Sample Weighting in NES
Pre-Post Presidential Election
Surveys, 1984: A Report to
the Board of Overseers, National
Election Studies

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The sample design of most National Election Studies is one which yields equal probability at the household level. For both random digit dialing and area probability (personal) sample designs, there are unequal probabilities of selection for individuals.

This comes about because sample households have different numbers of eligible respondents, varying from one to eight or more (in some rare cases). In a household with only one eligible respondent (age 18 by election day, and a U.S. citizen) the probability of selection for that person is 1.0. In a household with two eligible adults, each adult has a probability of selection of .5. The overall probabilities of selections for the sample persons, then, cannot be said to be equal.

Sampling literature suggests weighting (by the inverse of the selection probability) to compensate for unequal probabilities of selection. Typically, the National Election Studies have <u>not</u> done this because inspection of both weighted and unweighted marginals has shown very little actual difference. Moreover, weights can be quite cumbersome in analyses. Some software packages do not have provision for weights.

It is clear though, that there are samples in which the unequal probabilities of selection at the household level do make a difference, (i.e., weighted and unweighted estimates differ) and in these cases, there is agreement that weights should be used for estimates of means and proportions. Some statisticians feel that weights should <u>not</u> be used in estimates of parameters in multivariate models and that respecification of the model is called for.

With current interest in "gender gaps", one has to wonder about

the effects of different probabilities of selection for different size housholds. If most single person households are women, then overall, women have a higher probability of selection than men. (The non-response bias that some think is associated with single female households would tend to offset this).

We have done some analysis of the 1984 Pre-Post survey data to try to determine whether selection weights should be recommended. The weight we used compensates for unequal probabilities of selection due to household size. Weights are the inverse of selection probability. Thus, a respondent selected from a household of three eligible adults has a selection probability of .333 and a weight of 3 x 1.00, or 3.

Table 1 displays marginals for some variables of interest, both weighted and unweighted. The marginals are only very slightly different. Even for variables which have been linked with the gender gap--party identification and Reagan approval, there are no significant differences.

We conclude from this analysis that a departure from our previous policy of not explicitly denoting a selection weight is probably <u>not</u> warranted.

Table 1. 1984 Pre-Post Election Surveys:
Unweighted Marginals for Selected Variables

Age	Unweighted	Weighted
18-39	48.7	50.2
40-59	26.1	27.8
60+	24.2	21.2
%Male	43.8	45.3

Race		
White	86.7	86.8
Black	11.1	10.8
Other	2.1	2.3

Education		
Grade School	10.7	10.0
High School	47.6	49.1
College+	41.1	40.2

Marital Status		
Married	56.4	63.2
Never married	15.8	16.7
Divorced/separated	13.9	9.9
Widowed	11.3	7.2

Region		
Northeast	18.5	18.5
North Central	27.5	27.6
South	33.2	33.6
West	20.8	20.3

Campaign Interest		
Very Much	28.3	27.3
Somewhat	46.7	47.2
Not Much	24.7	25.3

Follow Public Affairs	Unweighted	Weighted
Most of the time	26.4	25.5
Some	36.4	36.9
Now and then	23.1	23.6
Hardly at all	14.0	14.1

Party ID--all

Strong Democrat	17.2	16.9
Weak Democrat	20.4	20.8
Indep. Democrat	11.0	10.6
Indep. and APOLS	11.1	11.3
Indep. Republican	12.6	13.7
Weak Republican	15.0	15.2
Strong Republican	12.6	12.5

Party ID--Men

Strong Democrat	16.3	15.5
Weak Democrat	17.1	17.8
Indep. Democrat	12.7	11.9
Indep.and APOL	11.7	12.0
Indep. Republican	14.5	14.4
Weak Republican	15.0	15.4
Strong Republican	12.7	13.0

Party ID--Women

Strong Democrat	18.0	18.0
Weak Democrat	23.0	23.3
Indep. Democrat	9.7	9.6
Indep. and APOL	10.7	10.8
Indep. Republican	11.1	11.3
Weak Republican	15.0	14.9
Strong Republican	12.5	12.1

Reagan Approval--All   Unweighted   Weighted

    Strongly approve   35.3   35.7
    Approve   28.1   28.5
    Disapprove   15.1   15.2
    Strongly disapprove   21.5   20.7

Reagan Approval--Men

    Strongly approve   37.1   38.0
    Approve   29.2   29.5
    Disapprove   13.9   13.5
    Strongly disapprove   19.8   19.1

Reagan Approval--Women

    Strongly approve   33.8   33.8
    Approve   27.2   27.6
    Disapprove   16.2   16.6
    Strongly disapprove   22.8   22.0