

Are NSSE data systematically affected by students who skip questions?

Purpose

NSSE is a voluntary, self-administered survey. Students are not required to answer any of the questions. Therefore it is possible that systematic error is introduced into NSSE data by students who choose to skip particular questions, either because the same questions are skipped by many students or the students who skip particular questions share common characteristics of interest (e.g. the same gender, race/ethnicity, age). If, however, the questions that are skipped are not skipped systematically and relatively few questions are skipped then the error that is introduced might be random and negligible.

Data

This analysis examines responses from 292,199 students who participated in the 2009 administration of NSSE. Only students who were enrolled in American institutions and who participated in NSSE via the web were included in this analysis. Additionally, this analysis excludes survey breakoffs, those students who began the survey but stopped and never returned to complete it. Finally, this analysis only includes those students who completed the survey e.g. those respondents who reached the demographic questions comprising the final 17% of the survey instrument.

Methods

This analysis employs primarily descriptive statistics to describe the number and percentage of students who skipped questions. Comparisons between subgroups (gender, race/ethnicity, etc.) were not made

Results

Of the 292,199 first-year and senior students at American colleges and universities who completed NSSE in 2009, the majority answered nearly every question as shown below in Table 1.

Table 1: Number of Questions Skipped and Number of Students Who Skipped Them

Number of questions skipped	Number of students	Percentage of students
0	208102	71.2%
1	53775	18.4%
2	14784	5.1%
3	5114	1.8%
4	1799	.6%
5	1013	.3%
6	619	.2%
7	365	.1%
8	2750	.9%
9 or more	3878	1.3%

Among first--year students who completed NSSE, the most frequently skipped question was the question asking the student's major, skipped by 3,936 students (2.9%), followed by the questions asking about self-reported gains. Among senior students, the questions asking about self-reported gains were those most often skipped with the most frequently skipped question ("To what extent has your experience at this institution contributed to your [u]nderstanding [of] yourself?") skipped by 2,906 students (1.8%).

A common strategy to help researchers explore and understand potential item non-response bias is to aggregate the questions and examine the impact of non-response on these aggregates (Eftekhari-Sanjani, 2008). The NSSE Benchmarks of Effective Educational Practice are just such a set of aggregates. Students must answer at least 3/5 of the questions included in each NSSE benchmark for a benchmark score to be calculated. As shown below, item non-response among these respondents had very little effect on benchmarks.

Table 2: Independent Variables and Referent Categories

Benchmark	Number of students missing benchmark	Percentage of students missing benchmark
Level of Academic Challenge	574	.2%
Active and Collaborative Learning	712	.2%
Student-Faculty Interaction	1268	.4%
Enriching Educational Experiences	874	.3%
Supportive Campus Environment	1429	.5%

Some students skipped distinct groups of questions such as the questions constructed using Bloom's Taxonomy and the second half of the self-reported gains questions, but the relative size of these groups of students is too small to permit meaningful analysis. In fact, the relatively small size of all of these groups of students who skipped questions does not allow further analysis to identify characteristics common to these students. That these groups are so small and have such a small impact on benchmark scores indicates that there is likely no systematic item non-response bias on NSSE.

References

Eftekhari-Sanjani, H. (2008). Study of item nonresponse for a sample of questionnaires for the 2007 Commodity Flow Survey (CFS). *Proceedings of the Survey Research Methods Section, American Statistical Association*. Washington, DC: American Statistical Association.