

What can we learn about prevention incentives from behavioural economics?

Fiscal Incentives Symposium
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- **What influences health and safety decisions of employers and workers?**
- **What can we learn from fields outside of health and safety to**
 - Propose research questions
 - Test intervention strategies

Decision Making/Motivation Theory: Traditional Economics:

Choices driven by rational
calculation of costs and benefits

“Economics traditionally
conceptualizes a world
populated by calculating,
unemotional maximizers”
(Thaler and Mullainathan)



Decision Making/Motivation Theory: Traditional Economics:

Choice
calcula

Behavioural Economics

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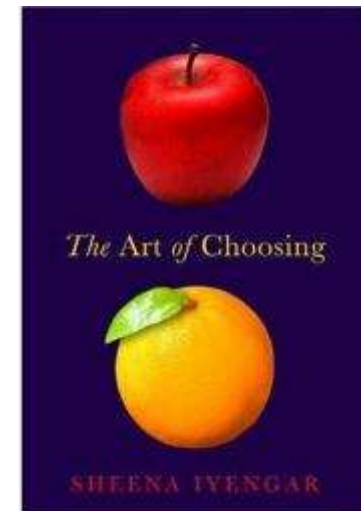
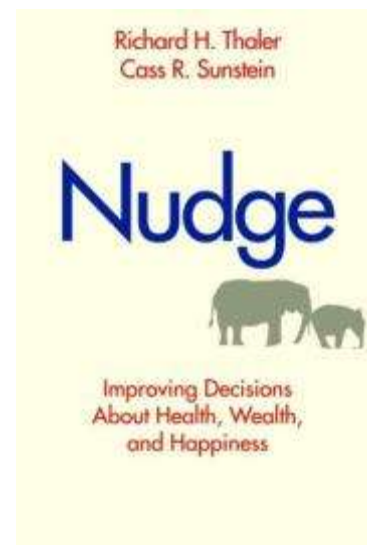
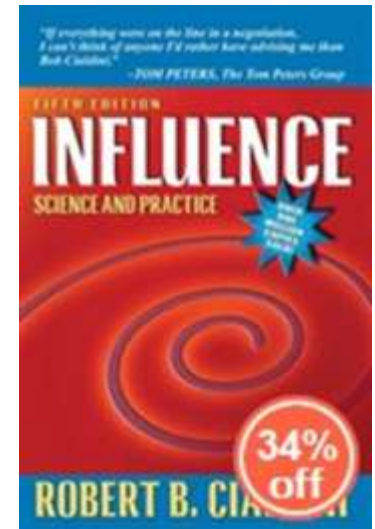
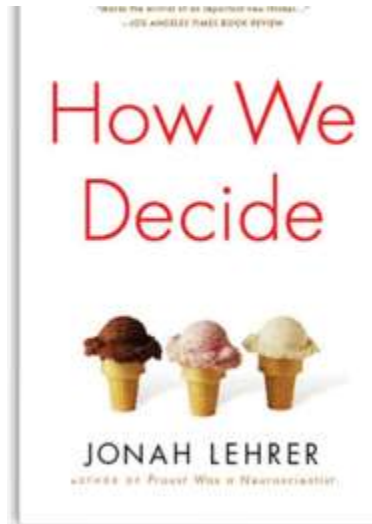
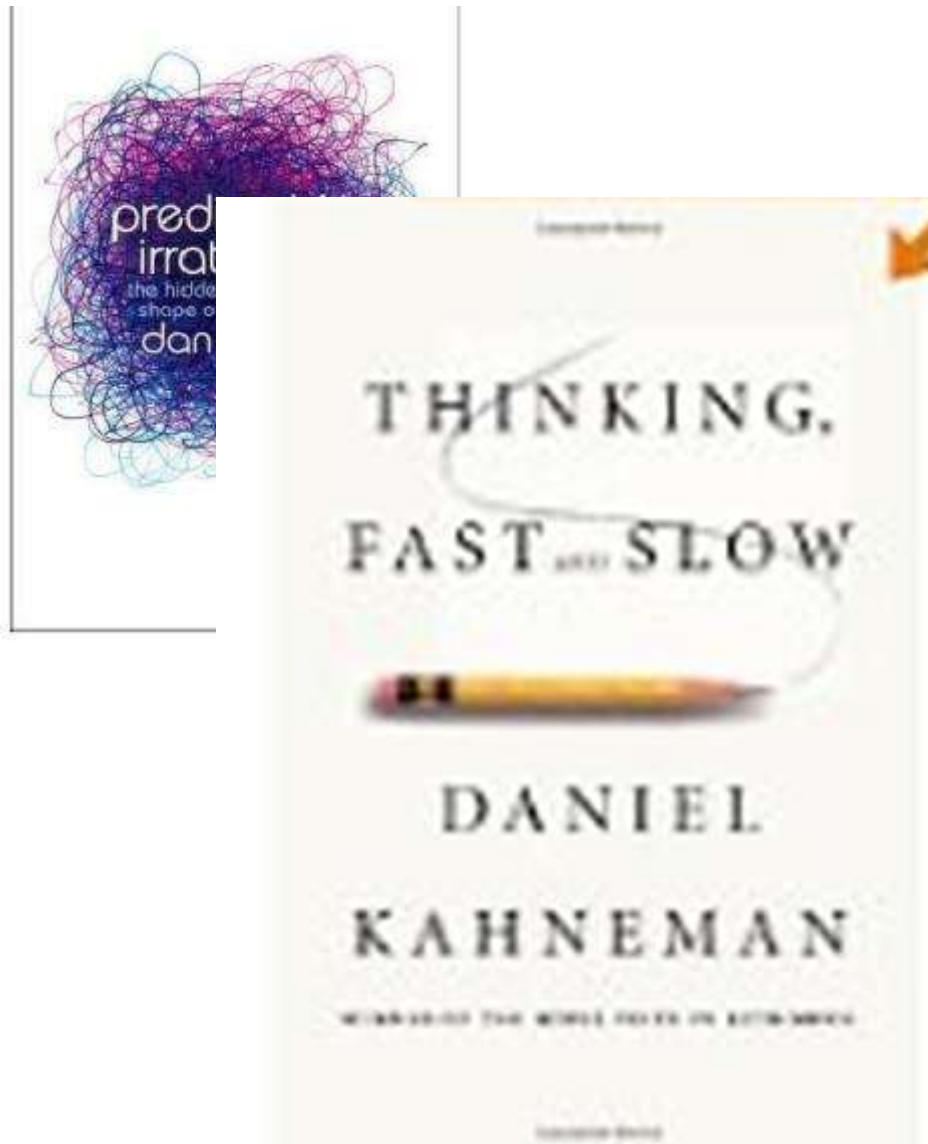


Behavioural Economics

The combination of psychology and economics that investigates what happens in markets in which some of the agents display human limitations and complications.

(Thaler and Mullainathan)

Popularizers of Behavioral Economics and Decision Influencers



Research findings on motivation and decision-making (“human limitations and complications”)

1. Framing

- Gain or Loss
- Now or Later

2. Relationships

- Moral/social motivators
- Recognition
- Shaming

3. Commitment and Ownership

What can we learn from these findings about influencing health and safety?

1. Framing



Imagine that in addition to everything you own, you have been given \$1000*

You are now given a choice:

a) Get \$500 more for sure

b) Flip a coin:

- Heads you win \$1000 more
- Tails you win nothing more

*adapted from Daniel Kahneman, Thinking Fast and Slow



Imagine that in addition to everything you own, you have been given \$2000.

You are now given a choice:

a) Lose \$500 for sure

b) Flip a coin:

- Heads you keep all of your \$2000
- Tails you lose \$1000



In both sets of choices

- You can end up with \$1500 for sure OR
- You can flip a coin and stand to end up with \$2000 (heads) or \$1000 (tails)

Framing and Loss Aversion

The psychological principles that govern the perception of decision problems and the evaluation of probabilities and outcomes produce predictable shifts of preference when the same problem is framed in different ways.

Tversky, A. & Kahneman, D., 1981, The framing of decisions and the psychology of choice. *Science* 211, 453-458.

<http://psych.hanover.edu/classes/cognition/papers/tversky81.pdf>

Framing and Loss Aversion

- Reframing the same option as a loss changes the choices.
- The pain of losing something is 2x the pleasure of gaining it.

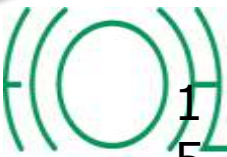
Now or Later?

Would you rather I gave you

- a. \$200 now or**
- b. \$300 tomorrow?**

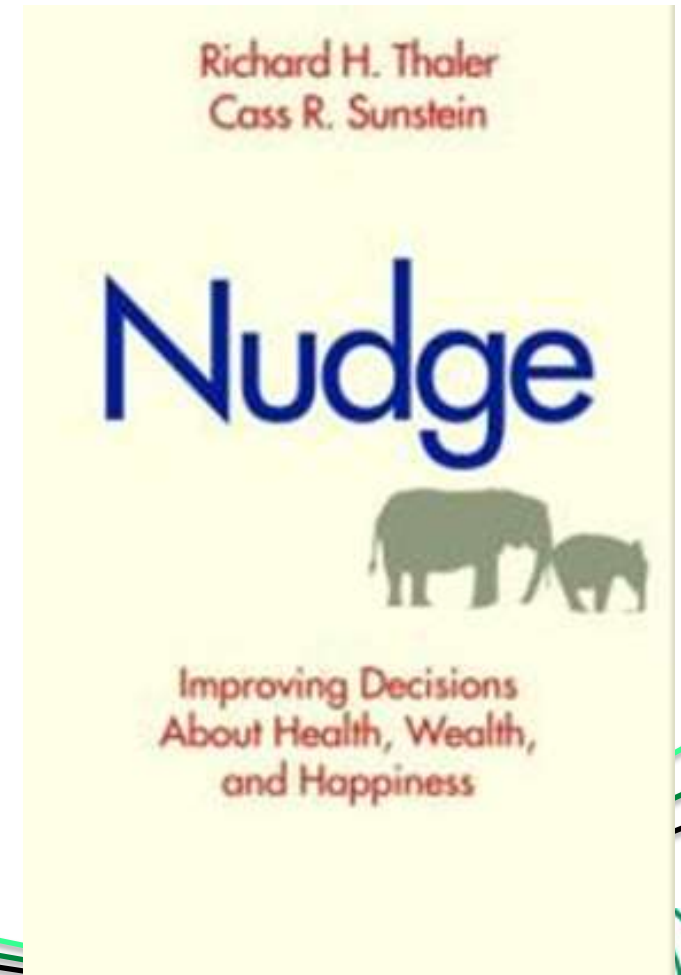
- a. \$200 now or**
- b. \$300 in six months?**

**Present-bias
preference:
people tend to underweight
delayed outcomes**



Putting present-bias present to work for you

**Thaler and Sunstein –
Getting commitment to
a positive action in the
future**



Counteracting Delayed Outcomes: Immediate Feedback

UK has signs that give you a smiley or frowning face depending on whether you're speeding

Radar Speed Signs



With built in Radar speed detector and digital display, it can show the speed of a vehicle and flash the speed in red, or show an asterisk or a sad face when a the pre-set speed limit is exceeded, and a smiley face when the speed limit is not exceeded.

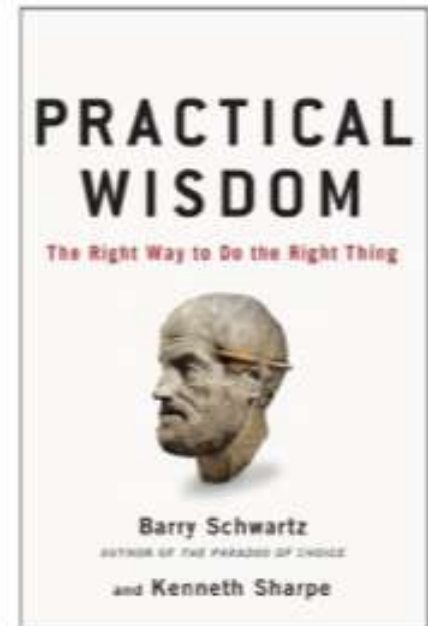
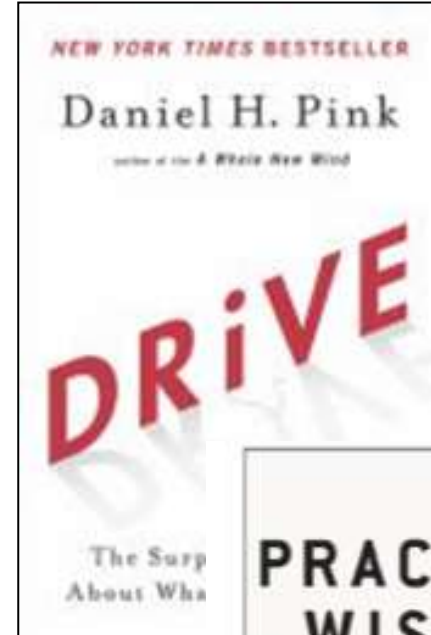
Radar Speed Signs can be fixed or portable, with variable speed limits and can operate on large batteries, charged up by solar panels. Our radar speed signs are manufactured in Germany to the highest specification and have built in reliability and accuracy at a very competitive prices.



2. Relationships and Social/Moral Incentives

Recent writers about errors in common thinking about incentives

- Barry Schwartz, Practical Wisdom
- Daniel Pink, Drive
- People are motivated by
 - (Daniel Pink):
 - Mastery
 - Purpose
 - Autonomy
 - Recognition
 - Morals and values



Incentives: The Daycare Study*

- Daycare problem: parents picking up their kids late.
- To try to correct this problem, the centers imposed a fine for late pick-ups.
- Result?
- The rate of late pick-ups tripled!
- When the fines were discontinued, the rate of late pick-ups stayed high.
- Why?
- Converted a moral motivator to an economic motivator

*The description of this study was popularized in Freakonomics and cited hundreds of times since then. Some have questioned the conclusions, claiming that the monetary incentive would have worked if it were higher.

Cialdini: Signs in hotel rooms asking guests to reuse towels

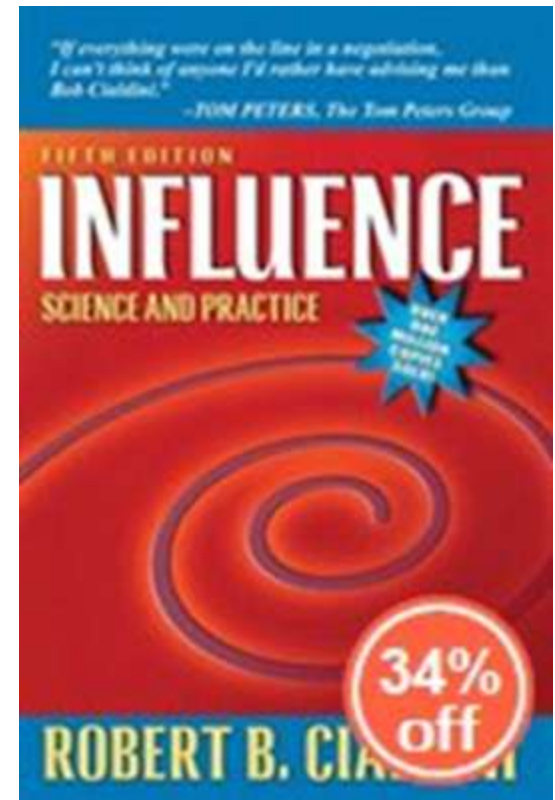
Which do you think is most effective?

a) Help Save the Environment

c) Help Save Resources For Future Generations

b) Join Your Fellow Citizens In Helping To Save The Environment

Social Proof





Social Norms Marketing

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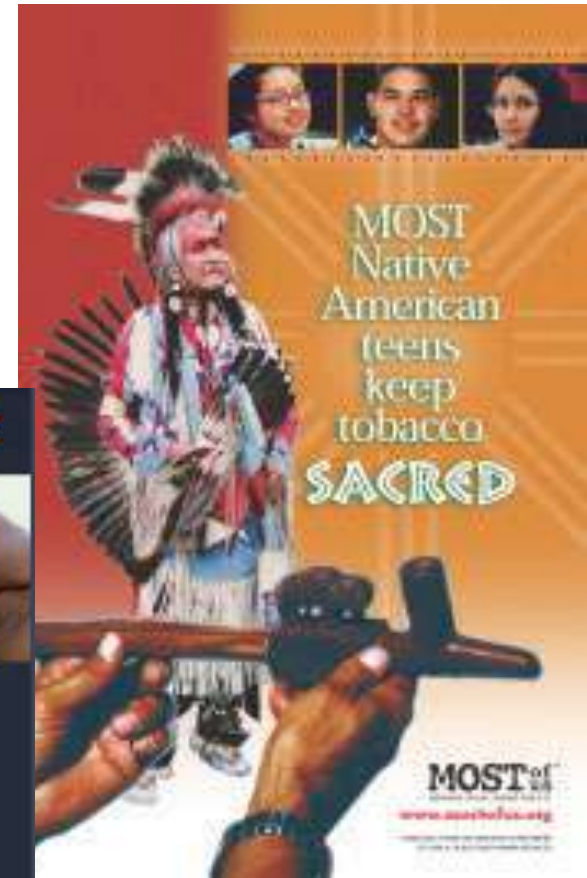
MOST of US

MOST OF US

*The Methamphetamine Problems that we face in Nevada are real...
The GOOD News is....
MOST of US
is the Solution For All of Us!
Join Most of Us!
Join Your Local Coalition*

<http://www.mostofus.org>

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Recognition

Relationships: Shaming

We care what other people think of us

BBC NEWS

Shame 'boosts hand-washing rate'

The message "Is the person next to you washing with soap?" boosted rates of hand-washing with soap by 11% in women and 12% in men. The researchers suggested people were most sensitive to the idea that others were watching their behavior: "What other people think - what is deemed to be acceptable behavior - is probably a key determinant in shaping behavior."

Doctors aren't washing their hands

By Scott Dobson-Mitchell | January 26th, 2011 | 4:06 pm

New computer system detects unwashed hands

If a doctor, nurse, or technician forgets to wash up before entering the room, the badge will turn red and results will be instantly sent to nurses' stations and multiple computers.



Daniel Kahneman:

People paid more on an honor system when pictures of eyes were posted.



3. Commitment and Ownership

Endowment Effect

IKEA Effect

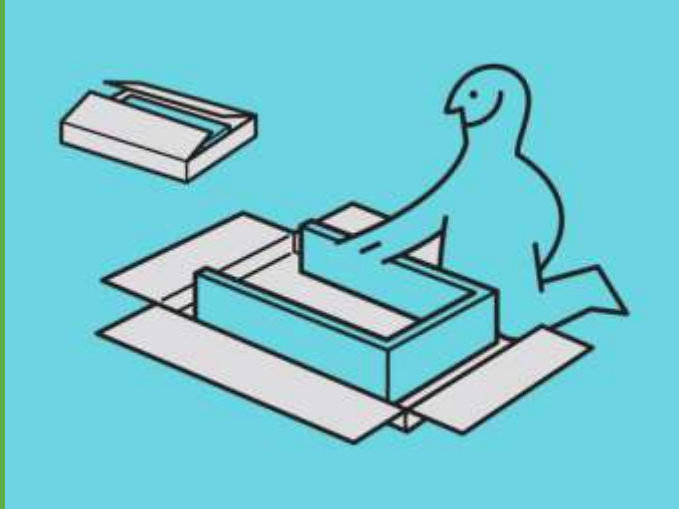
Foot in the Door



The Endowment Effect

Valuing the same thing more when you own it than when you don't

The IKEA Effect



Scott Belsky

<http://the99percent.com/tips/5874/strive-for-the-ikea-effect>

**People place
greater value on
things they
build themselves**

**The “IKEA Effect”: When Labor Leads to Love
Michael I. Norton, Daniel Mochon, Dan Ariely**

Endowment and IKEA effects:

People are more likely to follow programs that they have developed themselves

Dr. Michael Gardam, Director of Infection Prevention and Control at UHN in Toronto has achieved world-wide attention for promotion of hand washing.

“If you really want to bring about lasting, sustained change, people have to come up with the ideas themselves and they have to implement the ideas themselves,” he said. “There are all sorts of things we can start doing with this. Our job is to show them all the stuff they can do, and then allow them to go wild.”



Foot in the Door Technique

**Getting agreement to something big
by first getting agreement to
something small**

**people want to be consistent, so become invested
in their initial action.**



The Safety Pledge: Recognition, Foot in the Door, Social Proof

SEOUL DECLARATION on Safety and Health at Work

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160 million
people are affected

by occupational diseases each year.

The Seoul Declaration commits to placing occupational safety and health high on national agendas.

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The Seoul Declaration on Safety and Health at Work was adopted on 29 June 2008 by some 50 high-level decision-makers from around the world as a major new blueprint for constructing a global culture of safety and health at work.

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KOSHA
KOREAN OCCUPATIONAL
SAFETY & HEALTH AGENCY

Are these findings applicable to health and safety?

Some research ...

- **Zohar: immediate feedback to counteract delayed and rare outcomes**
- **HSE UK has tested framing (positive vs negative messaging) in promotional material**
- **Foot-in-the door research**
- **Research on effective OHS strategies points to effects of reciprocity, relationships**

Can behavioural economics point us to questions for research and testable strategies on incentives?

- Loss Aversion: are penalties more effective than rewards?
- Does framing affect choices?
- Do financial incentives backfire by subverting moral/social motivators?
- Incentives based on recognition/shaming?
- How can we use present-bias preference?
 - Convert delayed outcomes to immediate outcomes?
 - Get commitment to future action?

Relevance to Financial Incentives?

- **Program design – e.g. rewards or penalties – for what?**
- **Add-ons – e.g. positive or negative recognition**
- **Cost-effectiveness – are non-financial incentives more effective?**



Questions?

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