

## Improving Survey Data Quality Through Experimentation

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## Agenda

- NSSE Background
- Current Survey Trends
- NSSE Experiments: Background & Goals
- Results
- Experimenting on Your Campus
- Q&A

## NSSE Background

- NSSE collects first-year and senior student curricular and co-curricular engagement data.
- Survey content areas include:
  - Engagement Indicators
  - High-Impact Practices
  - Additional Academic Challenge Items
  - Perceived Gains
  - Demographics
- Since 2000, about 6 million students from over 1,600 institutions have completed NSSE.

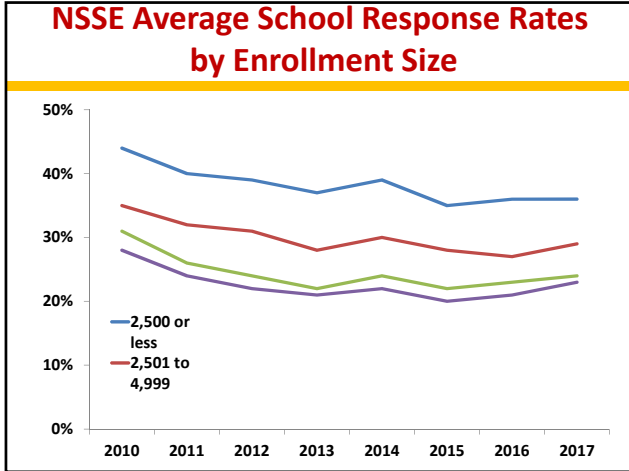
## Current Survey Trends

### Survey fatigue

Response rates declining

Missing data increasing

### Changing technology (smartphones)



### NSSE Experiments: Background

**Participants**  
Experiments included a diverse set of about 140 institutions

**Timing**  
Fall recruitment / Spring administration

**Research Method**  
Random sampling to create control and treatment groups (almost always)

### NSSE Experiments: Goals

- Increase response rates**
- Reduce missing data**
- Improve the survey taking experience**
- Other considerations**
  - Stability: Items & Scales
  - Reduce survey duration

### NSSE Experiment Snapshot

	Year	Purpose	
		Response Rates	Item Completion
<b>Scrolling/Progress Indicators</b>	2009 2011		✓
<b>Subject Lines</b>	2014	✓	
<b>Survey Panels</b>	2014	✓	✓
<b>Mobile Optimization</b>	2015	✓	✓
<b>Using Student Portals &amp; LMS</b>	2016	✓	

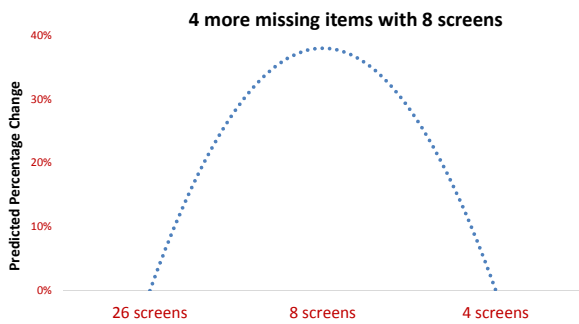
# Results

## Scrolling & Progress Indicators

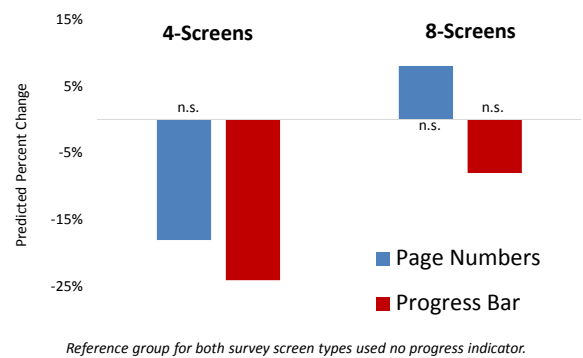
Does dividing a long survey over fewer screens (requiring more scrolling) reduce missing data?

Does missing data decrease when using progress indicators? Does format matter?

### Predicted Item Nonresponse Change by Survey Screens



### Predicted Item Nonresponse Change by Survey Screens & Progress Indicator Type



## Subject Lines

Do subject lines with pleas and names increase response rates?

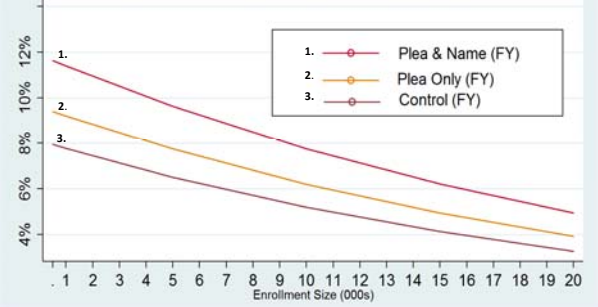
Control: "Help evaluate NSSEville University"

"Please help us by completing your NSSE survey"

"John, please help us by completing your NSSE survey"

## Subject Lines: Response Rates

First Year Response Probability: Subject Line Type by Enrollment Size

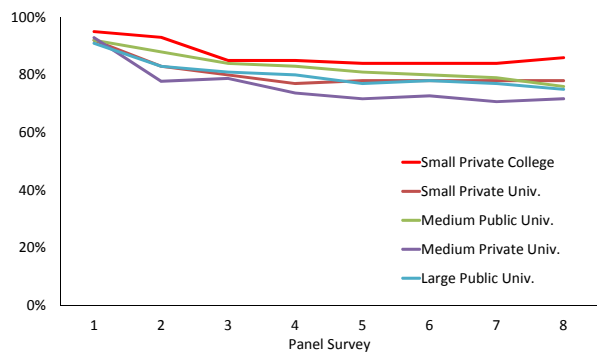


Note: Results are based on a single reminder message following the initial invitation.

## Survey Panels

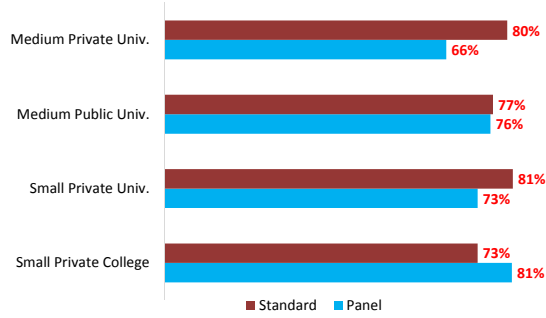
What happens when you administer NSSE to a survey panel as 8 mini-surveys with under 10 questions each?

## Survey Panel: Response Rates



## Survey Panel: Item Completion

Percent of respondents completing 90% or more of all questions

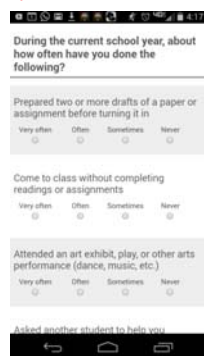


## Mobile Optimization

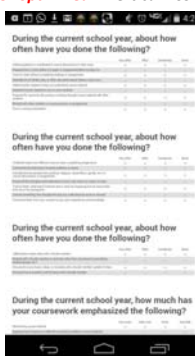
If you optimize NSSE for smartphones, how does this effect response rates and item completion?

## Mobile Optimization

**Optimized – Vertical Position**

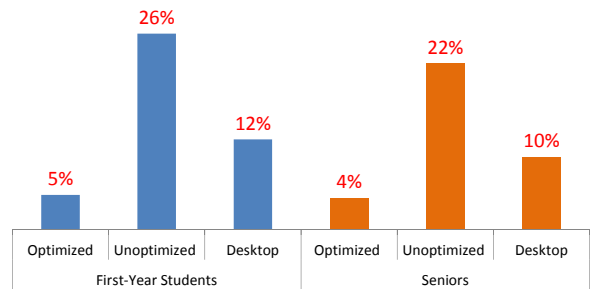


**Unoptimized – Vertical Position**



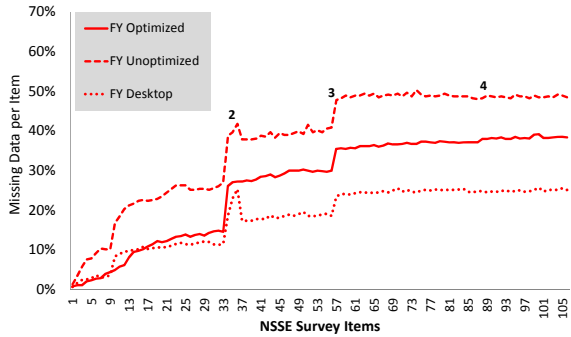
## Mobile Optimization: Early Abandonment

Optimized group less likely to abandon the survey upon viewing the very first page of survey items.



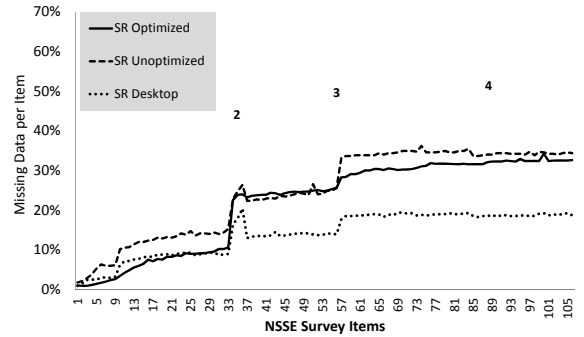
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Optimization appears to reduce missing data though variation exists between first-year and senior populations.



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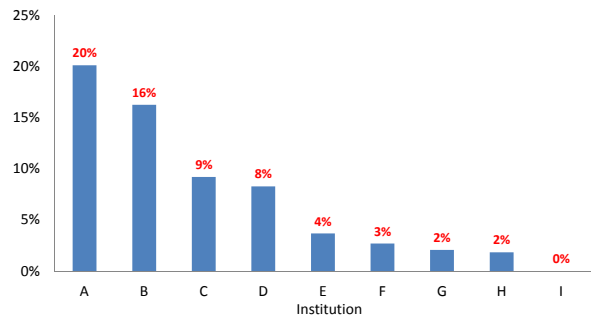


### Using Student Portals & LMS

How will posting unique NSSE survey links to student portals and learning management systems change response rates?

### Using Student Portals & LMS

Response Rate Increase Using SP/LMS with Email Recruitment Method



### Summary

- Survey **screen count and progress indicators** can impact missing data, especially 4 screens with progress bar.
- Email **subject lines** that use pleas and names appear to increase response rates.
- Survey **panels** can lead to good response rates but panel attrition does not always result in the most data.

### Summary (cont.)

- **Mobile optimization** increases response and reduces missing data.
- Posting survey links to **portals/LMS** increase response rates on average, but not dramatically for some institutions.

### Discussion

- What has and has not worked on your campus?
- Is it worth the effort to experiment?
- How can you use NSSE findings?

### Our Appreciation

Since 2009, 140 institutions have helped us experiment to improve survey data quality

We could not have done it without their help!

## For More Information

Sarraf, S., & Tukibayeva, M. (2014). **Survey Page Length and Progress Indicators: What Are Their Relationships to Item Nonresponse?** In N. A. Bowman & S. Herzog (Eds.), *Special Issue: Methodological Advances and Issues in Studying College Impact*. *New Directions for Institutional Research*, 2014 (161), 83-97.

Sarraf, S., Hurtado, S., Houlemaide, M., & Wang, X. (2016). An Alternative Approach: Using **Panels** to Survey College Students. *Professional Files*, Fall 2016 (168).

Sarraf, S., Brooks, J., Cole, J., & Wang, X., (May, 2015). **What is the Impact of Smartphone Optimization on Long Surveys?** Paper presented at the American Association for Public Opinion Research Annual Conference. Hollywood, FL.

Sarraf, S. (September, 2016). **Survey Recruitment Using Student Portals and Learning Management Systems**. Webinar presented. Bloomington, IN.

Sarraf, S. & Cole, J. S. (May, 2014). **Survey Lottery Incentives and Institutional Response Rates: An Exploratory Analysis**. Paper presented at the Association for Institutional Research Annual Forum. Orlando, FL.

Fosnacht, K., Sarraf, S., Howe, E., & Peck, L., (2017). How Important are High **Response Rates** for College Surveys? *Review of Higher Education*, 40(2), 245-265.

*More documentation about subject lines is being developed. Contact us if you want more information at this time.*

## Thank you!

Slides for this presentations can be found at  
[nsse.indiana.edu/html/publications\\_presentations.cfm](https://nsse.indiana.edu/html/publications_presentations.cfm)

For additional information about NSSE see  
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