

The UW Study of Undergraduate Learning Representativeness of the Sample

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The University of Washington Study of Undergraduate Learning (UW SOUL) is a longitudinal study of students who entered UW as freshmen or transfers in the fall of 1999. Two groups of students comprise the sample studied. UW SOUL students in the **full study** are expected to complete internet surveys at least once per quarter, respond to periodic email questions, participate in focus groups, undergo personal interviews twice the first year and annually thereafter, turn in three samples of classroom work annually, and write a reflective essay on that work. Students in the **on-line** group are expected to complete the internet surveys and respond to the email questions, only. For their participation, the former group is paid \$300 per year; the latter \$100.

The beginning sample selected from all new students who had responded to the [Entering Students Survey](#), which is administered during new student orientation. Of the entire entering class, 42.6% completed this survey. Letters of invitation were sent to 1,660 students made up of a random sample of the Caucasian and Asian American students and all of the students who were identified as of underrepresented minority status (African American, Native American, and Hispanic). Far more students applied for participation than could be accommodated. To choose the full study group, all underrepresented minority students and a random sample of the others who applied were chosen. A random sample of the remaining students were invited to join the on-line group. Enough students accepted the latter invitation to fill out that sample.

The purpose of this study is to assess the representativeness of the resulting samples, relative to the entire population of undergraduate students who entered the UW in the fall of 1999. The sample of UW SOUL students is defined as those who completed the survey at the end of fall quarter, 1999. In other words, those who agreed to participate but dropped out during the first quarter are not included. Students who did not complete the first quarter at UW are not included in any group.

RESULTS

In Table 1, we present means and standard deviations on a number of variables. Independent *t*-tests are used to compare the two UW SOUL groups and to compare all UW SOUL students with the rest of the entering student population. Average total UW credits and UW grade point averages (GPA) were calculated as of the end of fall quarter, 2000.

**Table 1: Means (Standard Deviations) for UW SOUL and Non-SOUL Students
(Significant Differences Shaded)**

Variable	UW SOUL Students			Non-SOUL	All SOUL vs.
	Full Study (n = 132)	On-Line (n = 157)	Combined (n = 289)	Students (n = 6449)	Non-SOUL Eta Sqr Value
High School GPA*	3.68 (0.29)	3.74 (0.22)	3.71 (0.26)	3.63 (0.29)	0.3%
SAT Verbal**	600.82 (90.59)	588.38 (82.12)	594.08 (86.14)	566.06 (89.80)	0.4%
SAT Math**	593.00 (91.17)	612.62 (80.25)	603.63 (85.80)	584.09 (85.87)	0.2%
ACT Total***	25.58 (3.63)	25.82 (3.38)	25.71 (3.48)	24.49 (4.01)	0.6%
Transfer Credits	28.15 (39.10)	33.07 (42.35)	30.82 (40.90)	34.12 (44.39)	0.0%
Total UW Credits	57.17 (10.25)	57.31 (11.75)	57.24 (11.07)	52.36 (14.02)	0.5%
UW GPA	3.24 (0.48)	3.25 (0.43)	3.25 (0.45)	3.04 (0.62)	0.5%

* Sample sizes for High School GPA were 100, 108, and 4284 for SOUL-Full-Study, SOUL-On-Line, and Non-SOUL, respectively. Note: high school GPA's are not recorded for many transfer students.

** Sample sizes for SAT scores were 110, 130, and 4927 for SOUL-Full-Study, SOUL-On-Line, and Non-SOUL, respectively.

*** Sample sizes for ACT scores were 36, 38, and 1357 for SOUL-Full-Study, SOUL-On-Line, and Non-SOUL, respectively.

The two UW SOUL groups did not differ significantly on any of the variables analyzed. However, the combined UW SOUL group differed significantly from the remainder of the population on all variables except transfer credits. The former tended to have higher high school GPA's, admission test scores, UW credits, and UW GPA as of the end of fall quarter 2000. Even though all of these variables were statistically significant, the amount of total variance explained by group membership was considerably less than one percent in all cases, as indexed by the *eta square* statistic. In other words, given the variability of the entire set of students, the differences in averages were not great even though they reached statistical significance.

Table 2 presents the number and percent of students in each group broken down by their race or ethnicity. As mentioned earlier, an attempt was made to oversample underrepresented students in the full study group. Table 2 indicates that this attempt was successful. The full study group has proportionately more African American, Native American, and Hispanic students. These differences are statistically significant.

Table 2: Ethnic Distribution of UW SOUL and Non-SOUL Students*

	Full Study	On-Line	Non-SOUL Students
African American	12 (9.1%)	2 (1.3%)	139 (2.1%)
Native American	10 (7.6%)	0 (0.0%)	65 (1.0%)
Caucasian	70 (53.0%)	115 (73.2%)	3843 (58.7%)
Hispanic	13 (9.8%)	5 (3.2%)	180 (2.7%)
Asian American	21 (15.9%)	31 (19.7%)	1369 (20.9%)
Other	6 (4.5%)	4 (2.5%)	951 (14.5%)
Total	132 (100%)	157 (100%)	6836 (100%)**

* Chi-Square = 136.42, d. f. = 10, p <.001

** Seven non-SOUL students were classified as International and are not included in this analysis.

Table 3 shows the number and percent of students of each gender within the three groups. One can see that more females are contained in each group. However, the proportions on males and females are nearly equal, and there are no significant differences across the groups.

Table 3: Gender Distribution of UW SOUL and Non-SOUL Students*

	Full Study (n = 132)	On-Line (n = 157)	Non-SOUL Students (n = 6554)
Male	63 (47.7%)	69 (43.9%)	3005 (45.8%)
Female	69 (52.3%)	88 (56.1%)	3549 (54.2%)

* Chi-Square = .42, d. f. = 2, ns

Finally, the comparison of groups on average transfer credits was not significant (Table 1). In Table 4, we have classified students into freshmen vs. transfer admits based on whether they transferred fewer than 45 credits or not. Consistent with the results presented in Table 1, there was no significant difference in the numbers of students in each group.

Table 4: Transfer Status of UW SOUL and Non-SOUL Students*

	Full Study (n = 132)	On-Line (n = 157)	Non-SOUL Students (n = 6554)
Freshman	93 (70.5%)	103 (65.6%)	4237 (64.6%)
Transfer	39 (29.5%)	54 (34.4%)	2317 (35.4%)

* Chi-Square = 1.96, d. f. = 2, ns

CONCLUSIONS

Compared to the non-SOUL students who entered UW as undergraduates in the fall of 1999, UW SOUL students had higher high school GPA's, admission test scores, UW credits, and UW GPA as of the end of fall quarter 2000. While statistically significant, these differences failed to account for even one percent of the variance in these measures. Thus, these particular results suggest that the UW SOUL students are more academically capable, on average, than the entire entering cohort, but the differences are not very large in terms of the total variation in the population. The study sample and the population are essentially equivalent in terms of gender balance. The full study group of UW SOUL students contains significantly more underrepresented minorities than either the on-line group or the remaining population. This difference was intentional, being brought about by oversampling underrepresented minority students. There may be other variables that we have not measured or cannot be easily measured on which the UW SOUL students differ from their peers in meaningful ways.