USING BEHAVIORAL ECONOMICS FOR SOCIAL GOOD

Joshua Wright, ideas42
Citi – FT Financial Education Summit
December 4, 2013
OUTLINE FOR TODAY’S TALK

- What is ideas42?
- Behavioral Economics 101
- Why this matters for financial education and financial capability
- Example projects
FOUNDED BY VISIONARY ACADEMICS

Sendhil Mullainathan, Harvard University
Antoinette Schoar, MIT Sloan
Eldar Shafir, Princeton University
WITH AMBITIOUS GOAL

Academics Theory
Deep understanding about human behavior from Behavioral Psychology & Behavioral Economics academic research

To Solve Hard Problems in:
- Consumer Finance
- Economic Opportunity
- Health
- Education
- Energy Consumption

Need To Apply
Real World
To Help Millions of People
WE WORK WITH A WIDE RANGE OF PARTNERS

Businesses

Governments

Foundations

Non-Profits
WE COMBINE THE INSIGHTS FROM LEADING ACADEMICS...

Sendhil Mullainathan  
Harvard University (co-founder)

Eldar Shafir  
Princeton University (co-founder)

Kate Baicker  
Harvard School of Public Health

Michael Barr  
University of Michigan Law School

Richard Thaler  
Univ. of Chicago Booth

Antoinette Schoar  
MIT Sloan (co-founder)

Manuel Adelino  
Dartmouth Tuck

Anuj Shah  
University of Chicago Booth

Betsy Levy Paluck  
Princeton University

Todd Rogers  
Harvard Kennedy School
... WITH EXPERIENCED PRACTITIONERS ...

**Piyush Tantia** is ideas42’s Executive Director. Before joining ideas42, Piyush was a Partner in Oliver Wyman’s financial services practice.

**Josh Wright** is ideas42’s Executive Director, with a focus on financial services, economic mobility, healthcare, and strategy for the firm.

**Will Tucker** is a Vice President at ideas42, where he works on household finance, consumer protection, and anti-poverty projects.

**Saugato Datta** is a Vice President at ideas42. He works with partners to design, test and scale programs and products that use behavioral economics to benefit poor people in developing countries.

**Marina Dimova** is a Vice President at ideas42, where she works on behavioral innovations in consumer finance and international development.

**Chris Daggett** is a Vice President at ideas42, where he focuses on technology ventures and projects in consumer finance, economic mobility, and healthcare.

For full list and bios of all 30 staff visit www.ideas42.org
BEHAVIORAL ECONOMICS 101

NOW THE FUN BEGINS!
LET’S START WITH A FEW QUESTIONS
• A cup and a saucer cost $1.10 in total. The cup costs a dollar more than the saucer. How much does the saucer cost?

• ______ cents
• If it takes 5 machines 5 minutes to make 5 widgets, how long will it take 100 machines to make 100 widgets?

• _____ minutes
• In pond, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire pond, how long would it take for the patch to cover half the lake?

• _____ days
THE ANSWER TO ALL OF THESE QUESTIONS IS 42
INSTEAD, A LITTLE PUZZLE
REPRESENTATION LEADS TO SOLUTION
REPRESENTATION WE HAVE OF PEOPLE LEADS TO SOLUTIONS

odd choice.
“Excellent airmen commit no errors.”
CONTEXT AND SITUATION MATTERS A GREAT DEAL
ARE YOU SMARTER THAN A FIFTH GRADER?

A cup and a saucer cost $1.10 in total. The cup costs a dollar more than the saucer. How much does the saucer cost?

If it takes 5 machines 5 minutes to make 5 widgets, how long will it take 100 machines to make 100 widgets?

In a pond, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire pond, how long would it take for the patch to cover half the lake?
BEHAVIORAL MODEL

<table>
<thead>
<tr>
<th>Decision</th>
<th>Actions</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>A</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>B</td>
<td>No</td>
</tr>
</tbody>
</table>

- We decide yes if benefits > costs
- Action naturally follows from decision
THERE ARE MANY INFLUENCES ON DECISION MAKING AND ACTIONS

Attention: Focus & Neglect
- Passivity
- Focusing illusion
- Mindless behavior, automaticity, habits, limited attention
- Prescriptive / descriptive norms
- Implementation intentions

Time Inconsistency
- Discounting
- Self-control problems, procrastination
- Planning fallacy
- Conflicting identities

Barriers (& Routes) to Action
- Hassle factors
- Forgetting / inattention (& reminders)
- Darley/Batson – person vs. situation
- Social proof and social norms
- Channel factors
- Scarcity principle

Revaluation
- Self-perception, self-fulfilling prophesy

Construal: What’s in the Choice Set
- Acceptance (of what’s presented..)
- Frames, sets, order/contrast effects
- What people know, remember, perceive, think about

Situation: Influences of Context
- Proliferation of options & choice conflict
- Joint vs. separate evaluation, opportunity cost ignorance, weighting
- Prospect theory: reference points, loss aversion, endowment
- Local focus
- Mental accounting
- Social norms
- Visual cues

Person
- Misunderstanding compounding, unit confusion
- Overconfidence, probability perception
- Affect
- Identity
- Memory, remembering self makes the choice
- Goals
WHY SHOULD WE CARE ABOUT THIS FOR FINANCIAL ED AND FINANCIAL CAPABILITY?

What do we care about?

Knowing or Doing!!!
WHAT IS THE DOMINANT REPRESENTATION MOST OF FINANCIAL EDUCATION HAS OF PEOPLE

- Do not know what to do or lack Knowledge
- Teach or Provide Information
- Make a decision or decide to do something
- Take Action
- Outcome
- Show them the value of the decision
HAVE YOU EVER TAKEN YOUR CAR IN FOR AN OIL CHANGE?
DID THEY GIVE YOU LOTS OF BROCHURES ABOUT THE IMPORTANCE OF CHANGING YOUR OIL?
DID THEY TELL YOU ALL ABOUT HOW TO DO IT YOURSELF?
INSTEAD, THE PROFESSIONALS TAKE THE ACTIONS THAT WILL MAKE YOUR CAR RUN SMOOTHLY
FINANCIAL EDUCATION AND COUNSELING, ON THE OTHER HAND...

• Often provide information and advice
• The participant needs to take action after the session (“homework”)

Unsurprisingly, the few evaluations that have been done are pessimistic about impact (Collins, O’Rourke 2010; and Lynch, Fernandes, Netemeyer 2013).
BEHAVIORAL MODEL

Decision

We have been thinking most of the problem is here

Actions

When most of the problem is actually here

Outcome

Yes

No

Failed to choose, didn’t consider at all

Process changes decision

A

B

???
BUT ALSO REMEMBER OUR LITTLE "BIG" FRIEND CONTEXT ... AND HOW MUCH IT MATTERS
LET’S LOOK AT A FEW PSYCHOLOGIES IN DEPTH & IN CONTEXT AND SEE HOW THEY MATTER
PSYCHOLOGY - HASSLE FACTORS

• Basic Understanding– Hassles get in the way and sometimes cause people not to do things that would be to their advantage

• Deeper Understanding– Little Hassles cause people not to do things that have Massive Impact
HASSLE FACTORS AND RETIREMENT SAVINGS

401(k) participation by tenure at firm: Company B

Fraction of employees ever participated

Tenure at company (months)

- Hired before automatic enrollment
- Hired during automatic enrollment
- Hired after automatic enrollment ended
Out of every 100 surveyed employees, 68 self-report saving too little. 24 plan to raise savings rate in the next 2 months. 3 actually follow through over the next four months.
HASSLE FACTORS AND FAFSA
HASSLE FACTOR EXPERIMENT ON YOU
HASSLE FACTOR EXPERIMENT ON YOU

With Hassle

Without Hassle
SELF-CONTROL DIGGING DEEPER

Basic Understanding – People have self-control issues

Deeper Understanding – Self-control gets used up, like your reservoir of energy or muscle strength. Preference appear to change overtime, because of limited self control. People have self-control issues even when the impacts are massive.
SELF CONTROL IN SAVINGS

- Control
- Treatment

Savings (PHP)
Commonly held understanding: People are impacted by the social norms of family, peer groups, etc.

Deeper understanding: People perception of social norms are what matters, there are often competing social norm perceptions, and these perceptions are often surprisingly easy to influence.
SOCIAL NORMS EXAMPLE
SOCIAL NORMS EXAMPLE

“90% of people don’t use drugs.”

“A lot of people I know use drugs.”
SOCIAL NORMS EXAMPLE
SOCIAL NORMS IN OUR CONTEXT

People may not be making a decision or taking an action based on what you think they are.

Your view – Information or benefit you have taught them about.

Their view – what is my neighbor, friend, family member doing
UNFORTUNATELY MUCH OF THIS IS MADE WORSE BY LIVING IN POVERTY
SCARCITY
A source of demand on cognitive capacity...
Cognitive Capacity (a limited resource)

Is Captured by Scarcity (we focus...)

Automatically (our mind has a life of its own...)
FINANCIAL CHALLENGES

(in a NJ mall...)
COGNITIVE CONTROL TASK

press the same side as the heart
press the opposite side as the flower

RAVEN’S PROGRESSIVE MATRICES

“Measures high-level observation skills, clear thinking ability, and intellectual capacity.”

“Driving test”…

“Intelligence test”…
Mani, Mullainathan, Shafir, & Zhao, *Science*, 2013
FOCUS – QUITE SUCCESSFULLY -- ON IMMEDIATE PRICES & TRADEOFFS..

(but less mind left for other things...)

The poor: A greater focus on tradeoffs
(% who think about what they would not buy instead...)

THE POOR: KNOW PRICES BETTER
(TAXI FARE WHEN YOU FIRST GET IN? SOUTH STATION, BOSTON)
PERCENT WILLING TO TRAVEL 45 MINS TO SAVE $50:

- $100: 50%
- $500: 40%
- $1,000: 20%

HI (PrinctnNJOT)
PERCENT WILLING TO TRAVEL 45 MINS TO SAVE $50:

<table>
<thead>
<tr>
<th>Amount</th>
<th>HI (PrinctnNJT)</th>
<th>LI (Soup Kitchen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>$500</td>
<td>40</td>
<td>70</td>
</tr>
<tr>
<td>$1,000</td>
<td>10</td>
<td>90</td>
</tr>
</tbody>
</table>
Scarcity is demanding of attention and cognitive resources (intentionally and automatically).

It focuses us on immediate problems of scarcity, often at the expense of other things; distracting us and shortening our horizons.

This is not about the poor – it’s about being poor.
SO WHAT TO DO WITH ALL OF THIS?

• Design programs, policy, and products differently ... with all of this in mind

• Context and details matter a great deal

• Focus more on helping people take action

... LET’S LOOK AT A TWO EXAMPLES
OUR PROJECTS USUALLY HAVE FOUR STAGES

1. DEFINE
   - Stated Problem
   - Disentangle Presumptions

2. DIAGNOSE
   - Capacity and Scalability
   - Behavioral Map
   - Hypothesized Bottlenecks

3. DESIGN
   - Context Reconnaissance
   - Intervention Concept
   - Determine Feasability

4. TEST
   - Polish Intervention
   - Clarify Outcomes
   - Potential Side Effects

- Redefine Problem
- Look Elsewhere

*Sequential* → *Iterative* → *As necessary*
AN EXAMPLE: GRAMEEN FOUNDATION & CARD BANK – DEFINE THE PROBLEM

**Original Problem:** Improve number of new account openings and usage of these accounts.

But: Between November 2, 2011 and January 29, 2013, 34,175 Matapat accounts were opened, and 72% of clients who opened a savings account never transacted with the account again.

**Redefined Problem:** Help members build savings balances in CARD Bank savings accounts?
AN EXAMPLE: GRAMEEN FOUNDATION & CARD BANK - DIAGNOSE

Diagnosis:
There was an intention-action gap for clients, they had the intention to save, they wanted to save, but ...
• Clients open savings accounts without thinking through how they will use them
• Clients don’t make plans for saving and rely on the savings behavior that they see most often by others – occasional small deposits
AN EXAMPLE: GRAMEEN FOUNDATION & CARD BANK - DESIGN

Behavioral Interventions:

• Improved/simpler New Account application form with imbedded steps for specific goal and plan making
• Savings Calendar
• SMS Reminders to Save
AN EXAMPLE: GRAMEEN FOUNDATION & CARD BANK - RESULTS
THE TREATMENT GROUP DEPOSITS MORE WHEN OPENING AN ACCOUNT

Amount of Opening Deposit

Philippines Pesos

The minimum opening deposit is 100 pesos

Control 113.30 (p < .01) Treatment 125.54

The minimum opening deposit is 100 pesos
TREATMENT GROUP WAS MORE LIKELY TO KEEP USING THEIR NEW ACCOUNT

Percent of newly-opened accounts with a second transaction in the first 7 weeks

Control: 25.8%
Treatment: 41.1% (p<.01)
HIGHER INITIAL BALANCES PERSIST FOR NEW ACCOUNT TREATMENT GROUP

Total Client Balance 7 weeks after opening new account

<table>
<thead>
<tr>
<th>Philippines Pesos</th>
<th>Control</th>
<th>Treatment</th>
<th>(p&lt;.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>460.85</td>
<td>578.77</td>
<td></td>
</tr>
</tbody>
</table>

(= 578.77 - 460.85 = 117.92)
EXAMPLE – FINANCIAL HEURISTICS “RULES-OF-THUMB”

A great deal of Financial Education looks at the complex decisions and problems people face and assume that they must be taught an equally complex amount of information and concepts.

Heuristics Design insights:
• Heuristics are self-contained, hence easy to learn and to implement
• Implementation in separate steps can help overcome channel factors
• Trade-off: simplicity of adoption and learning vs. quality and depth of curriculum
• Link rules to supporting products or procedures that the participants use.
EXAMPLE – FINANCIAL HEURISTICS “RULES-OF-THUMB”

This can have broad applications in a number of important area: Nutrition, exercise, college choice, chronic disease management, etc.

We have chosen to focus on a project in micro-entrepreneurship and small business.
Traditional accounting

Rules of Thumb
<table>
<thead>
<tr>
<th>Traditional Accounting</th>
<th>Rule of Thumb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce income statements and profit projections</td>
<td>Keep two “drawers” – one for the business and one for home</td>
</tr>
<tr>
<td>Manage working capital needs</td>
<td>Assign yourself a wage for the month</td>
</tr>
<tr>
<td>In-depth cash management</td>
<td>Any “borrowing” from the business to be paid back in 3 days and vice versa</td>
</tr>
<tr>
<td>Accounts receivable management</td>
<td>Only give credit to customers if prior credit purchase has been paid off first</td>
</tr>
<tr>
<td>Increase savings and reduce impulse purchases</td>
<td>Physically hide savings in places that are difficult to get to</td>
</tr>
</tbody>
</table>
RESEARCH DESIGN AND SET UP

• RCT with ADOPEM, a bank that lends to small businesses in the Dominican Republic
  – 1200 bank clients in Santo Domingo area
  – Highly subsidized training; entrepreneurs paid only a small fraction of the actual costs

• Clients were randomly assigned one of three treatments
  1. Rule-of-thumb training
  2. Traditional accounting training
  3. Control group: no training
AVERAGE CLIENT

• Average loan US$800

• Average weekly sales US$200
  • Bad week US$110, quite bad
  • Good week $245
  • Good and bad not symmetric

• Approx. 50% do not separate business and home accounts

• Majority declares to keep records (66%)
  • Their definition of “keeping records” is quite generous
IMPROVED FINANCIAL PRACTICE

Share reporting practice

- Sep. Cash: 8%***
- Keep Records: 11%***
- Sep. Accounts: 11%***
- Calc. Revenues: 6%**

- Traditional Accounting
- Rule of Thumb
IMPROVED REVENUE

+RD$1168**
MOVING FORWARD

Refining Rules of Thumb

Securing funding to test on larger scale and in more locations

Identifying potential field partners
QUESTIONS?