The Relationships between Survey Page Length, Progress Indicators, and Item Completion Rates

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Purpose
In 2009, the National Survey of Student Engagement (NSSE) tested six experimental web survey formats to investigate the effect on various measures of survey data quality. This study specifically investigated the relationship between the different survey versions and the total number of items completed:

- 4 pages with no progress indicator (experimental);
- 4 pages with progress bar (experimental);
- 4 pages with page number (experimental);
- 8 pages with no progress indicator (experimental);
- 8 pages with progress bar (experimental);
- 8 pages with page number (experimental);
- 26 page with no progress indicators (standard online version);
- Paper survey (standard paper version).

Sample and Methods
- 339,156 first-year and senior respondents from 615 4-year colleges and universities
- Nine large doctoral research institutions administered all the experimental survey versions in addition to the standard 26-page version
- A multi-level model using HLM 6.0 estimated the relationship between the dependent variable (item completion count), different survey formats, student-level control variables (class level, full-time status, and gender) and institution-level control variables (Carnegie classification, selectivity, proportion of female, full-time, African-American, and Latino students).

Research questions
1. Using the standard online NSSE instrument as a reference, does the total number of survey items completed appear to be influenced by the six different experimental formats?
2. Do progress indicators appear to be effective at increasing the number of items completed?
3. Is one form of progress indicator more effective than another at increasing the number of items completed?
4. Above and beyond the experimental conditions, are there any student- or institution-level characteristics that appear to be statistically significant predictors of aggregate item completion levels?

Results (model results on other side)
- Q1: All three 8-page experimental survey formats show fewer completed items compared to the standard 26-page version by 2.1 (no progress indicator), 3.2 (page number), and 3.5 (progress bar) items.
- Q1: The three other 4-page survey versions showed no statistically significant difference with the standard survey, though the version without any progress indicator appeared to yield slightly fewer completed items (by approximately 1 item).
- Q2: Progress indicators showed no statistically significant effect with increasing or decreasing item completion.
- Q3: No difference found between the two different types of progress indicators either.
- Q4: At the student level, first-year and male respondents answered approximately three and one fewer items, respectively; no difference found between full- and part-time respondents.
- Q4: Smaller institutions on average complete more items than larger ones; no difference found based on selectivity; institutions with more fulltime and minority students on average have fewer completed items.
## Multi-Level Model Results Predicting Item Completion

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>St. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>80.36</td>
<td>1.07</td>
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</table>

### Student-Level Variables

#### Survey Versions
- Four-page survey with no progress indicator: -1.01, 0.78
- Four-page survey with page number indicator: 0.06, 0.78
- Four-page survey with progress bar: 0.03, 0.79
- Eight-page survey with no progress indicator: -2.15, 0.74
- Eight-page survey with page number indicator: -3.17, 0.78
- Eight-page survey with progress bar: -3.49, 0.53
- Standard paper survey: 5.97, 0.28

*Reference Group: Standard 26-page online survey*

#### Student Characteristics
- First-year student: -2.84, 0.06
- Full-time student: -0.11, 0.11
- Female student: 1.13, 0.07

#### Institution-Level Variables
- Doctoral Research Universities - high research activity: 0.38, 0.51
- Doctoral/Research Universities: -0.54, 0.60
- Master's Colleges and Universities - large programs: 0.03, 0.47
- Master's Colleges and Universities - medium programs: 0.69, 0.53
- Master's Colleges and Universities - small programs: 1.00, 0.54
- Baccalaureate Colleges - arts & sciences: 1.41, 0.50
- Baccalaureate Colleges - diverse fields: 1.35, 0.51
- Other Carnegie Classes: 0.38, 0.77

*Reference Group: Doctoral Research Universities - very high research activity*

- Percentage of female students (in ten percentage points): 0.07, 0.07
- Percentage of full-time students (in ten percentage points): -0.19, 0.08
- Percentage of black students (in ten percentage points): -0.39, 0.07
- Percentage of Latino students (in ten percentage points): -0.24, 0.09

*Reference Group: Percentage of white students (in ten percentage points)*

- Not available: 0.36, 0.61
- Least selective: -0.34, 0.44
- Selective: 0.16, 0.34
- More selective: 0.21, 0.34

*Reference Group: Most selective*

+ p < .10; * p < .05; ** p < .01; *** p < .001