# Testing Dependent Interviewing on a Self-Administered Survey

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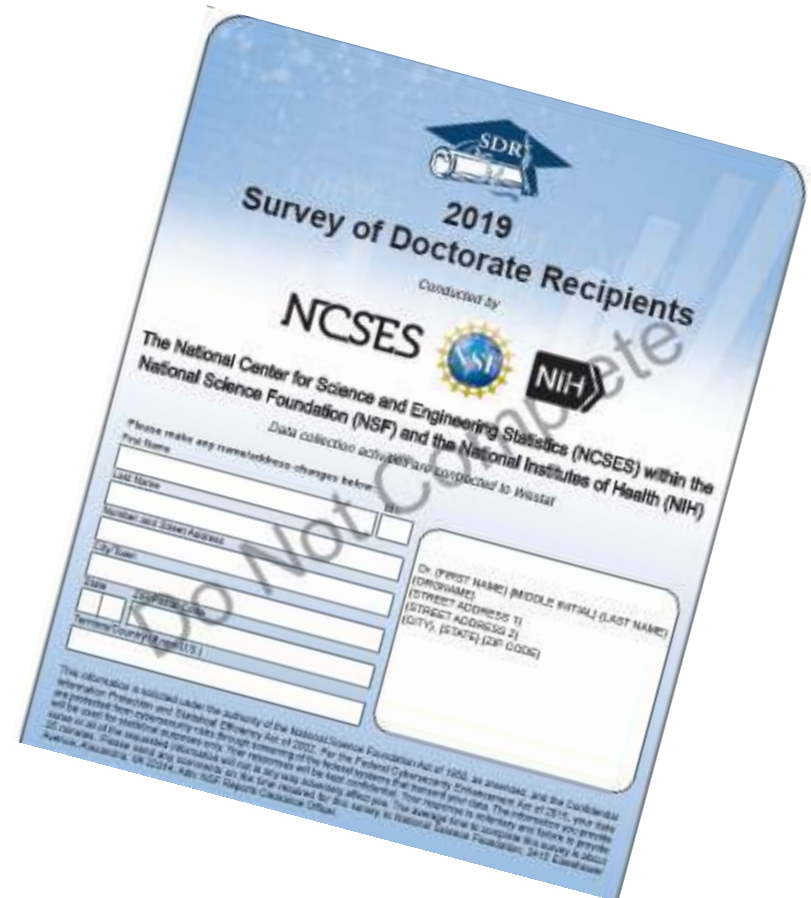
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# Overview

- Dependent Interviewing (DI) Experiment
  - Control group + 2 DI treatments
  - Respondent Experience questions
- Results:  Did it seem to work?
  - Time/burden, measurement error, enjoyment

# Background

# Our Goal

- Explicitly treat survey as longitudinal
- Make better use of prior responses
  - More efficient
  - More consistent
  - Better experience for respondents

# The Proposed Solution

- "Proactive" Dependent Interviewing (DI) for some questions
  - Shorter questionnaire
  - More consistency across information that hasn't changed^
  - More pleasant respondent experience

- Try out 2 different formats of DI
  - 1-step (DI1) and 2-step (DI2)
- Total of 3 versions of the questionnaire

# Analysis:  Research Questions

- Does DI reduce time to administer?

- Does DI appear to affect measurement error?

- Are respondents receptive to DI?

    - We need to ask follow-up questions –> Respondent Experience Questions

- Overall, is one DI version superior?

# What's Novel about this?

- DI on self-administered questionnaire

- Motivation for doing DI is unique

- 2 styles of DI, 1 step approach (DI1) not typically used

- Literature:
    - Seam effect (e.g. Moore et al. 2006)
    - Web-based, Self-administered study
        - Lugtig and Lensvelt-Mulders 2014; Al Baghal 2017
    - Comparisons of Proactive vs. Reactive DI (e.g. Lynn & Jackle 2007)
    - 1 step approach (DI1) (Hoogendoorn 2004)

# Examples of the Questions

# The Two Forms of DI

- DI 1: the 1-step approach
  - Shows the question with the answer selected that R reported last time. Ask R to change it or indicate no change on the same screen.
- DI 2: the 2-step approach
  - Shows the question with the answer selected that R reported last time. Ask "Is this information correct?".
  - If No, then 2nd screen asking standard question.

# Example Dependent Interviewing Question- DI1

In your responses to the 2017 SDR, you reported the number of people who worked for your employer, as selected below.

Please update the information to indicate how many people worked for your principal employer during the week of September 1, 2020, counting all locations where this employer operates.

If the answer selected below was still correct during the week of September 1, 2020, please select the box "Information has not changed since 2017."

- ○ 10 or fewer employees
- ○ 11 – 24 employees
- ○ 25 – 99 employees
- ○ 100 – 499 employees
- ● 500 – 999 employees
- ○ 1,000 – 4,999 employees
- ○ 5,000 – 24,999 employees
- ○ 25,000 or more employees

☐ Information has not changed since 2017

# Example Dependent Interviewing Question- DI2

In your responses to the 2019 SDR, you reported the number of people who worked for your employer, counting all locations where this employer operated, as selected below.

10 or fewer employees

11-24 employees

25-99 employees

100-499 employees

500-999 employees

1,000-4,999 employees

5,000-24,999 employees

25,000 or more employees

**Was this information still correct as of the week of September 1, 2020?**

○ Yes
○ No

# Example Question- Control

Counting all locations where this employer operates, how many people work for your principal employer? Your best estimate is fine.

○ 10 or fewer employees
○ 11 – 24 employees
○ 25 – 99 employees
○ 100 – 499 employees
○ 500 – 999 employees
○ 1,000 – 4,999 employees
○ 5,000 – 24,999 employees
○ 25,000 or more employees

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# Respondent Experience Questions

- Topics: Perceived speed, enjoyment, question sensitivity
    - Ex: How confident are you that NCSES will protect your answers?
    - Ex: To what extent did you enjoy completing today's survey?
    - Ex: How sensitive did you think the questions on this survey were?
- Some questions worded the same for all 3 groups

**To what extent did you enjoy completing today's survey?**
Did not enjoy at all
Enjoyed a little
Enjoyed somewhat
Enjoyed a great deal

# Respondent Experience Questions

- Different question wording for DI vs. Control
    - **DI:** Do you think pre-filling some of your answers from [prior cycle] and asking you to confirm or update them made this survey...

    - **Control:** If this survey had pre-filled your most recent answers and asked you to confirm or update them, would that have made this survey...
        - Much more burdensome
        - A little more burdensome
        - Neither more or less burdensome
        - A little less burdensome
        - Much less burdensome

# Respondent Experience Questions

- Questions for DI only

Were there any questions in today's survey where you felt that the answer displayed from 2019 was "<u>accurate enough</u>" and you decided to leave it as-is, rather than updating it with potentially more accurate information?

○ Yes for one question
○ Yes for more than one question
○ No

# Data Collection

# Data Collection

- Survey of Doctorate Recipients (SDR)
- Sample 3,900 cases, mostly 2019 Rs
  - Stratified, random assignment to DI1, DI2, Control
- 38 SDR questions, not including R verification questions
  - 13 DI questions
    - 9 closed-ended (7 single response, 2 forced choice)
    - 4 open-ended
- 20 Respondent Experience questions

# Data Collection

- Field period:  13 Oct 2020 – 23 Nov 2020

- Reference date:  1 Sept 2020

- $30 prepaid incentive

- AAPOR (unwtd) RR1:  65.6%

  - Across 3 groups:  64.2% - 66.7%

  - DI1 n = 832| DI2 n = 863| Control n= 879

# Results

# Research Question:  Time to Administer

- Actual survey length (unweighted, trimmed)
  - DI1  15.0 min| DI2  14.0 min*| Control  15.4 min

    - Could be influenced by format and number of Rs without changes

* 95% confidence level

# Research Question:  Time to Administer

- Actual survey length:  DI2 significantly faster
- Perceived survey length (wtd):  DI1 & DI2 significantly "faster"

| Response | DI1 | DI2 | Control** |
|---|---|---|---|
| **How would you rate the speed at which you completed today's survey?** | | | |
| Very slow | 0.4% | 1.4% | 0.4% |
| Somewhat slow | 7.6% | 7.6% | 16.4% |
| Somewhat fast | 62.7% | 59.3% | 56.6% |
| Very fast | 29.3% | 31.7% | 26.6% |

*P<0.05, **P<0.01, ***P<0.001

- Closed-ended questions:  Overall Distributional Differences

| Question | DI1 vs. DI2 | DI1 vs. Control | DI2 vs. Control |
|---|:---:|:---:|:---:|
| Employer type | n.s. | n.s. | n.s. |
| Employer size | n.s. | n.s. | n.s. |
| Educational institution | n.s. | n.s. | n.s. |
| Type of educational institution | n.s. | ** | * |
| Faculty rank | n.s. | n.s. | n.s. |
| Work activity (forced check all) | ‡‡ (1/14) | n.s. | n.s. |
| Supervised others | n.s. | n.s. | n.s. |

*P<0.05, **P<0.01, ***P<0.001    Based on Pearson Design-Based Chi2
‡P<0.05, ‡‡P<0.01, ‡‡‡P<0.001    Based on Adjusted Wald F-Test (Bivariate variables only)

- Closed-ended questions: Differences by Response Option

| Question | DI1 vs. DI2 | DI1 vs. Control | DI2 vs. Control |
|---|---|---|---|
| Employer type | * (2/10) | * (3/10) | * (1/10) |
| Employer size | * (1/8) | * (1/8) | * (1/8) |
| Educational institution | n.s. | n.s. | n.s. |
| Type of educational institution | n.s. | * (2/6) | * (3/6) |
| Faculty rank | n.s. | n.s. | n.s. |
| Work activity (forced check all) | * (1/14) | n.s. | n.s. |
| Supervised others | n.s. | n.s. | n.s. |

* 95% confidence level    Based on the Adjusted Wald F-Test

- Open-ended questions

| Question | DI1 vs. DI2 | DI1 vs. Control | DI2 vs. Control | DI1 vs. DI2 | DI1 vs. Control | DI2 vs. Control |
|---|---|---|---|---|---|---|
| | **Any Change** | | | **Meaningful Change** | | |
| Employer Name | N.S | *** | *** | N.S | ** | ** |
| Job Title | N.S | *** | *** | N.S | *** | *** |
| Job Duties | N.S | *** | *** | N.S | *** | ** |

*P<0.05, **P<0.01, ***P<0.001, N.S = Not Significant

- Open-ended questions:  Percent meaningful changes, of those who made changes to open-ended questions

| Question | DI1 | DI2 | Control*** |
|---|---|---|---|
| Employer Name | 90.4% | 88.5% | 47.1% |
| Job Title | 89.5% | 88.3% | 53.6% |
| Job Duties | 31.3%<br>DI1 vs. DI2* | 51.1% | 18.5% |

*P<0.05, **P<0.01, ***P<0.001

- Any questions where answer was accurate enough although could have updated it? (among DI conditions only)

| Response | DI1 | DI2 |
|---|---|---|
| Yes, For 1 Question | 11.4% | 13.0% |
| Yes, for Multiple Questions | 21.8% | 21.9% |
| No | 66.8% | 65.1% |

*P<0.05, **P<0.01, ***P<0.001     Based on Adjusted Wald F-Test

- Any questions where the answer displayed was no longer true, and left as-is ? (among DI conditions only)

| Response | DI1 | DI2 |
|---|---|---|
| Yes, For 1 Question | 3.8% | 5.2% |
| Yes, for Multiple Questions | 3.3% | 1.0% |
| No | 92.9% | 93.8% |

*P<0.05, **P<0.01, ***P<0.001   Based on Adjusted Wald F-Test

- How sensitive do you think the questions in this survey were?

| Response | DI1 | DI2 | Control |
|---|---|---|---|
| **How Sensitive?** | | | |
| Not at all | 34.2% | 39.0% | 35.7% |
| A Little | 36.3% | 37.2% | 35.6% |
| Somewhat | 24.1% | 16.7% | 24.1% |
| Very | 5.3% | 7.1% | 4.7% |

*P<0.05, **P<0.01, ***P<0.001

- Do you think pre-filling some of your answers from 201X and asking you to confirm or update them (made/would make) this survey…?

| Response | DI1 | DI2 | Control*** |
|---|---|---|---|
| **Pre-Filling Burdensome?** | | | |
| Much More | 0.1% | 0.2% | 0.9% |
| A Little More | 1.6% | 1.0% | 6.0% |
| Neither | 10.9% | 11.2% | 21.7% |
| A Little Less | 24.3% | 26.2% | 42.2% |
| Much Less | 63.1% | 61.5% | 29.2% |

*P<0.05, **P<0.01, ***P<0.001

# Research Question: What do Rs think of DI?

- To what extent did you enjoy completing today's survey?

| Response | DI1 | DI2 | Control |
|---|---|---|---|
| **Extent of Enjoyment?** | | | |
| Not at all | 12.4% | 13.7% | 16.7% |
| A Little | 33.7% | 35.5% | 35.0% |
| Somewhat | 43.7% | 40.6% | 41.7% |
| A Great Deal | 10.3% | 10.2% | 6.6% |

*P<0.05, **P<0.01, ***P<0.001

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# Conclusion

# Research Questions

- Does DI reduce time to administer? Yes

- Does DI appear to affect measurement error? Small indications of both improvement and increase

- Are respondents receptive to DI? Not a strong positive or negative sentiment

- Overall, is one DI version superior? DI2 slightly preferred

Conclusion: Not seeing dramatic results (+/-) which seems to indicate a smooth transition to DI.

# Thank You!

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