

University of Washington Graduates, Five and Ten Years After Graduation: Representativeness of the Respondent Samples

*Debbie E. McGhee
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OVERVIEW

In 1998, the Office of Educational Assessment (OEA) surveyed all University of Washington alumni who had received an undergraduate degree during the 1987-88 or 1992-93 academic years (see [OEA Report 98-8](#) for specific methodology). The purpose of this report is to examine how representative the samples of respondents were of all 1987-88 and 1992-93 undergraduates.

Information on a variety of demographic and academic variables was obtained through the Office of Institutional Studies' student database. These variables included student gender and ethnicity, UW degree grade point average, and standardized test scores (such as the SAT and GRE). Because of the length of time that had passed since these alumni graduated, some of the variables that were analyzed in other student survey representativeness reports were not available and, thus, are not analyzed here. For those data that were collected, complete information was available for most alumni. Both samples of respondents ($n = 1393$ alumni from 1987-88, $n = 1742$ alumni from 1992-93) were compared to their respective populations ($ns = 4626$ and 5431 , respectively) on these variables.

RESULTS

As shown in [Table 1](#), when employing a liberal significance criterion of $p < .05$, the 1992-93 sample of respondents was significantly different from the entire population on seven of the 11 study variables (using chi-square or z-tests, as appropriate). That number decreased to six out of 11 under the more stringent criterion of $p < .005$, chosen to lessen the probability of making Type I errors (i.e., capitalizing on chance) 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 and ethnicity, and on mean age, UW GPA, and Washington Pre-College Verbal and Math scores. All of these differences were small in magnitude. Tables 2-4 display cell counts or means (as appropriate) for the six variables on which significant differences were detected.

The 1987-88 sample was found to be significantly different (at $p < .05$) from the population on six of the 11 variables. The three variables on which the sample differed from the population using the stricter $p < .005$ criterion were ethnicity, gender, and UW GPA.

The distribution of ethnicities was not the same in either alumni respondent group as in their respective populations (see [Table 2](#)). Examination of the contingency table for 1992-93 alumni revealed that the greatest discrepancies involved White American, Asian American, and International alumni, $X^2(7, N = 1742) = 22.46$, $p = .002$. The population was 69% White, compared to 74% of the sample. There were 3%

fewer Asian American alumni among the sample respondents than in the population (12.4% vs. 15.4%) and approximately 1% fewer International alumni (3.1% vs. 2.2%).

Turning to the 1987-88 group, the percentages of White American and International respondents were the ones most discrepant from population values, $\chi^2(7, N = 1393) = 21.72, p = .003$. African American and Asian American alumni were also somewhat under-represented.

Gender representation was skewed (see [Table 3](#)). Men comprised only 41% of the sample of 1992-93 respondents, but were 47% of the population, $\chi^2(1, N = 1725) = 29.96, p = 10^{-7}$. Men were also under-represented amongst 1987-88 respondents, where they were 49% of the population but only 44% of the sample, $\chi^2(1, N = 1375) = 13.76, p < .001$. This lower response rate among males is consistent with findings from other studies conducted by OEA.

Respondents tended to be older than the population average (see [Table 4](#)). Alumni respondents who graduated in 1992-93 were, on average, approximately six months older (at the time of the survey) than the population as a whole and nine months older than non-respondents, $z = 3.3, p < .001$. The age effect was much smaller for 1987-88 alumni: The mean age of the respondent sample was approximately four months greater than the population mean, $z = 2.1, p = .02$.

There were several differences between the samples and their respective populations on academic variables (see Table 4). The mean UW GPA of 1987-88 respondents ($M = 3.2$) was higher than that of the population ($M = 3.1$), $z = 9.27, p < 10^{-15}$. These respondents also had somewhat higher GRE Analytical scores ($M_s = 606.4$ vs. 589.0) and Washington State Pre-College Verbal scores ($M_s = 56.1$ vs. 55.2).

The findings were similar for the 1992-93 group. The UW GPA of respondents ($M = 3.3$) was higher than the population mean ($M = 3.2$), $z = 10.38, p < 10^{-15}$. Respondents also had higher WA Pre-College Verbal scores ($M = 56.0$) than the population as a whole ($M = 54.9$), $z = 3.14, p < .001$, as well as higher WA Pre-College Math scores ($M_s = 60.0$ vs. 59.1), $z = 2.7, p = .004$.

CONCLUSIONS

All undergraduates who had received bachelor's degrees from the UW during the 1987-88 and 1992-93 academic years were surveyed during 1998 as part of a large evaluation of student and alumni experiences. Comparisons of the two samples of respondents with their respective populations on a variety of demographic variables revealed that both samples were fairly representative. Though significant effects were detected on some study variables, the differences tended to be small in magnitude.

On the other hand, the differences were in keeping with those of other representativeness studies, and we are now amassing quite a bit of evidence through these studies that these are reliable effects. There were surveys of five different student or alumni groups (entering students, seniors, and alumni 1, 5, and 10 years post graduation) conducted during 1998, and in all of them men were under-represented. White Americans were over-represented in all surveys, but the main difference between the present study and others was the greater under-representation of international alumni. This is hardly surprising, however, considering that such persons were harder to contact after such long periods of time since graduation. Finally, in this study as in others, respondents tended to have higher academic achievement than the population as a whole. Those who responded to the surveys consistently had higher mean GPAs (either high school or college) than average. When conducting analyses of the survey data, care should be taken to assess the extent to which any of these demographic or academic variables might impact participant responses.

TABLES

Table 1. Results of Significance Tests for Comparisons Between Survey Respondents and Their Respective Populations on Demographic Variables

Variable	Significance	
	1987-88	1992-93
Age (1998 - Year-of-Birth)	$p < .05$	$p < .005$
Ethnicity	$p < .005$	$p < .005$
Gender	$p < .005$	$p < .005$
GRE Analytical Score	$p < .05$	n.s.
GRE Math Score	n.s.	n.s.
GRE Verbal Score	n.s.	$p < .05$
SAT Math Score	n.s.	n.s.
SAT Verbal Score	n.s.	$p < .05$
UW GPA for Bachelor's degree	$p < .005$	$p < .005$
WA Pre-College Math Score	n.s.	$p < .005$
WA Pre-College Verbal Score	$p < .05$	$p < .005$

Note. n.s. = "not significant" or $p > .05$.

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Table 2. Ethnicity Breakdown (Counts and Percentages) for Non-Respondents, the Respondent Samples, and the two Populations

Ethnicity	1987-88			1992-93		
	Completed Survey		Population	Completed Survey		Population
	No	Yes		No	Yes	
African American	81 (2.5%)	23 (1.7%)	104 (2.3%)	108 (2.9%)	41 (2.4%)	149 (2.7%)
Asian American	408 (12.8%)	142 (10.3%)	550 (12.0%)	610 (16.6%)	214 (12.3%)	824 (15.2%)
Hispanic American	48 (1.5%)	22 (1.6%)	70 (1.5%)	96 (2.6%)	52 (3.0%)	148 (2.7%)
International	91 (2.8%)	16 (1.2%)	107 (2.3%)	127 (3.5%)	38 (2.2%)	165 (3.0%)
Native American	23 (.7%)	10 (.7%)	933 (.7%)	36 (1.0%)	17 (1.0%)	53 (1.0%)
White American	2212 (69.2%)	1050 (76.4%)	3262 (71.3%)	2437 (66.2%)	1275 (73.2%)	3712 (68.5%)
Other	334 (10.4%)	112 (8.1%)	446 (9.8%)	226 (6.1%)	88 (5.1%)	314 (5.8%)
Unknown	36 (1.1%)	18 (1.3%)	54 (1.2%)	40 (1.1%)	17 (1.0%)	57 (1.1%)
TOTAL	3233	1393	4626	3680	1742	5422

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Table 3. Gender Breakdown (Counts and Percentages) for Non-Respondents, the Respondent Samples, and the two Populations

Gender	1987-88			1992-93		
	Completed Survey			Completed Survey		
	No	Yes	Population	No	Yes	Population
Male	1635 (51.1%)	605 (44.0%)	2240 (49.0%)	1830 (50.3%)	699 (40.5%)	2529 (47.1%)
Female	1562 (48.9%)	770 (56.0%)	2332 (51.0%)	1810 (49.7%)	1026 (59.5%)	2836 (52.9%)
TOTAL	3197	1375	4572	3640	1725	5365

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Table 4. Comparisons of Respondent Sample and Population on Age, UW Bachelor's Degree GPA, and Washington Pre-College Test Scores

Variable	1987-88			1992-93		
	Completed Survey			Completed Survey		
	No	Yes	Population	No	Yes	Population
Age	35.6 (5.1)	36.0 (5.7)	35.7 (5.3)	31.2 (6.0)	31.9 (7.0)	31.4 (6.3)
UW Degree GPA	3.1 (.4)	3.2 (.4)	3.1 (.4)	3.2 (.4)	3.3 (.4)	3.2 (.4)
WA Pre-College Math	59.7 (8.5)	60.0 (8.4)	59.8 (8.5)	58.7 (8.4)	60.0 (8.4)	59.1 (8.4)
WA Pre-College Verbal	54.9 (8.6)	56.1 (8.4)	55.2 (8.6)	54.4 (8.9)	56.0 (8.2)	54.9 (8.8)

Note. Numbers in parentheses are standard deviations.

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