

# Domain-specificity and domain-generality in self-control

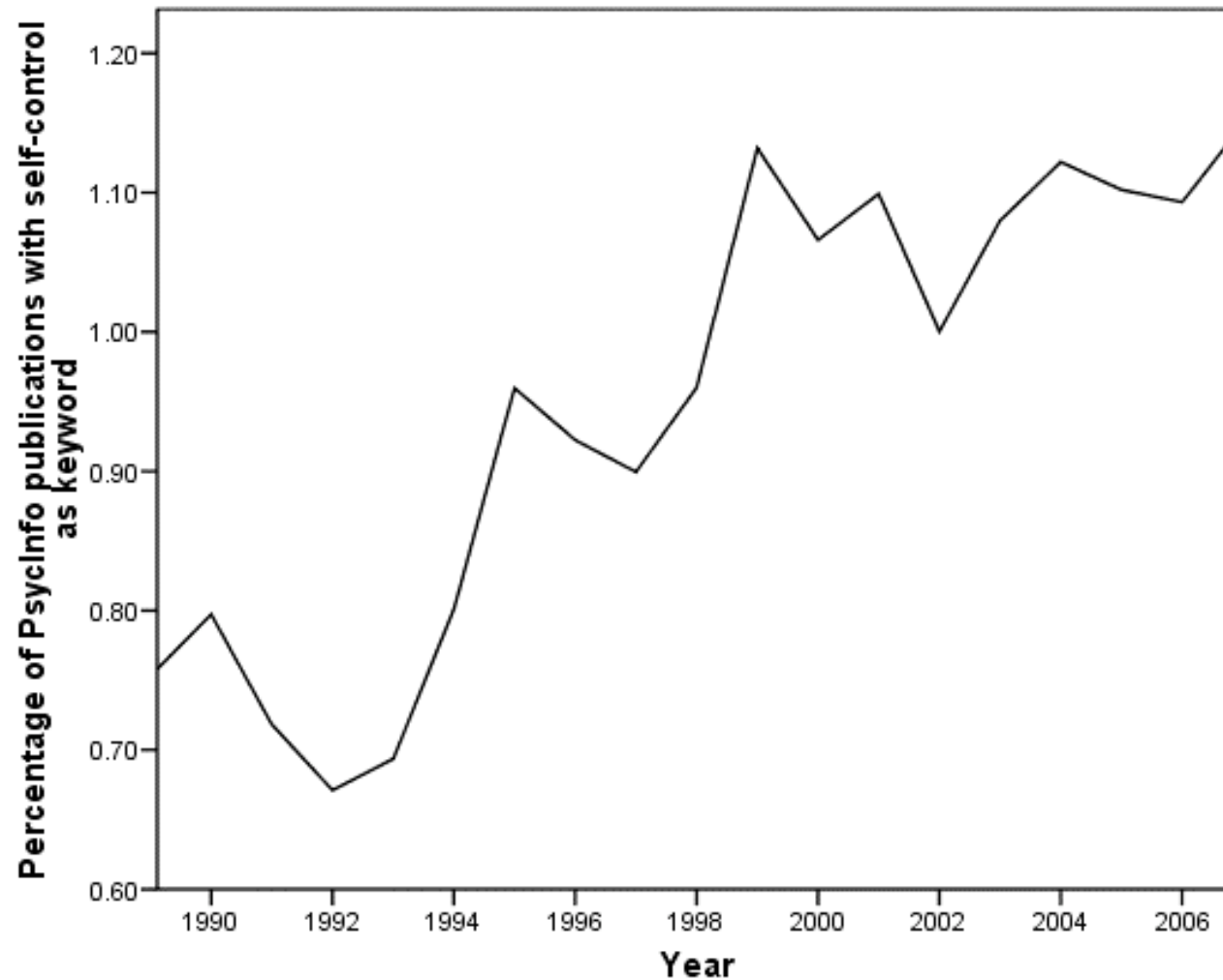
Presentation at the University of Chicago  
May 2009

Angela Lee Duckworth  
University of Pennsylvania

**Self-Control: The control of impulses, emotions, attention, or behavior in the service of a valued goal (Baumeister)**

**Impulsivity: Lack of self-control**

# Popularity of self-control as a research topic



Are some people generally more self-controlled than others? Or, does self-controlled behavior vary according to the domain in which it is required?

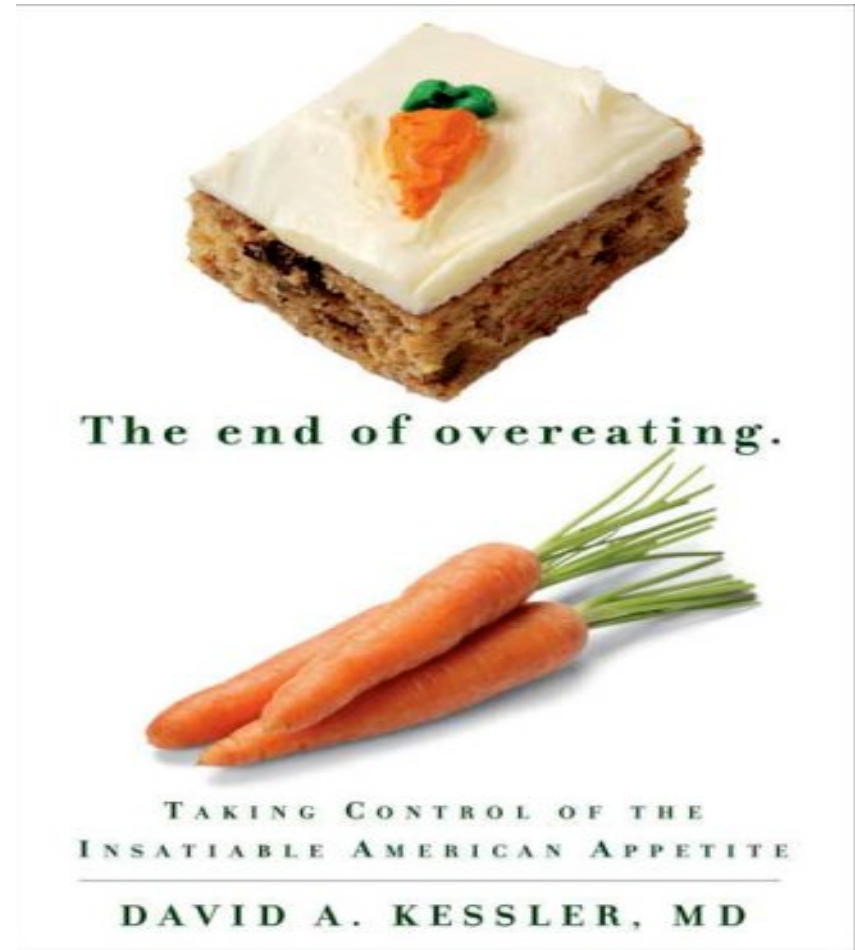
Yes and Yes!

# Explaining Eliot Spitzer



# Kessler's Achilles' Heel

- “I’m firmly in the camp of overeaters... *There is almost nothing else in my life that I do on impulse, without giving it a great deal of thought.* But stimulating food, and the cues that surround it, have the power to act without conscious awareness and against my own will.”



# Study 1: Development and validation of the Domain Specific Impulsivity Scale (DISC)

# Domains of impulsive behavior

- Work
  - *Putting off work that needs to get done*
- Interpersonal relationships
  - *Gossiping; losing my temper*
- Drug use
  - *Getting drunk; getting high on drugs*
- Food
  - *Consuming more food than I should*
- Exercise
  - *Avoiding working out*
- Personal finances
  - *Purchasing things when I don't really need them*



# Domain-Specific Impulsivity Scale (DISC) Instructions

On the following scale, please rate **how often you do the following activities**:

---

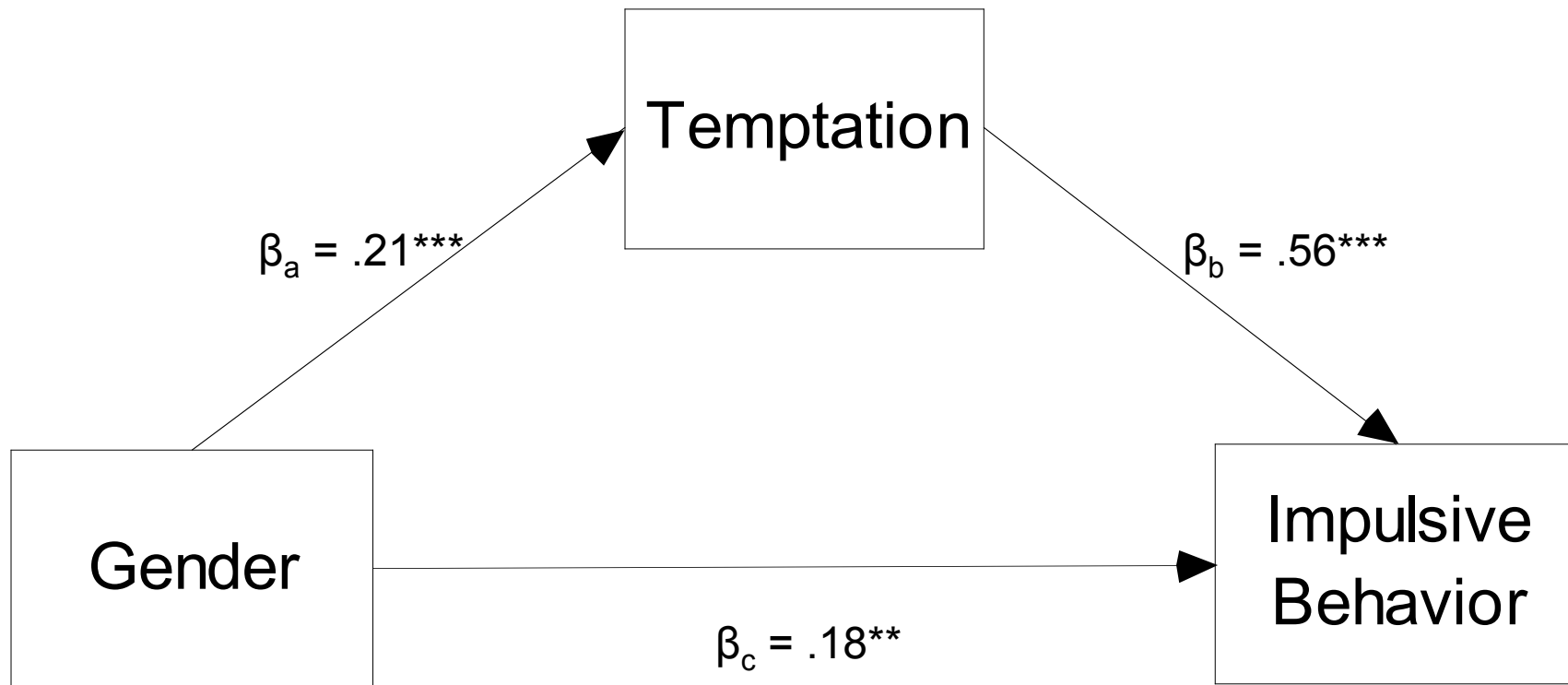
1	2	3	4	5
Never	Rarely	Sometimes	Often	Very Often

# Adult gender differences in self-control are domain-specific

Measure	Women		Men		<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Work ethic	3.20	0.76	3.16	0.69	.06
Relationship	2.50	0.62	2.44	0.58	.10
Drug	2.10	0.80	2.59	0.87	-.59***
Food	3.30	0.72	3.04	0.75	.35***
Exercise	3.14	1.16	3.08	1.05	.05
Finance	2.99	1.00	2.49	0.91	.52***
<i>Domain-General Self-Control Scale</i>	3.04	0.62	2.98	0.63	.10



Women are more tempted by food than are men, which explains why they eat more impulsively



\*\*  $p < .01$ . \*\*\*  $p < .001$ .

$\beta_c = .06, ns$

# HLM analyses: Evidence of domain specificity *and* domain generality

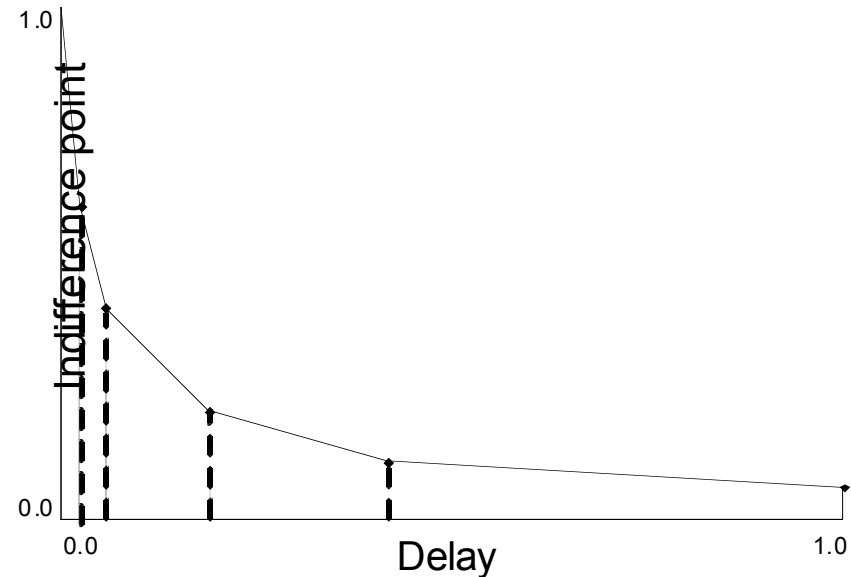
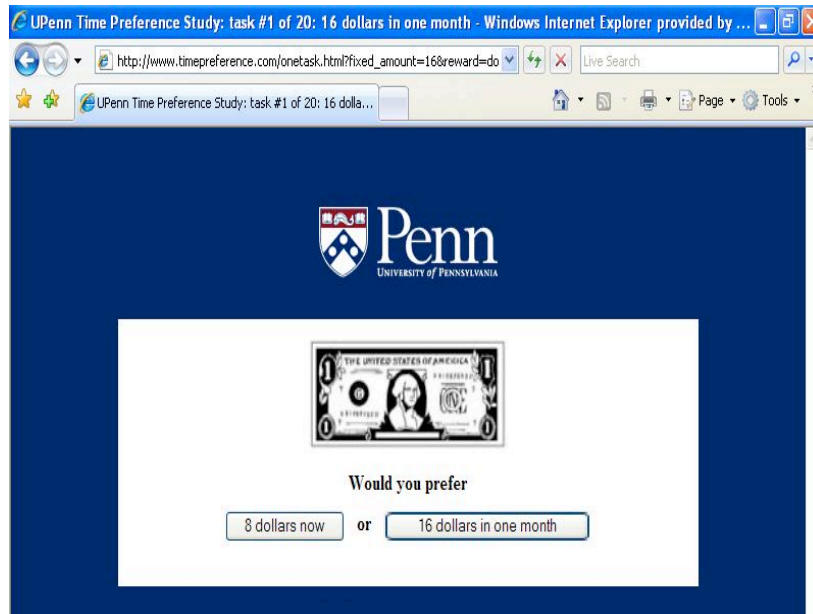
- Impulsive behaviors across domains were moderately correlated ( $r = .30$ )
- However, there was six times more variance within individuals across domains as there was between individuals
- Within-individual differences in impulsive behavior were explained largely by temptation (40%) and only minimally by harm (2%)

# Study 2

- About 450 undergraduates completed the DISC
- About 20% ( $N = 90$ ) were identified as chip lovers who don't like beer or as beer lovers who don't like chips

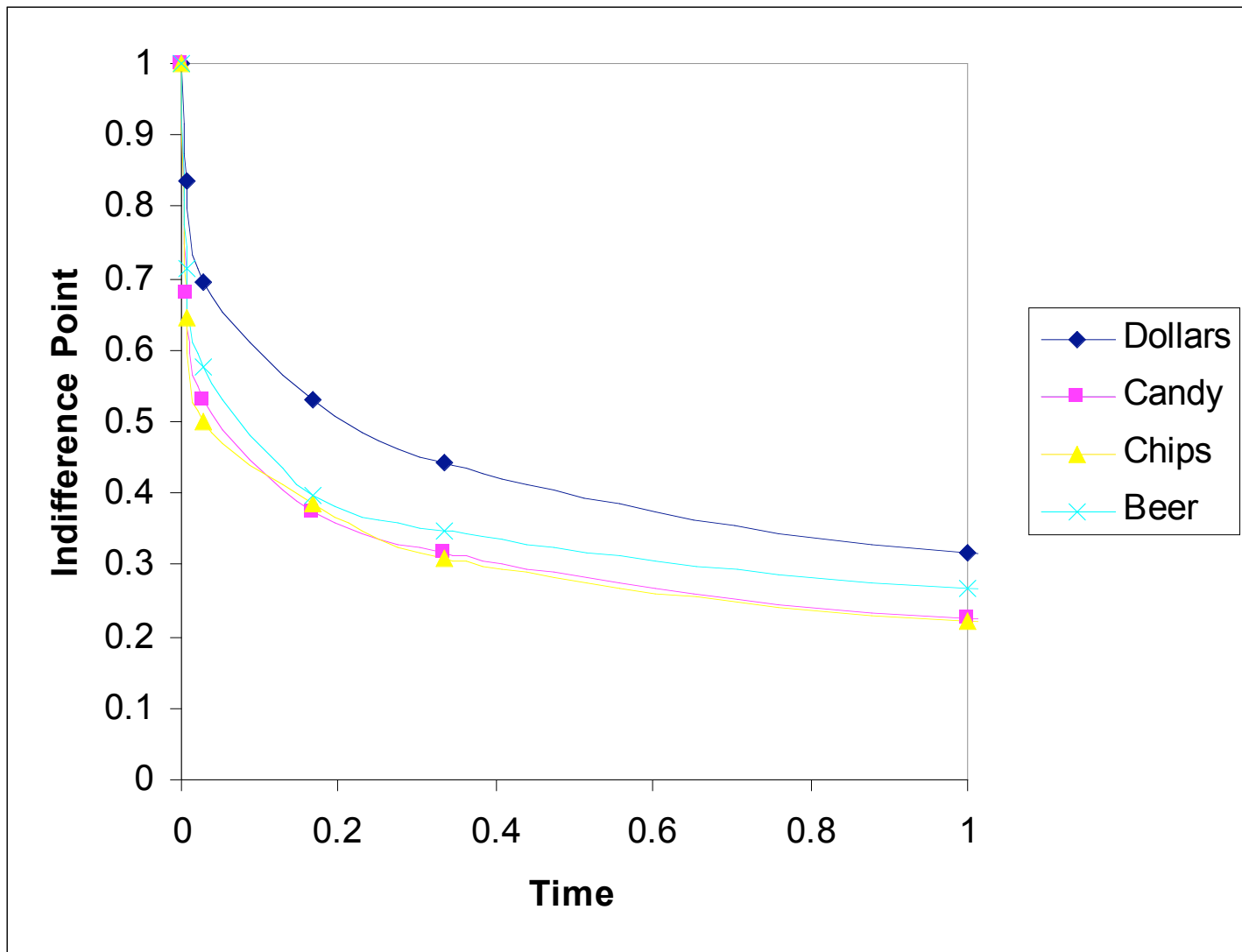


# Assessing time preference



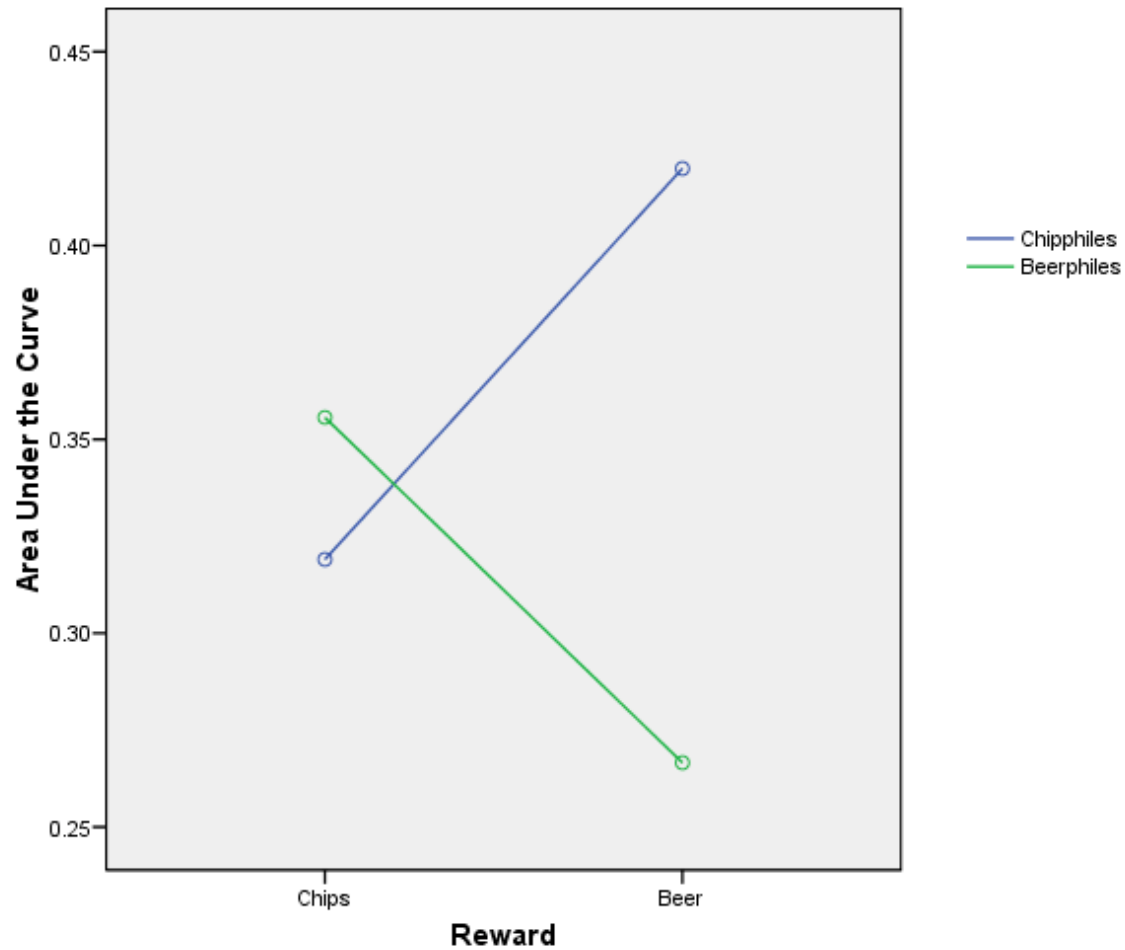
- We used a staircase procedure to identify time preference separately for beer, chips, candy, and money

# Fungible vs. consummatory goods





# Rank-order changes in chip-specific and beer-specific time preference



# Study 3: Domain-Specific Groups

Attraction to one class of temptation does not suggest attraction to other classes

- e.g., Shopaholics will be more tempted to engage in finance-related impulsive behavior than other groups
- e.g., Shopaholics will not differ from the other groups in their overall level of temptation

# Study design

The Facebook logo, consisting of the word "facebook" in white lowercase letters on a blue rectangular background.

- Participants recruited through Facebook™ groups and directed to identical surveys but different urls
  - Procrastinators (Work ethic)
    - Keywords: procrastinators, procrastination
    - Groups: “Experts of Procrastination,” “I’ll join the procrastination group...later”
  - Dieters (Food)
    - Keywords: diet, weight loss, weight watchers, food, binge eating, I eat too much
    - Groups: “Losing weight together,” “Weight watchers for men,” “Losing weight in 2009,” “Back on Weight Watchers...helping each other stick with it”
  - Shopaholics (Finance)
    - Keywords: shopping, shopaholics, shopping addiction, shop, I love shopping
    - Groups: “Addicted to Shopping,” “I have A.T.S (addicted to shopping),” “Addicted to shoes”
  - Alcoholics (Alcohol)
    - Keywords: binge drinking, alcohol, beer, I love drinking,
    - Groups: “Drinking Personalities,” “Alcoholics Loud and Proud,” “Wreckless Drinking” “Binge Drinking”
- Measure
  - Temptation and harm subscales of the Domain-Specific Impulsivity Scale (DISC-T)

# Results of mixed design ANOVA

- Overall temptation scores did not differ reliably by group (Between-Subject Factor)
  - Main effect of special-interest group  $F(3, 393) = 0.41, ns$
- Drugs were less tempting as a domain than finance, food, or work
  - Main effect of temptation domain,  $F(3, 1179) = 147.03, p < .001$
- As predicted, special interest groups were more attracted to their temptation domain compared to other groups
  - Group x domain interaction,  $F(9, 1179) = 17.46, p < .001$

Group	Temptation Subscale				<i>n</i>
	Work ethic	Food	Finance	Drugs	
Procrastinators	3.62	3.42	3.30	2.23	163
Dieters	3.00	3.62	3.36	2.11	49
Shopaholics	2.97	3.44	3.67	2.26	103
Alcoholics	2.97	3.21	3.36	2.92	82
All	3.24	3.41	3.42	2.37	397

# Planned contrasts

- Independent-samples *t*-tests comparing each group within their respective domain to the mean of the other groups

---

Group	<i>t</i>	<i>p</i> <sup>a</sup>
Procrastinators	7.55	<.001
Dieters	1.77	0.077
Shopaholics	2.68	0.008
Alcoholics	5.99	<.001

---

Note. *df* = 395. <sup>a</sup>Two-tailed.

# Summary

- Our findings suggest that there is both *between-individual variance* in self-control and also *within-individual variance* across domains
- What differs dramatically across domains is not the perception of harm but rather the hedonic value of the temptation (utility functions?)
- We suspect that individuals answering self-control personality questionnaires are both averaging across situations and responding with their particular idiosyncratic temptations in mind (“I have trouble resisting temptation.” “People say I have ‘iron’ self-discipline.”)

I can resist everything but temptation. – *Oscar Wilde*



# Collaborators

- Eli Tsukayama, graduate student
- Betty Kim, research assistant
- Teri Kirby, research assistant
- *Our work is supported by the John Templeton Foundation*





Thank you!