Three-year average of mentions.

Source: New York Times Chronicle Tool
Day 1

Unreturned Cafeteria Trays

The Case of the Unreturned Cafeteria Trays
An Investigation Based Upon Theories of Motivation and Human Behavior.

Lloyd S. Etheredge
30 Theories in Search of Reality

A Map for the Analysis of One Individual’s Tray-Leaving Behavior

### Background of Individual

**I. Parental Influences**
- A. Identification
  - Inadequate (10)
  - With irresponsible parents (11)
- B. Past Reinforcements
  - Permissiveness (3)

**II. Peer Influences**
- A. In-group Identification (12)
- B. Reinforcement (5)

**III. Individual Development Stage**
- A. Individuation (16, 18)
- B. Independence/Anomie (15, 17)
- C. Moral Development (27)

### Context of Situation

**I. General School Influences**
- A. Bureaucratic and depersonalized (29)
- B. Negative cues to poor students (20)
- C. Heavy-handed inequitable treatment (28)
- D. Frustration (30)
- E. Inadequate Identification (13)
- F. Identification as Aggressor (14)

**II. General Societal Influences**
- Negative role images of adults (21)

### Motives and Inner States

**I. Altruism (1, 2)**

**II. Egotistical Self-Serving (3, 4, 5, 10, 11)**

**III. Structured Conscious Performance (19, 20, 21, 22)**

**IV. Fun (22)**

**V. Unconscious Dynamics**
- A. Anomie (17)
- B. Depression (18)
- C. Rebellion to Achieve Independence with Paternalized Authority (15)
- D. Jonah Complex (24)
- E. Seeking Something Else
  - Attention (8)
  - Sadistic thrill (6)
  - Masochistic gratification (7)
  - Individuation (16)
  - Lower need frustration (23)
  - ? (9) Preoccupation
- F. Role Playing (20, 21, 22)

### Immediate Situation

**I. Information**

**II. Expected Rewards and Costs**

**III. Scenic and Role Alternatives of Cafeteria Situation**

**IV. Traditional Games and Pastimes**

**V. Relations with School Authority**

**VI. Peer Group Behavior and Models**

**VII. Overcrowding; Sensory Stimulation**

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Tray Leaving
### Theories —> Policies

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Day II

Ten Instruments for Behavioral Change
Theory of Behavior Choice

- History
- Experiences
- Memory
- Reality
- Information
- Perceptions
- Process
- Preferences
- Choices

- Time and Money Constraints
BC1: changing perceptions of time & space
BC2: manipulating information
BC3: pricing and psychology of money
BC4: nudging active travel
BC5: social norm
BC6: can we share?
BC7: shame or pride
BC8: let people try
BC9: enhancing self control and motivation
BC10: inducing emotion & principles of persuasion
BC11: behavioral change by design
BC12: paradox of choices
Day III
Methods and Technology
Emile Bruneau

Postdoc, SaxeLab
Social Cognitive Neuroscience Laboratory MIT

Stanford U.: BA Human Biology
U. Michigan: PhD Neuroscience
Day IV

From Behavior to Policy
The Behavioral Foundations of Public Policy
Elinor Ostrom
Nobel Laureate 2009

A Behavioral Approach to the Rational Choice Theory of Collective Action
Brigitte Madrian

Aetna Professor of Public Policy and Corporate Management
Harvard Kennedy School
Day 5 and on

A Challenge to Students!
• Collect
• Critique
• Design
• Implement

Behavioral Experiments in Transportation & Planning
Not a transportation guy?
Language: transportation
Insights: generic
Course Structure

(syllabus p2)
Behavior and Policy

11.478 Connections in Transportation

Jinhua Zhao

T/R 11:00, 9-450B
Questions?
Day I

Unreturned Cafeteria Trays
Ex 1: Unreturned Cafeteria Trays

Walter Johnson High School
By the end of the six lunch shifts

- Cafeteria: a mess
- Cafe staff: additional work, angry
- More students: not returning the tray
- Principal: do something
- President of the Student Union: the author of the book
Student Discussion 1
Why & How?
Th1: Ignorance of Expectation

- No one ever told them
- “lack of feedback”
- Action: tell them
- Strategy: explicitly, no excuse of not knowing
Cases in transportations?
Th2: Ignorance of Consequences

• Unaware of the consequences

• “Father, forgive them, for they know not what they do”

• Action: a tour of accumulated mess; watch staff cleaning it up
Cases in transportations?
Cybernetics: the science of communications and automatic control

Radar-controlled missile at a moving airplane

Man as a goal-seeking animal, based on information feedback from the environment

Assumption: human beings act laudably except for faulty feedback
Th1+Th2: Cybernetic Model

• A very “forgiving” theory
• not blame the individuals
• broken information feedback mechanism of their environment
Student Council’s Recommendation

• Cybernetic Model Adopted

• Hopeful: awareness of consequence will solve the problem

• Purely political decision: not want to be a “lackey” of the administration or “policing” other students.

• Compromise: have to respond to the principal but not alienate from the students

• Appear to being doing something without getting involved in coercion
Whose behavior?
Cybernetic Model and Literal Views

- Literal political views
- Belief: people will act well if given enough education
- Scientists and teachers: given a “map” of their social environment, knowing what effects are brought about by what causes, people will act more humanely in the long run.
Principal

• Not agreeing with the Cybernetic Model

• or our faith in the good will of human nature
Th3: Too Permissive an Upbringing

• from homes where they always were rewarded regardless they took their dishes to the kitchen or not

• spoiled children, not properly conditioned

• influences from the family
Th4: What’s in it for me?

• A net cost of taking the trays back: they are not paid to do it

• Sages say: “Virtue is its own reward”

• “Virtue does not pay”

• Action: add a cost to it
Th3+Th4: Social Learning

- Behavior reinforcement model
- Man: hedonistic, reward-seeking, punishment-avoiding animals
- Behavior as a result of rewards or punishment one expects, resulting from past history of reinforcement
What defines rewards or punishments?

- Animals: food, electric shock
- Human behaviour: more complexity in defining
  - Rewards: money, praise, social acceptance
  - Punishment: cost, criticism, …
Principal’s Choice

• Behavior reinforcement model

• Increase the cost by wrongdoers

• Random terror approach

• Teacher monitors: those caught, socially objectionable persons

• Repeated offenders: detention, suspension, parent conference etc…
Effect

- Modest effect in getting trays returned
- With a cost
- Irritability of teachers (standing in the noisy cafe)
- A police state atmosphere
Effect

• Most important benefit to the principal
  
  • Cafe staff felt he was acting firmly, “doing the best he could”
  
  • Decisive action made staff more willing to put up with clearing the remaining trays

• Symbolic and political
Whose behavior?
Rewards vs. coercion

- Behavior Reinforcement Theorist
  - Rewards > Punishment
- Any rewards the principal can offer?
  - Money
  - Time off school
  - Praise
Principal’s Choice

• No rewards, therefore coercions

• Another reason

  • Angry, he felt that sticks is more effective than carrots

  • More powerful (emotion)
Whose behavior?
Principal’s Choice

• Conservative: “moral obligation to society”

• change the callous “what’s in it for me” attitude

• drawn towards coercion

• more seriously about tray-leaving as representing an attitude that would continue throughout life if not stopped
Economists

• Built upon the assumption of “what’s in it for me” calculation of hedonistic individuals.

• Economists: a market mechanism
  • 25c deposit when buying the lunch
  • Receives it back when returns the tray
  • Collected money to reward staff
  • Interest of some students to become entrepreneurs
  • Elegant and simple?
What’s the downside of a market mechanism?
Would the principal agree with a market mechanism?

• Probably not even if he thought of it

• A matter of morals at stake

• A moral obligation towards other people

• Most reluctant to install any system where one could legitimately ignore moral obligations by paying money
Th5: Small Group Rewards

- “Evil companions”, Groups that individuals belong to
- Rewards for not returning the trays
  - appearing “tough”, “courageous” or “independent”
- Individuals insulated from direct influence by the administration
- What admin regards as punishment may be seen as a reward, a badge of courage, a source of respect and acceptance by other members
- Action: breaking up such groups (rotating lunch shift assignment)
Theories so far

• Cybernetic theories
• Social learning theories
• Psychoanalytic theories
• Role theories
Psychoanalytical theories

- Attention seeking
- Inadequate identification with the school or principal
- “us” against “them”
- Independence: sense of individual
- Rebellion against authority
- …
Lack of Identification with the School or Principal

- He spoke “glowingly” of the great history and high ideals
- darkly of “those few individuals”, “minority of students” who did damages to these ideals
- fervently of his hope that all of us could feel pride in our school
- The author: felt somewhat embarrassed for the principal, kind of emotionalism, naive, ingenues
Role theories

- Act/scene ratio
- “Loser”; “negative identity”
- Peter Pan Syndrome
- Game Playing
Peter Pan Syndrome

• Dr. Dan Kiley

• He’s a man because of his age; a child because of his acts.

• If you look past his pride, you’ll see his vulnerability.

• If you defy his boldness, you’ll feel his fear”
Act consistent with the scene

• long rows of tables
• nondescript chairs
• noisy
• impersonal
• institutional air
Elegance

• Designer

• Table cloth, flowers, carpets, noise dampening materials

• Different cues

• People more inclined to behave politely
Stimulus Overload
A Survey of Theories

- Cybernetic theories
- Social learning theories
- Psychoanalytic theories
- Role theories
- Humanistic Psychology
- Specialized theories
- Field theory
High level factors

- Individual background
- Social context
- Inner state and motives
- Immediate situation
A MAP FOR THE ANALYSIS OF ONE INDIVIDUAL'S TRAY-LEAVING BEHAVIOR

BACKGROUND OF INDIVIDUAL
I. Parental Influences
   A. Identification
      — inadequate (10)
      — with irresponsible parents (11)
   B. Past Reinforcements
      — permissiveness (3)

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III. Scenic and Role Alternatives of Cafeteria Situation
IV. Traditional Games and Pastimes

Tray Leaving

V. Relations with School Authority
VI. Peer Group Behavior and Models
VII. Overcrowding; Sensory Stimulation

VIII. Physiological States
   A. Stimulation by contagion (25)
   B. Overload (26)
Behavior is rich and complex

• But complexity is not the point
• Everything should be made as simple as possible, but no simpler
• Priority
Nature of the theories

• Conservative theories:
  • attribute causes to individuals

• Liberal theories
  • attribute causes to social structure, environment
## Theories ➔ Policies

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Behavior : Theory : Policy
Relevance to Transportation
a bus driver who does not follow schedule...
Laziness knows no boundaries...
Why is it so difficult to increase the gas tax?
How come NYC’s congestion pricing effort miserably failed?
Student Discussion: transportation examples
Other planning domains
Student Role

Significant contribution

(syllabus p3)
PS1
Unreturned trays in Transportation
Unreturned trays in Transportation

• Read Etheredge (1976) The case of the unreturned cafeteria trays: An Investigation based upon theories of motivation and human behavior

• Write a counterpart story in transportation.

• Identify one travel behavior that you believe need to be improved

• Offer 5 different plausible explanations/theories

• For each explanation, offer a corresponding policy intervention
Submission

- Each note should include
  - A meaningful and distinctive title
  - A 250-word abstract
  - Two-page in total
- Submit it at the Stellar and in hard copy
Next week

• Ten Instruments for Behavioral Change

• Readings:
  • Kahneman (2011) Thinking, Fast and Slow, Introduction
  • Thaler and Sunstein (2008) Nudge, Introduction
In-Class Idea Notes
(5 min)
What may you write?
Concluding Remarks
Nature of the theories

• Conservative theories:
  • attribute causes to individuals

• Liberal theories
  • attribute causes to social structure, environment
Whose behavior?

• Design policies to influence people’s behavior

• How about the behavior of the policy makers?
Multiple Frameworks

- Discrete choice model
- RUM, Extended Rum
- MIT 11.201, 11.202, 11.205
- Bounded Rationality
- Choice Architecture
- Prospect Theory
- Cognition, Emotion and Perception
- Heuristics and Biases
- Theory of Planned Behavior
- Social Norm and Peer Pressure
- Social Network Analysis
- Tragedy of the Commons
- Institutional Analysis

• Economics and Extension
  • Behavioral economics
  • Psychology
  • Sociology
  • Political science
Theory —> Reality

• Hard evidence
• Plausible theory —> actual explanation
• Experiment
Most problems of human behavior have an analogous structure.
Behavior : Theory : Policy