

Why don't people reason well from good evidence?

- We mistake poor evidence as good evidence.
- We ignore good evidence (even when it's available).
- We fail to proportion our beliefs to the evidence.
- Humans are a PECULIAR bunch...
 - we're distracted, forgetful, emotional.
 - we avoid risk and loss and the unknown.
 - we're committed to justice, fairness, morality.
- While we are capable of making rational decisions, we make systematic "mistakes" that undermine our decision-making and (potentially) our quality of life.



Homo Economicus

Perfectly rational, self-interested agent who possesses (and remembers!) each and every relevant consideration when making decisions.



Homer Simpson

Perfectly irrational, doughnut-motivated, beer-seeking, responsibility-averse, proudly ignorant, anti-intellectual, and yet still funny as hell!

Homo Realitus

“Real humans” who are capable of rational decisions, who are also predictably irrational, swayed by emotions, constrained by social norms and moral/ethical standards, and who engage in loving relationships.

Will the REAL humans please stand up...

Traditional Economics = *Homo Economicus*
 Behavioral Economics = *Homo Realitus*

- Surprising results of social scientific studies =
 - We are “Predictably Irrational”
- Fascinating insights into Decision-Making & Assessing Evidence
- Applications to Decision-Making in Wellness Contexts

Wellness Scenarios / Contexts

- Health and Nutrition:**
 - Fad Diets, Homeopathic Remedies, Alternative Medicine, Health and Wellness Practices
- Dating, Relationships, Marriage**
- Home Economics**
 - Family Decision-Making, Consumer Choices
- Financial Investments**
 - Retirement, Savings, Budgets, Debt
- Drug Use, Drinking, Tobacco, Safe Sex**

1. Equate Intensity with Probability

- That's such a HORRIBLE outcome that I can't imagine it NOT happening!
- That such a WONDERFUL outcome that I can't imagine it NOT happening!



2. Equate Proximity with Probability



- Immediate results outweigh the future.
- I'll stop procrastinating... tomorrow!

3. Optimistic Bias / Wishful Thinking

- Fixate on (good, desired) outcome rather than evidence.



4. Pessimistic Bias / Negative Thinking

- Fixate on (negative, feared) outcome rather than evidence.
- Link to: Cognitive Therapy



5. Risk Aversion & Loss Aversion



- We prefer options that are FAMILIAR.
- The UNKNOWN represents negative risk.

- We avoid (perceived) losses.
- Strangely enough, we will take even GREATER RISKS to avoid further losses!



RESULT:

- We become too scared to act:
 - Settle for our current (known) situation.
 - Make passive mistakes.
 - Ignore long-term results.
- We become “bipolar” in our thinking:
 - Fixate on Positive or Negative Outcomes.
 - Paralyzed by Unknown Outcomes.
 - Avoid Taking Risks.
 - Engage in Loss Aversion & Take Greater Risks.

6. Failure to Think Creatively

- We imagine a limited set of outcomes.
- We imagine a limited set of options/choices.
- Link to: Positive Psychology

7. Failure to Reflect on Experience

- Personal experience is marginalized, especially when it comes to satisfaction and happiness.
- Experience of others (experts) is ignored.

8. Failure to Gather Good Evidence

- Personal experience is NOT always a good guide when assessing the probability of the outcome:
 - We are swayed by: anecdotes, emotionally powerful language, coincidences, naturalistic fallacy...
- Failure to assess the QUALITY of evidence:
 - We are swayed by: appeals to majority, bandwagon effect, mysterious/shy phenomena, placebo effect...
- Failure to gather APPROPRIATE evidence:
 - Qualitative studies, case studies, clinical trials, experiments (including: adequate sample size, random sampling, control/isolation of variables, repeatable research and findings, peer review of results/claims)...

9. Poor “Affective Forecasting”

- Cognitive/Affective Simulator Failure:
 - We anticipate that we will be happy or satisfied...
 - But we are disappointed.
 - Link to: consumer purchases.
- “You can have any color, as long as it’s black”
 - We value CHOICE now, thinking that in the future, we will be more satisfied/happy with result.
 - However, having a choice actually undermines our satisfaction and happiness!

10. The Appeal of Arousal

- Arousal and “Neuro-Economics”
 - Decision-making is predictably irrational in both “hot” and “cold” states.
 - Physiological arousal distorts our experience.
- What’s happening to our brains when we make these predictably irrational decisions?
 - Everyone has an emotional response deep in the Amygdala (impulsive, emotional, arousal)
 - The Frontal Cortex has the potential to “modulate” the effect of impulsivity.

RESULT:

- We make decisions that don’t reflect our long-term goals, plans, or priorities:
 - We think in NARROW / UNCREATIVE ways.
 - We mistake ANECDOTES and PERSONAL EXPERIENCE as systematic / objective evidence.
- We make INACCURATE PREDICATIONS about how much future happiness/satisfaction we will experience.
- Both “hot” and “cold” states of temporary AROUSAL influence our decision-making:
 - We fail to “modulate” our IMPULSIVE tendencies.

11. Placebo Effect & Expectations

- The reality that we experience is shaped by our EXPECTATIONS:
 - Balsamic Vinegar and Beer
 - Saline Solution and Pain Management
 - High-Priced, National Brand Medicine
- Synthetic Happiness & Psychological Immune System: Learning to be Satisfied/Happy.
- Relativity: happiness is indexed by comparison
 - Link to: consumerism

12. Framing, Bracketing, Anchoring

- Framing: Changing the Default & Passive Mistakes
 - 80% fat free vs. 20% full fat
 - all-inclusive vacations vs. only one free drink
 - cable TV packages, magazine subscriptions, health clubs
 - investing for retirement, organ donation
- Bracketing: How Useless Options Shape our Decisions
 - The Economist Subscriptions
 - Medical Doctor Scenarios
- Anchoring: Ratcheting up our Estimation of Value
 - Paying the Price & Price of Ownership

The screenshot shows the Economist.com website with a subscription selection interface. On the right, a table titled 'Experimental Results' shows the percentage of users who selected each option.

Option	Percentage
Economist.com Subscription – US \$59.00	16%
Print Subscription – US \$125.00	0%
Print & Web Subscription – US \$125.00	84%

The screenshot shows the Economist.com website with a navigation menu on the left and a main content area. The main content area is titled 'The Economist Subscription Center' and lists three subscription options. To the right of the options is a table titled 'Experimental Results' showing the percentage of users who selected each option.

Experimental Results	
3 Options:	2 Options:
16 %	68 %
0 %	---
84 %	32 %

13. The Allure of "Cheating"

- **Traditional Economics:** Cheating occurs as a result of balancing: reward, punishment, probability of getting caught (reward vs. risk).
- However, **behavioral economics** finds that social norms (especially fairness) will "restrain" our cheating in "irrational" ways.
 - For traditional economics, morality is considered a "failure" of perfect rationality!
 - We don't always do what's in our self-interest, and sometimes we punish others.

The Allure of "Cheating" (cont)

- So, **when** do we real humans cheat? Under **what** conditions? **How much** do we cheat?
- Cheating is more likely (predicable) when:
 - No possibility of getting caught
 - Symbolic units of value (tokens, not money)
 - When others are cheating
- Link to: steroid use/performance-enhancing drugs, investment schemes, petty theft, etc.

RESULT:

- We expect high-priced medications, remedies, and supplements to work better, and we report that we are more satisfied with them!
 - This Placebo effect can be expensive!
- Framing, bracketing, anchoring can alter the decisions we make by presenting choices in skewed or deceptive ways.
- The impulse to cheat is greatest when there's no accountability, when the units of value are abstract, and when others are cheating.

Some General Advice



- We are NOT perfectly rational, especially when it comes to:
 - Fairness, Morality, Kindness, Love, Justice, Compassion
- However, other irrational decisions occur in situations that we can remedy by keeping in mind several important ideas:
- Identify when we are likely to mistake PROXIMITY or INTENSITY with probability.
 - Especially when we are faced with RISK, LOSS, UNCERTAINTY, or the TEMPTATION of IMMEDIATE GRATIFICATION.
 - Remember to be patient, slow down.



Some General Advice

- Be creative: consider a full range of possible outcomes, without focusing on the evidence/probability for each.
- Be systematic: consider the evidence for/against each outcome.
 - Gather objective/empirical evidence
 - Reflect on personal experience
 - Talk to others / experts
- Consider mainstream explanations for the same observed effects.
 - Be willing to do some additional research



Some General Advice



- Consider your anticipated responses for each outcome:
 - keep in mind our distorted “affective forecasting”
- The Placebo Effect: remember that our EXPECTATIONS will shape what we experience
 - Don’t pay too much for a placebo!
- Note when you are most vulnerable to making poor decisions:
 - Don’t make decisions in a “hot” state.
 - Don’t make decisions in a “cold” state.





Some General Advice

- The environment is full of confusing information.
- Complexity can be discouraging.
- Break larger problems into smaller decisions.



Some General Advice

- Change the “framing” of the decision:
 - Isolate / Eliminate / Reverse variables to reveal different perspectives (e.g., from owner to buyer).
 - resist choosing the “middle option” (merely because it’s the middle option).
- Avoid passive mistakes by changing the default:
 - Saving for retirement, getting rid of clutter, clothing, or old books.



Some General Advice

– Sometimes a “bargain” just isn’t.



“FREE!” isn’t completely free.



Some General Advice

- Remember that EVIDENCE is the best guide to assessing PROBABILITY.
 - When available, experimental evidence is best, including: double-blind experiments, clinical trials, case studies, systematic qualitative studies.
 - Proportion belief (and our confidence in the belief) to the evidence available.
- Be skeptical of spectacular claims that don’t fit with existing mainstream scientific findings.
 - Claims about what has REAL EFFECTS must be testable (checked against the world).



What's Worth Wanting?

- Selection of MEANS is always dependent on which ENDS we value/prioritize.
- So, which ENDS are worth choosing?
- Are there objectively "right" life goals?
- Are there objective "wrong" life goals?
- Modest Proposal: the ENDS worth wanting are those that enable AGENCY.
 - To the extent that our ENDS undermine our ability for self-determination, then we can conclude that they are not good ends.
