The Psychology of Poverty (Economic Instability)

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(& Anuj Shah, Christopher Bryan, Lisa Gennetian)
Challenges in Creating Economic Mobility

• Training Programs
  – Take-up and keep-up
  – Cost-benefits dampened (fixed costs and sunk costs)

• Early childhood programs
  – Parental participation
  – Complementary parental behaviors

• How are we to interpret these problems?
Our view

Generating mobility has been challenging: required complementary behaviors often lacking

Follow through problems have psychological roots

Specifically scarcity (economic instability/poverty) creates its own psychology
Broader Set of Behaviors

- Across many domains we see a variety of costly behaviors by the poor
  - Debt traps (payday loans or vegetable vendors)
  - Drug adherence
  - Obesity, etc.
Psychology of Scarcity

• Psychic resources limited
• Scarcity taxes those resources
• Talk today:
  – Which psychic resources?
  – How does scarcity tax these resources?
  – What consequences does this have?
  – Broad concepts--leaving out all technical details!
Talk Today

• Which psychic resources?

• How does scarcity tax these resources?

• What consequences does this have?
Eight out of fifteen direction-givers failed to notice that the person they were talking to changed in mid conversation.
Dichotic Listening Task

Ignored inputs
The horses galloped across the field...

Attended inputs
President Lincoln often read by the light of the fire...

Speech output
President Lincoln often read by the light of the fire...
Not paying attention

• Unattended (unselected) things not usually remembered
  – Almost no words remembered
  – Change in language usually not reported
BLUE
Present a story in dichotic listening task
- Story switches from attended ear to unattended ear
- Participant mistakenly shadows from attended ear to unattended ear

Attended Ear: 
She had peanut butter
you keep using that word

Unattended Ear: 
freaking laser beams
and jelly sandwiches

“He was standing at the bank” in one ear
“He was standing at the bank” in one ear
“water” or “money” in other ear.
Key Points

• Attention limited

• We don’t always consciously control its allocation
“Hi! Are you doing anything on Saturday? I’m having a birthday party and was hoping you could come. It’s not actually my birthday, it’s my sister Jane’s. She’ll be 21. She’s coming up from London for the weekend and I thought it would be a nice surprise for her. I’ve also invited her boyfriend William and one of her old schoolfriends, Claire, but she doesn’t know that yet. Claire’s husband Nigel was going to join us but he has just found out that he has to go to a meeting in Penzance that day and won’t be back in time. I thought we could have a barbecue if the weather is nice, although the way it has been so far this week, that doesn’t look likely. I can’t believe it has got so cold already. And the evenings are really drawing in aren’t they? Anyway, there is plenty of space indoors if it rains. Did I tell you that I have redecorated the kitchen? It is mainly yellow—the wallpaper is yellow and so is the woodwork, although I thought it would be better to leave the ceiling white to make it look lighter. I’ve still got the old blue fittings—they are pretty battered now but I can’t afford to replace them at the moment. Do you remember Craig? I used to share a flat with him when we were both working for that bank in Gloucester. He has bought a house in Colchester now but he promises to take

<p>| Table 1. Mean correct recall, false alarms and memory scores (correct minus false alarms) for names and places for the control and doodling groups (±standard deviation) |
|---------------------------------|----------------|
|                                 | Group         |
|                                 | Control       | Doodling     |
| Names (monitored information)   |               |              |
| Correct                         | 4.3 (1.3)     | 5.3 (1.4)    |
| False alarms                    | 0.4 (0.5)     | 0.3 (0.4)    |
| Memory score                    | 4.0 (1.5)     | 5.1 (1.7)    |
| Places (incidental information) |               |              |
| Correct                         | 2.1 (0.9)     | 2.6 (1.4)    |
| False alarms                    | 0.3 (0.6)     | 0.3 (0.4)    |
| Memory score                    | 1.8 (1.2)     | 2.4 (1.5)    |</p>
<table>
<thead>
<tr>
<th>Panel A: Pooled Sample</th>
<th>Log (Amount saved by Goal Date+1)</th>
<th>Reached Savings Goal By Goal Date</th>
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<tbody>
<tr>
<td><strong>Pooled Sample</strong></td>
<td>0.063* (0.036)</td>
<td>0.065* (0.035)</td>
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<tr>
<td><strong>Baseline Controls</strong></td>
<td>No</td>
<td>Yes</td>
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<tr>
<td><strong>Mean of Dep Var</strong></td>
<td>3.178</td>
<td>3.178</td>
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<tr>
<td><strong>N</strong></td>
<td>14167</td>
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<tr>
<th>Panel B: Countries</th>
<th>Log (Amount saved by Goal Date+1)</th>
<th>Reached Savings Goal By Goal Date</th>
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</thead>
<tbody>
<tr>
<td><strong>Peru (n = 2,968)</strong></td>
<td>0.036 (0.058)</td>
<td>0.027 (0.058)</td>
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<tr>
<td><strong>Bolivia (n = 9,652)</strong></td>
<td>0.059 (0.042)</td>
<td>0.059 (0.041)</td>
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<tr>
<td><strong>Philippines (n = 1,547)</strong></td>
<td>0.151 (0.104)</td>
<td>0.187* (0.105)</td>
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</tbody>
</table>

| **Baseline Controls**  | No                               | Yes                             |
| **Mean of Dep Var**    | 3.178                            | 3.178                            |
| **N**                  | 14167                            | 14167                            |

P-value from f-test of joint significance of country-level reminder effect

- **Pooled Sample**: 0.063* 0.065* 0.031*** 0.031***
- **Baseline Controls**: No Yes No Yes
- **Mean of Dep Var**: 3.178 3.178 0.549 0.549
- **N**: 14167 14167 14167 14167

P-value: 0.218 0.142 0.007 0.006
GlowCaps™
lite and sound
remind you to take your
prescriptions every day
Higher levels of workload linked with increases in marital and parental withdrawal

More social stressors associated with parental withdrawal and more anger and use of discipline with child
Noise

• Bronzaft and McCarthy (1975):
  – Children attending classes facing a noisy elevated train structure. Compared their scores with children attending classes on quiet side of the building.
  – Found that by the 6th grade, children on the noisy side of the building were nearly a year behind the students on the quiet side.
  – Children exposed to the noisy trains complained that the noise made it difficult for them to think.

• Several years later, noise-absorbing materials installed lowering the noise levels in the classrooms significantly. Both sets of children were now reading at the same level (Bronzaft, 1981).
Talk Today

• Which psychic resources?
  – Attention

• How does scarcity tax these resources?

• What consequences does this have?
Depletion
Shiv and Fedorikhin (1999)

• Load manipulated by having people keep either a 2-digit or 7-digit number in mind during experiment

• Subjects choose between cake or fruit-salad

<table>
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<th>Processing burden</th>
<th>% choosing cake</th>
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<td><strong>Low</strong> (remember only 2 digits)</td>
<td>41%</td>
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<tr>
<td><strong>High</strong> (remember 7 digits)</td>
<td>63%</td>
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Self-control in the Workplace

- Self-control problems can generate too little effort (from worker’s perspective)
- Given piece rate incentives would like to work a certain amount
- Temptations to slack off prevent from achieving that amount (self-control)
  - Notice peers can serve a motivating and de-motivating role here
- How do we test this? ⇒ Demand for commitment

**Test for commitment demand among workers (Kaur, Kremer, Mullainathan 2010)**

2 contracts:
1) Control contract: Linear piece rate \( w \)
2) Commitment contract
   - \( w \) if prodn > \( T \)
   - \( w/2 \) if prodn < \( T \)
   - Worker chooses \( T \) in advance

Outcomes:
- Workers choose \( T > 0 \) 35% of time
- Treatment *offer* raises prodn and earnings by 2.3% (signif at 5%)
⇒ Workers face self-control problems
⇒ Commitment contracts help them work harder
Talk Today

• Which psychic resources?
  – Attention
  – Self control

• How does scarcity tax these resources?

• What consequences does this have?
The Packing Problem: A Suitcase metaphor

2 people packing

- One a large suitcase; the other a small suitcase

(“The Knapsack problem” in Complexity / Computational theory)
The Packing Problem:  
A Suitcase metaphor

2 people packing

– One a large suitcase; the other a small suitcase

– Larger suitcase - pack everything important with room to spare, then choose among remaining, less important items

– Smaller suitcase - try to pack the essentials, might need to choose among non-fitting important items

(“The Knapsack problem” in Complexity / Computational theory)
Thinking about tradeoffs

Ted and James are on vacation. Ted is traveling with a small and very full suitcase. James’ suitcase is larger and has some space. They visit a store offering running shoes on sale.

– James asks “Do I like these shoes?”

– Ted wonders “Do I like these shoes? AND
  What, of at least equal size, do I take out of the suitcase if I buy them – and is it worth losing?!..."
Slack

- Problem complexity higher when suitcase is tight

- Slack makes it easier to pack;
  Slack reduces cognitive cost: Smaller suitcase presents more complicated packing problem

- Bigger suitcase means slack is “cheaper”
  Slack is easier to maintain when suitcase is larger because what is being given up to buy slack is (marginally) cheaper.

- Diminishing marginal utility

- Note: Slack may mean packing as if no budget constraint
Temptation & its discontents

• Abe and Ben pass by a pastry shop and see an eclair beckoning. Both have been trying to eat healthier.

• Abe, whose mind is occupied with the results of the upcoming bar exam succumbs and buys the pastry.

• Ben is stressed about whether he’ll be able to find enough money next month for his child’s day care. He also succumbs.
Slack and Error

• A consequence: error
  Consequences of mishaps (misfortunes & mistakes) greater without slack.

• Giving into temptation much more costly

• Packing smaller suitcases requires greater self-control

• Diminishing marginal temptation!
Talk Today

- Which psychic resources?
  - Attention
  - Self control

- How does scarcity tax these resources?
  - Managing tight resources requires more attention and self control

- What consequences does this have?
Talk Today

• Which psychic resources?
  – Attention
  – Self control

• How does scarcity tax these resources?
  – Managing tight resources requires more attention and self control
  – What evidence do we have of this?

• What consequences does this have?
Taxi fare when you first get in?… (South Station)
Imagine that a friend goes to buy an appliance priced at $100($500/$1000). Although the store’s prices are good, the clerk informs your friend that a store 45 minutes away offers the same item on sale for $50 less. Would you advise your friend to travel to the other store to save $50 on the $100($500/$1000) expense?
Percent willing to travel 45 mins to save $50:

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

Location: HI (Princeton, NJ, USA)
Percent willing to travel 45 mins to save $50:

- HI (PrinctnNJT)
- LI (Soup Kitchen)
Willingness to travel to save $25…
(out of $800 / $100)
(South Station, Boston)
Control condition
# Food condition

## Word Search

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**CAKE**
- TREE
- DONUT
- CLOUD
- SWEETS
- LAMP
- INDULGE
- RAIN
- DESSERT
- DOOR
Search times by condition and group

Interaction: p=.074 (more data coming)
Controlling for search times on 3 practice trials
Scarcity can be distracting..

- Hypothesis: Unhealthy, tempting foods monopolize the attention of dieters (more than of non-dieters). Attention *involuntary*!
Tradeoffs: % who think about what they’d not buy instead…

(India)

(US)
Imagine that your car...requires a...[Hard: $3,000; Easy: $300] service. Your auto insurance will cover half the cost. You need to decide whether to go ahead and get the car fixed, or take a chance and hope that it lasts for a while longer. How would you go about making such a decision? Financially, would it be an easy or a difficult decision for you to make?
Cognitive control task

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

Raven's Progressive Matrices
Sugar Cane Harvest

- Poor pre-harvest, Rich post-harvest
- Sugar cane unique feature
  - Harvets staggered across months
- So same month pre-harvest for some, post-harvest for others
  - Controls for month effects, e.g. festival spending, seasonality.
Spending Across Harvest

Expenditure on Food

Expenditure on Other Items***

- Pre
- Post
- Pre
- Post

Series 1
Distress across Harvest

Any items pawned

Pre | Post
---|---

Series 1
Tradeoff Thinking Across Harvest

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<tr>
<th></th>
<th>Pre</th>
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<td>Thinks of Opportunity Cost of Clothing purchase**</td>
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<td>Thinks of Opportunity Cost of TV purchase</td>
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<td>Thinks of Time Opportunity Cost of watching skit</td>
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Stroop Across Harvest

Stroop Test -- Color(# wrong)***

Series 1

Pre

Post
Allostatic Load Across Harvest

Systolic -- Reading 1 ***
Systolic -- Reading 2 ***

Diastolic -- Reading 1 ***
Diastolic -- Reading 2 ***

Heart Rate Variability 1 **
Heart Rate Variability 2 **
Talk Today

• Which psychic resources?
  – Attention
  – Self control

• How does scarcity tax these resources?
  – Managing tight resources requires more attention and self control

• What consequences does this have?
Family Feud
Multiple rounds
High slack: 50 sec / rd (1000 sec total)
Low slack: 15 sec / rd (300 sec total)

How about giving this one a try?

(1)
(2)
(3)
(4)
(5)

Name a specific item that you have on the patio...
chair

enter guess!

Round: 3
Score: 0
Round time left: 00:08
Total time: 04:41
Study 1: Time Borrowed
Study 1: Rounds Completed
Study 1: Points Earned

No borrowing vs. high interest:  
\[ P < .001 \]

Low vs. high interest:  
\[ P < .09 \]
Some Policy Implications

• Programs create psychic taxes
Psychic Taxes

Persistent challenges related to take-up & retention

Issue: College attendance for low-income teens is much lower than their higher income peers

- Surveys show that parents and teens believe college attendance is important

- Response: Reduce the cost to increase attendance (prevailing view)

- But, availability of Pell grants did not significantly increase low-income college attendance
Maybe FAFSA too complicated?

(Bettinger, Long, Oreopoulos & Sanbonmatsu, 2009)
Example

• Why does simplification work?
• Because instability makes dealing with complexity particularly challenging
  • Forms are tough for all of us, but toughest when attention is most depleted
Some Policy Implications

• Programs create psychic taxes

• Economic instability can impede mobility
Instability Impedes Mobility

• Forward looking actions require
  – Attention
  – Self Control

• Instability taxes both of these

• Instability makes mobility harder
Policy Responses

• Focus on policies to create stability

• Design mobility programs facing the realities of instability: “Instability proof” our policies
Reduce Instability

• Wages/hours insurance
• Crisis triggered social safety net card
• New financial products that build buffer stock: Debit card with savings mechanism, low fees
Re-design: Instability proof policy

What if we were designing programs with this in-mind? How would they be structured differently?

• One point of access to a broad program network: fluid enrollment and attendance in early childhood programs

• Rotating training class opportunities, attend 3 of the next 10 classes over the next 4 months and you get your certificate
Conclusion

• Scarcity (poverty, economic instability) tax psychic resources

• Policy should consider this form of scarcity