OFFICE OF
EDUCATIONAL
ASSESSMENT
Improving Learning Through Assessment

1997 University of Washington Graduates, One Year After Graduation: Representativeness of the Respondent Sample

Debbie E. McGhee
April, 1999

OVERVIEW

In 1998, the Office of Educational Assessment (OEA) surveyed all University of Washington alumni who had received an undergraduate degree during the preceding calendar year (see OEA Report 98-7 for specific methodology). The purpose of this report is to examine how representative the final sample of respondents is of the population as a whole.

Information on a variety of demographic and academic variables was obtained through the Office of Institutional Studies' student database. Complete information was available for most alumni, though there were a handful of variables (e.g., high school GPA) for which many cases had missing values. Respondents ($n = 2271$) were compared to the population as a whole ($n = 6346$) on all selected variables.

RESULTS

The sample of respondents was found to be significantly different from the entire population on seven of fifteen study variables (using chi-square or z-tests, as appropriate), when a liberal significance criterion of $p < .05$ was employed (see Table 1). That number decreased to six out of fifteen under the more stringent criterion of $p < .003$, chosen to control for the probability of making Type I errors by taking into account the number of significance tests being performed. At this level of significance, respondents differed from the population as a whole in distribution of gender, ethnicity, and Educational Opportunity Program (EOP) involvement, as well as on mean age, high school GPA, and UW GPA.

Tables 2-3 display cell counts for the three categorical variables on which significant differences were detected, and Table 5 displays means for the three continuous variables. As shown in Table 2, students enrolled in the Educational Opportunity Program (EOP) were under-represented in the sample. That is, they returned surveys at a lower rate than did other groups. Likewise, the distribution of ethnicities was not the same in the survey sample as in the population. Examination of the contingency table revealed that the greatest discrepancy involved White American alumni: The population was 65% White, compared to 69% of the sample (see Table 3). The sample was also unrepresentative with respect to gender. As shown in Table 4, only 40% of the survey respondents were men, contrasted with 46% of those receiving bachelor's degrees in 1997. This lower response rate among males is consistent with findings from other studies conducted by OEA.

As shown in Table 5, survey respondents were, on average, almost one year older (at the time of the survey) than the population as a whole and 1.5 years older than non-respondents. These age differences are accounted for by the finding that respondents were, at the time of entry into the university, 1.0 and 1.7

years older, on average, than the population and non-respondents, respectively. Finally, sample respondents had higher mean high school GPAs (M = 3.63) and UW degree GPAs (M = 3.29) than did the entire population (Ms = 3.59 and 3.24, respectively). Note that these differences were small in terms of absolute magnitude.

CONCLUSIONS

All undergraduates who had received bachelor's degrees from the UW were surveyed one year after graduation; completed surveys were obtained from 38% of the population. Comparisons of the sample of respondents with the population on a variety of demographic variables revealed that the sample was fairly representative. Though significant effects were detected on six of the fifteen study variables, the differences tended to be small in magnitude. The largest effect was for gender, where the percentage of males in the respondent sample was 6% lower than in the 1-year alumni population.

The differences also tended to be predictable or in keeping with previous findings. Men and minorities are often under-represented in surveys. Respondents also showed higher academic achievement (e.g., higher GPAs): one might surmise that those who did well in school would be more interested in participating in UW-related projects such as the alumni survey.

In light of these findings, it behooves us to attend to possible effects of these demographic variables in any analyses of the survey data. Furthermore, in future studies OEA should seriously consider targeting under-represented groups more intensely, with the goal of bringing their sample numbers closer to the population rates.

TABLES

Table 1. Demographic Comparisons Between Survey Respondents and Entire Population of 1-year Alumni

Variable	Significance
ACT Composite Score	n.s.
Age (1998 - Year-of-Birth)	$p < .003$
Child of Alumnus	n.s.
Educational Opportunity Prog. student	$p < .003$
Ethnicity	$p < .003$
Gender	$p < .003$
High School GPA	$p < .003$
Honors student	$p < .05$
Running Start student	n.s.
SAT Math Score	n.s.
SAT Verbal Score	n.s.
Student Athlete	n.s.
Transfer student	n.s.
UW GPA for Bachelor's degree	$p < .003$
WA State Residency	n.s.

Table 2. EOP Status Breakdown (Counts and Percentages) for Non-Respondents, the Respondent Sample, and the Entire Population

EOP student	Completed Survey		Population
	No	**Yes**	
No	3668 (90.1%)	2125 (93.7%)	5793 (91.4%)
Yes	403 (9.9%)	144 (6.3%)	547 (8.6%)
TOTAL	4071	2269	6340

Note. For the difference between the distributions of the respondent sample and the entire population, $X^2 = 14.66$, $p = .0001$.

Return to text

Table 3. Ethnicity Breakdown (Counts and Percentages) for Non-Respondents, the Respondent Sample, and the Entire Population

	Completed Survey		
Ethnicity	No	Yes	Population
African American	139 (3.4%)	52 (2.3%)	191 (3.0%)
Asian American	789 (19.4%)	382 (16.8%)	1171 (18.5%)
Hispanic American	163 (4.0%)	71 (3.1%)	234 (3.7%)
International	67 (1.6%)	20 (.9%)	87 (1.4%)
Native American	72 (1.8%)	24 (1.1%)	96 (1.5%)
White American	2564 (63.0%)	1572 (69.3%)	4136 (65.2%)
Other	261 (6.4%)	136 (6.0%)	397 (6.3%)
Unknown	16 (.4%)	12 (.5%)	26 (.4%)
TOTAL	4071	2269	6340

Note. For the difference between the distributions of the respondent sample and the entire population, $X^2(7) = 23.58$, $p = .001$.

Return to text

Table 4. Gender Breakdown (Counts and Percentages) for Non-Respondents, the Respondent Sample, and the Entire Population

	Completed Survey		
Gender	**No**	**Yes**	**Population**
Male	1993 (49.0%)	899 (39.6%)	2892 (45.6%)
Female	2078 (51.0%)	1370 (60.4%)	3448 (54.4%)
TOTAL	4071	2269	6340

Note. For the difference between the distributions of the respondent sample and the entire population, $X^2 = 32.70$, $p = 10^{-8}$.

Table 5. Comparisons of Respondent Sample and Population on Age, High School GPA, and UW Bachelor's Degree GPA

	Completed Survey			
Variable	**No**	**Yes**	**Population**	**z**
Age	27.27 (6.00)	28.81 (8.15)	27.82 (6.89)	6.84 $p = 10^{-12}$
HS GPA	3.56 (.36)	3.63 (.31)	3.59 (.35)	3.23 $p = 10^{-4}$
UW Degree GPA	3.20 (.41)	3.29 (.40)	3.24 (.41)	5.81 $p = 10^{-9}$

Note. Numbers in parentheses are standard deviations. *z*-statistics are for comparisons between means of the respondent sample and the entire population.