

# Scarcity: Why Having Too Little Means So Much

Eldar Shafir  
Princeton University

# Two Dominant Views of Behavior under Poverty

## Rational Choice view

- Consistency, Willpower, Well-defined preferences,..
- Behavior: calculated adaptation to prevailing circumstances

## Pathology view

- Psychological pathologies specific to the poor
- Impatient, no planning, confused
- Behaviors endemic to “culture of poverty”

## An alternative:

Neither rational nor pathological; just plain human...

# Indian fruit vendors (debt traps...)

- Indian fruit vendors: Persistent borrowers
  - (70% borrow daily...; average: 9.5 years of taking daily loans!!)
- At very high rates (4.9% average daily interest rate)
- Stark implication: If saved a little (& borrowed less), in **50 days** will have doubled **income**
  - Significant foregone income





## Adherence...

Low income: One of the most consistent correlates of low adherence

## Weeding...

High return: losses due to uncontrolled weed growth (>25%...)  
Consistent finding: Poor less likely to weed



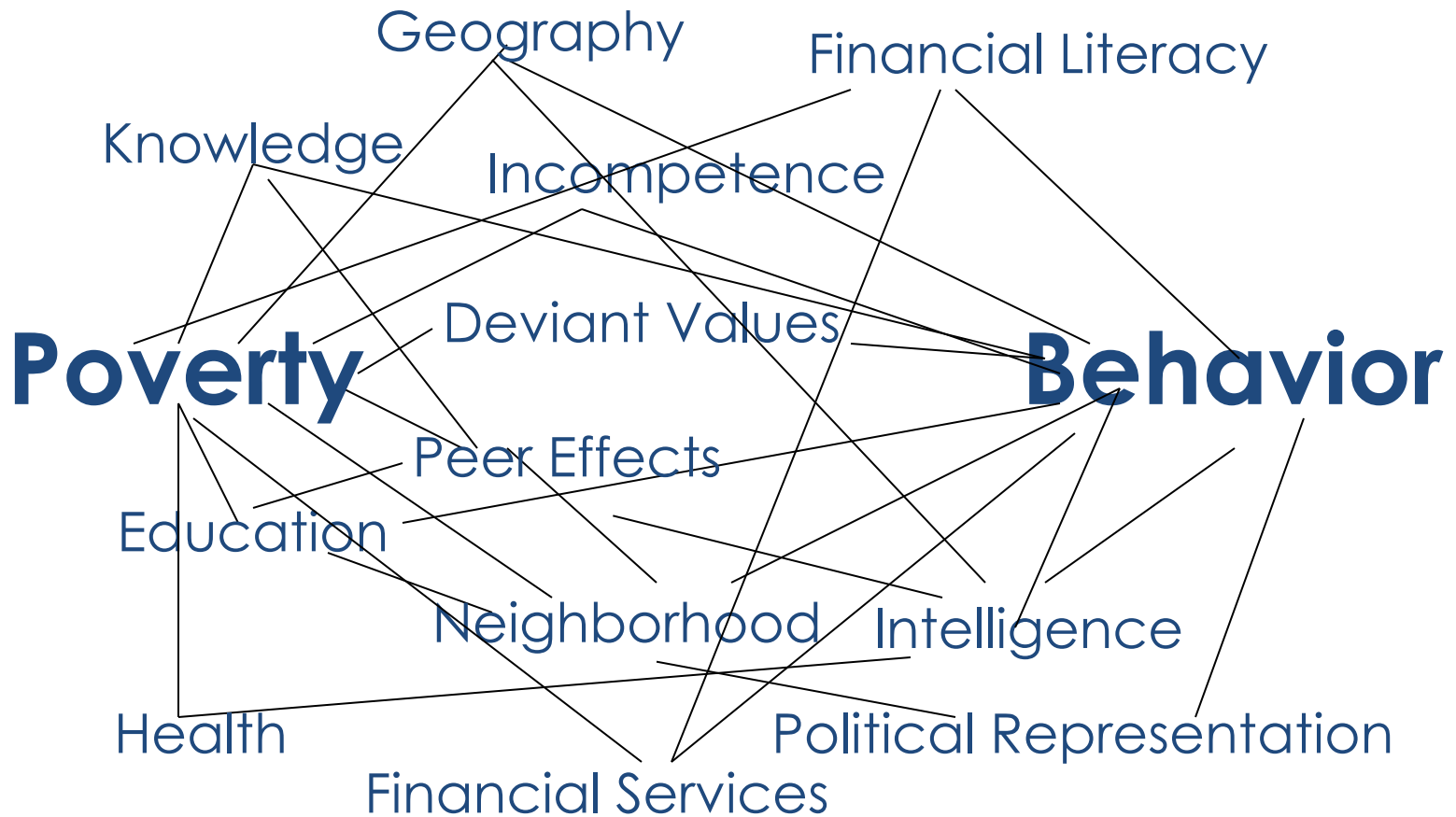
## Parenting...

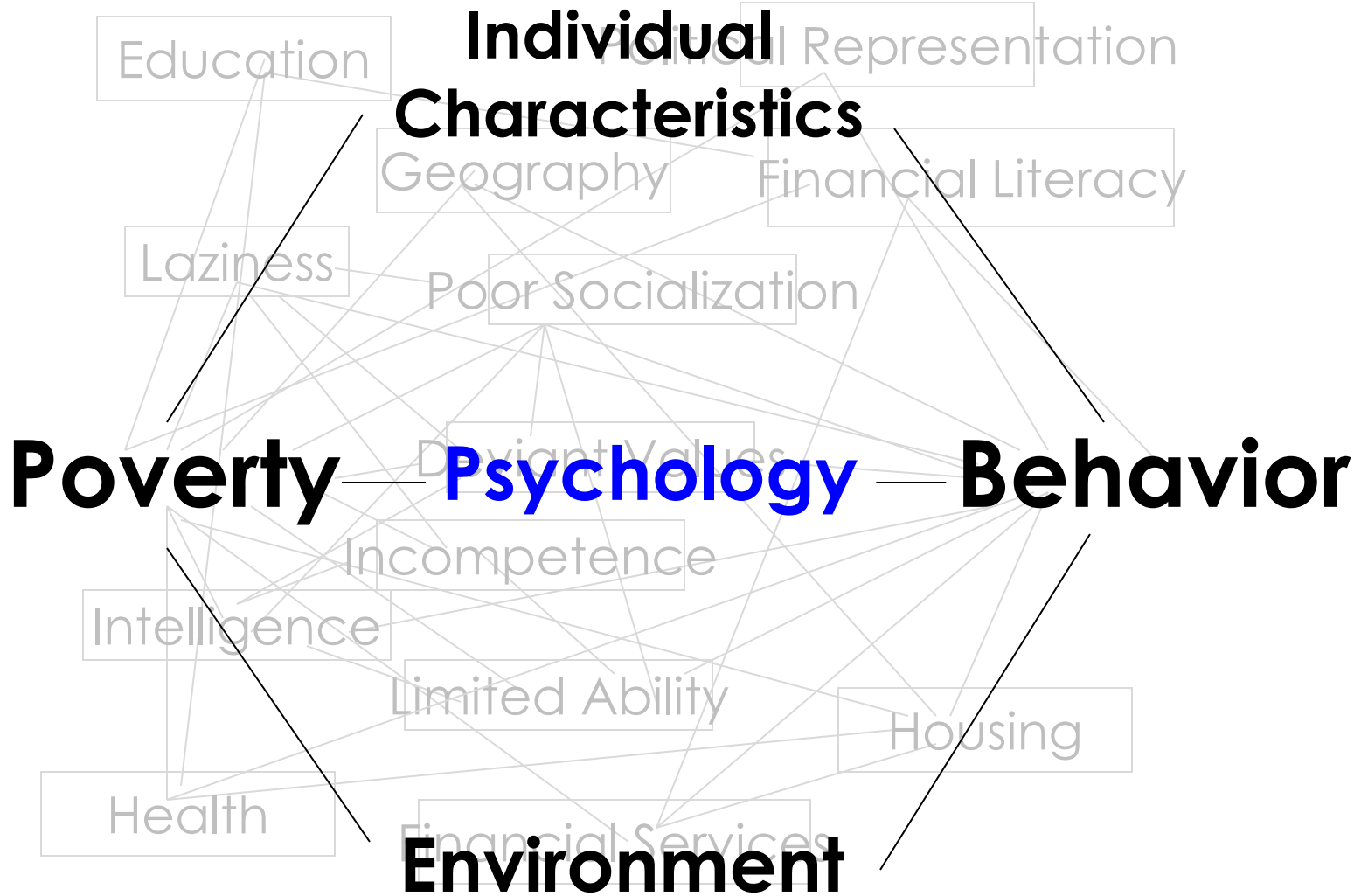
Attention, consistency, engagement,...  
Consistent finding: Poor are worse parents

## Payday Loans...

Short-term high (extremely high) interest loans...









# Understanding Behavior in Poverty

Is there something intrinsic to poverty? (besides the many covariates..)

## **The psychology of scarcity...**

Conditions of scarcity (in money, time...) produce their own psychology.

This psychology, in contexts of scarcity, produces characteristic behaviors.

# The Packing Problem: A Suitcase metaphor

## Larger suitcase:

- pack everything important w. room to spare
- easy to leave slack, in case something comes up



## Smaller suitcase:

- pack the very essentials
- need to choose among important items that don't fit
- hard to maintain any slack

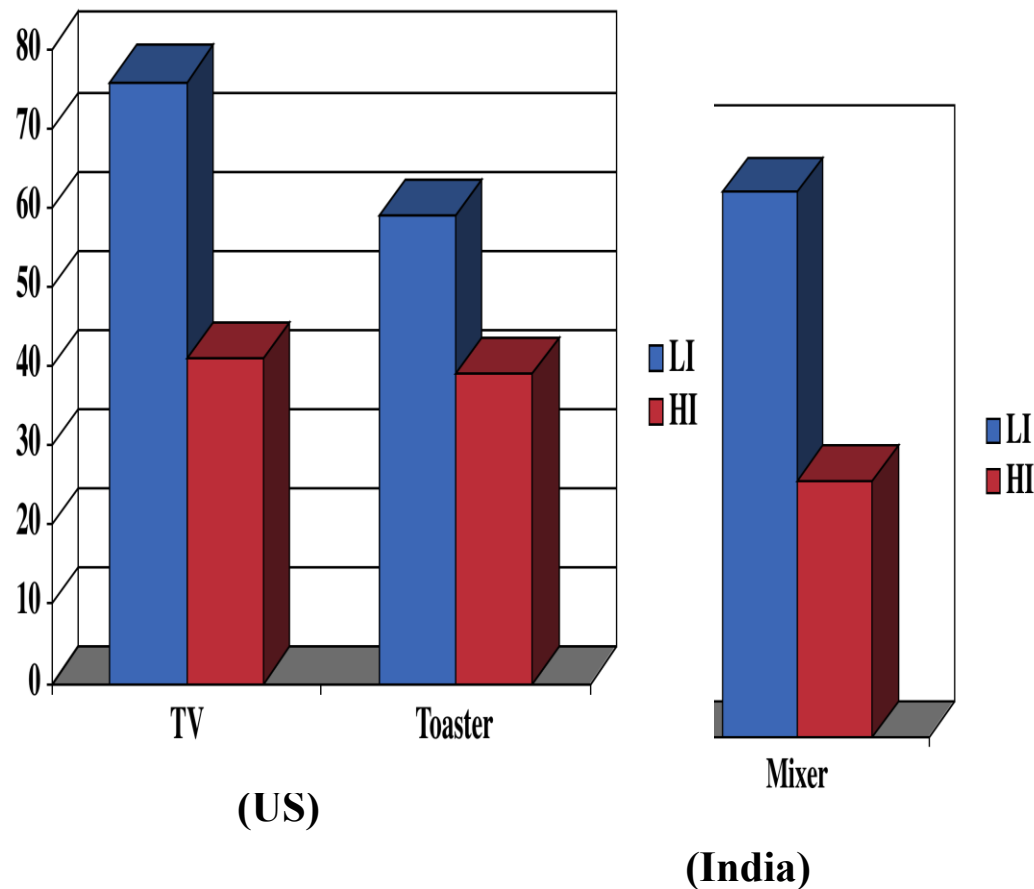


- Slack makes it easier to pack; Complexity higher when suitcase tight
  - Slack reduces cognitive cost: requires less focus, less vigilance
- Bigger suitcase means slack is “cheaper”
  - What you give up to maintain slack is (marginally) cheaper

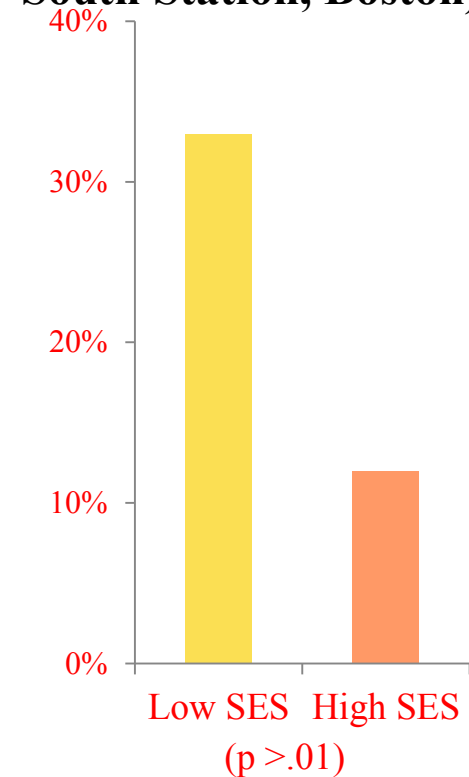


Focus – quite successfully -- on immediate prices & tradeoffs..  
(but less mind left for other things...)

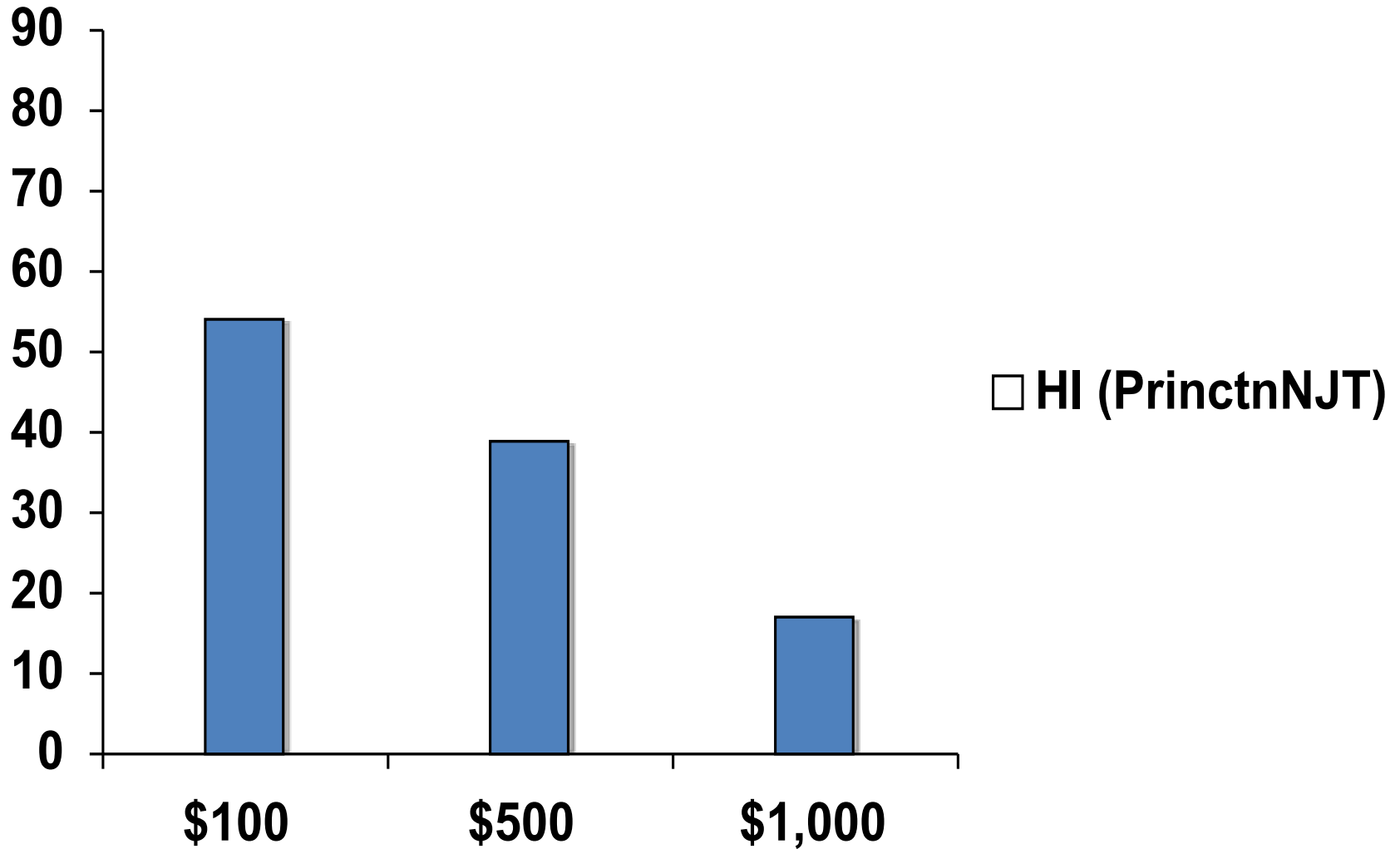
**The poor: A greater focus on tradeoffs**  
(% who think about what they would not buy instead...)



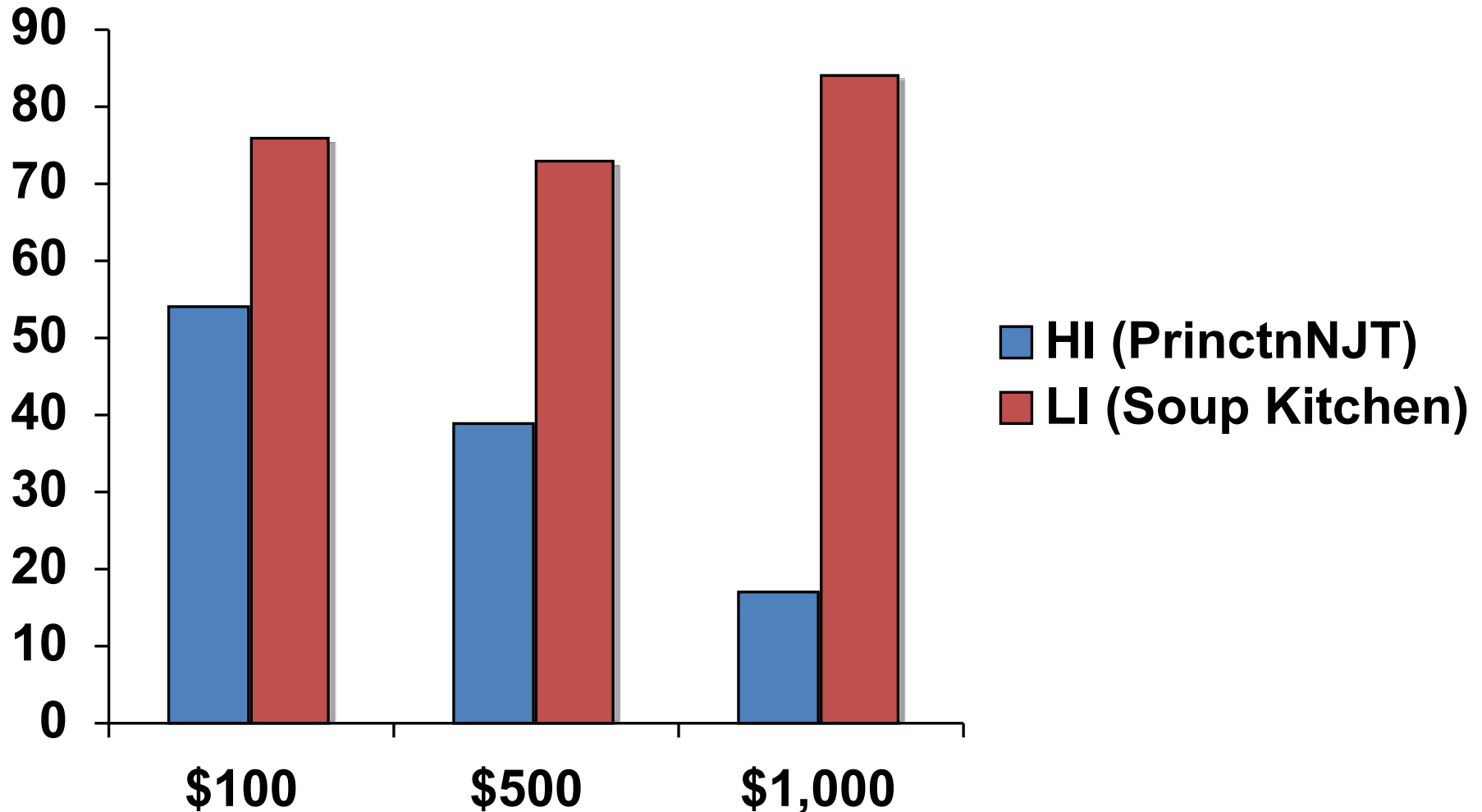
**The poor: Know prices better**  
(Taxi fare when you first get in?  
South Station, Boston)



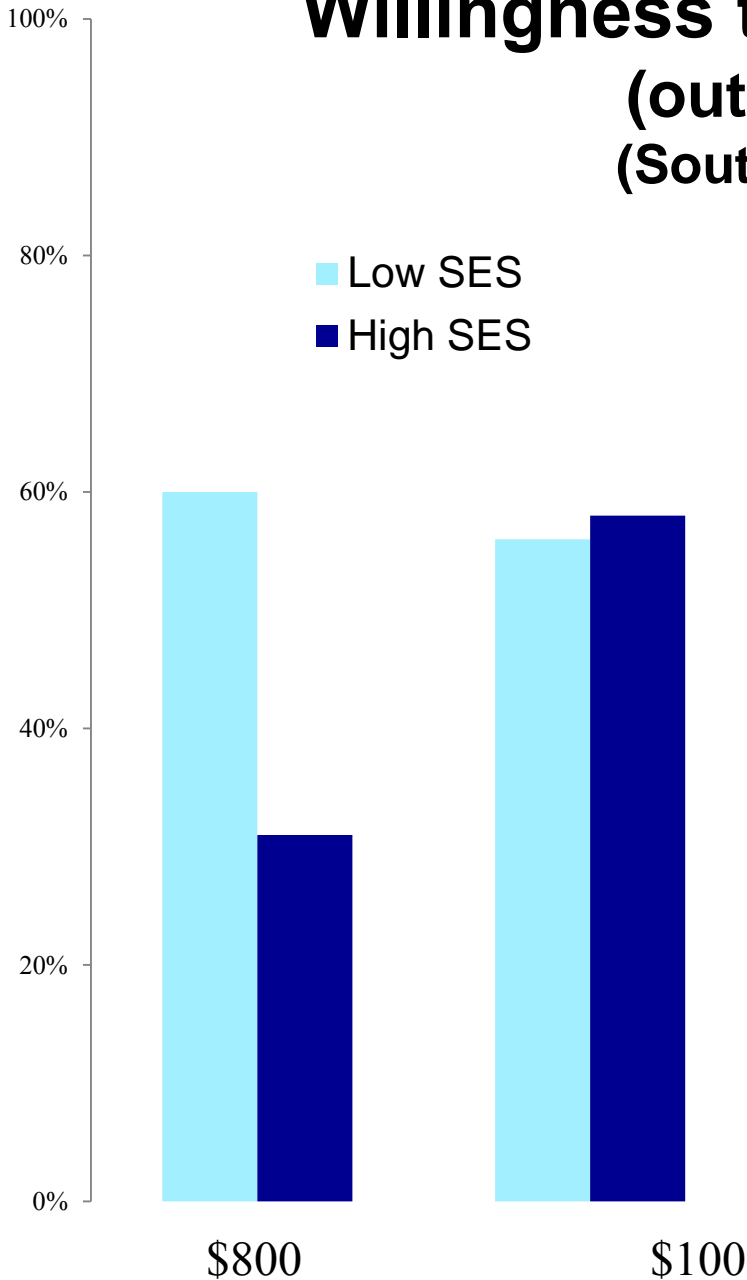
# Percent willing to travel 45 mins to save \$50:



# Percent willing to travel 45 mins to save \$50:



# Willingness to travel to save \$25... (out of \$800 / \$100) (South Station, Boston)



Across a wide set of classic behavioral findings...

The poor's assessment of price and value: more robust; less affected by context and "frame"...

Heritage Foundation, 2011 Report: the poor in America “have air conditioning, cable TV, and a host of other modern amenities.”

“This report proves that poor people are just not living down to our expectations. If you still have the strength to brush the flies off your eyeballs, you’re not really poor.”

Stephen Colbert

“I'd never realized that poor people in this country had it so good. No wonder the middle class is pouring into their ranks in droves!”

Jon Stewart

"A linen shirt, for example, is...not a necessity of life. The Greeks and Romans lived...very comfortably though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt. ...”

Adam Smith, *Wealth of Nations*

# Poor in...

## Money

## Time

Tradeoffs:

If I buy this, what do I *not* buy instead?

If I do this, what do I not do instead?

Temptations:

Basic goods turn into “luxuries”

Basic activities turn into “luxuries”

Indulgences:

Given what you owe, what are you doing spending?!

Given what you owe, what are you doing here schmoozing?!..

More consequential:

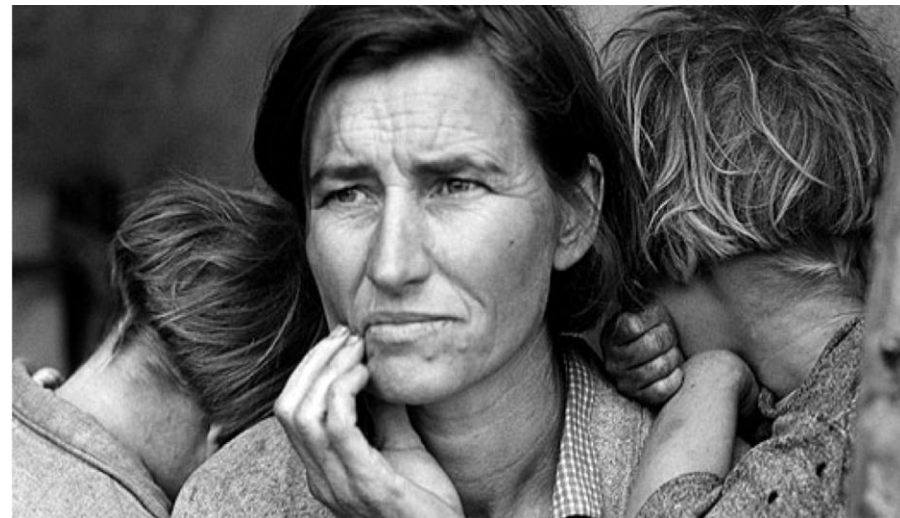
When there's lack of slack, bad tradeoffs, giving into temptation / indulging - all more consequential!...





# SCARCITY

A source of demand on cognitive capacity...











**FOOD**



**WATER**

**ATTENTION!**



**ATTENTION!**



**ATTENTION!**

**MONEY**



**FRIENDS**



**ATTENTION!**



# SCARCITY IS TOP OF MIND



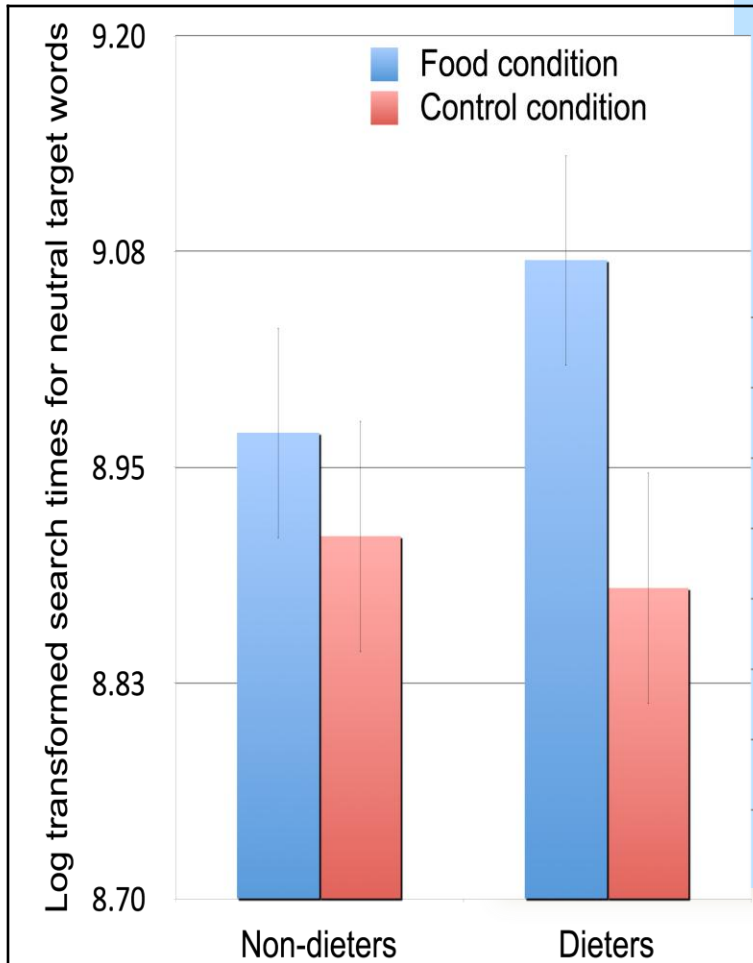
WATER  
JUICE  
SODA  
THIRST



CHAIR  
FRIENDS  
TREES  
TALKING

# and SCARCITY IS DISTRACTING...

## Search times – *for neutral targets* – by condition and group



A word search puzzle interface with a 10x10 grid of letters. The words 'Word Search' are written in a stylized font at the top. A list of words is provided on the right side of the grid. The word 'TREE' is circled in red in the grid.

|   |   |   |   |   |
|---|---|---|---|---|
| G | P | P | O | F |
| T | R | R | C | Q |
| E | C | H | Q | L |
| E | D | O | V | V |
| R | T | F | Z | A |
| T | F | V | G | A |
| S | C | R | F | P |

Word List:

- CAKE
- TREE
- DONUT
- CLOUD
- SWEETS
- LAMP
- INDULGE
- RAIN
- DESSERT
- DOOR

Additional words listed on the right side of the grid:

- STREET
- TREE
- PICTURE
- CLOUD
- CARPET
- LAMP
- DAYTIME
- RAIN
- VACUUM
- DOOR



# FINANCIAL CHALLENGES

(in a NJ mall...)



## COGNITIVE CONTROL TASK

---

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

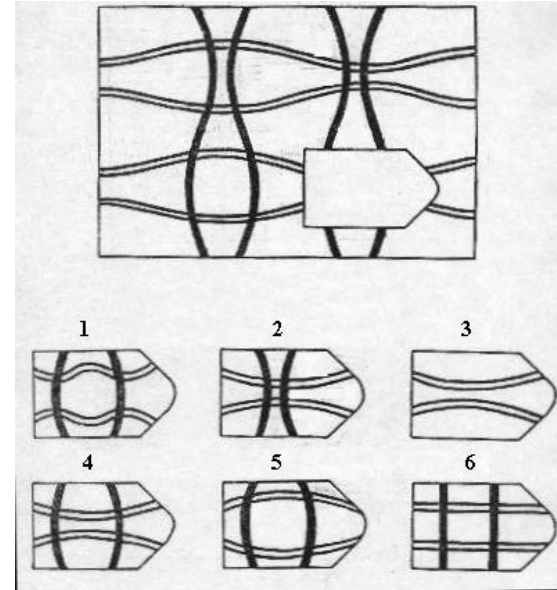


Measures cognitive control & executive function...

*“Driving test”...*

## RAVEN’S PROGRESSIVE MATRICES

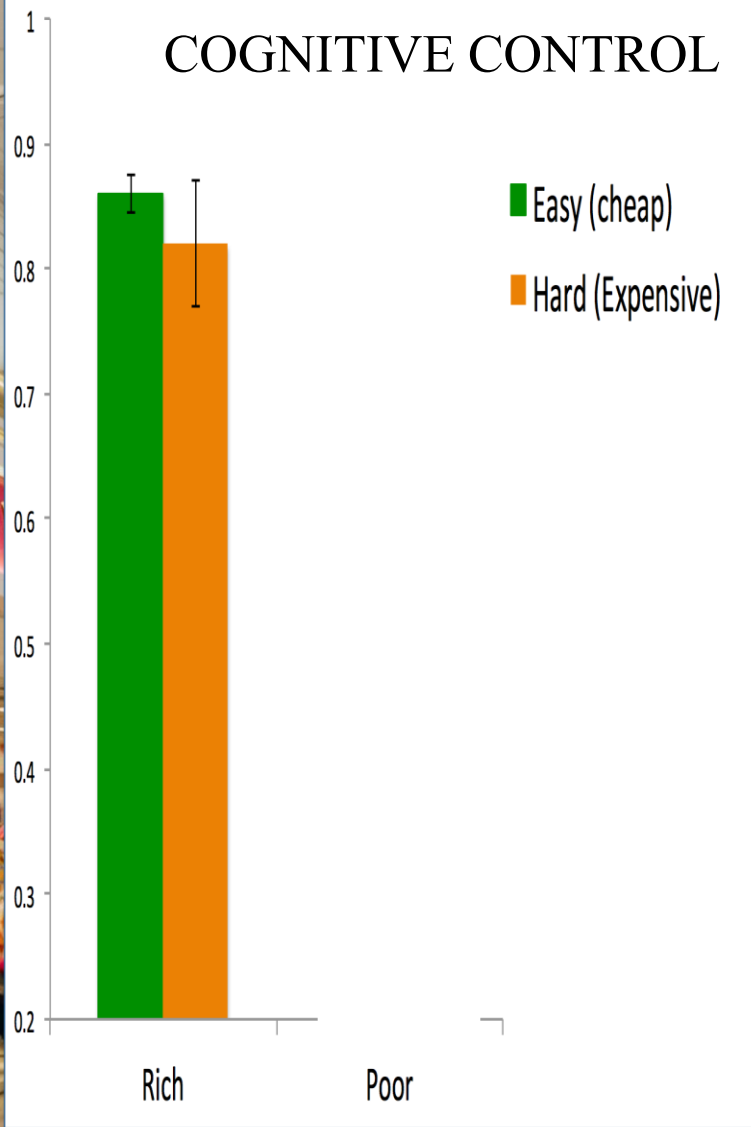
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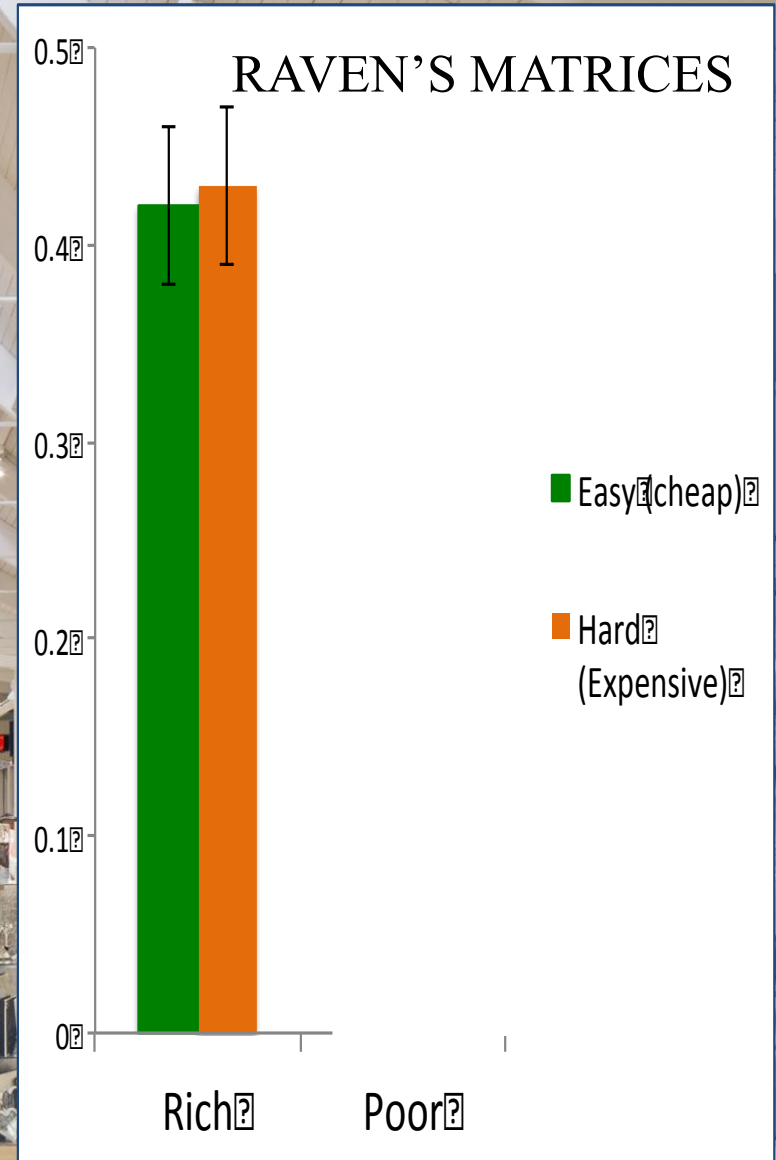
“Measures high-level observation skills, clear thinking ability, and intellectual capacity.”

*“Intelligence test”...*

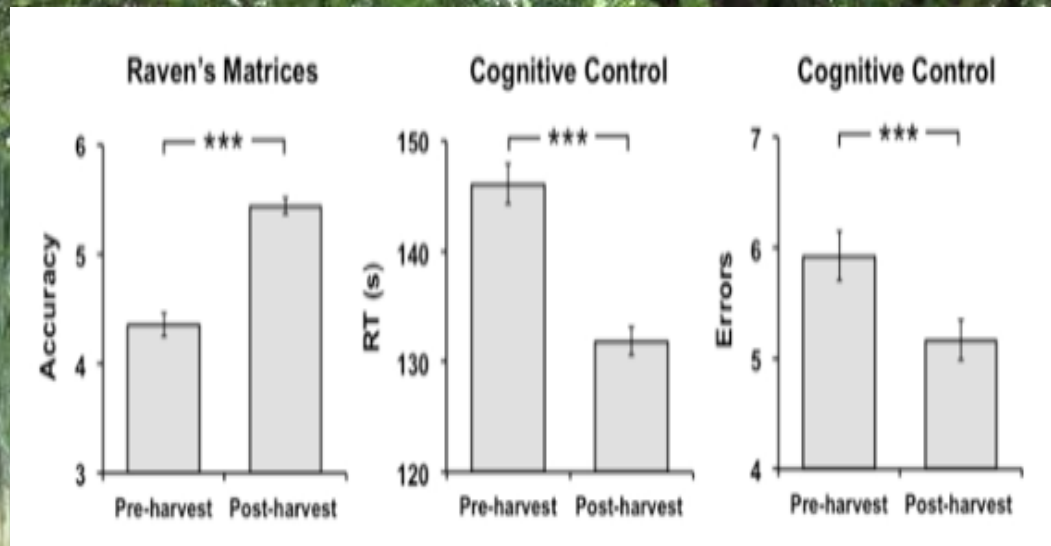
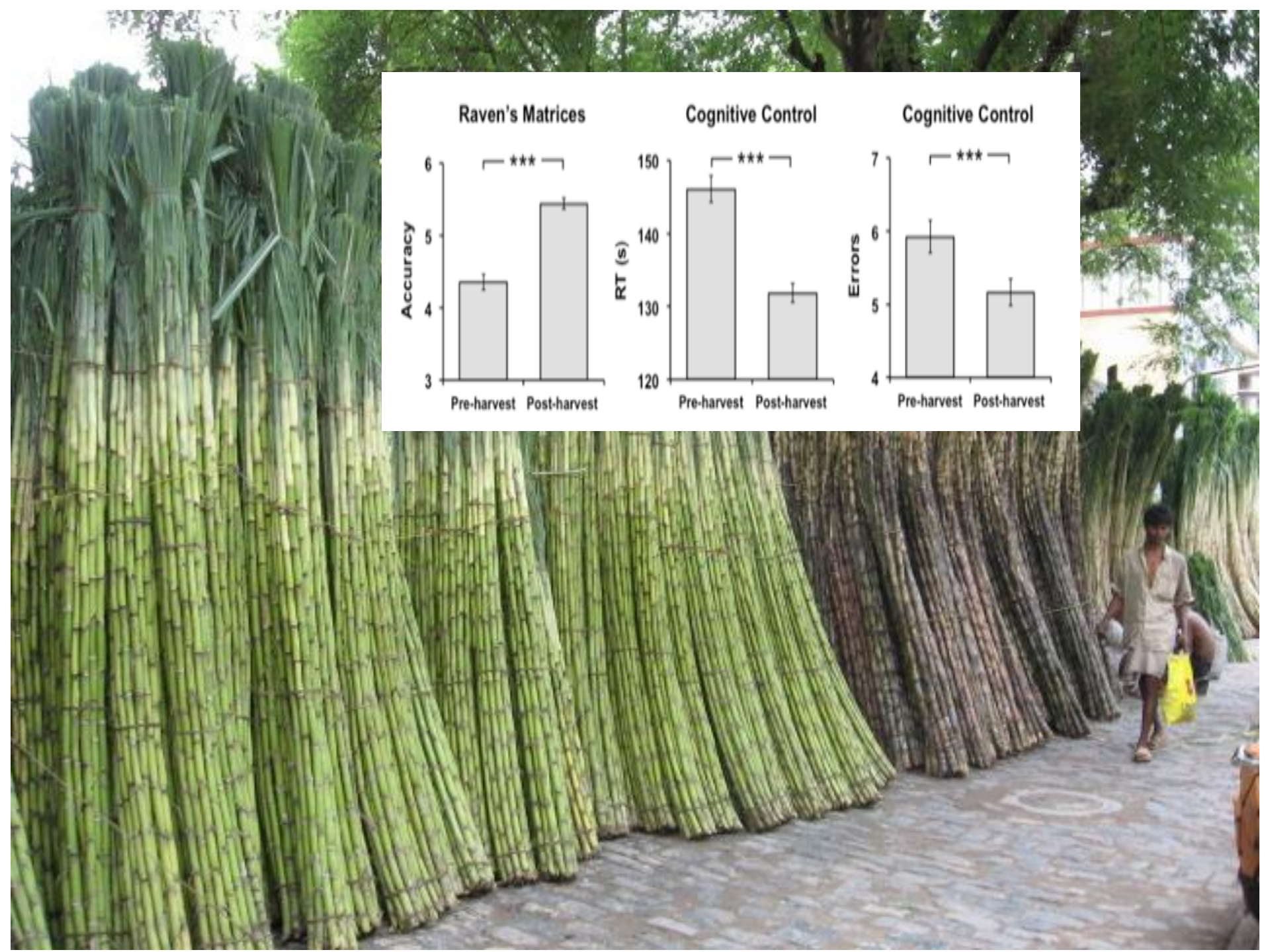
## COGNITIVE CONTROL



## RAVEN'S MATRICES







# So far...

Scarcity is demanding of attention (intentionally *and* automatically)

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

And this is not about *the* poor – it's about *being* poor...

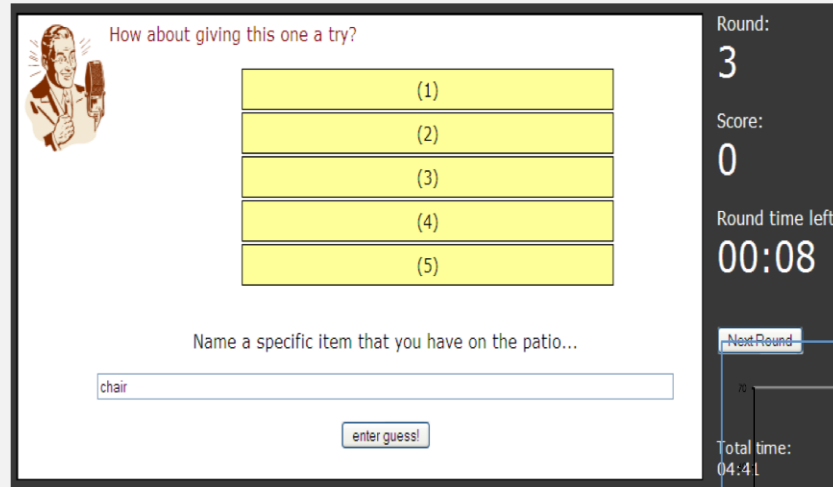


20 rounds

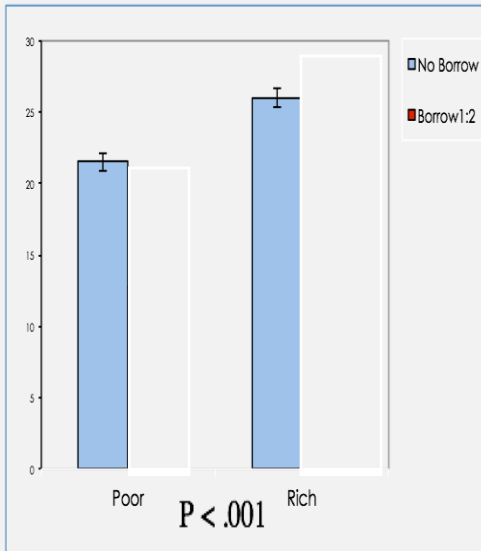
“Rich”: 50 sec / rnd (1000 sec total)

“Poor”: 15 sec / rnd (300 sec total)

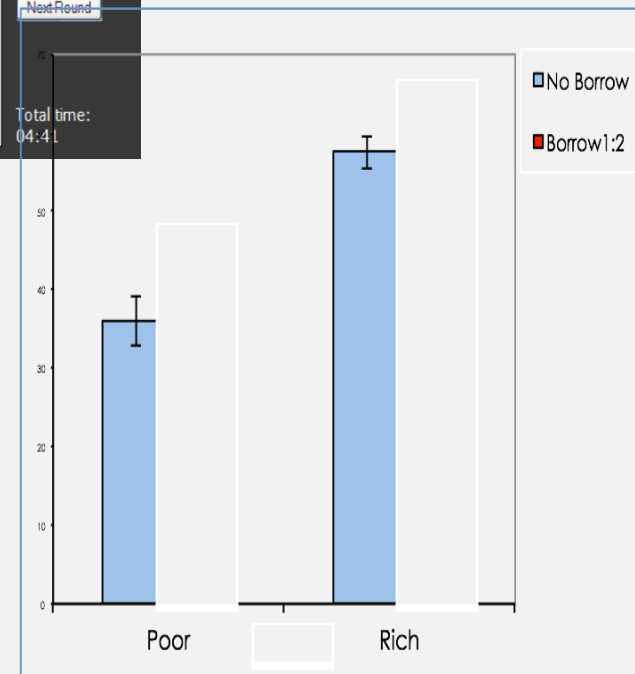
No borrowing vs. High Interest Borrowing



Rounds Completed



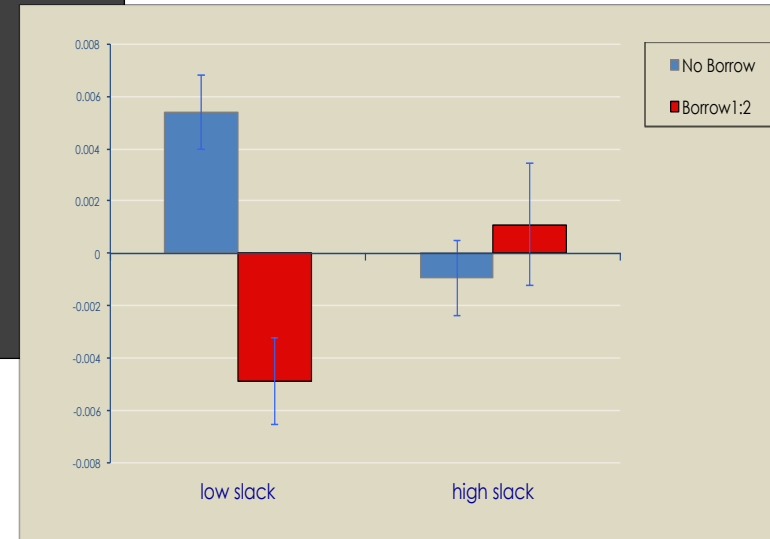
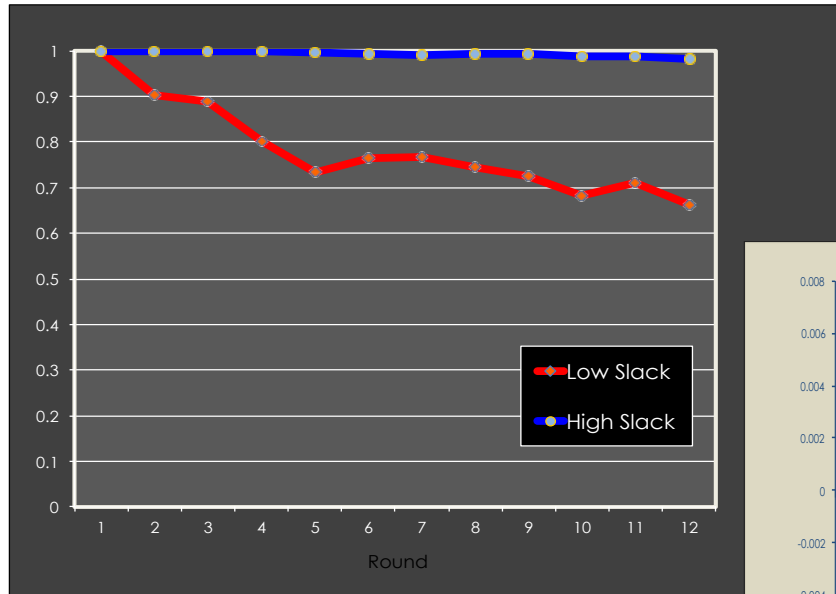
Points Earned



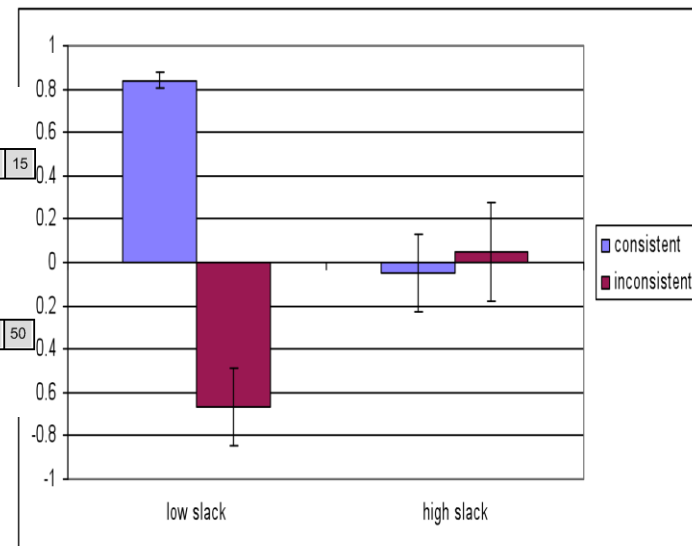
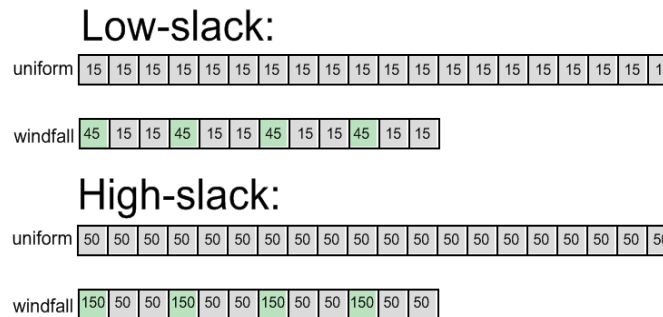
Shah, Mullainathan, & Shafir, *Science*, 2012



# Debt Traps



# Smoothing consumption



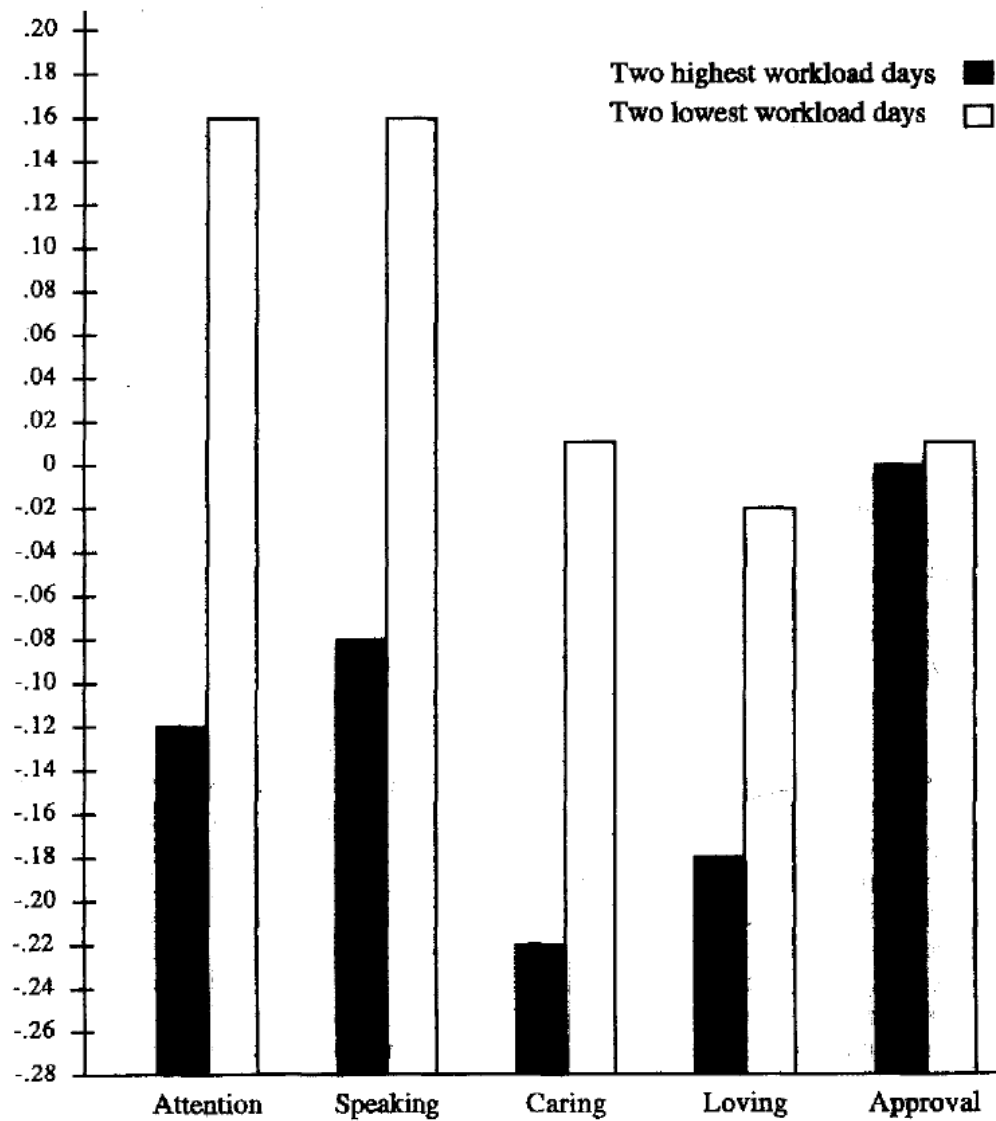


Figure 2. Average observer ratings of parent behavior on days with high and low perceived workload.

# Irony of Poverty

- Poor must make higher quality decisions
  - Greater packing challenges under scarcity
  - Greater attention consumed under scarcity
  - More temptations under scarcity
  - Can't afford mistakes under scarcity
- Poor are in worse position to make high quality decisions
  - Distracted by stressors/decisions/conditions
  - Depleted by challenges/temptations/load
  - Hampered by context/culture/stereotype
  - Unappreciated! (Both they and their packing problems...)

# POLICY MAKERS NEED TO CARE ABOUT BANDWIDTH



Scarcity (e.g., in money) causes scarcity in bandwidth. (regressive tax).

Scarcity: function of one's environment (not just income)!

buffer savings, insurance to deal w. shocks, family/friends, can mean less scarcity at same level of income. (*Portfolios of the Poor...*)

Institutions/contexts can impact ease of packing

- Predictability (work hours, salary); Accounting ease; Nudges (defaults), Channel-factors (in vs out of the “tunnel”); Insurance
- Dodd-Frank, Consumer Protection, Qualified mortgages,...

Bad design of programs; psychic taxes, in/outside the tunnel...

- Relief payments (flood disaster), EIC, are paid in lump sum
- “Character obstacles” - time, self-presentation, planning...
- Lifetime welfare limits (SNAP); Penalize but fail to motivate
- Recertification (SNAP), long forms...

**FAFSA** 2010-2011

**Section 1: Student Information**

FAFSA Form 2010-2011

**Section 2: Financial Information**

FAFSA Form 2010-2011

**Section 3: Assets**

FAFSA Form 2010-2011

**Section 4: Income**

FAFSA Form 2010-2011

**Section 5: Expenses**

FAFSA Form 2010-2011

**Section 6: Review and Signatures**

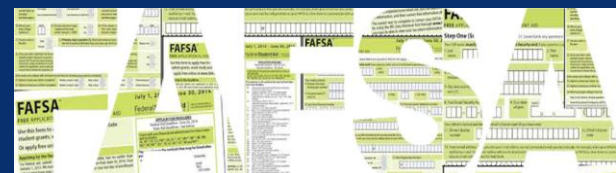
FAFSA Form 2010-2011

**Section 7: Additional Information**

FAFSA Form 2010-2011

**Section 8: Student Aid**

FAFSA Form 2010-2011



**Section 9: Federal Student Aid**

FAFSA Form 2010-2011

**Section 10: State Student Aid**

FAFSA Form 2010-2011

**Section 11: Additional Information**

FAFSA Form 2010-2011

**Section 12: Student Aid**

FAFSA Form 2010-2011

**Section 13: Federal Student Aid**

FAFSA Form 2010-2011

**Section 14: State Student Aid**

FAFSA Form 2010-2011

**Section 15: Additional Information**

FAFSA Form 2010-2011

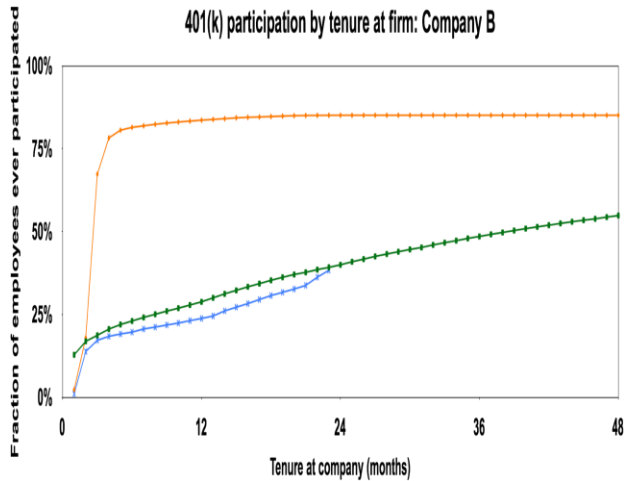
**Section 16: Student Aid**

FAFSA Form 2010-2011

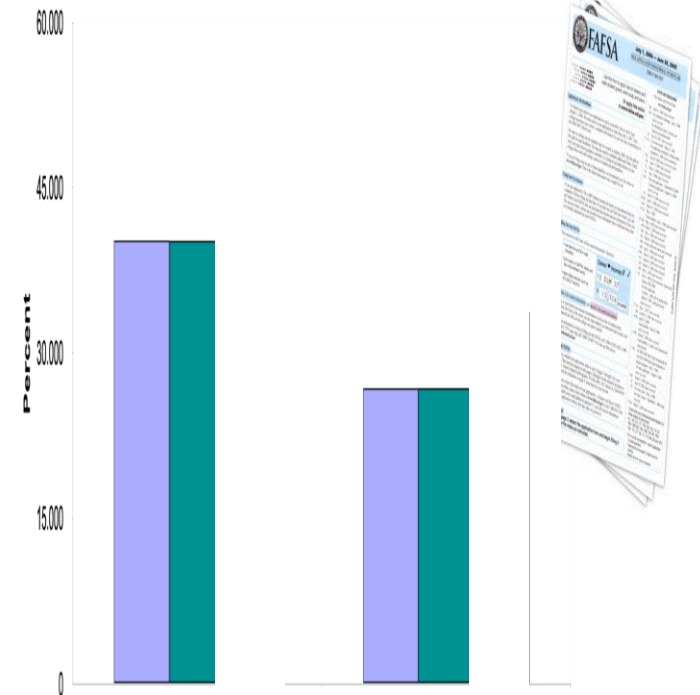
# POLICY MAKERS NEED TO CARE ABOUT BANDWIDTH



## Retirement Savings



## FAFSA forms



(Bettinger, Long, Oreopoulos & Sanbonmatsu, 2009)



## PUT A LOCK ON MARKET GAINS

**PORTFOLIO INSURANCE** Can You Afford To Go Without It? Portfolio Insurance is being termed the most important new investment product of the decade. Billions of dollars of pension fund, endowment, and trust assets now enjoy the security of Leland O'Brien Rubinstein's protection programs, without missing the potential for further upside gain. With the market at new highs, isn't it time to consider locking in your gains?

Leland O'Brien Rubinstein (LOR) originated portfolio insurance programs more than five years ago with the introduction of Dynamic Asset Allocation.\* But we aren't resting on our laurels.

### THE LEADER MOVES FORWARD AHEAD

We are now offering four major enhancements to give pension funds even more flexibility at lower cost:

- **PERPETUAL PROTECTION™** allows investors to leave our protection programs in place as long as they wish. With no artificial expiration date, trading is smoother and results more predictable. And many programs can start unhedged, minimizing protection cost when markets rise.
- **EQUITY ENHANCED DEDICATION™** provides the assurance of meeting pension liabilities. In contrast to traditional dedicated bond portfolios, EED allows significant participation in equity markets, making it the logical successor to dedication.
- **TRADING OPTIMIZER** generates trading "rules" that reduce turnover while meeting investment objectives.
- **OPTIONS INTEGRATION** employs index options as well as index futures to minimize required trading and reduce potential costs.

Only LOR's system offers this full range of protection programs and enhancements. It is available from LOR or the following organizations:

Aetna Life Insurance Company  
BEA Associates, Inc.  
Andras Canavest Hetherington Ltd.  
Center Trust Company of St. Louis  
First Chicago Investment Advisors  
Webster Capital Management  
Wells Fargo Investment Advisors  
Western Asset Management Company

For further information, call Larry Edwards, President, (213) 614-3173.



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| Loan Amount | Term |
|-------------|------|
| \$25,000    | 36M  |
| \$50,000    | 60M  |
| \$75,000    | 72M  |

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System Design & Implementation  
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The Urban Development Corporation has residential and commercial serviced lots for sale in Davis Town on the Main Road from Lydford to Steer Town in the parish of St. Ann

### • Residential

Lot sizes range from 290 Sqm to 488 Sqm  
Prices range from J\$ 636,020.00 to J\$ 843,700.00

### • Commercial

Lot sizes range from 298 Sqm to 793 Sqm  
Prices range from J\$778,800.00 to \$1,687,400.00

- Paved Roadways
- Water and Electrical Supply available

Interested persons may contact:

### Davis Town Sales Office

Shop #5  
Ocean Village Shopping Centre, Ocho Rios  
Tel: 974-8803

or

### Marketing and Property Development Department



making development happen...

Source: Institutional Investor, January 1987, p. 88.

## winning through diversity

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AA/ECE



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- Accounting/Finance
- Sales
- Loss Prevention
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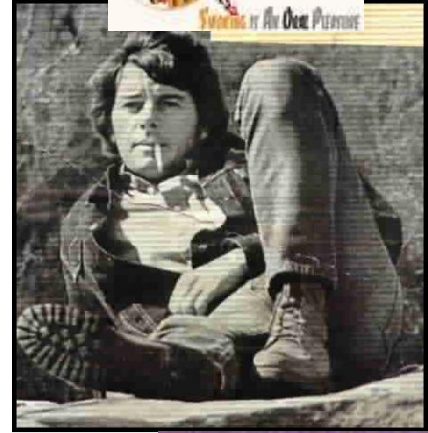




"My kind of cigarette - no taste or stinky smell," says "America's most popular" Cowboy Duke Brown going along: "Taste good, smells mild." Today more people smoke Camel than any other brand! The best tobacco makes the best smoke.



Smoking is An Oral Pleasure



"From the classic exciting new 'LAWMAN' on ABC-TV"



# What's Advertising Content Worth? Evidence from a Consumer Credit Marketing Field Experiment (Bertrand, Karlan, Mullainathan, Shafir, Zinman; *Quarterly Journal of Economics*, 2010)

Account Number 105349191

**BUSINESS HOURS**  
MON - FRI 08:00 - 18:00  
SAT 08:00 - 12:00

**SIYAKHULUMA ISIZULU**

**A special rate for you.**

Congratulations! As a valued client, you are eligible for a special interest rate on your next cash loan from [REDACTED]. This is a limited time offer so please come in by 31 October 2003 to take advantage of this offer. You can use this cash to pay off a more expensive debt, repair your home, buy an appliance, pay for school or for anything else you want.

Enjoy low monthly repayments with this offer! For example:


| Interest Rate | Loan Amount | Loan Term | Monthly Repayment |
|---------------|-------------|-----------|-------------------|
| 10.50%        | R2000.00    | 4 Months  | R710.00           |

LOAN AVAILABILITY SUBJECT TO TERMS & CONDITIONS

Loans available in other amounts. There are no hidden costs. What you see is what you pay.  
If you borrow elsewhere you will pay 10% more in interest payments on a R2000, 4 month loan!

**How to apply:**  
Bring your ID book and latest payslip to your usual branch, by 31 October 2003 and ask for  
To extend your deadline, call 0860 333 0004 or SMS 0860 222 334.

**WIN**  
10 CELLPHONES UP FOR GRABS EACH MONTH!



PS: Unfortunately, if you have already taken a loan since the date this letter was issued, you do not qualify for this offer

## Behavioral (“Marketing”) Manipulations:

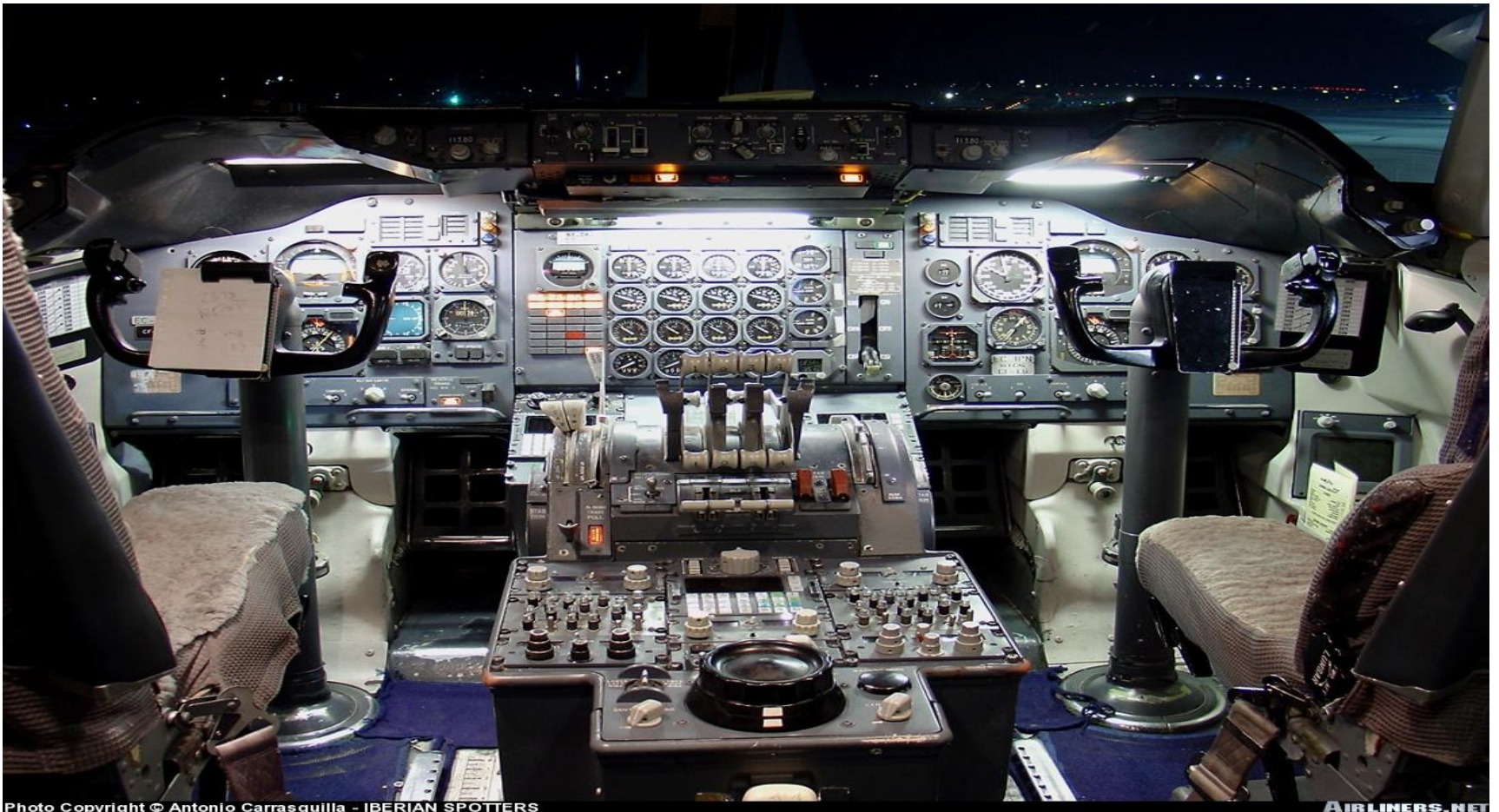
- # of loan examples shown
- subtle peripheral cues; photos

## Some results:

1 vs. 4 examples: ~ 2.3 percent. points

For males: female picture = ~ 4.5 points





Design life's cockpit with scarcity & bandwidth in mind...

Aim to provide more bandwidth (pay day, work shifts, child care, transportation)

Aim to demand less bandwidth (reminders, flex demands, Financ. literacy?!?)

Create more scarcity-proofing... (e.g., prof. training, consumer protection)

Because it's the only bandwidth we got...

Thank you!