

# Self-Control, Willpower, and Ego Depletion

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# What is Self-Control?

- Overriding responses, changing oneself
  - *Thoughts, emotions, impulses, performance*



# What is Self-Control?

- Overriding responses, changing oneself
  - *Thoughts, emotions, impulses, performance*
- Regulate: Change based on idea (standard)
- Vital for human social life (culture)
- Managing motivational conflict
- Key to understanding self
- Psychological basis of morality
- Basis for free will

# Value of Self-Control

- Longitudinal studies
- Positive correlations with good outcomes ...
- Cf. self-esteem



# Value of Self-Control

- Success in work, school
- Good relationships
- Happy, low stress
- Adjustment, mental health
- Physical health
- Money problems, debt
- Good behavior (vs. crime, abuse, prejudice)
- Longevity
- *Most major personal problems include self-control failure*



# First Hints

- Pattern noticed common to multiple literatures ( Quitting smoking, dieting, alcohol, possibly sex, aggression )
- Self-control deteriorates over time
  - Also following other demands
  - Dieters trying to quit smoking at same time do badly at both
    - Also poor affect regulation

# Ego Depletion Theory

- Limited resource
- Performance declines as willpower depleted
- Linked to blood glucose
- Also used for choice, intelligent thought, initiative
  - *Also non-behavioral functions, such as immune system*

# Perseverance Despite Frustrating Failure

Radish

Chocolate

No-Food Control





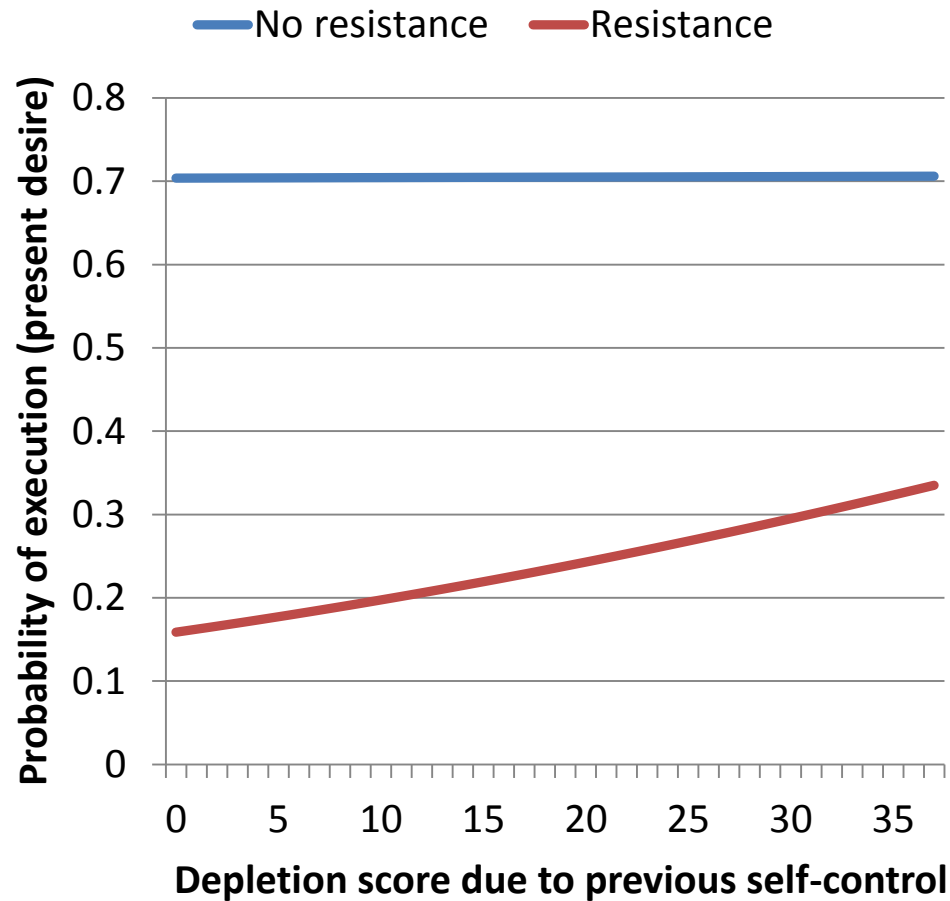
# Perseverance Despite Frustrating Failure

Radish	8.35 <i>minutes</i>
Chocolate	18.90
No-Food Control	20.86



# Ego Depletion in Daily Life

- Depletion score: sum of previous resistance attempts on same day, weighted by temporal distance



# First Revisions

- Initial idea: running out of fuel. Suspected as like muscle tiredness, insufficient energy to perform task
- Problem findings: depletion could be overcome with incentives
- Revised: depletion is conservation, not exhaustion
  - You can overcome it
  - But then you're super depleted
  - Mimic depletion when anticipating future
- (Turns out muscle tiredness is like that too.)

# Muscle Metaphor

- Tired following exertion
- Conservation, not exhaustion
- Exercise increases strength
  - *Building character*

# One Willpower, not Many

- Control thoughts
- Control feelings
- Impulse control
- Task performance



# Various consequences

- Intelligence, reasoning
- Interpersonal
- Aggression
- Morality, dishonesty
- Impulse spending
- ...Automatic responses remain intact and gain in relative control over behavior

# Strength Beyond Self-Control

- Choice is depleting
  - Decision fatigue
  - Free will

# Decision Fatigue: Cold Pressor Performance

Choices (Depln)	27.7
No Choices	67.4

*Vohs et al. (2008) J. Pers. Soc. Psy.*

*Measure: Seconds holding hand in ice water*  
*Source: Vohs et al. 2008*



# Decision Fatigue Summary: *Choosing While Depleted*

- Postpone/avoid decision
- Less compromise
- Default option, passive, status quo
  - Note Banker studies on dictator game: status quo bias, not selfishness
- Impulse, self-indulge
- Irrational bias (asymmetric dominance decoy effect)

# Nature of Decision Fatigue

- Note depletion effects on decisions cannot precisely parallel self-control
- Shift toward low-effort styles
- Avoid risk, no compromise, irrational bias, short-term, status quo bias (conservative)



# Obama interview

- “You’ll see I wear only gray or blue suits,” he said. “I’m trying to pare down decisions. **I don’t want to make decisions about what I’m eating or wearing. Because I have too many other decisions to make.**” He mentioned research that shows the simple act of making decisions degrades one’s ability to make further decisions. “You need to focus your decision-making energy. You need to routinize yourself. You can’t be going through the day distracted by trivia.”

# Strength Beyond Self-Control

- Choice is depleting
  - Decision fatigue
- Active vs. passive (initiative)...

# Depletion Causes Passivity?

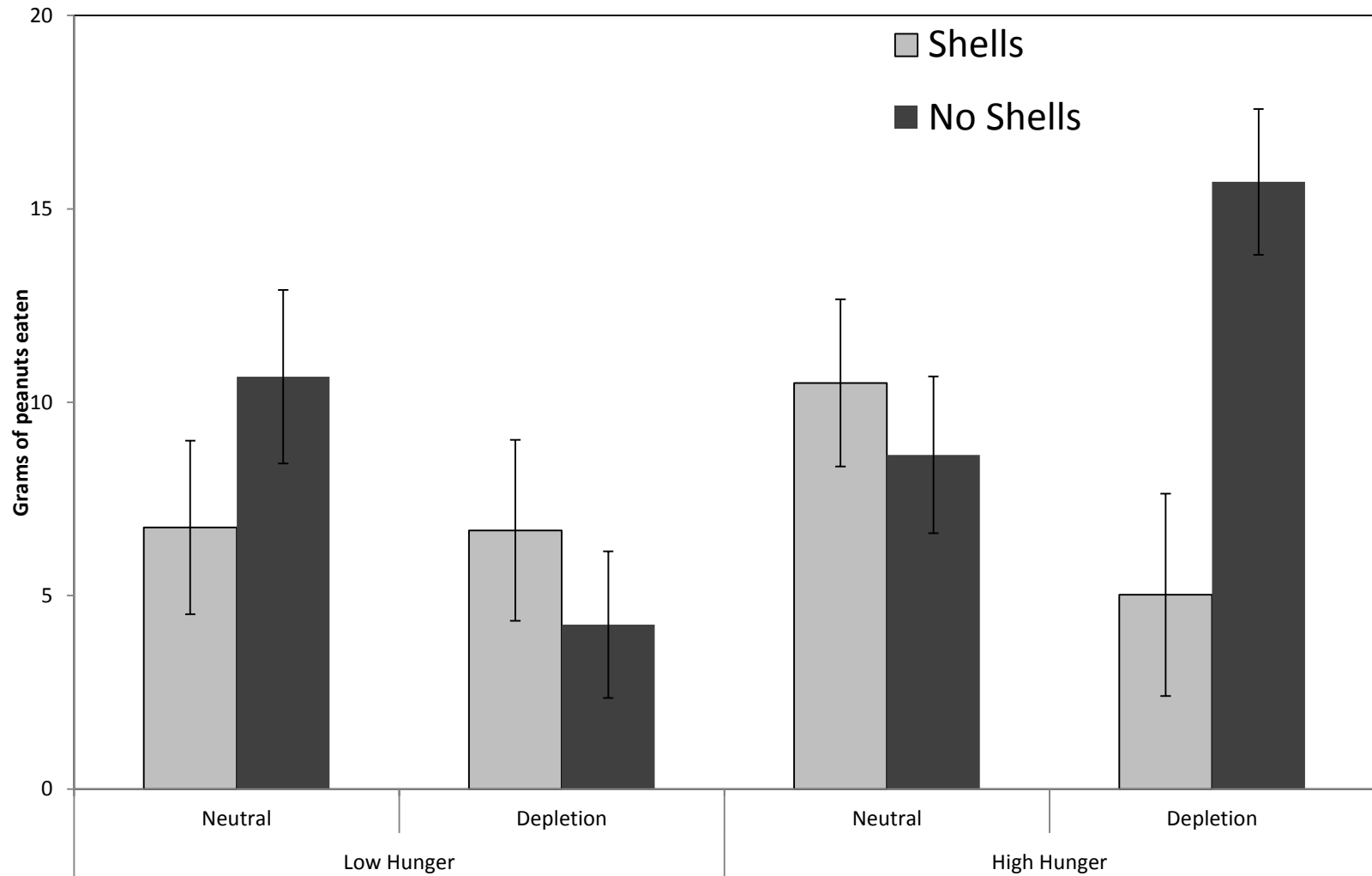
- Absence of top-down control
- Possible disinhibited activity
- But reduces taking initiative

*Vonasch et al. (in press). Motivation Science.*

# Taking the Easy Way Out

- Depletion reduces top-down mental control
- So the automatic, unconscious mind takes over... and does whatever is simpler
- Experiment on eating nuts: Eat all you want
  - People who got peanuts without shells ate *more* when depleted
  - People who get peanuts still in shells ate *less* when depleted

# Depletion in a Nutshell





# Free Will Revisited

- Unlikely that free will exists independent of these processes of self-control, rational choice, and initiative
- ***If there is free will, this is it***
- ***If there is no free will, this is what is mistaken for it***

# Strength Beyond Self-Control

- Choice is depleting
  - Decision fatigue
  - Free will
- Active vs. passive (initiative)...
- Planning
- Uncertainty
- Keeping secrets

# Trait Self-Control

- Note, no interaction with depletion in lab
- But in life, much more reports of feeling depleted among the low TSC
  - In lab, everyone does the same task, so it's equally depleting
  - Outside, mismanaged life means many more depleting experiences
- High trait SC not more willpower, just used better
- Manage habits; also more planning

# High on Trait Self-Control

- Less frequent resistance!
- Fewer problematic desires
- Less guilt
  - *From other work: lower life stress*
- Implications: Playing offense, avoiding problems



# Trait Self-Control

- Many positive outcomes
  - Cf. self-esteem
- Opposites attract (but don't last)
  - And can two undercontrolled lovers find happiness together?

# What Gets Depleted?

Is willpower just a metaphor...or  
something real?

Can energy models be revived?

How are mind and body linked?

# Willpower More than Metaphor?

- The Mardi Gras Effect study
- Glucose is relevant
  - PMS?
- Allocation rather than running out



# Self-Control Burns Glucose?

- Glucose as fuel for brain
- Some psychological processes consume more glucose than others
- Glucose deficiencies have been found among people with self-control deficits (e.g., juvenile delinquents)

# Lab Studies on Glucose

- Acts of self-control might reduce levels of glucose in bloodstream (?)
- Low levels of glucose predict poor performance on subsequent self-control tasks
- Administering glucose counteracts effects of depletion
  - (Though so does mere taste)

# Glucose and Decisions

- Asymmetric dominance effect
- Probability matching
- Delay discounting

# Understanding Glucose

- Self-control
- Allocation
- Immune system
- Premenstrual syndrome (PMS)

# New Emerging View

- Glucose is a big part of willpower
  - Body conserves naturally
- “Central governor” does not have inventory of body’s energy reserves
  - Estimates consumption from byproducts (adenosine), “counting the ashes”
  - Errs on side of conserving
- Evolved to protect immune system, etc.

# So...

- Mind and body *act as if* a resource is being depleted by self-control
- AND a physical energy resource is *genuinely* being depleted
- But those two facts are only loosely related
  - Cf. physical muscles

# Improvement via Depletion?

- Interracial interaction
- Leadership studies

# Ego Depletion Controversial?

- Alternative explanations
- No effect
- (Contradictory)



# Does Ego Depletion...

- Always occur under all circumstances?
- Sometimes occur under some circumstances?
- Never occur under any circumstances?

# Challenges, Alternative Theories

- Selective allocation of glucose
- Just motivation and attention
  - But self-reported motivation doesn't change
- All in your head/ expectations

# Conclusion

- Energy
- Conservation
- Building character
- Trait and state
- Decisions
- Initiative, active/passive
- Glucose

*The End*

# Depletion & Passivity

- Attention control manipulation: watched video of person, words at bottom, instructions to ignore or not
- Second task, seated at computer for instructions. Blue screen only.
- Measure: How long did they sit there without doing anything, as opposed to fetching the experimenter?



# Duration of Passive Sitting

Attention Regulated      5.6 minutes

No Depletion Control      2.7 minutes



# Thus,

Depleted people are more passive.  
More prone to do nothing and to  
choose “default” option.



# Selfishness or Passivity?

- Dictator game
- First studies, depleted persons kept more for self
- But confound: That's where money was
- Later studies separated divider from initial stakeholder
- Depleted people left the money where it was



# Dec 2018

- B school, few brief interruptions, ran seriously over. Need to trim down to an hour.
- Nicole suggests shortening the section on passivity. Keep the peanut shell study.

# Applied to Morality

- More immoral behavior
  - Cheating, lying

# Moral Judgment?

- Moral muscle assumes constant judgment
- Trolley problem, etc
- No reliable effects of depletion or low self-control
- BUT: process dissociation studies
  - E.g., smother baby to save group from death, or only from non-fatal manual labor conscription
- Avoid harm (D) vs. maximize total outcomes (U)
- High trait self-control folks are higher on both