Behavioral Economics & Intervention Design for Development

Different Questions, New Answers

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Overview

• What is behavioral economics?
• Why does it matter for policy and program design?
• Some basic behavioral economics insights
• Some common behavioral design tools
• A note about problem diagnosis
• Applications to health contexts
• A cautionary tale...
• Questions?
ARE WE ALIGNED WITH THE DECISION MAKER?
STANDARD MODEL OF HUMAN BEHAVIOR

Decision  Actions  Outcome

Yes       A       Yes

No        B       No

• We decide yes if benefits > costs
• Action naturally follows from decision
BEHAVIORAL ECONOMICS COMPlicates this model

Decision

Actions

Outcome

Yes Yes

No No

???

Failed to choose, didn't consider at all

Process changes decision

Yes

No
INSIGHT I: ACTIONS NO NOT ALWAYS REVEAL UNDERLYING INTENTIONS

Interventions to Increase Immunization

- Control Group
- Immunization camps
- Camps and incentives

Immunization rates doubled

INSIGHT II: MANY COMMON BEHAVIORS DUE TO ABSENCE OF FOLLOW-THROUGH

![Bar chart showing farmer intentions vs. behaviors in Kenya](chart)

- % of farmers in Kenya who said they would use fertilizer in next season
- % of farmers who ended up using fertilizer

Temptation/self-control problems
Procrastination

BEHAVIORAL ECONOMICS HIGHLIGHTS A HOST OF PSYCHOLOGICAL FACTORS...

LIMITED ATTENTION

SELF-CONTROL

PERCEIVED SOCIAL NORMS

Images taken from youtube video. Illustration by Billy Blitt accessed from www.newyorker.com
... WHICH HELP EXPLAIN IMPORTANT POLICY-RELEVANT BEHAVIORS

- Low Input Use on Farms
- Discontinuation/ Irregular Use
- Poor Adherence to Clinical Protocols
THIS UNDERSTANDING LEADS TO DESIGN IDEAS

Commitment device

PROCRASTINATION

LIMITED ATTENTION

HASSLE FACTORS

Reminder

Micro-incentives
DESIGN IDEA I: INPUT HOME-DELIVERY TO INCREASE FERTILIZER USE

Fertilizer Use with Home Delivery

- Home-delivery equivalent to 10% discount on market price
- Similar results through subsidy would require 50% subsidy

DESIGN IDEA II: REMINDERS TO INCREASE SAVINGS

- No Reminder
- Generic Reminder
- Goal-specific Reminder

Percentage Increase in Savings

Content of Reminders

DESIGN IDEA III: “COMMITMENT SAVINGS” INCREASES INPUT USE IN MALAWI

INPUT PURCHASES INCREASED 70%

Control | Treatment
---|---
Inputs Purchased (MWK)

TOTAL VALUE OF CROP OUTPUT INCREASED 22%

Control | Treatment
---|---
Total Value of Crop Output (MWK)

HOW DO WE ARRIVE AT USEFUL INTERVENTIONS?

Asking the right questions.

DEFINE
- REDEFINE PROBLEM
  - DEFINED PROBLEM
  - STATED PROBLEM
  - DISENTANGLE PRESUMPTIONS

DIAGNOSE
- FIND ANOTHER BOTTLENECK
  - ACTIONABLE BOTTLENECKS
  - BEHAVIORAL MAP
  - CONTEXT RECONNAISSANCE

DESIGN
- SCALABLE INTERVENTION
  - INTERVENTION CONCEPT
  - DETERMINE FEASABILITY
  - POLISH INTERVENTION

TEST
- ROBUST EXPERIMENT
  - INITIAL EXPERIMENT DESIGN
  - ideas42
  - partner
  - consumer
  - sequential
  - iterative
  - as necessary

Asking the right questions.
BY CAREFUL DIAGNOSIS ...

Asking the right questions.

DEFINE → DIAGNOSE → DESIGN → TEST

- BEHAVIORAL MAP
- CONTEXT RECONNAISSANCE
- HYPOTHESIZED BOTTLENECKS

ideas42 partner consumer sequential iterative as necessary
HEALTH APPLICATION I: AGE-DISPARATE SEX & HIV PREVALENCE

HIV Prevalence By Age and Sex, South Africa

30 year old man is \(\sim 5x\) as likely to have HIV as 20 year old man
AGE-DISPARATE SEX & HIV: DIAGNOSIS

COMMON DIAGNOSIS

WRONG MENTAL MODEL:
Young women think older men are safer than younger men.

ALTERNATIVE DIAGNOSIS
AGE-DISPARATE SEX & HIV: EXPERIMENT DESIGN

CONTROL GROUP

Game Mockup
1. 38 yr old M
2. 36 yr old F

Survey

TREATMENT GROUP

Game Mockup
1. 38 yo M
2. 36 yo F
AGE-DISPARATE SEX & HIV: EXPERIMENT RESULTS

CORRECTED MISPERCEPTIONS RELATED TO HIV PREVALENCE

Who is more likely to have HIV?

- Control
- Treatment

REDUCTION IN PERCEIVED IDEAL AGE OF PARTNER

Ideal partner is 3+ years older

- Control
- Treatment

HEALTH APPLICATION II: ALCOHOL CONSUMPTION & PRE-COMMITMENT

Low incomes, high alcohol consumption

- Earn about Rs 300 per day
- Half are inebriated during working hours
  Mean BAC 0.12 conditional on being inebriated

Reported desire to reduce drinking
- 90% of individuals report their lives would be better if liquor stores closed permanently.

Schilbach, F. “Alcohol, Self-Control and Income: A study with rickshaw-pullers in India”. In progress
Self-control problems or social desirability bias?

Given choices between

**Option 1:** Financial incentives X to show up sober

**Option 2:** Unconditional payments

**Preliminary evidence: Demand for Commitment**

- Large fraction of drinkers (almost 50%) choose option 1
- They even choose option 1 is $X < Y$

Schilbach, F. “Alcohol, Self-Control and Income: A study with rickshaw-pullers in India”. In progress
HEALTH APPLICATION III: PLANNING PROMPTS INCREASE FLU SHOT UPTAKE

HEALTH APPLICATION IV: MICRO-INCENTIVES INCREASE CHANCES OF LEARNING HIV STATUS

Micro-incentives Induced People to Pick up HIV Test Results

Percentage Learning HIV Results

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

0 0.1-0.2 0.3-0.5 0.5-1.0 1.0-1.5 1.5-2.0 2.0-2.5 2.5-3.0

Dollars

CAUTIONARY TALE: **DIAGNOSIS MATTERS!**

**AUTO-ENROLMENT WORKS WELL TO INCREASE SAVINGS PLAN PARTICIPATION...**

Percentage Enrolled in 401(K) Plan

- **Opt-In**: 55%
- **Opt-Out**: 85%

**Increased savings from 55% to 85%**

SO HOW ABOUT DEFAULTING PEOPLE INTO SAVING A PART OF THEIR TAX REFUND?

Effect of Default Settings on Those Saving Tax Refund

Out of every 100 surveyed employees, 68 self-report saving too little. 24 plan to raise savings rate in next 2 months. 3 actually follow through over the next four months.
THE PSYCHOLOGY OF SPENDING AND SAVING: THE CASE OF THE EITC REFUND

Out of every 100 surveyed employees

75 had clear plans on ways to spend their refund

Difference in psychologies between 401(K) and EITC:

- 401(K): 68% *wanted to save more*
- EITC: 75% *weren’t planning to save*
QUESTIONS?

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