SURVEY OF COLLEGE SENIORS

SUMMARY OF SURVEY METHODOLOGY

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OSRL

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INTRODUCTION

In August 1998, the University of Pennsylvania contracted with the University of Oregon Survey Research Laboratory (OSRL) to obtain statistically valid and reliable information concerning how college seniors choose their college majors. Working closely with University of Pennsylvania Sociology Professor Dr. Jerry Jacobs, OSRL planned, pretested and implemented 1,205 telephone survey interviews with seniors at 40 colleges and universities in the United States. This report summarizes the survey design, data collection, and sampling methodology for this "Survey of College Seniors." Detailed survey analysis will be conducted by Dr. Jacobs and his associates.

SURVEY INSTRUMENT

The broad goals of the survey were to obtain information on college students' retrospective accounts of their experiences choosing their college majors. Survey questions were developed and pretested in close consultation with Jerry Jacobs. Special care was exercised to ensure that certain survey questions directly paralleled those on other related surveys and national surveys, although many were OSRL originals.

The survey instrument comprised the following subject areas:

- High school experiences, including type of high school attended, most and least favorite subjects, most influential person, most supportive person, conversations with parents and high school teachers about college majors, preference for a college major upon high school graduation, and parental pressure for a certain major;
- Major changes during college, including undeclared status, number of changes, why the first major was chosen, reasons for changes, most important reason, and influence of parents and peers;
- Current major, including double majors and minors, alternative majors considered, reasons for current major, most important reason, influence of parents and peers, age first thought about and age settled on major, and how students perceive their majors;
- How students perceive other majors, specifically engineering, chemistry, nursing and education, and why they did not choose those majors;
- Major-related career goals, actual career goals, age first thought about and age settled on career goal, primacy of major *vs.* career goal, alternative careers considered, reasons for current career goal, most important reason, influence of parents and peers, and influence of internships, career counselors, visits, and conversations with friends and relatives on career choice;
- Perceptions of career choices in general;
- Future expectations for own earnings, spouse's/partner's earnings and family breadwinner status;
- Values related to future jobs and ideal future job or career;
- Changes in respondents' interests while in college;
- A 5-item psychological scale;
- An 8-item gender-role attitude scale, with each respondent randomly assigned to a group of 4 questions only;
- Political attitudes and their importance to respondents;
- Future plans for higher education, marriage, childbearing, and employment;
- Basic background and demographic characteristics, including sex, race, ethnicity, citizenship, college board scores, grade point average, college loans, cultural and cross-cultural exposure, activities, father's and mother's education, employment and occupation, parental living arrangements, and poverty status.

The survey instrument was extensively pretested using OSRL's standard three-pronged pretest procedure, involving (a) potential members of the survey population, (b) OSRL's Questionnaire Review Committee, comprised of survey experts from our staff and university-wide advisory committee, and (c) potential users of the data, specifically Jerry Jacobs. Individual questions were pretested for clarity, accuracy, validity, and variability of response. The entire instrument was pretested for flow, length, comprehensiveness, and factors which affect respondents' cooperation and attention. Based on these pretests, the survey instrument was revised and finalized.

The survey was then programmed into OSRL's computer-aided telephone interviewing system (CATI), and further pretested. A facsimile of the survey instrument is provided in Section 2 of this documentation. All interviews were completely confidential. Human

subjects approval was obtained from the University of Oregon's Committee for the Protection of Human Subjects.

DATA COLLECTION

Interviewer training was conducted October 1, 1998; see Section 3 for the interviewer instruction summary. Interviewing was conducted at all times of the day and all days of the week October 5– December 19, 1998 until the target sample size of 1,205 completed interviews was achieved. Altogether, OSRL interviewers made 30,321 telephone calls to complete 1,205 interviews. Up to 35 calls were made to each valid telephone number to avoid nonresponse bias. Interviewing was conducted 9:00 AM Eastern Time – 9:00 PM Pacific Time all days of the week (except Sundays, 1:00 PM – 9:00 PM) until the target sample was achieved. CATI automatically schedules calls which do not result in interviews for different times of the day and different days of the week, or interviewers can schedule interviews for respondents at more convenient dates and times.

The overall CASRO response rate was 60.97% (see Section 4).[1] Individual college and university response rates ranged from a high of 82.8% at Western Maryland University to lows of 10.7% at Sam Houston State University and 45.5% at University of Colorado, Denver (see table on page 5). Completed interviews lasted, on average, 25-30 minutes.

SAMPLING PROCEDURE

For the "Survey of College Seniors," sampling was a multi-stage process. In the first stage, Jerry Jacobs and his staff randomly chose college and universities around the United States. In the second stage, Barbara Jaffe attempted to arrange the cooperation of the randomly-chosen schools. In the third stage, each of the 40 participating schools generated a list of their own seniors and sent this to Barbara Jaffe and Jerry Jacobs. After assessing the quality of the list and pre-screening it by age to exclude the older, non-traditional students, they sent it on to OSRL. About 100 sample pieces from each school were sent electronically to OSRL between September 23 and November 6, 1998.

Jerry Jacobs assigned quotas for the target number of completed interviews at each school. Quotas were set by school size, such that larger universities would have more completed interviews than small colleges. The original quotas ranged from 20 to 45. Actual completed interviews ranged from 4 to 42 per school (see table on p. 5).

In OSRL, Toshihiko Murata randomly selected and loaded into the CATI system roughly 130% of the quota for each school from the school's original sample. Sampling is pre-programmed and accomplished without interviewers' intervention. Telephone numbers are imported into the CATI system, randomized by the computer and appear automatically on

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[1] The response rate was calculated in following manner: Completed interviews / (Eligible sample + ((Eligible sample / (Eligible sample + Ineligible sample)) * Sample with unknown status)).

interviewers' computer screens. Telephone calls are placed with a computer keystroke, effectively preventing dialing errors.

After each school's sample had circulated to the interviewers for 1 to 2 weeks, Toshihiko Murata analyzed each school's call disposition codes for the proportion of the ineligible telephone numbers (i.e., non-working, disconnected, non-residential, non-student and non-senior telephone numbers). He added additional sample as needed for completing each school's quota. Thereafter, he and Patricia Gwartney monitored each school's call dispositions closely. For some schools, more sample was added as the proportion of the ineligible numbers grew. For other schools, the quotas were increased when the original sample loaded appeared to be too large to produce a reasonably high response rate with the original quota.

Unfortunately, some colleges and universities provided the researchers with very poor quality sample. After circulating all of the available sample for a period of time, the samples from a few schools were pulled out of circulation when it appeared that completing any additional interviews would be impossible or extremely inefficient. These decisions were made on a school-by-school basis in consultation with Jerry Jacobs. For example, after 4 weeks of interviewing the University of Colorado at Denver sample had just 17 completed interviews. After 7 weeks there were still only 17 completed interviews there, despite 962 dial attempts (or 57 dial attempts per completed interview). Likewise, Sam Houston State University's sample was removed from circulation after 250 dial attempts produced only 4 interviews and over 250 additional dial attempts produced no additional interviews.

After the first week of December, in order to complete the contracted 1,200 total interviews before the end of the school term, as requested from Jerry Jacobs, quotas for the selected schools were increased, and additional sample was added to support the increased quota. At the same time, quotas for schools with poor lists were either decreased or removed from circulation entirely. Selectively increasing and decreasing the school quotas resulted in an over-representation of sample from colleges and universities which provided high quality lists. These differentials can be easily handled in analysis by weighting the data set.

The chart below shows each college's and university's original quota, the CASRO[2] response rate achieved, the number of sample pieces loaded into the CATI system, the number of completed interviews, a summary of final call disposition codes (refusals, eligible numbers whether reached or not, ineligible numbers because the person was not a student, not a senior or gone the survey dates, and unknown because a person was never reached), and the total number of dial attempts.

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[2] CASRO = Council of American Survey Research Organizations. The response rates advocated by CASRO are the strictest in the business (e.g., they do not ignore sample pieces with unknown status, where no person was ever reached).

School Name	Original Quota	CASRO Response Rate	Loaded	Completed	Refused	Eligible	Ineligible	Unknown	Attempt
Washington & Lee	20	66.23%	55	34	3	42	3	10	637
Davidson College	20	60.00%	50	30	3	37	0	13	678
Ashland University	30	52.38%	98	28	13	48	40	10	777
Kent State University	40	64.61%	90	41	10	55	23	12	1006
Nicholls College	30	55.62%	89	27	11	42	35	12	927
Mary Washington College	30	65.32%	60	29	5	37	13	10	690
Oregon State University	30	67.50%	100	30	6	40	50	10	780
Northwestern University	30	76.04%	80	40	3	48	25	7	781
Clarkson	30	66.18%	65	40	7	53	4	8	463
Center College	20	73.80%	55	38	1	44	3	8	651
University Of Chicago	30	63.82%	70	39	5	55	8	7	644
Lycoming College	20	67.06%	50	30	2	34	4	12	620
Elizabethtown College	20	71.38%	49	31	4	39	5	5	464
Howard Payne University	20	73.53%	49	29	3	33	8	8	545
Macmurray College	20	57.74%	49	26	4	34	3	12	675
Lubbock Christian University.	20	46.20%	100	25	10	46	39	15	900
University Of Colorado At Denver	30	45.52%	100	17	7	31	52	17	962
Connecticut College	20	63.22%	55	34	6	44	1	10	707
Western Maryland University	20	82.83%	90	20	0	22	60	8	500
University Of Wisconsin - Milwaukee	30	54.13%	70	31	7	45	10	15	789
University Of Alaska Fairbanks	25	64.71%	85	25	4	35	42	8	482
Carroll Of Mt	25	67.65%	60	34	5	46	8	5	560
Emory University	35	53.95%	75	30	11	43	15	17	1014
Monmouth College	25	63.03%	45	26	4	33	3	9	588
Tennessee Wesleyan	25	65.48%	60	25	4	35	20	5	516
North Carolina State University At Raleigh	45	61.03%	90	41	5	53	18	19	1038
Stanford University	35	64.62%	75	40	11	52	11	12	882
University Of Nebraska - Lincoln	45	54.48%	90	36	8	58	21	11	1043
John Brown University	25	63.52%	60	35	5	45	4	11	574
Luther College	35	63.10%	70	42	4	58	3	9	825
Sam Houston State University.	35	10.65%	101	4	2	26	37	28	504
University North Carolina At Charlotte	45	56.39%	90	29	8	44	33	13	1062
Minot State University	35	71.84%	95	36	7	48	43	4	798
University Of Mississippi	35	50.30%	100	26	7	46	43	11	957
Unc - Greensboro	35	63.07%	101	33	6	45	41	14	907
Morgan State University.	35	46.69%	100	11	0	19	56	18	835
North Central College	35	56.57%	75	33	4	42	12	21	991
Ohio University	45	59.20%	100	22	1	24	38	34	1131
Western New England College	35	64.91%	55	35	8	50	1	4	565
University Of South Florida	45	58.94%	100	23	1	32	50	18	873
Total	1210	60.97%	3051	1205	215	1663	885	480	30,341

Survey sampling errors are calculated to assist data users in assessing how much confidence to place in a particular survey result. Large random samples, as in this study, reduce sampling error. Results for surveys in which there is low variability also have less sampling error. For example, a variable with a 50/50 proportional split has wider confidence intervals than a variable with a 5/95 proportional split. Finally, sampling error is affected by strata in the sample design, in this case, the colleges.

For this study, the margin of error for an unweighted variable from the entire sample with a 50-50 proportional split is 2.8 percentage points, at the 95% confidence level. This means readers of the data can be 95% sure that the true population figure is between 47.2% and 52.8% (i.e., 50% $\pm$ 2.8 percentage points).