

How Awareness and Valuation of the Future Jointly Shape Discretionary Spending

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Research on Choice Over Time

- People are impatient
- More impatience now than later
- People differ in their patience
- Different decisions imply different levels of patience



Many spending decisions distill to intertemporal choices, even if we don't appreciate this fact...

Reducing spending as a means to save for the future:

“If you're wasting \$5 a day on little things like a latte at Starbucks or a muffin, you can become very rich if you can cut back on that, and actually took that money and put it in a savings account at work, like a 401(k) plan or an IRA account... [I]n your 20s, you can actually be a multimillionaire by the time you reach retirement by simply finding your latte factor and paying yourself back.”

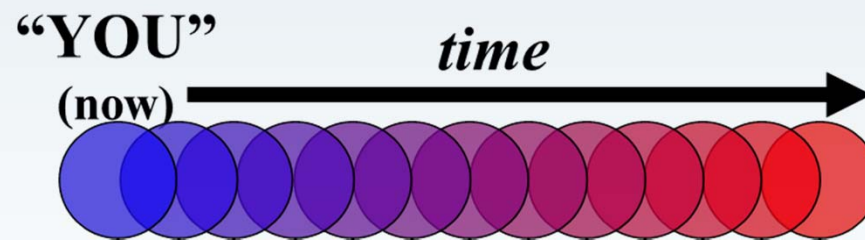
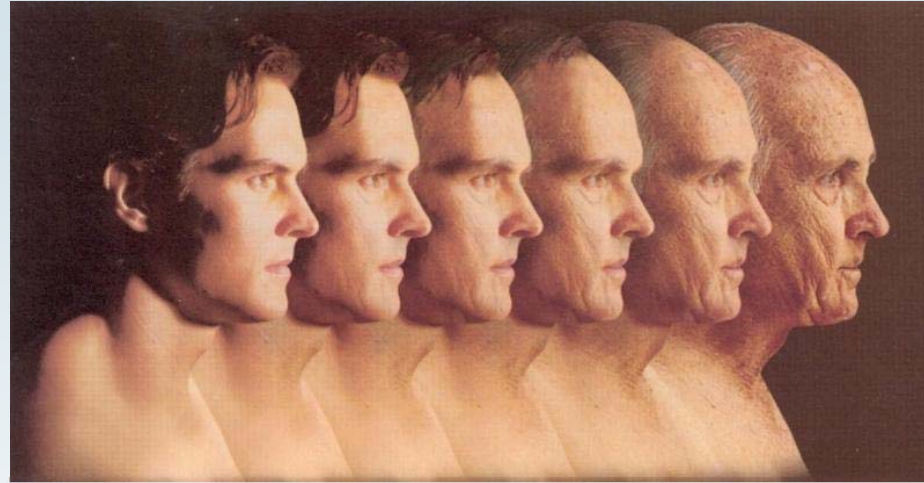
- Financial self-help author David Bach, CNN

- Meeting the challenge of savings requires:
Awareness of the future consequences of
current spending,

But, who are we saving for?



The Motivation to Save: Who Are We Saving For?



$$\text{A}_{t_0} \neq \text{A}'_{t_n}$$

Reduced **psychological connectedness** can relegate the future self *almost* to the status of other people (Parfit 1984; cf. Dancy 1997)

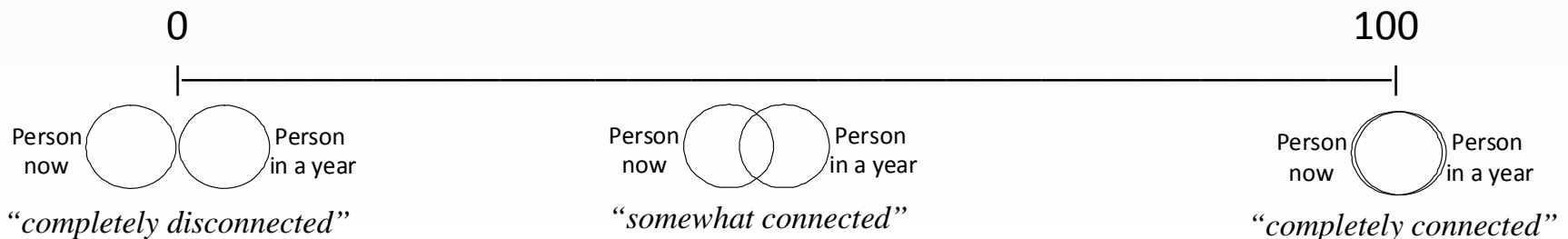
Measuring Psychological Connectedness

(Frederick 2003; Bartels and Rips 2010)

Think about the important characteristics that make you the person you are - your personality, temperament, major likes and dislikes, beliefs, values, ambitions, life goals and ideals.

Thinking about these characteristics, please rate the degree of connectedness between the person you are right now, and the person you expect to be in a year.

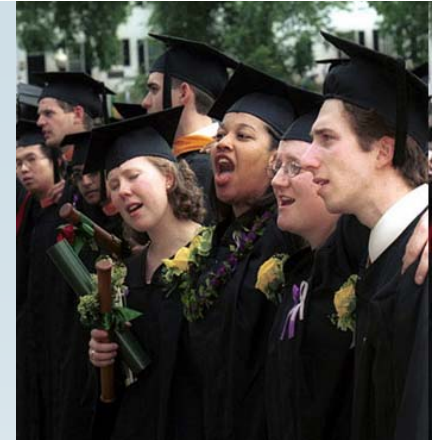
Use the line below, where 0 means "I will be completely different in the future" and 100 means "I will be exactly the same in the future".



Psychological Connectedness and Intertemporal Choice

- Frederick (2003) provided initial exploration
- Changes in connectedness over time parallel changes in patience over time (e.g., hyperbolic discounting; Bartels and Rips 2010)
- Connectedness correlates with self-reported asset accrual (Ersner-Hershfield et al. 2009b)
- Neural correlates of connectedness correlate with discounting (Ersner-Hershfield et al. 2009a; Mitchell et al. 2010)
- **Manipulating subjective feeling of connectedness to the future self causes differences in discounting (Bartels and Urminsky 2011)**

Does changing connectedness change patience?



Small Change

Day-to-day life events change appreciably after college graduation, but what **changes the least between graduation and life after college is the person's core identity**. The characteristics that make you the person you are... are **established early in life and fixed by the end of adolescence**. Several studies conducted with young adults before and after college graduation have [found] **that the traits that make up your personal identity remain remarkably stable**.

Large Change

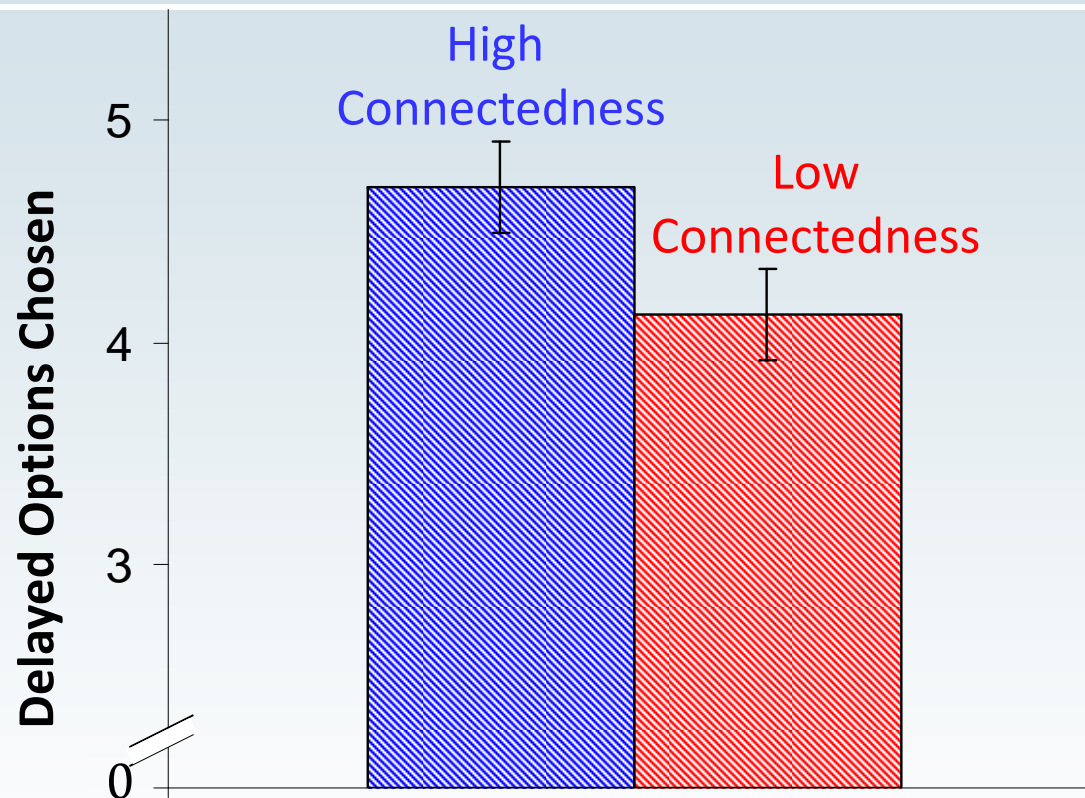
Day-to-day life events change appreciably after college graduation, but what **changes the most between graduation and life after college is the person's core identity**. The characteristics that make you the person you are... are **likely to change radically around the time of graduation**. Several studies conducted with young adults before and after college graduation have [found] **large fluctuations in the important characteristics that make up your personal identity**.

Lottery For Gift Certificate: Now vs. Later

What you would receive is determined by selecting at random one of the choices you make below.

- (a) \$120 Gift certificate in one week ---OR--- (b) \$120 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$137 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$154 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$171 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$189 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$206 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$223 Gift certificate in a year
- (a) \$120 Gift certificate in one week ---OR--- (b) \$240 Gift certificate in a year

A Large Change in Identity Causes Impatience



- NOT due to:
 - Anticipated changes in disposable income or time
 - Changes in uncertainty regarding the future
 - Anticipated preference changes

(Bartels and Urminsky 2011, *JCR*)

Are tradeoffs generally salient?

- Salience of the future impacts self-reported health-related behaviors, hypothetical 401(k) contributions (CFC, Strathman et al 1994; ELO, Nenkov et al. 2008)
- Propensity to plan predicts use of coupons, FICO scores and accumulated wealth (Ameriks et al. 2003; Lynch et al. 2010)
- Resource constraints prompt consideration of alternative uses for money, reduce “thoughtless” discretionary spending (Spiller 2010)
- Opportunity costs are not spontaneously considered in typical individual choices (Frederick et al., 2009)
- Whether or not opportunity costs are highlighted moderates *implicit tradeoffs* between present and future

Knowing about Future Consequences. Using Reminders to promote prudent financial decisions

- Remind consumers...
 - To make deposits in savings accounts (Karlan, McConnell, Mullainathan, and Zinman 2010)
 - To make deposits in retirement accounts (Massey, Haisley, Kurkoski, and Choi 2011)
 - To stick to their debt repayment schedule (Zinman and Karlan 2011)
 - Of the consequences of consequences of failing to save (Koehler, White, and John 2011)

Our Premise

- Key distinction: *Caring* about the future (connectedness) vs. *Considering* the future (tradeoff salience); e.g. time preference vs. planning horizon
- Tradeoff salience is necessary for Connectedness to impact choice
- The motivation to preserve resources for the future operates only for choices seen as a present-future tradeoff

Study 1: Price Tradeoffs And the Role of Opportunity Costs

- IV_1 : High vs. Low Connectedness
- IV_2 : Opportunity Cost Salience

“Imagine that you have been saving some extra money on the side to make some purchases, and that you are faced with the following choice.

Select the option you would prefer.

- (A) Buy a 64 Gigabyte Apple iPad for \$735
- (B) Buy a 32 Gigabyte Apple iPad for \$635
- (C) Not buy either iPad”

(Frederick et al., 2009 *JCR*)

Study 1: Price Tradeoffs And the Role of Opportunity Costs

- IV_1 : High vs. Low Connectedness
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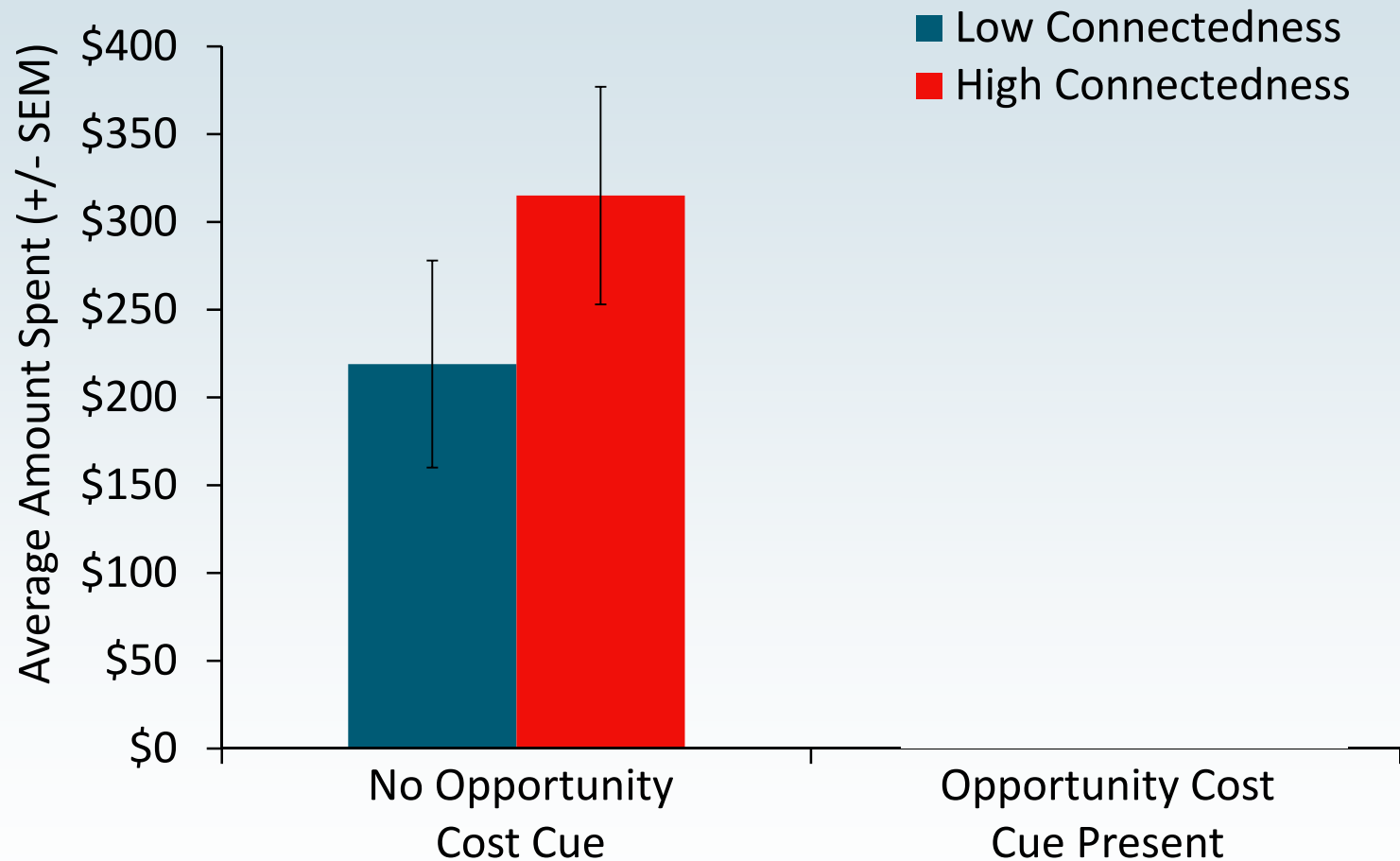
“Imagine that you have been saving some extra money on the side to make some purchases, and that you are faced with the following choice.

Select the option you would prefer.

- (A) Buy a 64 Gigabyte Apple iPad for \$735
- (B) Buy a 32 Gigabyte Apple iPad for \$635, *leaving you \$100 for other purposes*
- (C) Not buy either iPad”

(Frederick et al., 2009 *JCR*)

Connectedness Decreases Spending When Opportunity Costs Are Cued



- Even people who have the motivation to save need a nudge
- Nudges only effective for those who care about the future self

Study 2: Who needs a nudge? How effective are reminders to consider tradeoffs?

“Imagine that you have been saving some extra money on the side to make some purchases, and on your most recent visit to the video store, you come across a special sale on a new DVD.

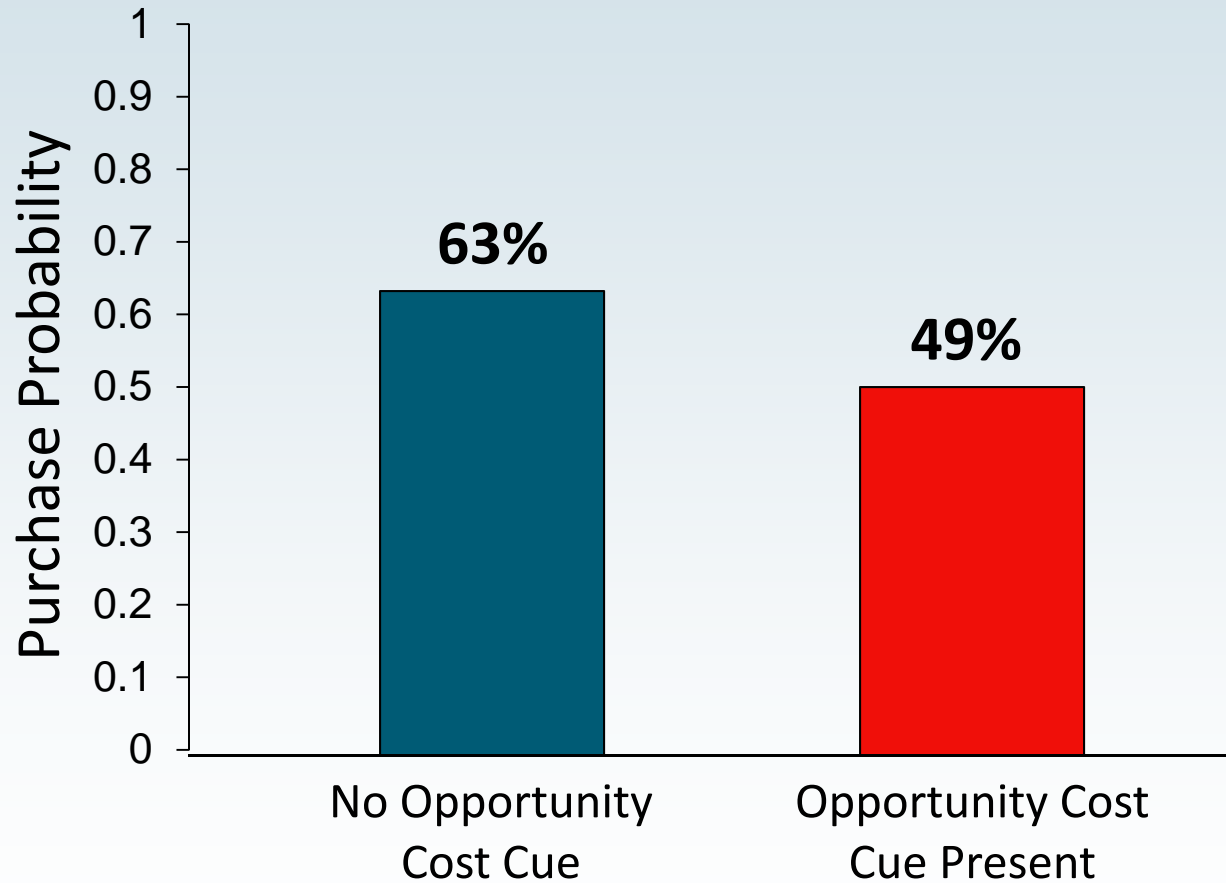
This DVD is one with your favorite actor or actress, and your favorite type of movie (e.g., comedy, drama, thriller, etc.).

This particular DVD that you are considering is one that you have been thinking about buying for a long time. It is available at a special sale price of \$14.99.

- a) Buy this entertaining DVD
 - b) Not buy this entertaining DVD, *keeping the \$14.99 for other purposes*
- After choice, measured:
 - Connectedness
 - Propensity to Plan (Lynch et al., 2010)



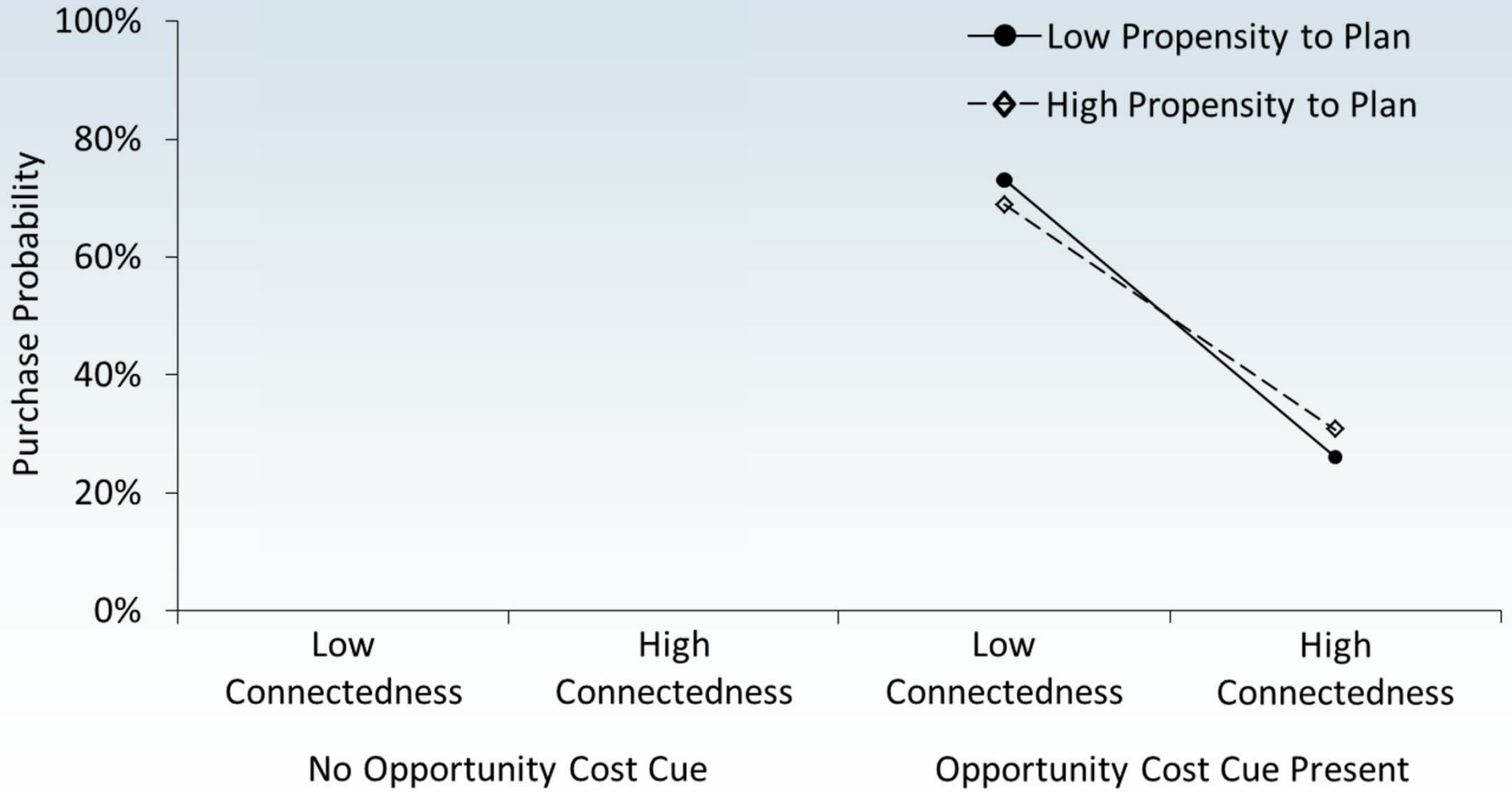
Highlighting opportunity costs reduces purchases,



Correlation with
Connectedness $r = -.09$
ns

$r = -.42$
 $p < .01$

Consumers Who Spontaneously Plan Don't Need Opportunity Cost Reminders



Upshot of Studies 1-2

- Good news: Reminders to consider tradeoffs and connectedness-increasing interventions have synergistic effects
- Bad news: Reminders, alone, are relatively ineffective for...
 - Consumers low in connectedness
 - Consumers high in propensity to plan

Study 3: Beyond One-off Choices, and cueing Tradeoffs through Preference Ranking

- IV_1 : High vs. Low Connectedness
- IV_2 : Order of tasks: Rank First vs. Choose First
- Six product categories:
 - pocket video cameras, blenders, bed sheets, pocket watches, laser printers, and nonstick frying pans
- Ranking categories: 1 = “the most desirable; the product I want to own the most” to 6 “the least desirable”

- Choices within each category:

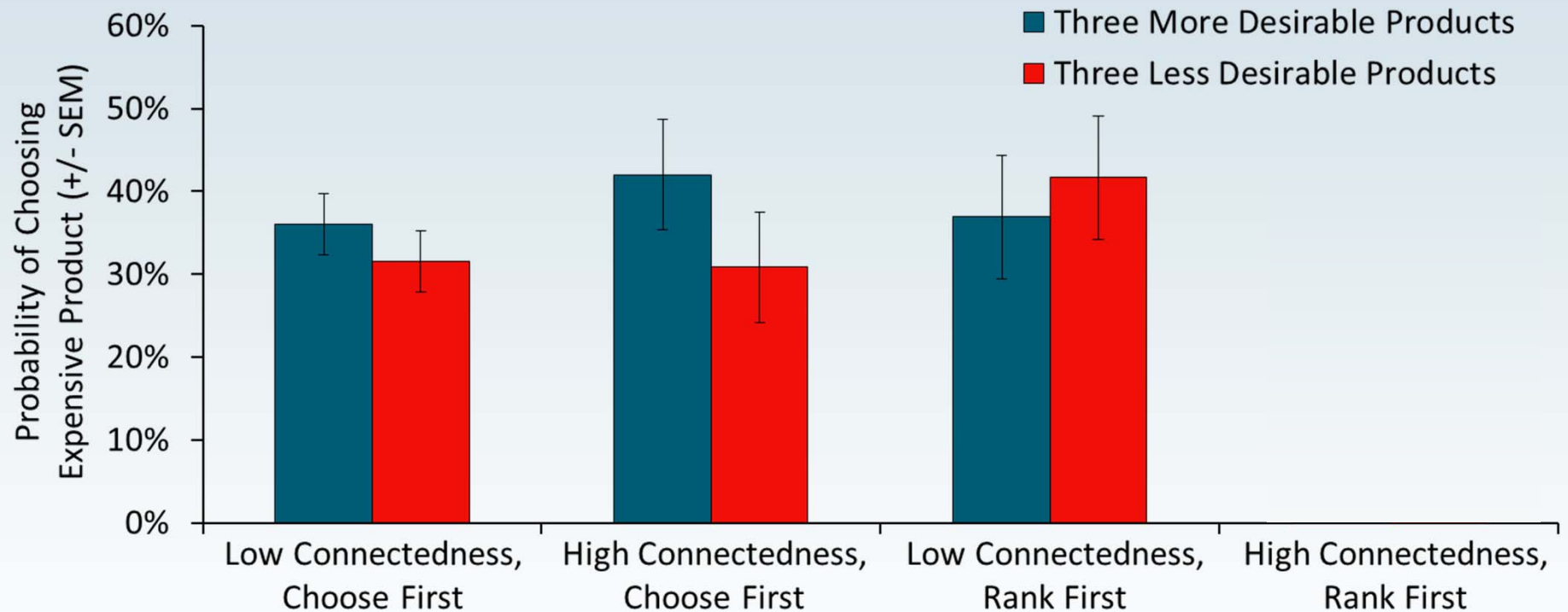


Flip UltraHD Video Camera
Amazon Price: \$78



Sony Bloggie HD Video Camera
Amazon Price: \$96

High Connectedness + Tradeoff Saliience = Targeted Reductions in Spending



- No difference in likelihood of purchasing premium products if they're highly desirable
- Reduced spending on relatively unwanted product categories

Study 4: Do connectedness-induced changes in time preference predict discretionary purchase when tradeoffs are salient?

- Connectedness affects time preference (Bartels and Urminsky 2011); the assessment tasks look like this:
 - (a) \$120 Gift certificate in one week ---OR--- (b) \$137 Gift certificate in a year
 - (a) \$120 Gift certificate in one week ---OR--- (b) \$171 Gift certificate in a year
 - (a) \$120 Gift certificate in one week ---OR--- (b) \$206 Gift certificate in a year
- Connectedness affects discretionary purchase when opportunity costs highlighted (Studies 1-3)
- Attempts to predict behaviors with measures of time preference meet with mixed success (Barsky et al. 1997; Chabris et al. 2008; Meier and Sprenger forthcoming; Reimers et al. 2009)
- Are measures of time preference better predictors for future-oriented behavior for which present-future tradeoffs are salient?
 - Explicit tradeoffs between lump sums → discretionary purchases when tradeoffs are clear?

Study 4: Opportunity Costs and Time Preference's Effects on Price Tradeoffs

- IV_1 : High vs. Low Connectedness
- IV_2 : Opportunity Cost Salience

“Imagine that you have been saving some extra money on the side to make some purchases, and that you are faced with the following choice.

(A) Buy a 64 Gigabyte iPad 2 with Wi-Fi and 3G for \$829

(B) Buy a 32 Gigabyte iPad 2 with Wi-Fi for \$599 [*leaving you \$230 for other purposes*]

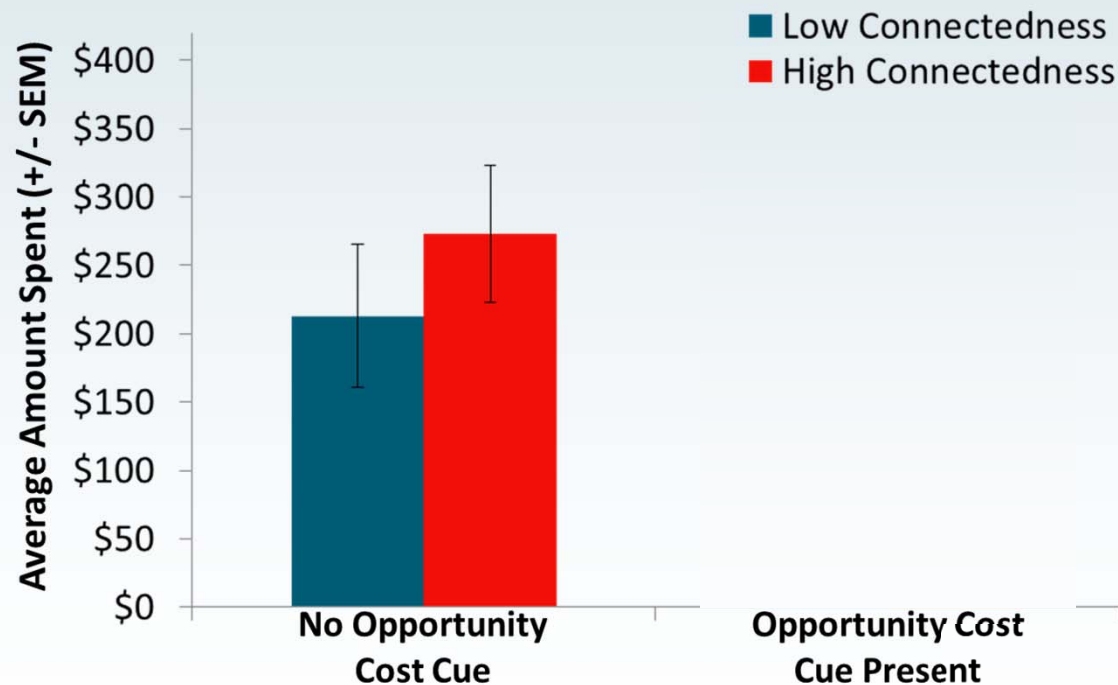
(C) Not buy either iPad 2

- **Variable 3:** Time preference
 - Titrators, e.g.: \$260 tomorrow vs. \$312, \$468, \$624 in a year

Connectedness and Time Preference Decrease Spending When Tradeoffs Are Cued

Result 1: δ *Time Preference:* 0.51 (0.21) $<$ 0.58 (0.17) $t = 2.16$ $p < .05$

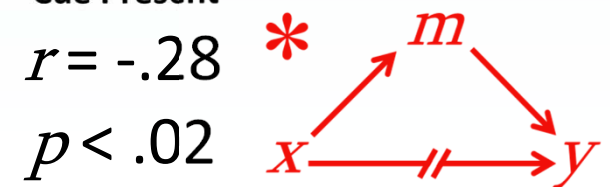
Low Connectedness *High Connectedness*



Result 2:
Interaction: $\beta = 1.4$,
Wald = 4.1, $p < .05$

Result 3,4: *Correlation with* $r = .09$
Time Preference *ns*

mediated moderation



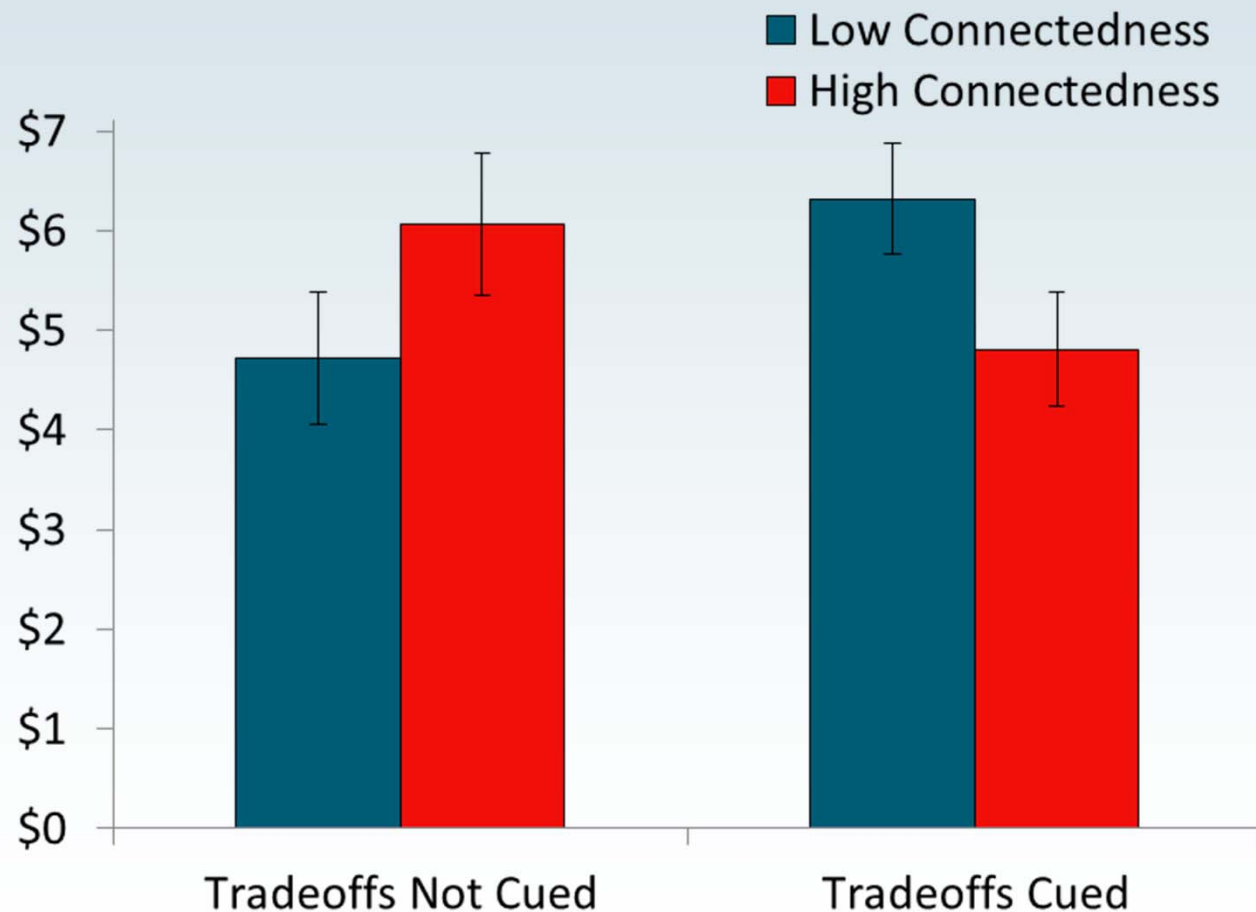
Okay, so,
back to coffee...



Study 5: Spending at a Coffee Shop

- IV_1 : High vs. Low Connectedness
- IV_2 : Opportunity Cost Salience
- LOW: A year from now, will you wish that you spent more time or less time reading about each of the five categories below? (history, world events, entertainment, politics, science)
- HIGH: A year from now, will you wish that you spent more money or less money in each of the following five categories? (debt repayment, entertainment, coffee and pastries, savings, transportation)
- DV : Amount spent
- *Other controls*: Frequency of visit, Day of the week

Connectedness and Tradeoff Salience Affect Spending (in the real world, or at least in Hyde Park) When Tradeoffs Are Cued



Upshot of Studies 3-5

- Synergistic effect of tradeoff salience + high connectedness = consumers make smarter tradeoffs
- Connectedness changes the relative valuation of the present/future, and when tradeoffs are cued, these changes reduce discretionary spending
- That discount rates predict behavior *only* when tradeoffs cued helps to solve puzzle of why discount rates don't always predict behavior

Summary

- Consumers restrain their spending when they are both connected *and* are thinking about tradeoffs
- Connectedness to the future self is a key element of the *motivation to save* for the future
- Recognition of present-future tradeoffs is necessary for *acting on the motivation* to save
- Implications for helping people to meet the challenge of consumer savings:
 - Increasing connectedness without reminders of tradeoffs will likely be less effective
 - Placebic reminders of tradeoffs and other nudges will likely be made more effective when coupled with connectedness-increasing tactics



Thanks!