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# Influencing Mode Choice in a Multi-Mode Survey

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**MATHEMATICA**  
Policy Research

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# The Research Issue

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## In a Multi-Mode Survey, Can Respondents be Persuaded to Use Our Preferred Mode of Data Collection?

- **Potential Advantages**
  - Lower data collection costs
- **Potential Disadvantages**
  - Pushing sample members in a direction they don't want to go, might negatively impact the response rate

# Why are We Interested?

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- **2008 National Survey of Recent College Graduates (NSRCG)**
  - Sponsored by the National Science Foundation
  - Conducted every two to three years since 1974
  - Sample: 18,000 recent bachelor's and master's degree graduates in the sciences, health and engineering
- **Increasing Data Collection Costs**
  - Locating challenge
  - Difficult to motivate
- **2008 NSRCG Mode and Incentive Experiment**
  - Looked at the extent to which incentives and mode can be used to increase web completes and/or response rates

# Web Completes in Multiple Mode Surveys

## Web Outcomes When Web and Paper Offered Simultaneously:

- **Quigley et al (2000):** In a sample of active military personal, military wives, civilians and reservists, 23% responded by web
  - 73% when web and paper were offered sequentially, although the response rate dropped slightly
- **Schonlau, Asch, and Can (2003):** In a sample of high school graduates going off to college, about 1/3 responded by web
- **Millar and Dillman (2011):** In a sample of college students, 53% responded by web when both email and postal reminders were sent
  - 43% if only postal reminders were sent

# Response Rates in Multi-Mode Surveys

## Multi-Mode Approach : A Viable Means for Combating Declining Response Rates But Results Not Uniform

- Groves & Kahn (1979), Tarnai & Paxton (2004): Respondents have mode preferences; multi-mode surveys
- Dillman (2009), Mooney et. al. (2007): Rather than increase response rate, additional modes migrate completes from one mode to another
- Millar & Dillman (2011): “Modest” support for choice lowering response; when offered sequentially, web and paper are as effective as paper only
- Grigorian (2008): 2006 Survey of Doctorate Recipients offered sample members their preferred mode when possible, did not improve response
- Olson, Smyth, Wood (2010): In a mode preference study, regardless of mode preference, when offered first, respondents responded by paper

# 2008 NSRCG Incentive and Mode Choice Experiment

Randomly assigned sample (17,851) into 8 groups defined by:

- **Initial Response Mode: Two Alternatives**
  - **Web Only:** Paper questionnaire not sent until the 2<sup>nd</sup> survey mailing
  - **Web/Paper:** Paper questionnaire sent in both the initial and 2<sup>nd</sup> survey mailings
- **Incentive Amount (postpaid):** None, \$20, \$20-\$30 differential
- **Timing of the Incentive:** 1<sup>st</sup> mailing or 2<sup>nd</sup> mailing

Compared web completes/response rates at 3 time points

- **T1:** Immediately Prior to Second Mailing (12/8/08)
- **T2:** At Start of CATI Follow-Up (12/17/08)
- **T3:** Six Weeks After Start of CATI Follow-Up (1/28/09)

# 2008 NSRCG Treatment Groups

| Groups       | First Mailing | Second Mailing | Sample Size   |
|--------------|---------------|----------------|---------------|
| Web First    |               |                |               |
| Group 1      | No incentive  | No incentive   | 3,569         |
| Group 2      | \$20          | \$20           | 1,785         |
| Group 3      | No incentive  | \$20/\$30 web  | 1,786         |
| Mail/Web     |               |                |               |
| Group 4      | No incentive  | No incentive   | 3,571         |
| Group 5      | \$20          | \$20           | 1,784         |
| Group 6      | No incentive  | \$20/\$30 web  | 1,786         |
| Group 7      | \$20/\$30 web | \$20/\$30 web  | 1,785         |
| Group 8      | No incentive  | \$20           | 1,785         |
| <b>Total</b> |               |                | <b>17,851</b> |

# Limiting the Initial Mode Research Questions

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- **Will limiting the initial response mode to web only:**
  - **Increase web completes over simultaneously offering both paper and web?**
    - **Our expectation: Yes**
  - **Negatively impact the response rate in a multi-mode survey?**
    - **Our expectation: No**

# The Differential Incentive Research Questions

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- **Will Offering a Differential Incentive that Favors Web Completes:**
  - **Increase web completes more than no incentive or an incentive that rewards completes in any mode equally?**
    - **Our expectation: Yes**
  - **Increase the overall response rate more than an incentive that rewards all completes equally?**
    - **Our expectation: Yes**

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# Findings

# Limiting Initial Response Mode to Web Only: Impact on Web Completes

Table 1. Percent Web Completes by Initial Mode

| Groups                | N     | Prior to Second Mailing | Start of CATI Follow-Up | After Six Weeks of CATI |
|-----------------------|-------|-------------------------|-------------------------|-------------------------|
| Web First Total (1-3) | 7,140 | 97.0%                   | 95.3%                   | 75.5%                   |
| Web/paper Total (4-6) | 7,141 | 58.9%                   | 59.4%                   | 57.9%                   |

*P-value < .001 at all key data collection points*

# Limiting Initial Response Mode to Web Only: Impact on Response Rates

Table 2. Response Rates by Initial Mode

| Groups                | N     | Prior to Second Mailing | Start of CATI Follow-Up | After Six Weeks of CATI |
|-----------------------|-------|-------------------------|-------------------------|-------------------------|
| Web First Total (1-3) | 7,140 | 18.4%                   | 22.0%                   | 44.4%                   |
| Web/Paper Total (4-6) | 7,141 | 19.7%                   | 22.8%                   | 44.3%                   |

*No significant difference between mode comparison groups*

# Differential Incentive: Web Completes in Web First Groups

Table 3. Percent Web Completes by Type of Incentive

| Web First Groups | Incentive | Mailing                 | N     | Prior to Second Mailing | Start of CATI Follow-Up | After Six Weeks of CATI |
|------------------|-----------|-------------------------|-------|-------------------------|-------------------------|-------------------------|
| 3                | \$20-\$30 | 2 <sup>nd</sup> Mailing | 1,786 | 98.0%                   | 95.6%                   | 79.9%                   |
| 2                | \$20      | Both Mailings           | 1,785 | 96.2%                   | 94.8%                   | 78.7%                   |
| 1                | None      |                         | 3,569 | 96.8%                   | 95.3%                   | 71.6%                   |

# Differential Incentive: Web Completes in Web/Paper Groups

Table 4. Percent Web Completes By Type of Incentive

| Web/Paper Groups | Incentive | Mailing                 | N     | Prior to Second Mailing | Start of CATI Follow-Up | After Six Weeks of CATI |
|------------------|-----------|-------------------------|-------|-------------------------|-------------------------|-------------------------|
| 7                | \$20-\$30 | Both Mailings           | 1,785 | 91.6%                   | 91.1%                   | 81.7%                   |
| 6                | \$20-\$30 | 2 <sup>nd</sup> Mailing | 1,786 | 56.8%                   | 62.1%                   | 64.7%                   |
| 5                | \$20      | Both Mailings           | 1,784 | 64.7%                   | 64.7%                   | 59.8%                   |
| 8                | \$20      | 2 <sup>nd</sup> Mailing | 1,785 | 54.5%                   | 56.3%                   | 54.3%                   |
| 4                | None      |                         | 3,571 | 57.0%                   | 58.1%                   | 53.6%                   |

Group 7 vs. Group 5  $p < .001$  at all 3 times points  
 Group 6 vs. Group 8  $p < .001$  at 3rd time point

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# Differential Incentive: Response Rate Comparisons

Table 5 Response Rates by Initial Response Mode and Type of Incentive

| Group            | Incentive               | Prior to Second Mailing | Start of CATI Follow-Up | After Six Weeks of CATI |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Web First</b> |                         |                         |                         |                         |
| 1                | None                    | 16.0%                   | 17.9%                   | 40.0%                   |
| 2                | \$20/\$20 both mailings | 24.0%                   | 29.1%                   | 48.2%                   |
| 3                | None/\$20/30            | 16.6%                   | <b>23.1%</b>            | <b>49.5%</b>            |
| <b>Paper/Web</b> |                         |                         |                         |                         |
| 4                | None                    | 16.7%                   | 18.8%                   | 39.8%                   |
| 5                | \$20/\$20 both mailings | 26.3%***                | <b>29.7%***</b>         | <b>49.9%*</b>           |
| 6                | None/\$20/30            | 19.3%                   | 24.0%                   | 47.7%                   |
| 7                | \$20/\$30 both mailings | 28.6%                   | <b>32.7%**</b>          | <b>52.8%*</b>           |
| 8                | None/\$20               | 17.9                    | 22.6%                   | 46.4%                   |

Group 7 vs. Group 5  $p < .05$  at T2\*\* and  $p < .1$  at T3\*

Group 3 vs. Group 5  $p < .0001$  at T1, T2\*\*\* and  $p < .1$  at T3\*

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# Conclusions

# Our Main “Take Away” Points

- **Limiting the initial response mode to web only**
  - Significantly increased web completes
  - No negative impact on response rate
- **The differential incentive**
  - Significantly increased web completes among the Web/Paper groups
  - Modest impact on response rates
- **Of the 3 groups with the highest response rates, 2 offered differential incentives. Why might that be?**
  - Using Barry Schwartz’s Paradox of Choice (2004) thesis, Millar and Dillman (2011) suggest choice increases cognitive burden, thus lowering response, especially if no compelling reason for mode choice is evident
  - A differential incentive, by rewarding one mode over another, provides a compelling reason, thus minimizing cognitive burden while rewarding respondents for choosing our preferred mode

# Best Practices for Influencing Web Completes

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- **Use a sequential approach**
  - Begin with web only
  - Introduce paper questionnaire in the 2<sup>nd</sup> mailing
- **Include a differential incentive in the 2<sup>nd</sup> mailing**
  - Minimizes the cognitive burden associated with selecting a mode
  - Rewards respondent for using our preferred mode

# For More Information

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