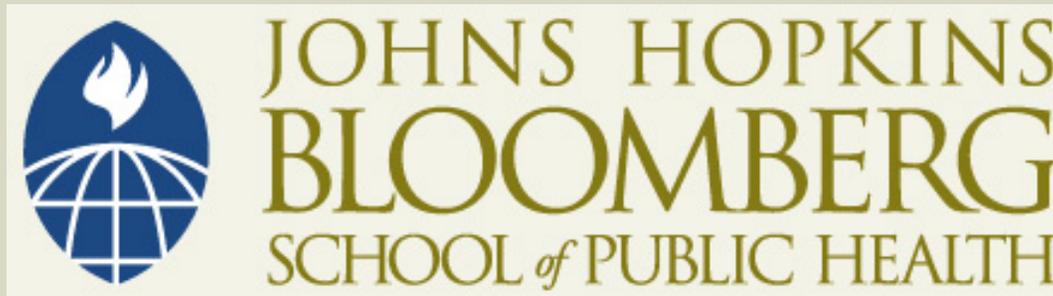


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# **What information do people want and need to change behavior**

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# Goals for today

- What happens when try to highlight an individual's risk/vulnerability
  - Biases
  - Emotional and personality influences
- Tailoring and framing effects
- Alternative approaches with youth
- The need for market testing

# Perceived vulnerability

- Key factor in nearly all health behavior theories
- Seem to be good examples of applications to behavior change campaigns
  - Smoke detectors
  - Seat belts

# Perceived vulnerability

- Presentation of risk information seems to help with relatively simple precautionary behaviors
- Less effective for serious, socially complicated, repetitious acts

# Optimistic bias

- Acknowledge that risk is elevated but see oneself as less likely than others to suffer consequence
  - Acknowledge relative risk but distort absolute risk to self

# Aside about optimism

- Some studies find that among chronically ill “unfounded optimism” linked to longevity and quality of life (Taylor reading)

# Teens and smoking

- Increasing prevalence of teen smoking with age *paralleled by* increase in awareness of risks
- Teens “cope” by:
  - Normalizing behavior (increase estimates of proportion of others who smoke)
  - Avoid thinking about negative consequences

# Personality and risk information

- “High monitors” – on the lookout for information about risk
  - May become more avoidant and anxious
- High self-esteem
  - Defensive if current risk-management strategies shown to be ineffective

# Familiarity and risk information

- Novel information has most impact
  - About a novel risk (radon versus fire detector)
  - About a novel marker (C-reactive protein for heart disease)
- Much harder to get attention about risks that are commonly cited/discussed

# Readiness to change

- Risk information not that useful to individuals who have decided to act but not yet done so
- Risk information useful to those still deciding about action
  - Radon detector example

# Tailoring versus individualizing

- Use terms interchangeably?
  - Tailoring
    - For stage of decision-making
    - Prior awareness of risk/novelty
    - Personality issues
    - Complexity of task
  - Individualizing
    - Risk information about you in particular

# Example of individualizing

- Risk of heart disease
  - Smoking
  - Family history
  - Hypertension
  - Cholesterol
  - Weight/body mass index

# Individualized risk profiles

- Overall associated with only slightly increased uptake in willingness to screen
- Better results with those at high risk
- Providing actual numbers seems less effective than simply listing risk factors

# Concerns about individualizing

- Greater amounts of detail seem counter-productive in two studies of mammography
  - Reduced uptake of screening
- Reasons?
  - Wary of being oversold?
  - Mistrust of quantitative data?
  - Too much anxiety?

# Problems with framing

T and K: decisional frame is "decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice"

Any given decision problem can be framed in more than one way. They compare it to a visual image: for example, height of two mountains -- relative height varies with the direction you look from, but we know that the mountains aren't changing despite the illusion

# Framing from a sociolinguistic perspective (Lakoff)

- Frames often occur as metaphors that serve as shorthand for complicated ideas
  - The country as a family: “Our founding fathers...”

# Problems attributable to framing

- Attempts to refute frames can re-enforce them
  - To argue that intelligent design is not science is to admit that it might be (science frame)
  - To argue that intelligent design is a religious belief frames the discussion as theological
- Facts discrepant with frame often discarded or reconsidered (see following slides)

# Frames and probabilities - Risk aversion

Apparent rule people follow:

- In a situation where there is a presumption for gain (saving lives), *avoid risks* of loss
- In a situation where there will be losses (people will die), *take risks* in favor of gain

# Example of risk aversion

- You have an 80% chance of being cured
  - I suggest that you accept the standard, proven therapy
- You have a 20% chance of not living from this illness
  - I suggest that you try a new therapy to improve your chances

# Certainty valued more than chance

- Say that there are two strains of virus, A and B
- They cause disease X with equal prevalence in the environment
- Would you rather have:
  - A vaccine that is 100% effective against virus A?
  - A vaccine that is 50% effective in preventing disease X?

# Violations of utility models

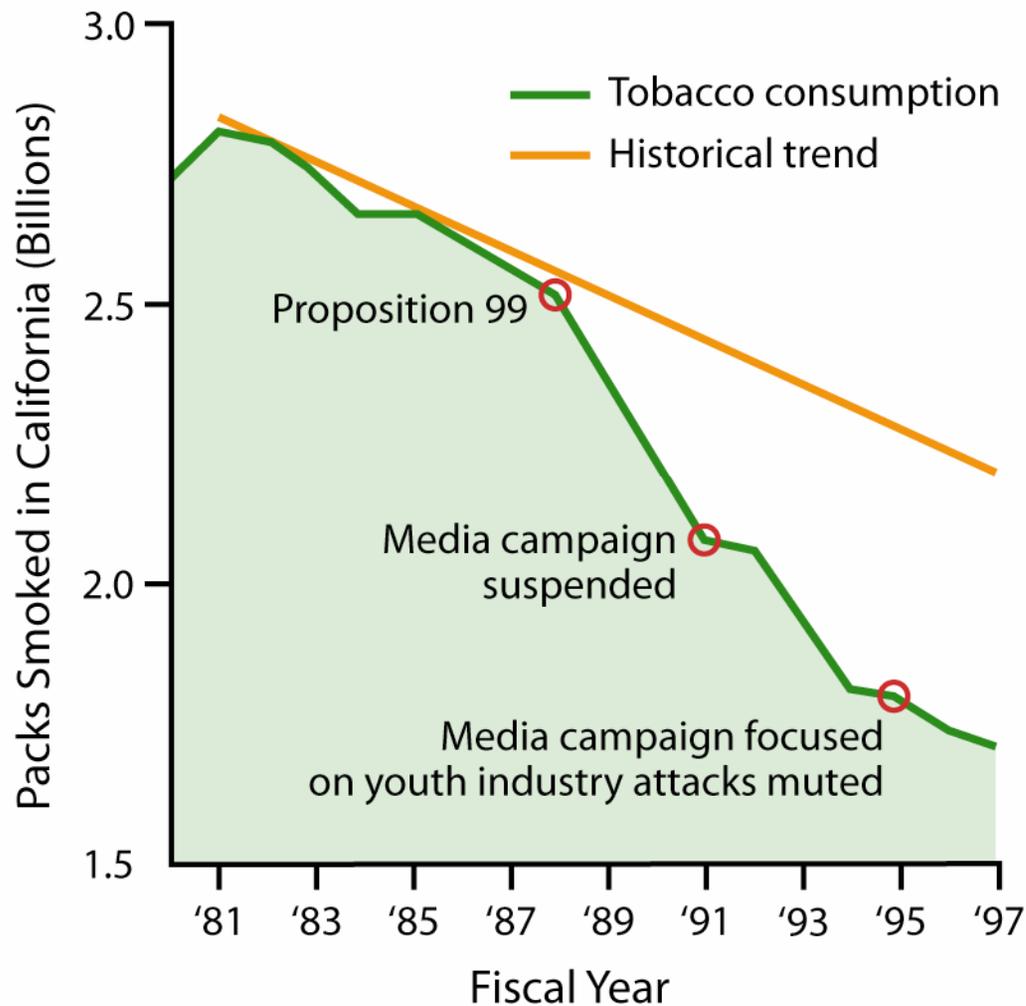
Decision-making under risk: expected utility model:

- a. look at the choices, the events that will happen if you take each choice.
- b. each event has some inherent utility to you (plus or minus), and a probability that it will happen if you take that course
- c. to decide which is preferred choice, just add up the "utility x probability" of the various outcomes and see which maximizes -- rational decision-maker will pick that one.

# Violations of utility model

- a. Values don't necessarily exist as fixed things before the decision; they are often created in the decision-making process ("wouldn't you really rather have a...")
- b. Positive & negative utilities get different weights: losses weighted relatively more strongly than gains (displeasure of losing 100 > pleasure of getting 100)
- c. Relative versus absolute differences: 10-20 seen as bigger difference than 100-120 (maybe it is?!)
- d. Focus more on low than high probability events:
  - low probabilities associated with bad outcomes are over-weighted
  - high probabilities are under-weighted even more so than low are over-weighted
  - Example: pick plan with best cancer care rather than the one that offers best health maintenance

# Long-term Pattern of Decline in Tobacco Consumption in California (Lost Sales, \$2 Billion; Packs Worth \$3 Billion)



Adapted by CTLT from Goldman, L.K. et al.  
JAMA 1998;279:772-777.

# Evidence from focus groups - possible themes for anti-smoking campaigns

- Addiction
  - Not effective as a theme on its own
  - Works along with manipulation theme
- Benefits of cessation
  - Similar to addiction
- Youth access
  - Adults: not effective – doubted interventions would help
  - Youth: appeal to altruism – stop children from smoking

# Possible themes (2)

- Long term health consequences
  - Adults: somewhat effective
  - Youth: already heard it, seems far off, likely to be exception
- Short term consequences (cosmetic)
  - Youth: funny, not realistic portrayals, seen as trivial

# Possible themes (3)

- Industry manipulation
  - Adults: redirects guilt to anger
  - Youth: undermines value of smoking as rebellious and self-assertive
    - Gives youth new enemy, new interest to familiar topic
- Secondhand smoke
  - Adults and youth: appeals to altruism, counters idea that smoking is sign of freedom and independence

# Evidence from drug PSA's (Fishbein “boomerang”)

- Thirty anti-drug public service announcements for TV
- Adolescent audiences rated emotional responses, perceived effectiveness, knowledge gain
- 6/30 rated as increasing interest in drugs
  - Global admonishments (just say no)
  - Messages about familiar threats
- 8/30 no different than control video

# Factors associated with perceived effect

- Realism
- New knowledge about negative consequences
- Negative emotional response
- Specificity to serious drug

# The Whole Truth

Florida program aimed at reducing teen smoking

- billboards
- mobile “truth van” drop-in center
- web site: [www.wholetruth.com](http://www.wholetruth.com)
- associated with 25-50% declines in reported smoking among middle and high-school students (year-to-year change in state survey of students)

# The Whole Truth

## Key concepts:

- peers are the spokespersons in print and in person
- harm of smoking emphasized but is only partial focus
- main message is extent to which teens have been manipulated by tobacco industry
- promotes empowerment, revenge! “Stick it to the Marlboro Man”

# The “truth” campaign

- Campaign included very high density advertisements (\$26 million dollars in first year), billboards, "truth" van and drop-in center at youth events, “gear”
- Young people featured prominently as staff, presenters, involved in design.

# The “truth” campaign

- "We are not trying to tell you how to live your life; you have enough people telling you that. What we do here is give you a lot of information about how the tobacco industry works and what they will do to get the money out of your pocket."