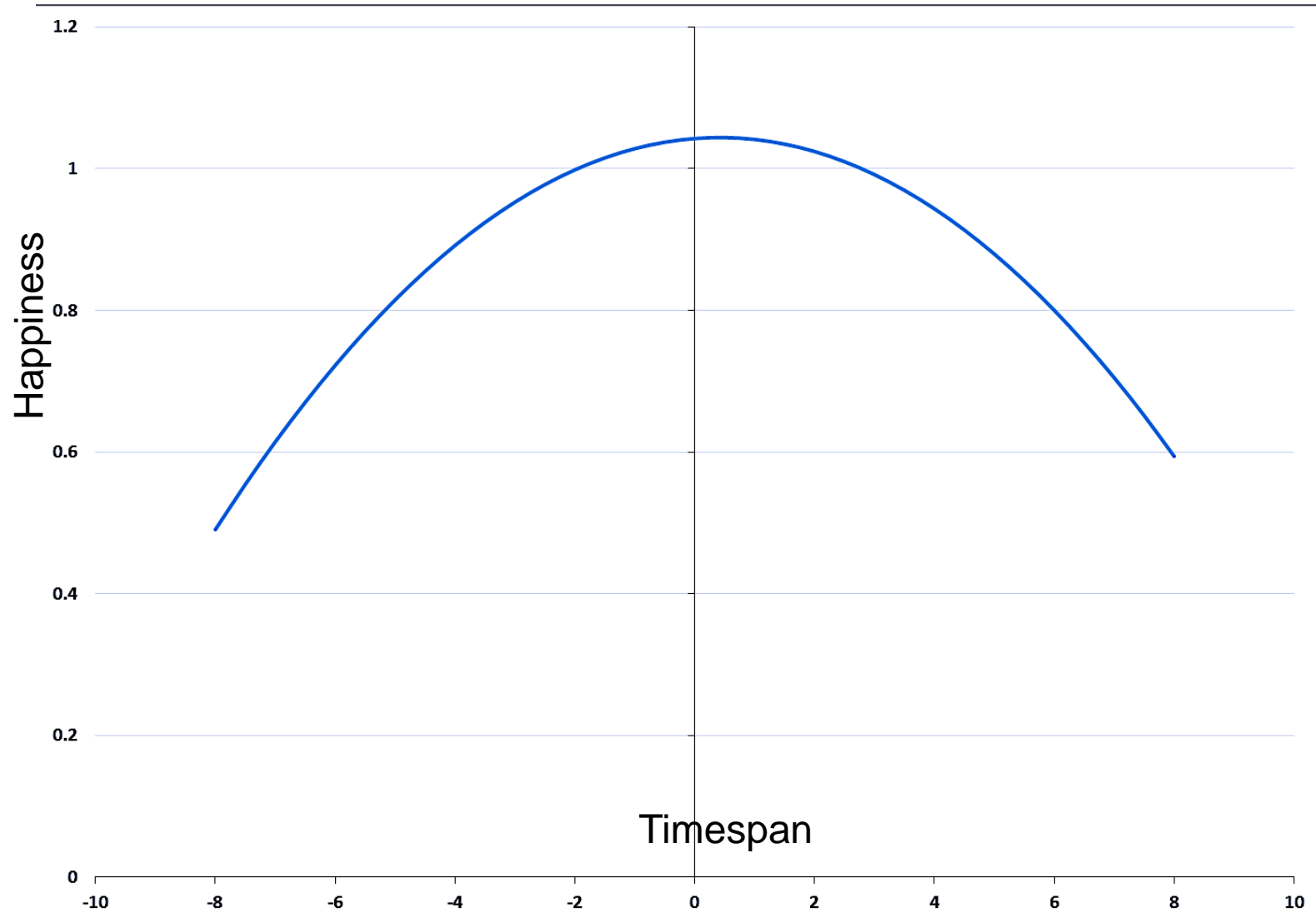
Most Frequent Thoughts about Past

- **#1 = Implications of past for the future**
- Trying to understand
- Replaying over and over

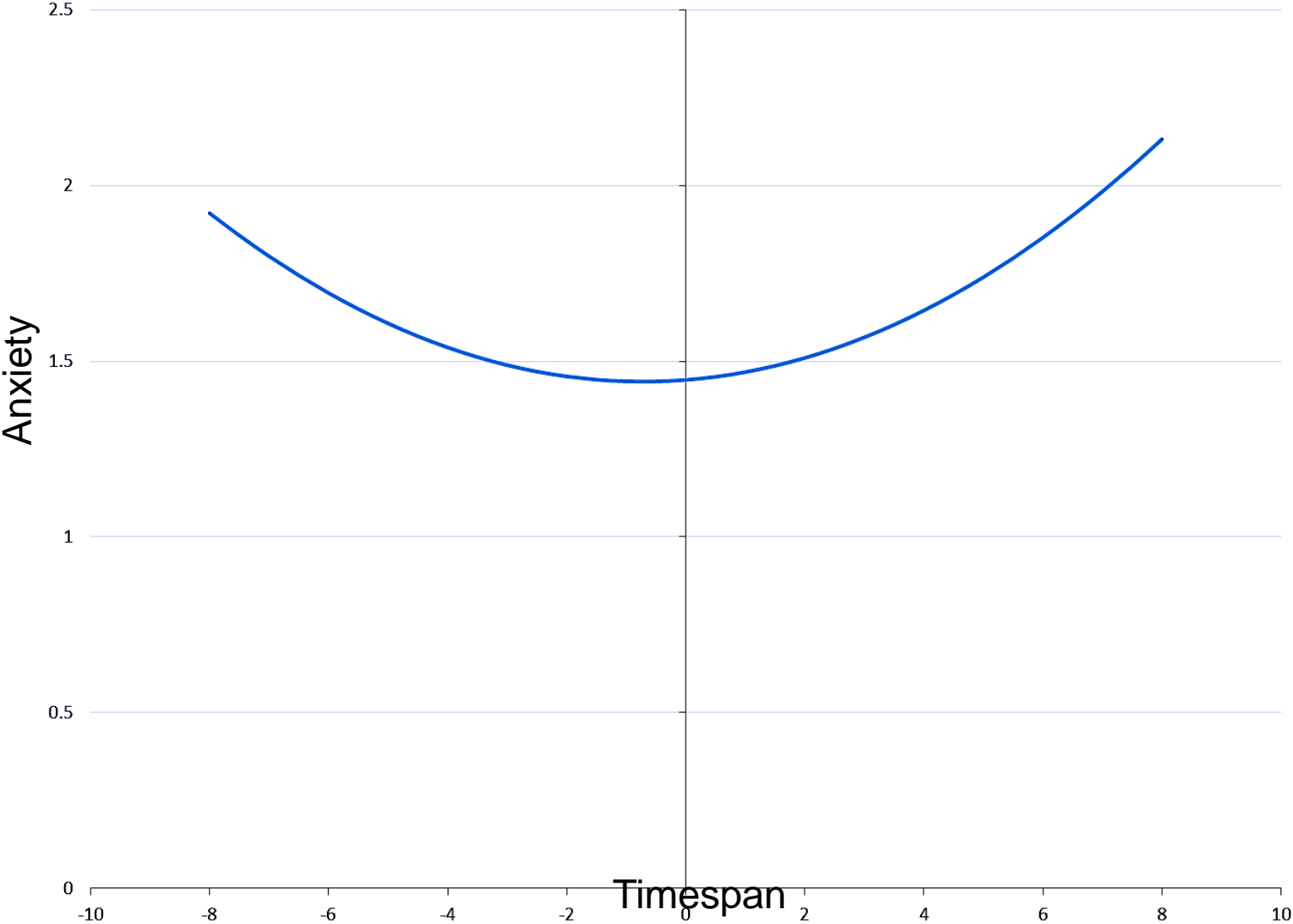
Most frequent thoughts about Future

- **#1 = Planning**
- What I will do, should do, hope to do
- Wondering what will happen, hope will happen
- What should happen

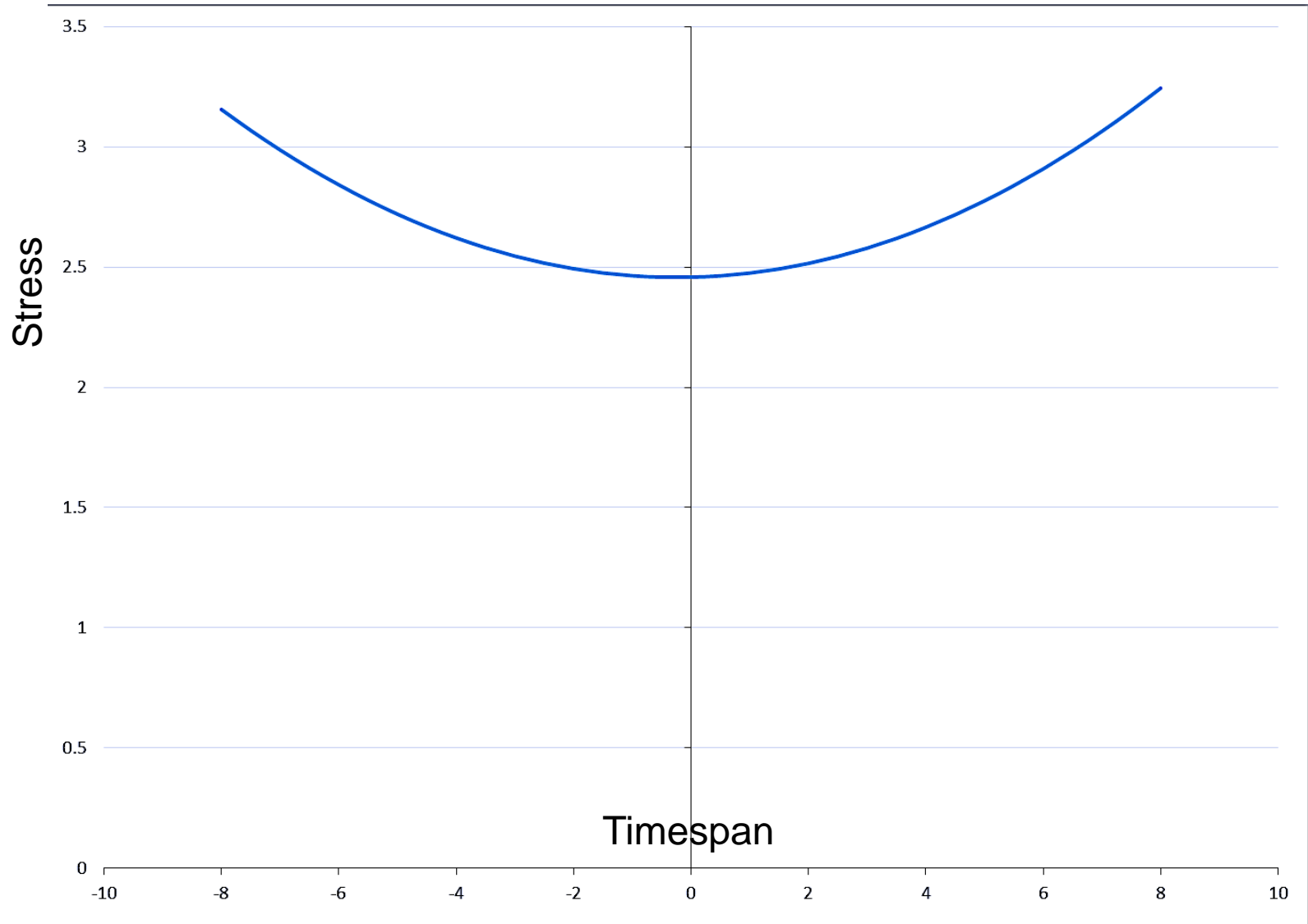
HAPPINESS



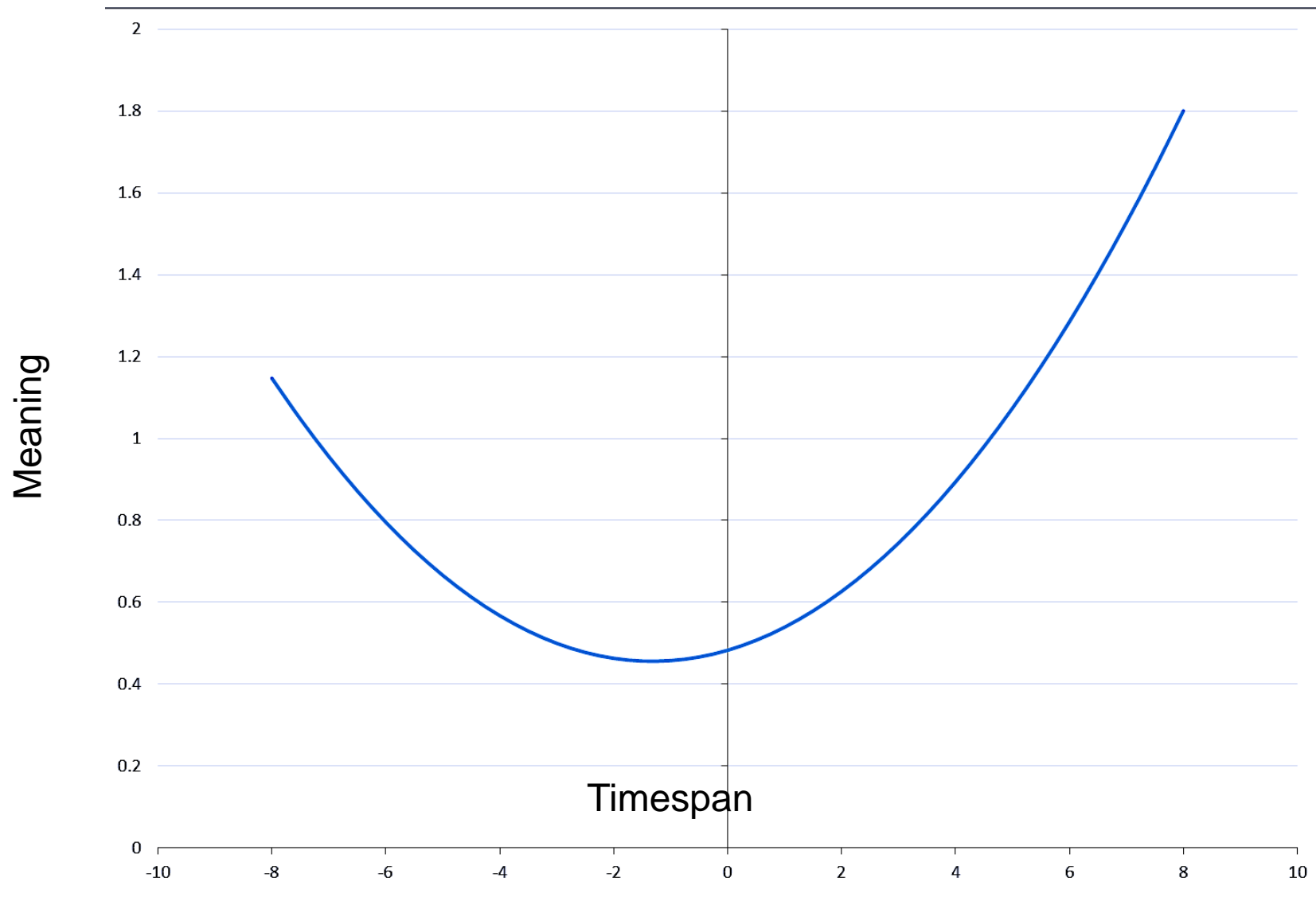
ANXIETY



STRESS

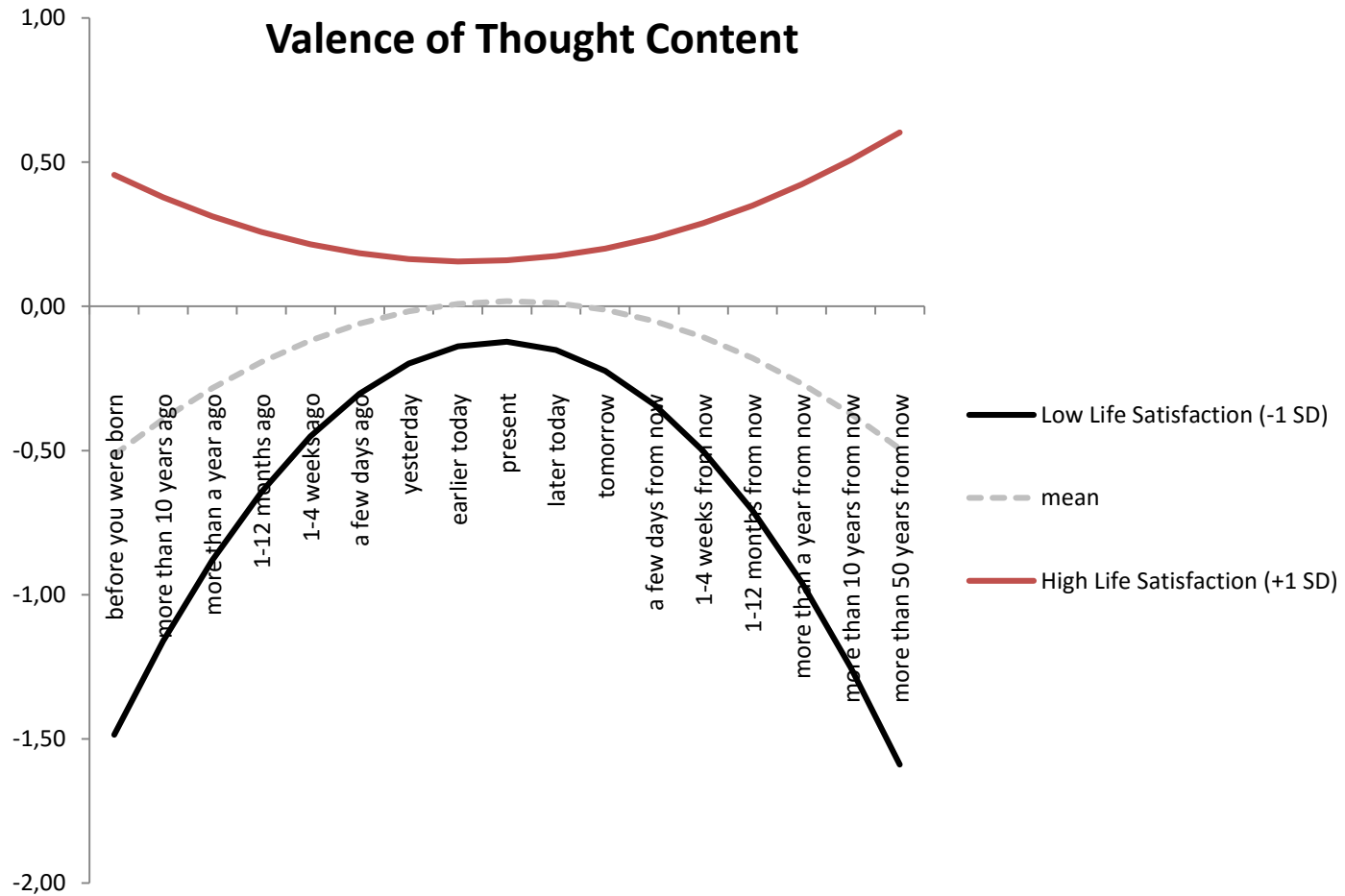


MEANINGFUL



- Happiness: here and now
- Meaningfulness: Future, past
 - Connecting past, present, future
- Control over thoughts: Future, present more than past

Life satisfaction and good/bad thoughts



Conclusion: Free Will and the Future

- Terminator, not Slumdog
- Free will as complex organization
- Evolved for life in cultural society
- Base present action on ideas (*meanings*) that involve future

THE END

The Reality Behind the Idea:

- Self-control
- Decision making
- Initiative
- ...Common underlying energy resource, fluctuating availability

Believing in Free Will Causes...

- Greater honesty, less cheating
- Less aggression
- Think for self
- Reflect on own actions
- Learn from own mistakes, 'moral'
- More grateful
- More recycling, helping, other prosocial

Implication

- Cultures believe in free will because that belief is useful, helpful for culture
 - *It improves human cooperation & relations*

Free Will as Another Kind of Cause

- There are many, many kinds of causes
 - Free will is just another kind
- Issue is whether person was able to act properly, with responsible autonomy
- Must be able to take care of self within the rules
- Autonomy within system constraints
 - Cf. games

Roots of Belief in Free Will

- Experiments: belief in free increases when other people misbehave

Twilight of the Idols, Friedrich Nietzsche

“Men were considered ‘free’ so
that they might be judged and
punished...”