



The Effect of Nonresponse Bias in Student Engagement Surveys

PURPOSE

This study examines the relationship between entering students' pre-college engagement and attitudes about college, and their decision to respond to NSSE during the spring semester of the first college year. We then estimate the magnitude of the effect of nonresponse on institutional estimates of engagement results.

DATA

- ✓ BCSSE: Institutions with at least 70% of FY class completed BCSSE
- ✓ NSSE: Response rates averaged 36% (11% to 88%)
- ✓ Final Data: 59 institutions, 40,808 students with multiple imputation (M=20)

ANALYSES

- ✓ Random-intercept logistic regression predicting NSSE response
- ✓ Inverse probability weights
- ✓ Re-estimate institutional NSSE scores using the new weights
- ✓ Pearson's correlations and Cohen's *d* between NSSE standard and re-estimated means

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RESULTS

1. Regression results indicate that NSSE response is strongly associated with being female. Modest relationships were found with higher SAT (or equiv.), better high school grades, international students, and having fewer close friends attending the same institution.
2. Effects for high school engagement and college expectations for engagement were weak or nonsignificant.
3. Adjusted Engagement Indicators and Perceived Gains scores using weights derived from the logit model strongly correlated with the same measures using NSSE standard weights (based on sex and enrollment status). Correlations ranged from .91 (ET) to .99 (CL) (see Figure 1). Cohen's *d* effect sizes (absolute) were between 0.01 (RL) and 0.14 (SE).

IMPLICATIONS

1. The correlational results indicate that institutions can trust that their results are not affected by nonresponse bias due to pre-college engagement and expectations.
2. Institutional surveys should consider the effect of sex, the strongest predictor of survey response, when designing their surveys and estimating results.

Figure 1. Scale Correlations Using Derived BCSSE Weights and Standard NSSE Weights

