

# Effects of Mode and Incentives on Response Rates, Costs, and Response Quality in a Survey of Alcohol Use Among Young Adults

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# Background

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## Central research question

What impact does mode order (mail/web or web/mail) have on response rates, costs, and data quality in a study of alcohol use and misuse among young adults

## Motivation for study design

- Coverage problem with younger adults with RDD
- Response rate concern for younger adults
- Desire to drive respondents to web
- May need mixed mode solution
- Do small cash preincentives perform differently in web than mail

# Study design

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- Topic: binge drinking and impaired driving
- Sample of young drivers
  - DOT Drivers license file
  - 9 Counties in Wisconsin
  - N=7,200
- Short questionnaire (4 page SAQ)
- University Med School/Pop Health sponsor

# Experimental groups

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## Sequential modes with differing preincentives

- Mail/Web -\$1
- Mail/Web -\$2
- Web/Mail -\$1
- Web/Mail -\$2

# Mail/Web

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## Five contact points:

- First mail questionnaire with \$1/\$2 cash (Day 1)
- Postcard reminder (Day 4)
- Second mail questionnaire (Day 24)
- Mode switch – Letter with URL (Day 43)
- Postcard reminder (Day 47)

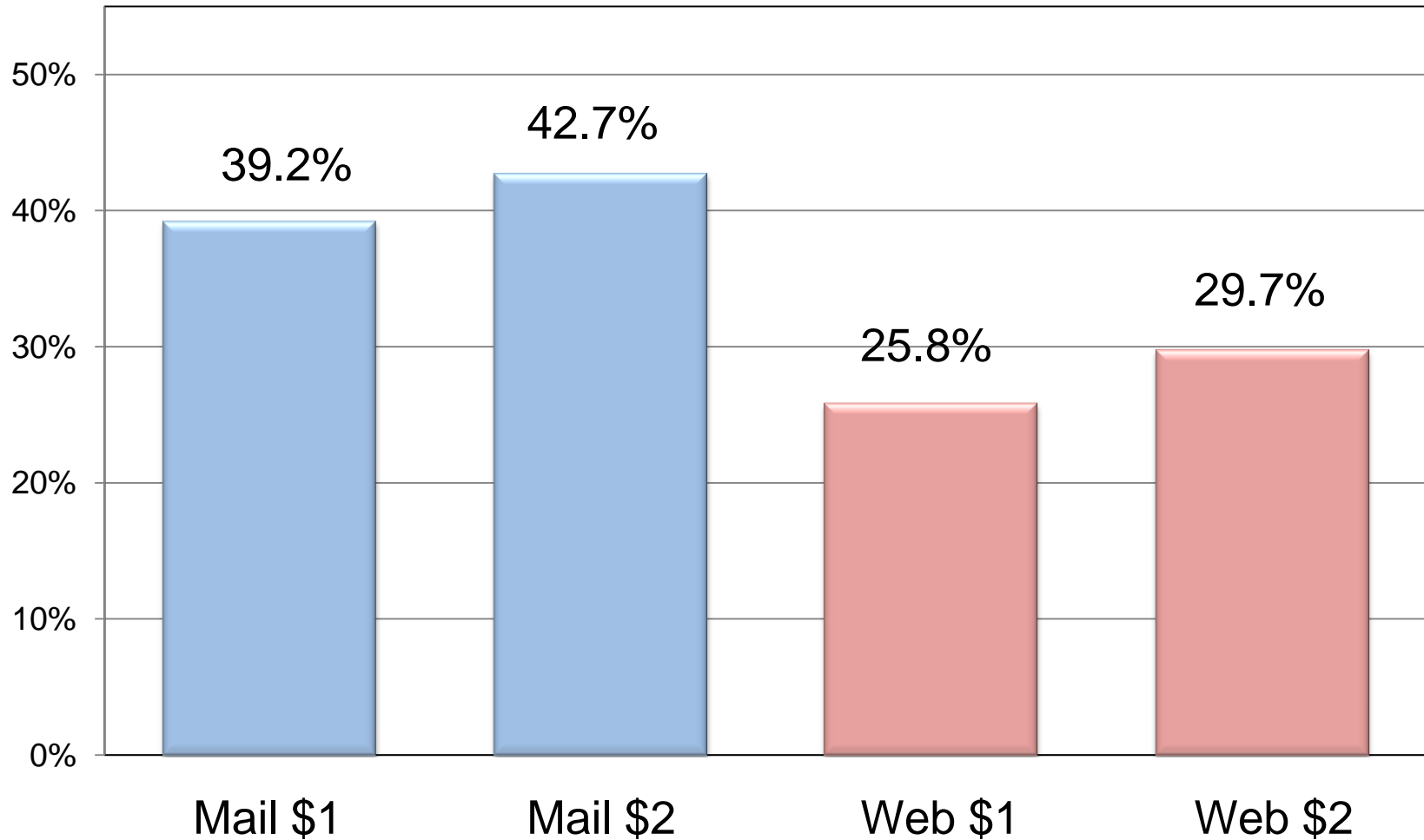
## Web/Mail

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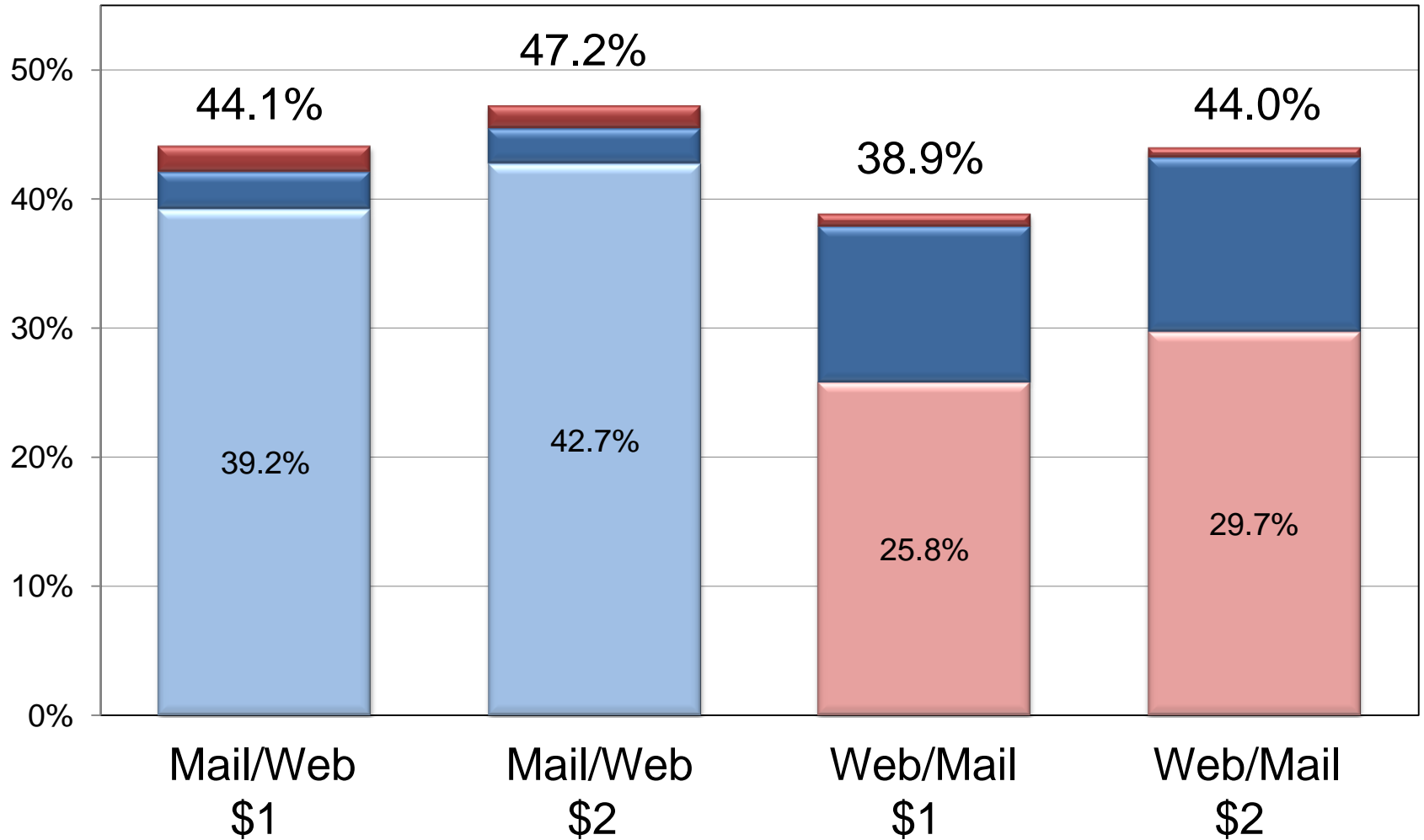
Five contact points:

- First letter with URL \$1/\$2 cash (Day 1)
- Postcard reminder (Day 4)
- Second letter with URL (Day 24)
- Mode switch – mail questionnaire (Day 43)
- Postcard reminder (Day 47)

# Response rates: Mail only vs web only (before mode switch)



# Response rates with both modes: Mail/web vs web/mail





# Costs per complete with dual mode: Mail/Web vs. Web/Mail

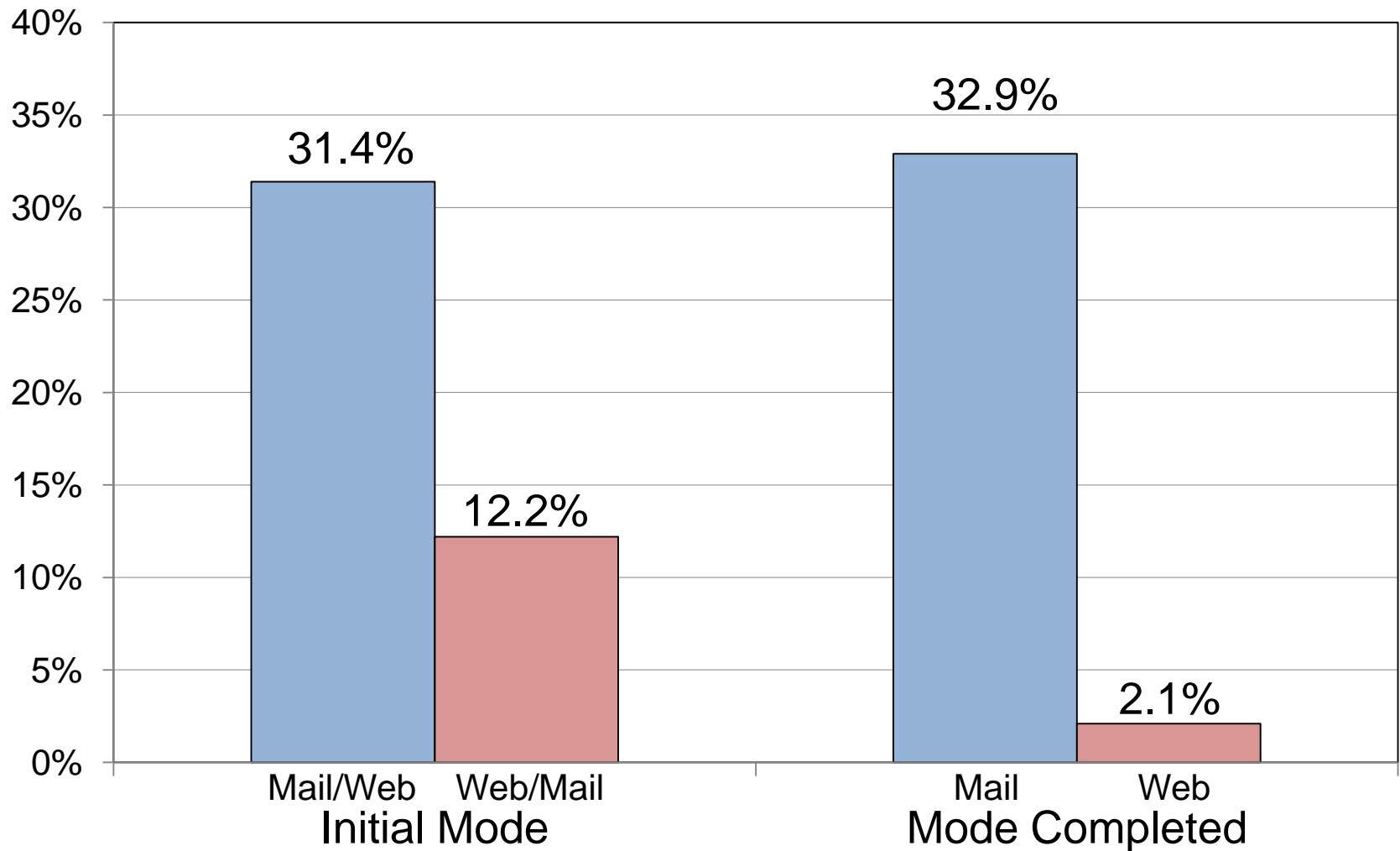
	Mail/Web \$1	Mail/Web \$2	Web/Mail \$1	Web/Mail \$2
<b>Cost</b>				
Total Variable Costs	\$12,071	\$13,748	\$9,563	\$11,248
Cost Per Complete	\$17.99	\$19.10	\$16.35	\$16.69
	+\$1.11		+\$0.34	
<b>Response Rates</b>	44.1%	47.2%	38.9%	44.0%
	+3.1%		+5.1%	
<b>Total Number of Completes</b>	671	720	577	674

## Effects on data quality

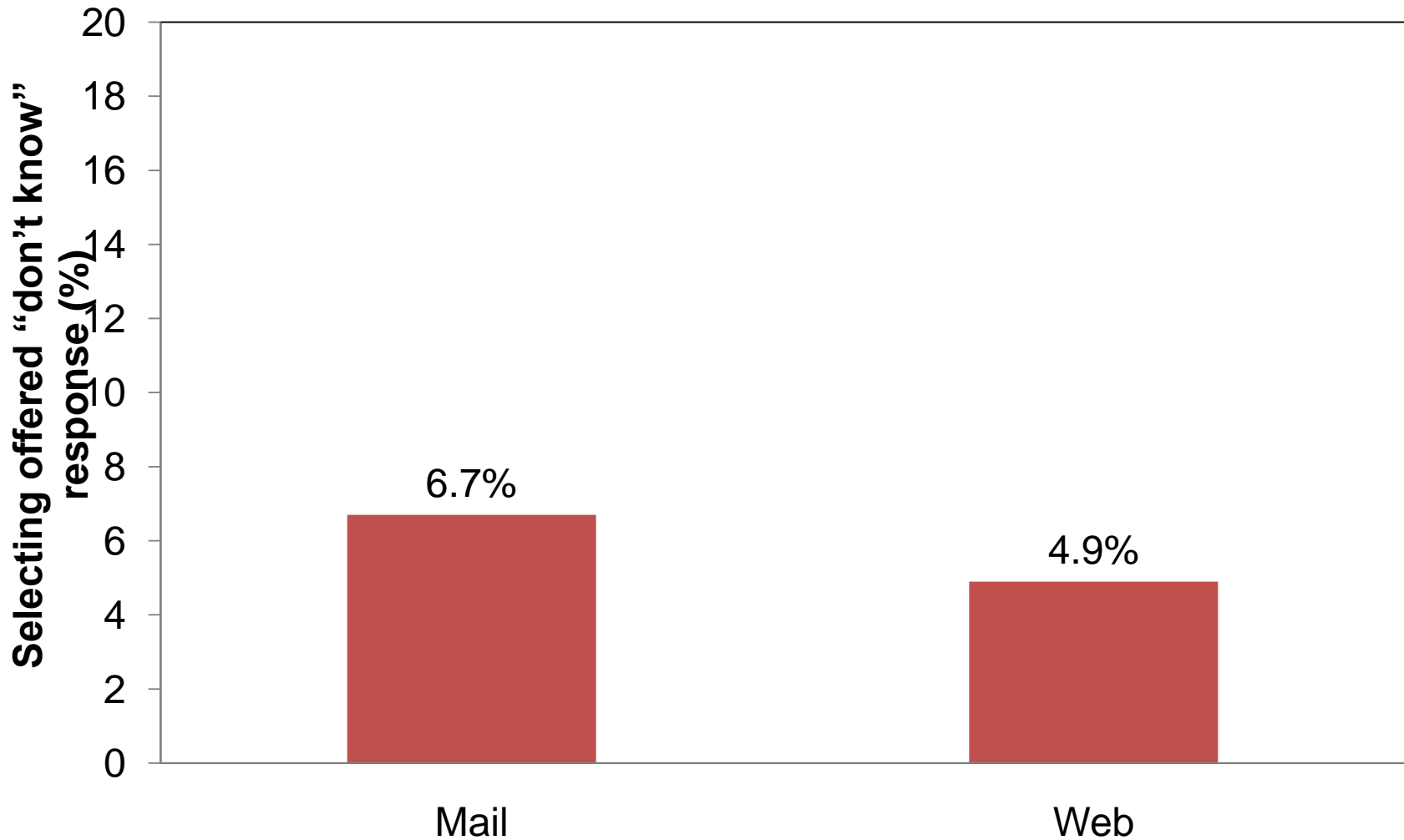
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- Item missing data
- Weak satisficing
- Responses to select survey questions
- Demographics/nonresponse bias
  
- There were NO differences due to incentives for ANY of these measures of data quality

# Percent of cases with any missing data



# Weak satisficing: Selecting offered “don’t know” response



# Effects on survey responses

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During the past 30 days...

- On how many days did you have one or more drinks of alcohol?
- On the days when you drank, how many drinks did you drink on average?
- On how many occasions did you have 4/5 or more drinks?
- How many times have you driven when you have had perhaps too much to drink?

# Analysis of survey responses

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We compared across:

- All 4 experimental groups
- \$1 vs. \$2
- Mail/Web vs. Web/Mail assigned
- Mode completed
- Men and women

Comparing:

- Mean days/occurrences
- Any vs. none days/occurrences

## Results – Very little difference

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- No differences
  - Experimental groups
  - \$1 vs. \$2
  - Mail/Web vs. Web/Mail assigned

## Results – Very little difference, but...

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- Men had higher levels of reporting to mail compared to web for:
  - Heavy drinking
    - 3.6 vs 3.1 times in last 30 days
    - 62% vs 56% ever
  - Drinking and driving
    - 0.6 vs 0.4 times in last 30 days
    - 20% vs. 14% ever



# Analysis of nonresponse bias

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We compared across:

- All 4 experimental groups

Combined:

- \$1 vs. \$2
- Mail/Web vs. Web/Mail
- Completed Mode

Also looked at initial mode vs second mode assigned  
(within each treatment)

# Analysis of nonresponse bias compared

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Administrative data from drivers license files for:

- Age
- Gender

All survey item demographics:

- Gender
- Age
- Race
- Education
- Current enrollment in school or job training

# Nonresponse bias

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## Gender

- No differences by experimental group, mode assigned, incentive amount
- Women more likely to respond overall
- Web did little to correct this

## Age

- No differences by experimental group, mode assigned, incentive amount, first vs. second mode
- Only activity:  
Statistically significant difference between modes within Web/Mail-\$2 group  
(Addition of mail brought in more older R's)

## Other demographic comparisons of respondents

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### Race

- No statistically significant differences across 4 experimental groups, incentive amount
- Mail/Web more nonwhites than Web/Mail (~2.5%)

### Education

- No differences by experimental group, mode assigned, incentive amount
- Web/Mail-\$1 - Mail brought in more lower education

# Discussion

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- Findings:
  - Response rates highest for Mail/Web-\$2
  - Web/Mail-\$2 performed well, with large reduction in missing data, and lower cost for complete
  - \$2 performed significantly better than \$1, particularly in Web/Mail
  - Adding Web as a second mode to Mail much less effective
- Notes:
  - Short survey on highly sensitive topic
  - Type of web request: USPS mailed request requiring URL and password

# Limitations

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## Limitations

- More admin data would be helpful
- Disentangling effects: additional mode vs. additional contacts
- Incentives:
  - Only slight increase from \$1 and \$2
  - What might \$5 have looked like? Or \$0?

Thank You!

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