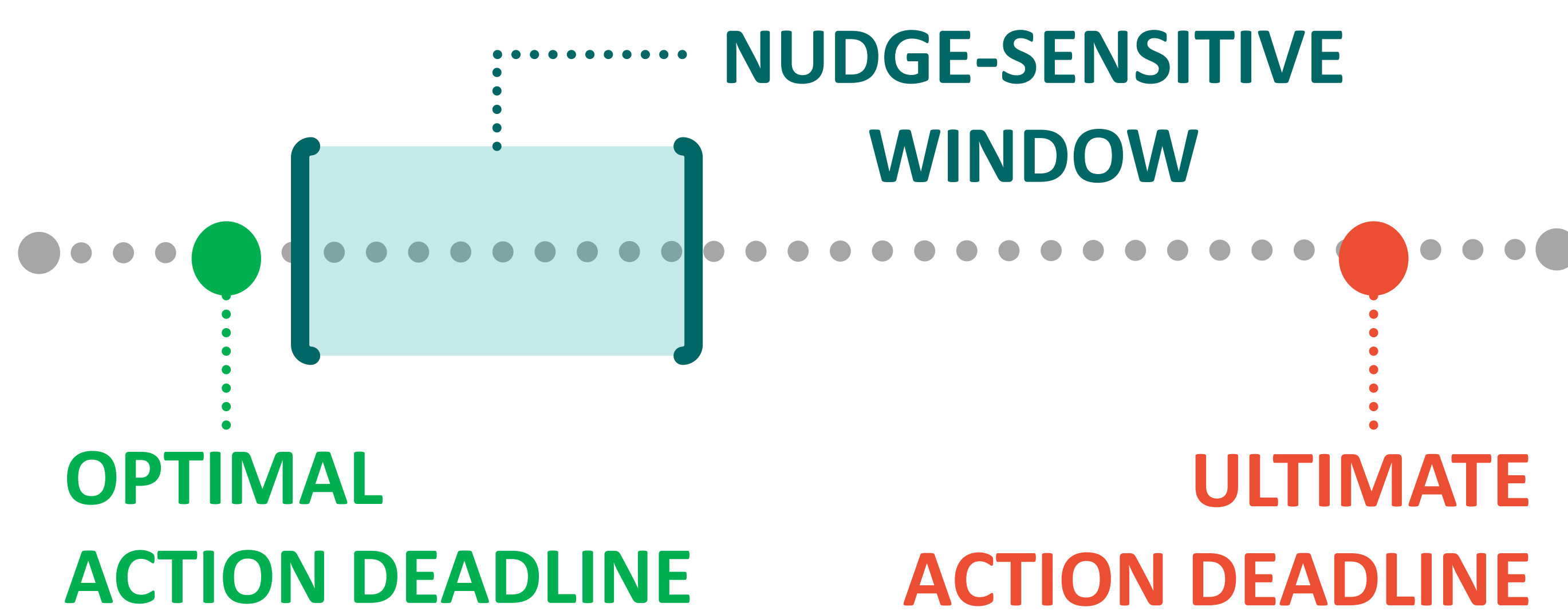


Prompts for Procrastinators: Identifying Post-Deadline Teachable Moments

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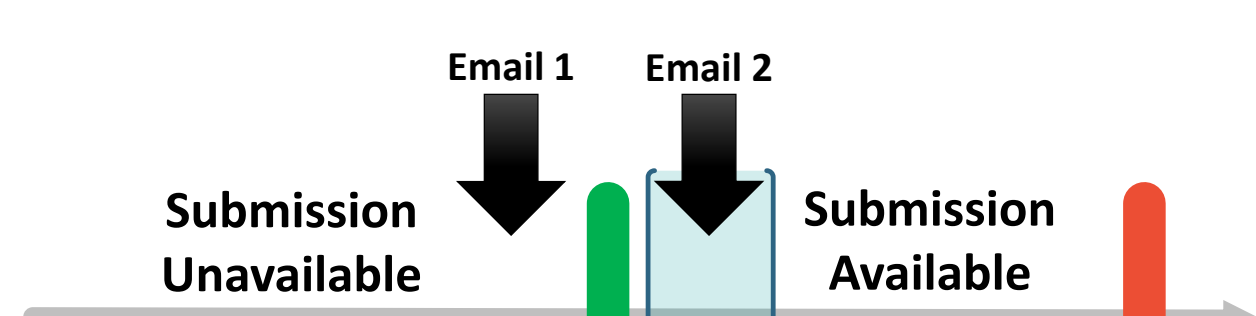
INTRODUCTION

- Although “nudges” are increasingly researched and frequently employed, little is known regarding their temporal dynamics. **We question the implicit assumption that the efficacy of nudges is temporally invariant.**
- We propose that there are periods of time when individuals are particularly sensitive to nudges. These time periods represent “**teachable moments**” (McBride, Emmons, and Lipkus 2003) that **can motivate positive behavior change.**
- Drawing on prior work on temporal landmarks (Dai, Milkman, and Riis 2014), we distinguish between optimal deadlines and ultimate deadlines, predicting that the optimal deadline acts as a discrete reference point and a “teachable moment,” enhancing nudge efficacy.
- We focus on a temporally relevant nudge – planning prompts – previously shown to increase deadline fulfillment (e.g., election voting; Nickerson and Rogers 2010). We predict that planning prompts are not consistently effective in promoting behavioral engagement. Rather, **we hypothesize that planning nudges will be more effective (relative to no nudges) after an optimal action deadline.**



STUDY 1

Financial Aid Communications



- n = 1,247 prospective students
- 2 (timing) x 2 (framing) mixed design
- Timing** (relative to optimal deadline):
 - (within-subjects)
 - Before – 3 days before Oct. 1
 - After – 2 days after Oct. 1
- Framing** :
 - Planning prompts (e.g., “make a plan”)
 - No planning prompts
- DV:** email engagement
 - (0 = didn't open, 1 = opened)

Students applying for the 2017-2018 academic year received 2 university financial aid email communications regarding the first instantiation of FAFSA's early-application date (i.e., October 1, 2016)

Email 1 Subject Line

No Planning Prompts: FAFSA can be Completed on 10/1 this year!

Planning Prompts: Your calendar is crowded – Make a plan now to lock down your financial aid!

The busier you are, the more important it is to plan your 10/1 FAFSA completion!

Students can complete their Free Application for Federal Student Aid (FAFSA) as early as October 1, 2016. It's a busy time of year, so it's important that you set aside time to do this!

Some funding is provided on a first-come, first-served basis. This means that prioritizing completing your FAFSA early could help you secure your aid.

Make a plan now to start your FAFSA early!

Here are some steps you can take right now to make sure this gets done ASAP.

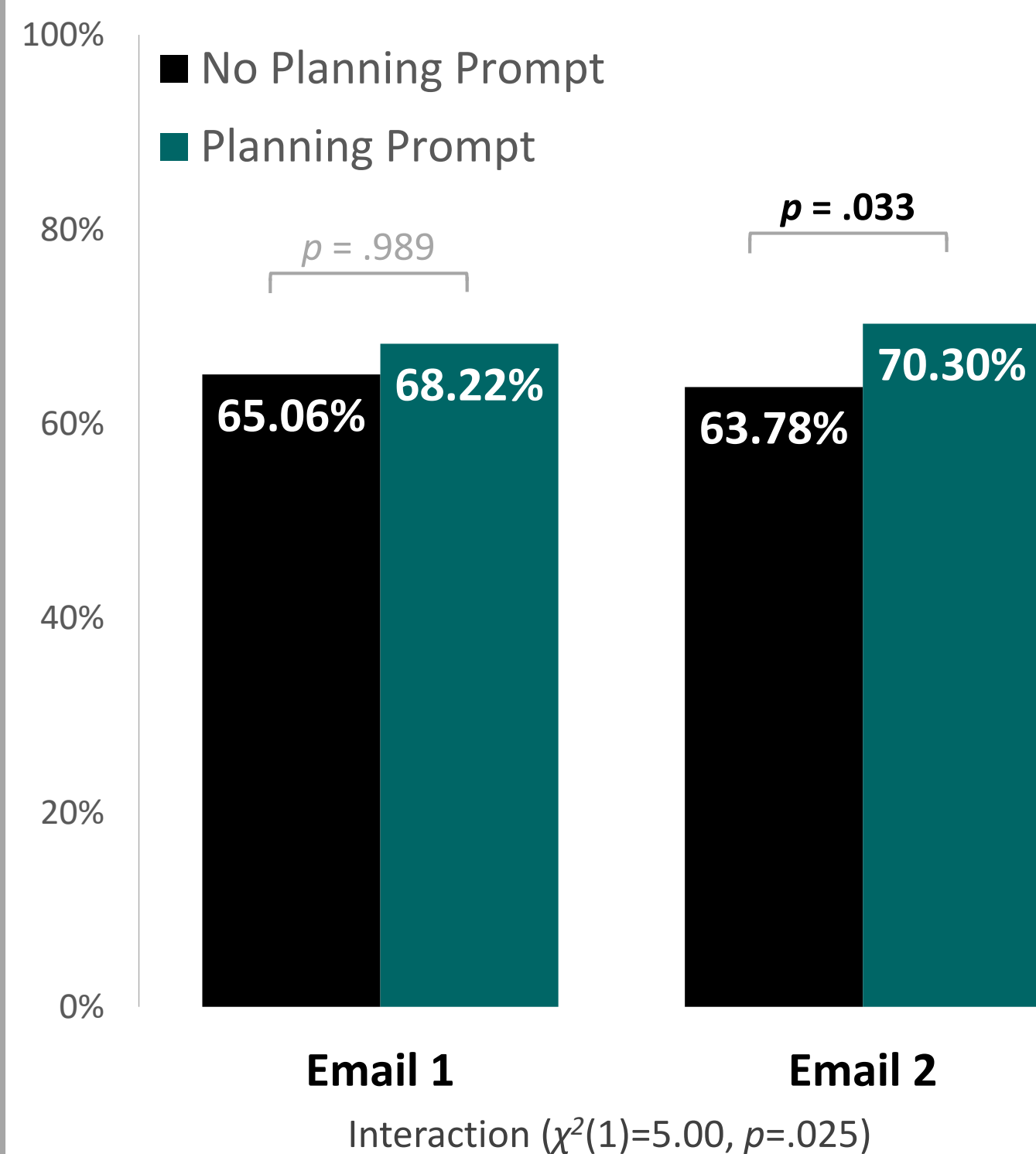
- Step 1: Click here to get your **FSA ID**. You'll need this to complete the FAFSA.
- Step 2: Collect this **list of materials** so you're ready on October 1. (NEW! You may be able to use 2015 tax information to complete the FAFSA.)
- Step 3: Put a reminder in your phone or on your calendar right now to **do your FAFSA right after 10/1**. (Tip: put your FSA ID in the reminder to that it's easy to start the process!)

And when you have questions, Pitt is here to help. Contact us to speak with a financial aid advisor: fnad@pitt.edu or 412-624-7488.



Financial aid communications with planning nudges boosted prospective students' behavioral engagement immediately after, but not prior to, the optimal submission deadline

Email Engagement

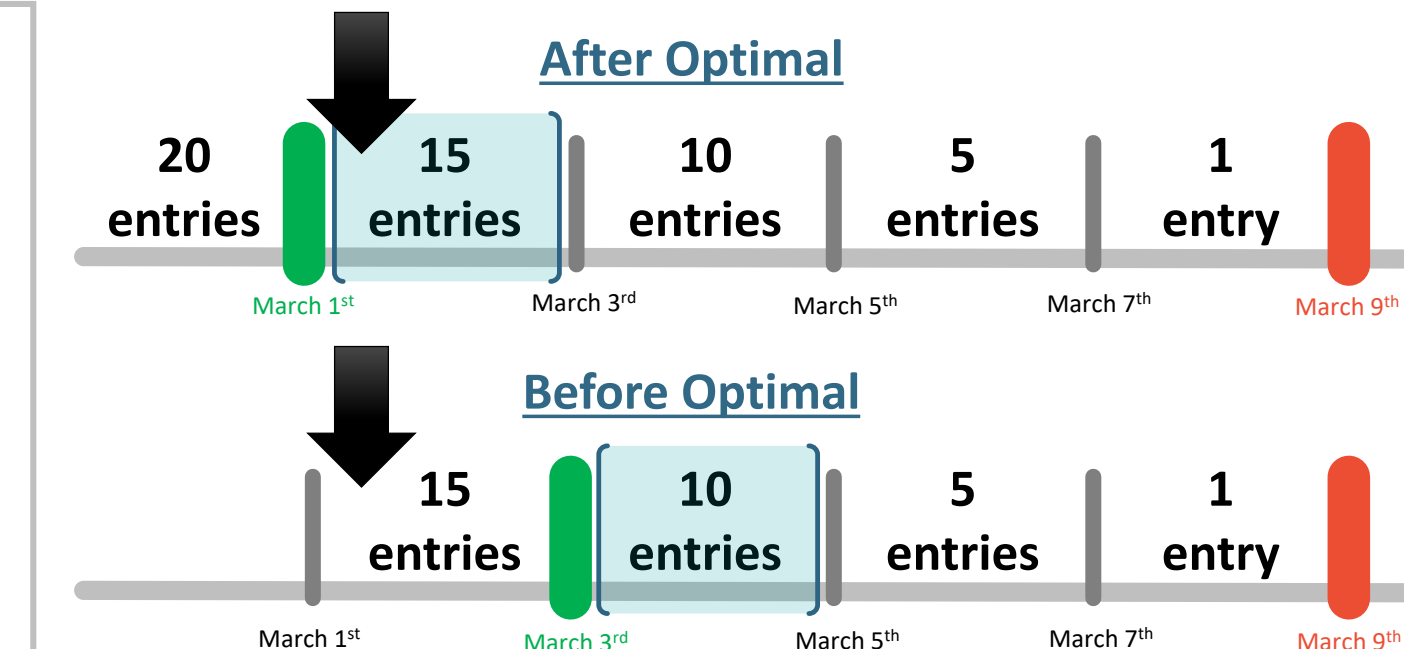
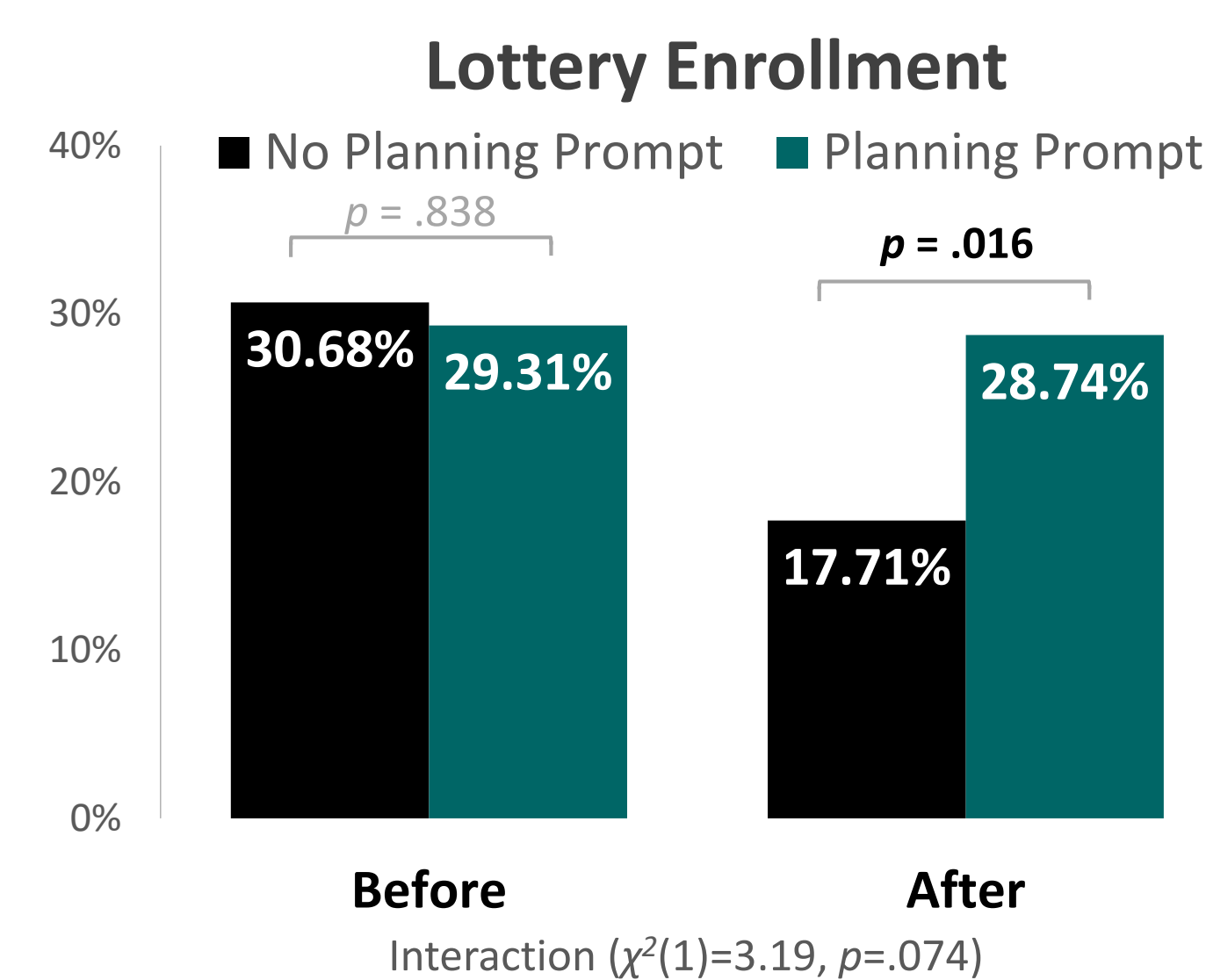


STUDY 2

Lottery Enrollment

Participants learned of lottery, requiring code entry for enrollment. Participants could only enter once, but earlier enrollment earned extra entries (resulting in 15, 10, 5, or 1 total entries). Participants could not enter until the following day, making the **next entry opportunity identical for all participants.**

- n = 699 MTurk workers
- 2 (timing) x 2 (framing) BS design
- Timing** (relative to optimal deadline):
 - Before – no prior deadline info
 - After – just missed 20-entry deadline
- Framing**:
 - Planning prompts (e.g., “schedule time”)
 - No planning prompts
- DV:** enrollment (0 = no, 1 = yes)



The busier you are, the more important it is to plan to enter your code early! The entry window opens soon!

Participants can enter their code as early as 2/24. It's a busy time of year, so plan on setting aside time to do this! Entries can only be made during a specific period of time. **This means that prioritizing entering your code early could help increase your chances of winning.**

Make a plan now to enter the lottery early! Schedule time on your calendar now to do this tomorrow between 9am and 1pm EST!

REMEMBER:
Enter between 9 am – 1pm (EST) 2/24 and 2/25 = **20 chances to win**
Enter between 9 am – 1pm (EST) 2/26 and 2/27 = **15 chances to win**
Enter between 9 am – 1pm (EST) 2/28 and 3/1 = **10 chances to win**
Enter between 9 am – 1pm (EST) 3/2 and 3/3 = **5 chances to win**
Enter between 9 am – 1pm (EST) 3/4 and 3/5 = **1 chance to win**

Displaying planning prompts increased the likelihood of enrollment, but only for those who believed the optimal deadline had already passed.

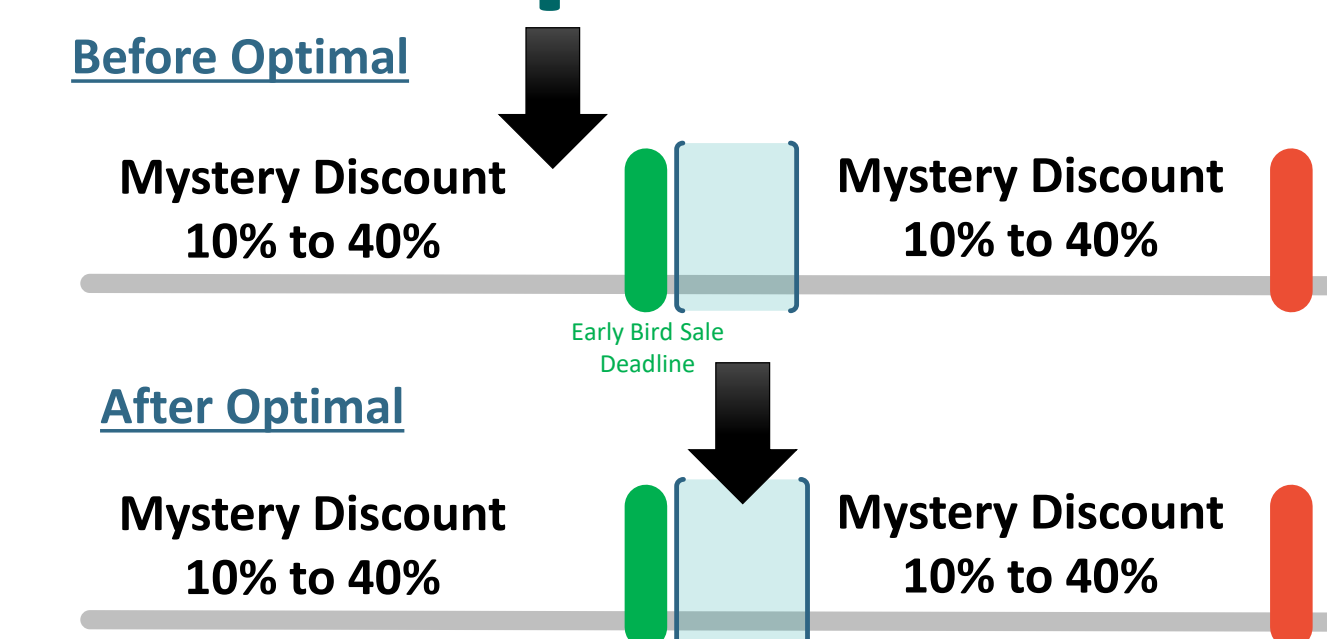
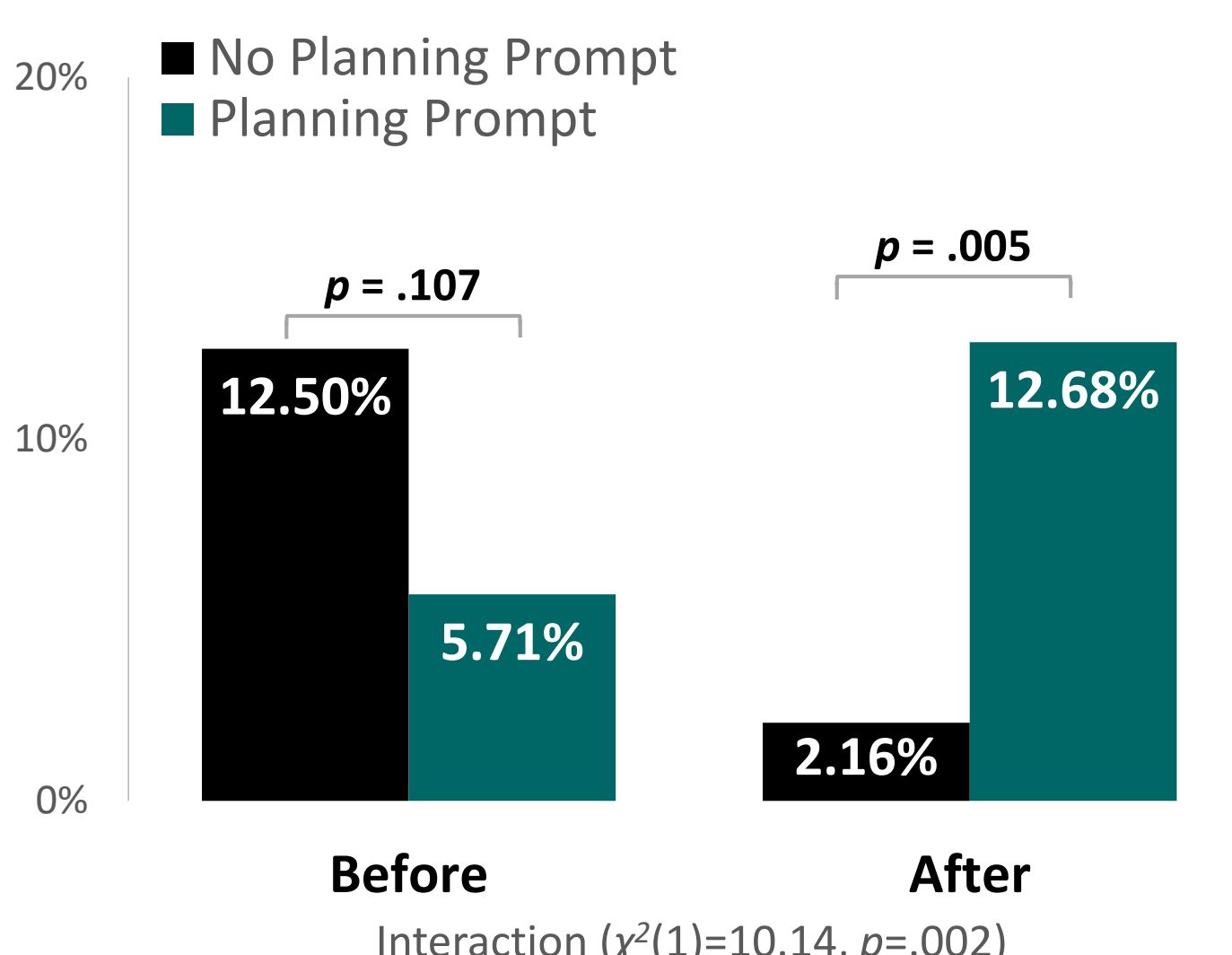
STUDY 3

Mystery Discount Email Responsiveness

Participants simulated actions they would take in response to a promotional email from their favorite online clothing retailer.



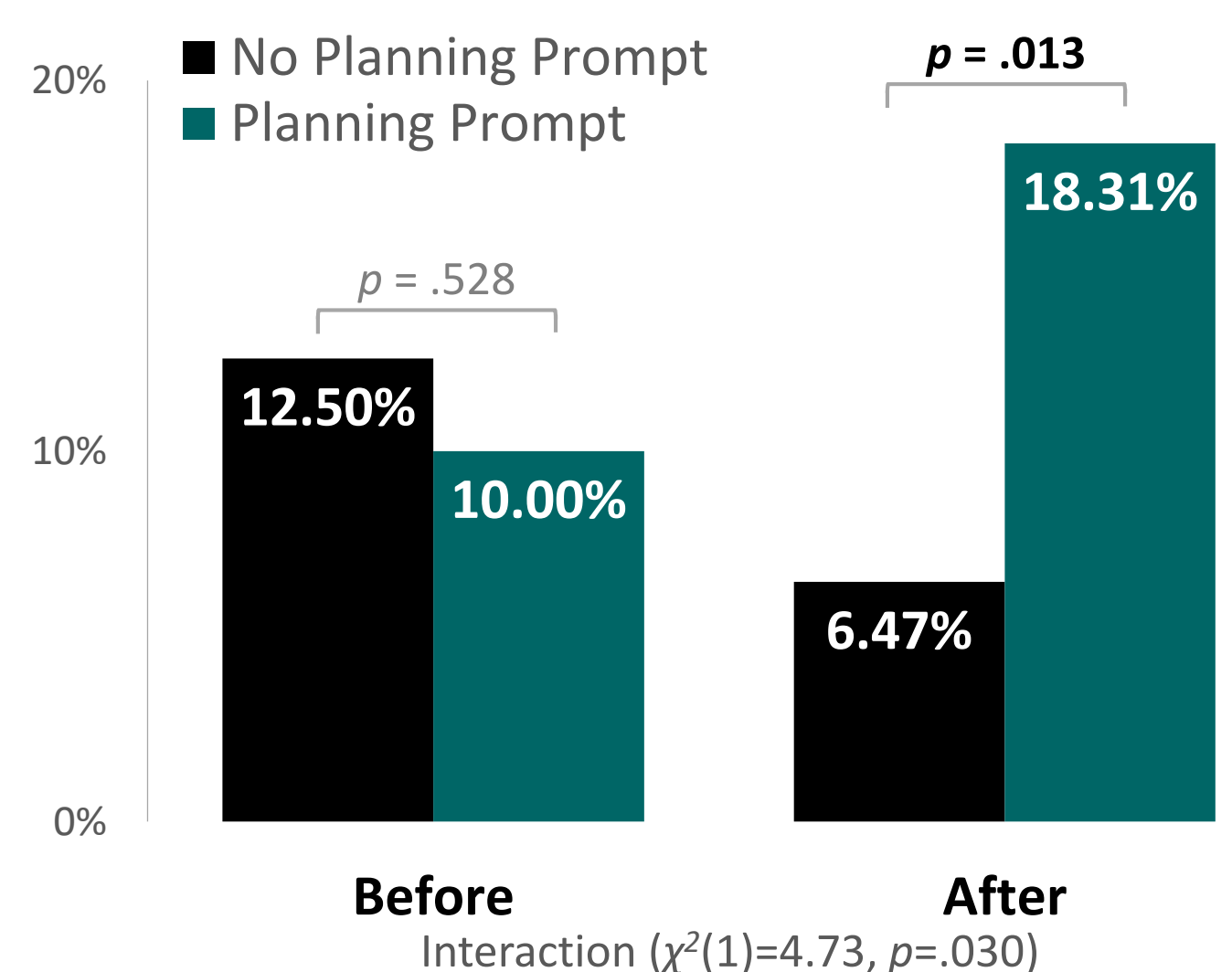
“Mark on Calendar” Button



- n = 432 MTurk workers
- 2 (timing) x 2 (framing) BS design
- Timing** (relative to optimal deadline):
 - Before – before early bird deadline
 - After – just missed early bird deadline
- Framing**:
 - Planning prompts (e.g., “make a plan”)
 - No planning prompts
- DV:** action button (0 = no click, 1 = click)

Promotional emails with planning prompts increased likelihood planning-related behavioral action after, but not before, the early bird deadline.

“Text Reminder” Button



PROCESS POSSIBILITIES

- Gain/Loss switch** – shift from a gain to a loss mindset after the optimal deadline passes, but the planning prompt makes the chance of lost opportunities more salient
- Reference point shift** – continue to focus on optimal deadline after it passes, but the planning prompt provides a new reference point
- Diminishing benefits** – perceive the benefit opportunity diminishing after optimal deadline, but the planning prompt suggests a way to reclaim perceived benefits

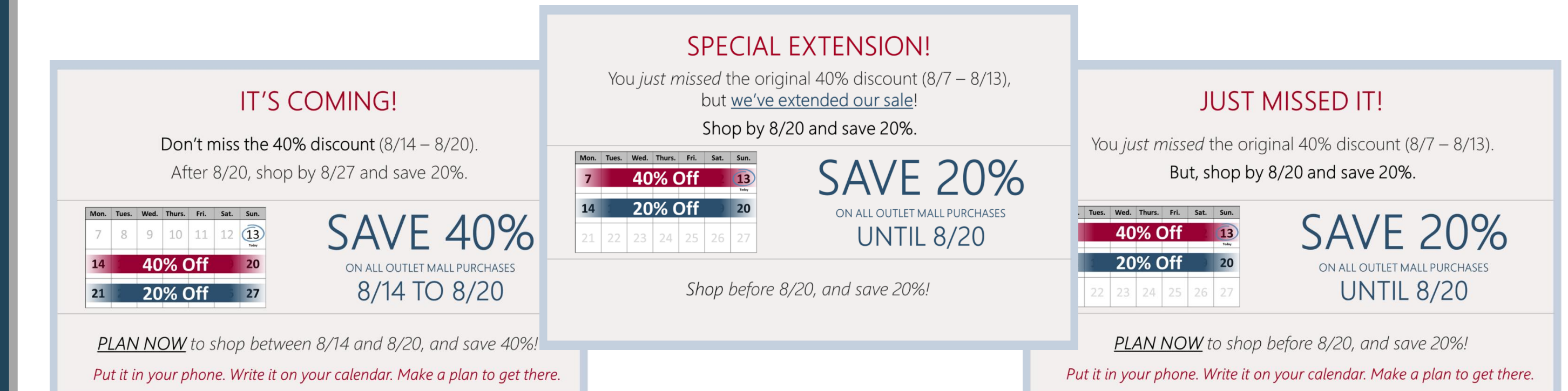
STUDY 4

Reclaiming Gain Via Deadline Extension

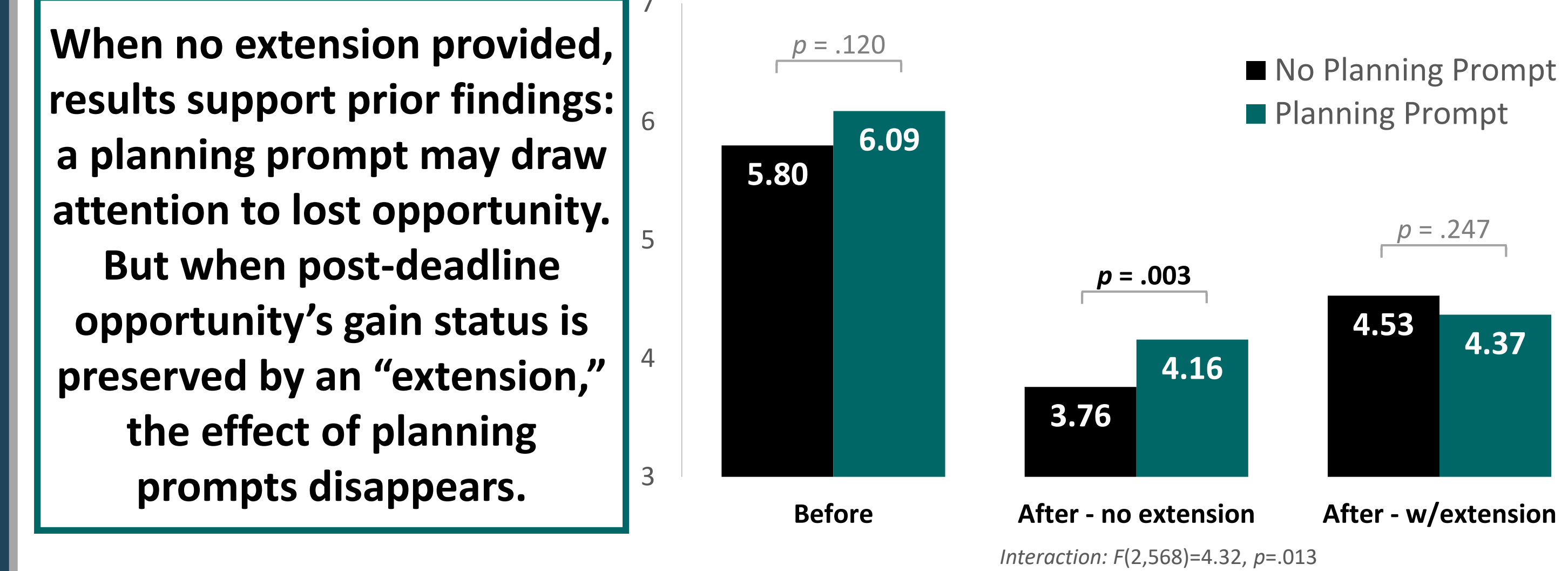
If “teachable moments” result from a shift to a loss frame, reframing the post-optimal action deadline as an opportunity to reclaim a gain should eliminate the benefit of planning prompts in nudge sensitive windows.



- n = 576 MTurk workers
- 3 (timing) x 2 (framing) BS design
- Timing** (relative to optimal deadline):
 - Before – sale is coming
 - After – (loss) just missed original sale
 - After (extension/gain) – extended sale
- Framing**:
 - Planning prompts (e.g., “put it in your phone”)
 - No planning prompts
- DV:** Composite index of beneficial gain perceptions (3 items; 1 –SD, 7 –SA; α = .91)



Perceived Benefit of Discount



When no extension provided, results support prior findings: a planning prompt may draw attention to lost opportunity. But when post-deadline opportunity's gain status is preserved by an “extension,” the effect of planning prompts disappears.

CONTRIBUTIONS & FUTURE RESEARCH

- Demonstrates that the behavioral efficacy of planning nudges is shaped by proximity to optimal deadlines**, with the addition of planning prompts primarily increasing behavioral action after an optimal deadline has passed
- Extends recent studies examining how consumers' cognitive representation and categorization of time markers influences the likelihood of subsequent action (e.g., Dai, Milkman, and Riis 2015; Tu and Soman 2014)
- Proposes that temporal events can act as “teachable moments,” suggesting that future research may want to consider temporal dynamics of other nudges or identify similarly sensitive timeframes for interventions

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