HIV Behavioral Research Forum: Behavioral Economics beyond contingency management

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What is behavioral economics?

Neoclassical economics:

- Rational actors
- Fixed preferences
- Access to all relevant information
- Consistent over time
- Maximize value

We act irrationally all the time, we are capricious, we care about reputation and how we are doing compared to other people

The difference between how neoclassical economics says people will act and how people *actually act* is described by behavioral economics

Hyperbolic time discounting (Myopia)

Neoclassical economics: People rationally evaluate rewards, discounting the cost of time in a linear and consistent manner

Behavioral economics: People place too much value on a small reward now and will give up a larger reward in the future

Applications leveraging myopia

- Contingency management/Conditional cash transfers: substance abuse treatment, Latin American programs
- Healthy eating: food labeling, vegetable placement

Intervention design opportunities

- Give small immediate rewards for intermediary behavior
- Increase salience of future consequences/rewards

Loss Aversion

Neoclassical economics: a gain or a loss of the same amount should cause an equal amount of pleasure or pain

Behavioral economics: Losses loom larger than gains -- I like winning but I *really hate losing*

Application leveraging loss aversion

- Pay for performance in Chicago schools: bonus at end of the year vs. bonus at the beginning of the year (Fryer et al., 2012)

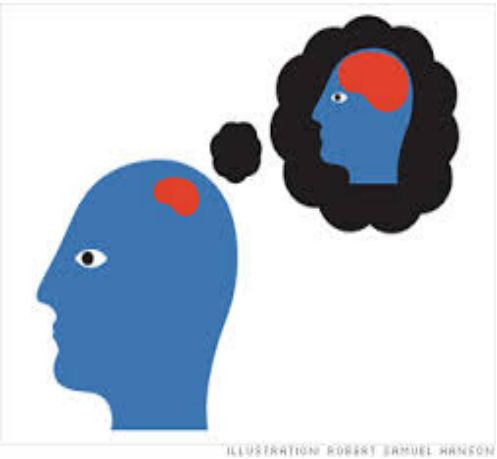
Intervention design opportunities

- Put rewards at risk if behavior doesn't change
- Frame consequences as losses

Optimism and Overconfidence

Neoclassical economics: People are accurate in predicting their behavior, which is consistent in the present or the future

Behavioral economics: People have too much confidence in their judgments compared to their actual accuracy and are too optimistic when predicting future behavior



Application leveraging optimism & overconfidence

- Put your money where your mouth is -- participants bet their own money on weight loss (John et al., 2011)

Intervention design opportunities

- Commitment contracts with goals contingent on expected success
- Give people feedback on their accuracy

- First empirical evidence on the
  - **Prevalence** of Biases and their
  - **Impact** on ARV Adherence
- Broad-stroke interventions resulting from these biases for discussion
- Brief presentation of an ongoing BE-based intervention

Characteristics of ARV adherence that make it difficult to adhere

1. Costs immediate, benefits later → **Myopia**

2. The benefits of ART are largely invisible (absence of disease) → **Salience**

3. Little feedback → **Un-learning**

4. Requires active decision-making → **Over-confidence**

Myopia

- 36% of the sample are myopic
- Evaluated with simple question: “Do you prefer $10 now or wait to get $20 in a month?”
- Myopic patients are 15% points less likely to show 90% adherence
- Potential interventions: rewards

Optimism / overconfidence

- 89% think they will show perfect adherence over the next month
- 20% think they can outperform other clinic clients; they show 8% point lower chance of 90% adherence
- Potential intervention: feedback about adherence

Salience

- 33% have recently received positive feedback about ARVs
- They are 17% points more likely to show 90% adherence
- Potential intervention: make risks of non-adherence visible (think fitbit)

BE-based ongoing intervention in Uganda

- Rewarding Adherence Program (RAP)
- Research question: how can we ‘re-motivate’ clients showing treatment fatigue?
- Suggested solution: Adherence lottery; eligibility is coming to the clinic on time
- Not focused on monetary reward: Expected **payout 2-3 USD per person/year**
- **Impact: 12% points higher chance of 90% adherence in RAP group**

Behavioral Economics biases addressed by RAP

- **Myopia**: providing immediate benefits of a healthy behavior

- **Loss aversion** (people know if they are not allowed to enter the prize drawing)

- **Optimism / overvaluing of small probabilities**: leads to enrollment in the program and preference of lottery to fixed payment

- **Mood**: adding a fun element associated with adherence