



Implementation Science

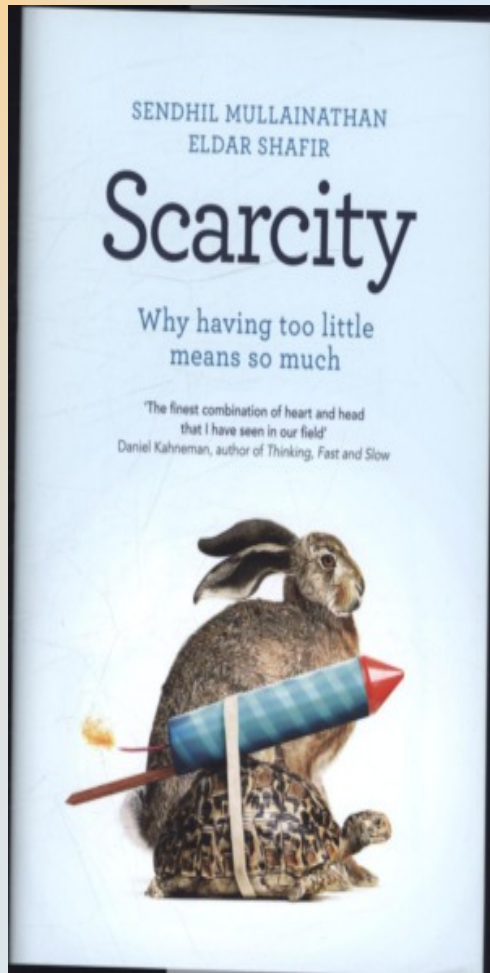
Some Thoughts About When Our Actions Don't Align With Our Intentions



Demands that students and teachers do more with less (increasing class sizes, cutting education funding, reducing instruction time that is taken by testing and test-prep, implementing new programs), while elevating the stakes attached to teaching and learning—actually reinforce the disadvantages of scarcity by heightening stress, reducing the cognitive capacity of teachers and students, and in effect, cultivating failure.



Understanding the Psychology of Scarcity as We Support Continuous Improvement

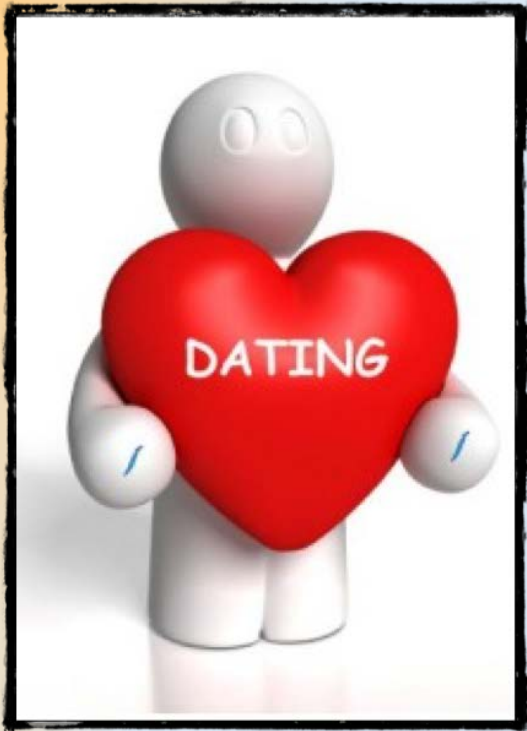


- Conditions of scarcity create their own psychology.
- This psychology produces characteristic behaviors.

Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. New York, NY. Times Books.



Scarcity Same Dynamics No Matter What Resource





Suitcase Metaphor and Slack

Big Suitcase

- Pack everything with room to spare
- Easy to leave slack (space) in case something comes up



Smaller Suitcase

- Pack what you need
- Choose between important items that don't fit
- Hard to have any slack



Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. New York, NY. Times Books.



Slack Tradeoffs and Bandwidth Tax



- Slack makes it easier to pack.
- Reduces complexity and cognitive costs – attention, cognitive ability, self control.
- Keeps you from having to make tradeoffs.

Mickey Mouse attempts to close his overstuffed luggage in *Moving Day*. Retrieved from <http://hyperionpapers.com/2012/06/20/exploring-cartoon-convention-moving-day/>



Scarcity Captures Attention



- Limits what you can see
- Depletes self control
- Causes impulsive behavior

to **tunnel**: to focus single-mindedly on managing the scarcity at hand.

Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. New York, NY. Times Books.





Time to Revisit Views of Behavior Under Scarcity

Rational Choice view

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

Pathology view

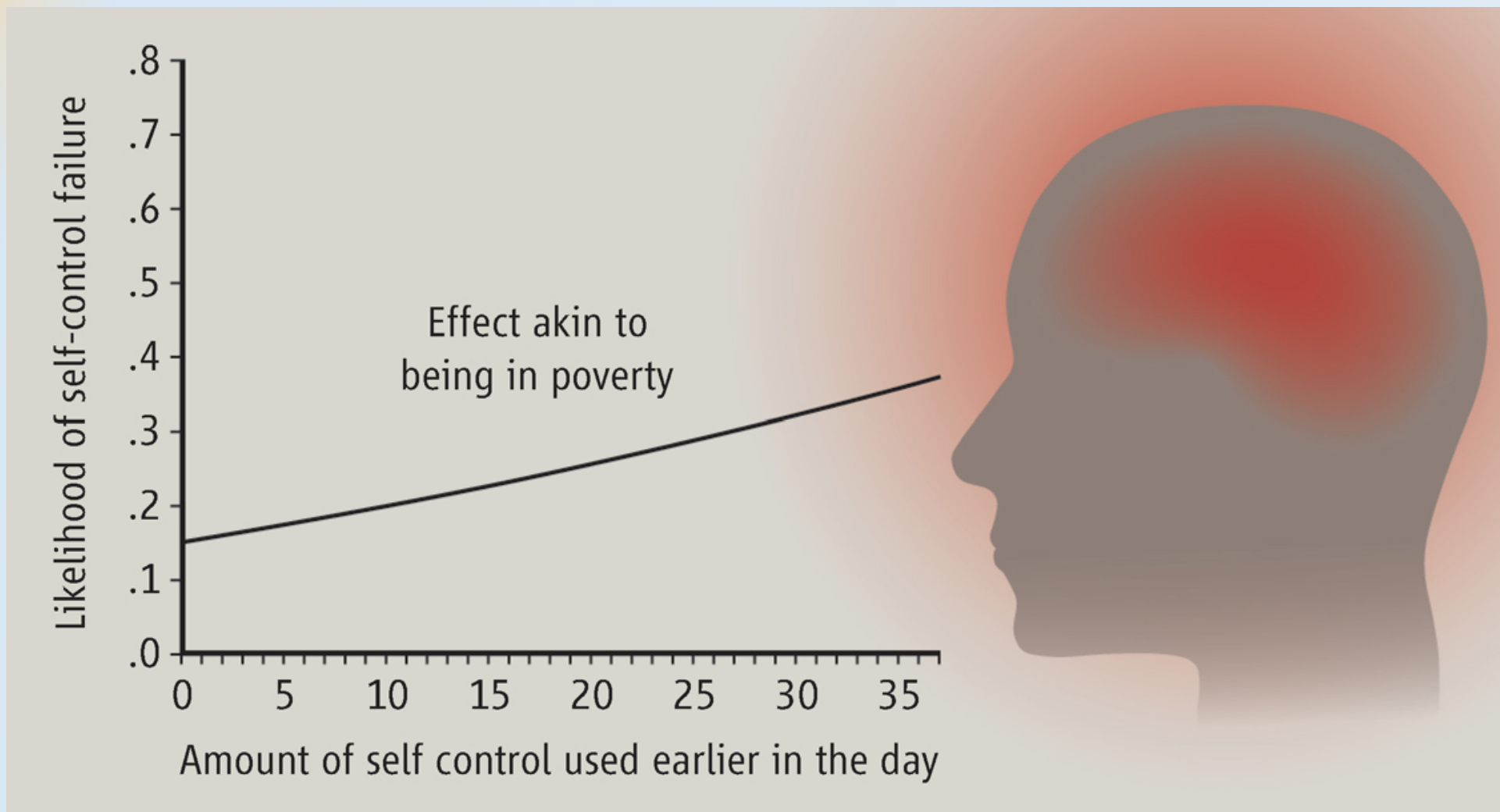
- Psychological pathologies specific to the poor
- Impatient, no planning, confused
- Behaviors endemic to culture of poverty

An alternative:

- Us! Neither rational nor pathological; just plain human



People Become Progressively Worse at Self-Control the More They Have Engaged in Self-Control Previously



Kathleen D. Vohs Science 2013;341:969-970





- Abundance allows people *slack*, space that doesn't force anyone to consider trade-offs.
- Conversely, scarcity removes slack.
- In moments of abundance, then, people behave differently than in moments of scarcity.
- The consequences for people in poverty are much greater, then, than the consequences for people in affluence.



Redundancy to Create Slack



When thinking of the psychological factors induced by scarcity, what might we learn about the power of redundancy from the aviation industry?



Fault Tolerance

Mergenthaler Vocational Technical High School Credit Recovery Menu of Courses (Updated 11/02/2017)

2017 - 2018



Class	Twilight School Cycle 2 (Begins 12/12 Tentative)	Saturday School Cycle 2 (Begins 2/3)	Twilight Cycle 3 (Begins 2/26 Tentative)	APEX (as a LAST option)**
English 1			T/Th	
English 2			M/W	
English 3			T/Th	
English 4		Y	M/W	
Algebra 1			M/W	
Geometry	T/Th			
Algebra 2			T/Th	
Prob & Stats		Y		
Physics First		Y		
Biology			T/Th	
Chemistry			T/Th	
US History		Y		
Am. Govt		Y		
World History				Y
Music			M/W	
Art				
Personal Fitness (PE)	T, W		T/Th	
Health		Y		
Tech Ed.			M/W	
French I	M, W			Y
French II	M, W			Y
Spanish 1			M/W	

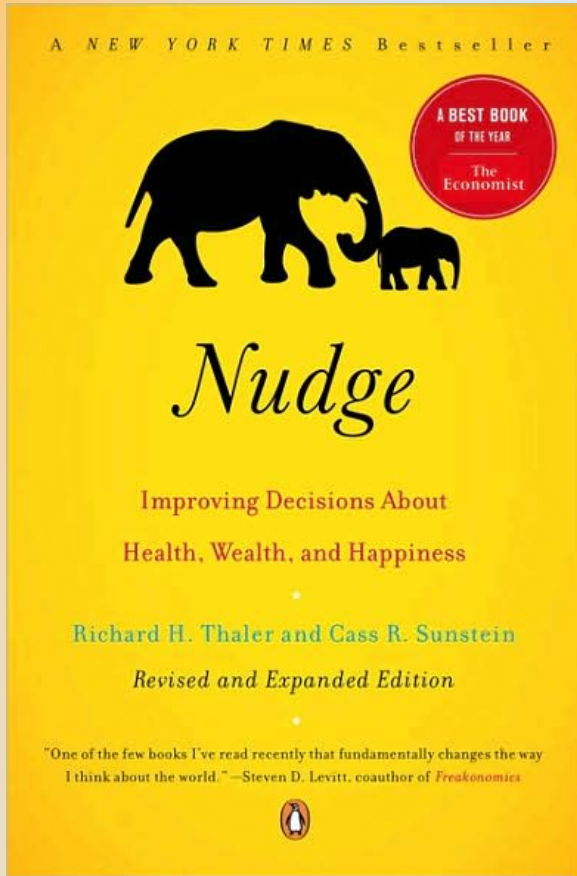


Table Talk

What examples of redundancy, or fault tolerance, come to mind when thinking of schools in your state implementing redesign?



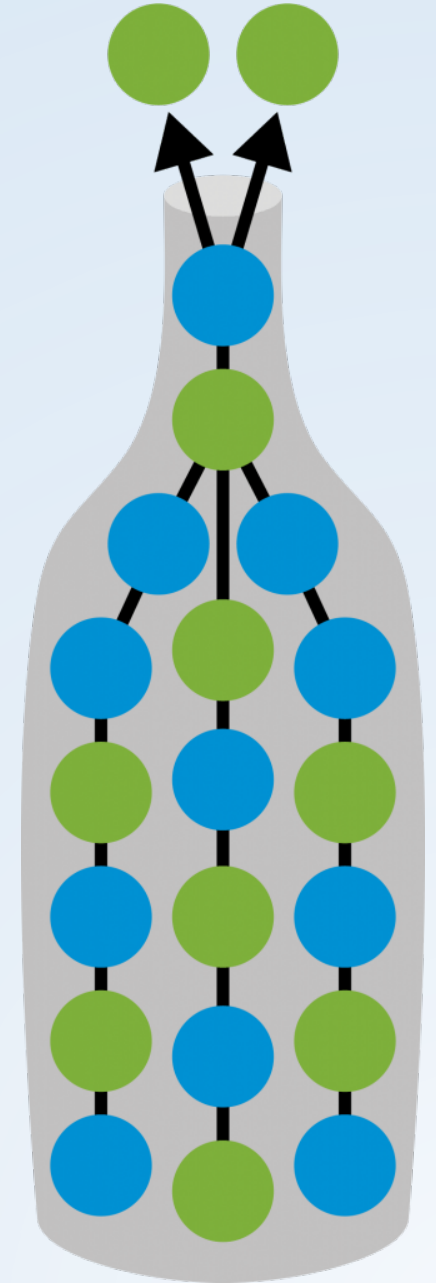
Nudges



- When a choice has costs now and benefits later, we tend to procrastinate, to our peril.
- Investment goods: exercise, flossing, dieting
- When a choice has benefits now and costs later, we tend to be tempted into mistakes.
 - Sinful goods: cigarettes, alcohol, fatty foods
- For these choices, we often need nudges



- Think about places where bottlenecks often occur when implementing change.
- At your table, look at the behavior influences and heuristics on pgs. 17 and 18.
- Share an experience from your state of how that dynamic may have manifested?





Deficit Theory of Change

Understanding the Problem

- Identify problem
- Conduct root cause analysis
- Brainstorm solutions and analyze
- Develop action plans/intervention

Most schools, companies, families and organizations function on an unwritten rule.

“Let’s fix what’s wrong and let the strengths take care of themselves”

--Gallop Poll

Metaphor: Organizations are problems to be solved



Overuse of Deficit-Based Management

Unintended Consequences & the Point of Diminishing Returns

- Fragmentation
- Few New Images of Possibility
- Exhaustion
- “The Experts Must Know” Dependence and Hierarchy
- Spirals in Deficit Vocabularies
- Closed Door Meetings
- Disempowering Climate
- Anti-innovation

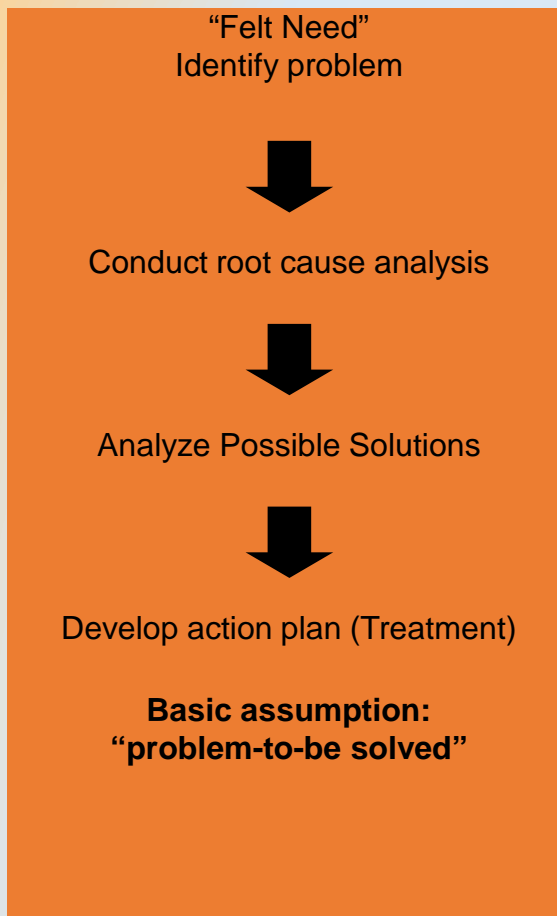
“The signal accomplishment of the industrial age was the notion of continuous improvement. It remains the secular religion of most managers... has reached the point of diminishing returns in incremental improvement programs.”

– Gary Hamel, *Leading The Revolution*

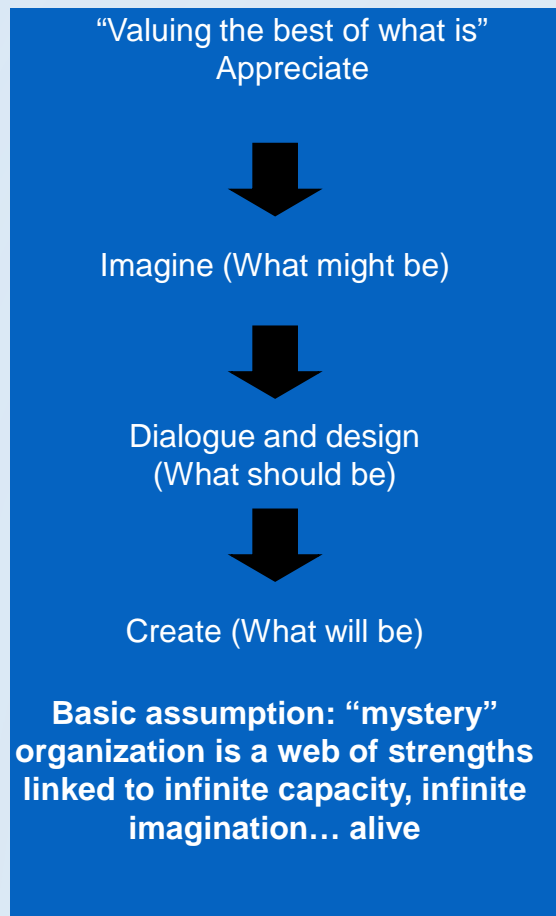


Problem Analytic Change vs. Appreciative Inquiry

Problem solving (deficit based change)



Appreciative inquiry (strength based innovation)



Basic Assumptions

What we focus on
becomes our reality

Reality is created in the
moment, and there are
multiple realities

In every ongoing
team/group/
organisation . . . Some-
thing(s) work

People have
more confidence and comfort
to journey to the future (the
unknown) when they carry
forward parts of the past (the
known)

The mode and
language of inquiry
effects the org. being
observed



Moving from Deficit-Based Questions Toward Strength-Based Inquiry

- What's the biggest problem here?
- Why did I have to be born in such a troubled family?
- Why do you blow it so often?
- Why do we still have those problems?
- What possibilities exist that we have not yet considered?
- What's the smallest change that could make the biggest impact?
- What solutions would have us both win?



**Scarcity creates its own psychology.
Fault tolerance and redundancies
increase slack.**

**Nudges can help people increase desired
behaviors.**