# Interviewer Variance in the <br> 1993 National Survey of College Graduates 



Prepared by:
Danielle Ringstrom, Dedrick Owens, and Richard McGuinness
Quality Assurance and Evaluation Branch
Demographic Statistical Methods Division
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## I. Summary

## A. Purpose

This paper reports results of a study designed to measure levels of betweeninterviewer variance in CATI data collected for the National Survey of College Graduates (NSCG). We analyzed between-interview variance for those questions NSF considered important. We did not measure interviewer variance in field cases, and cases completed by mail are not affected by interviewer variance.

A measure of the impact of between-interviewer variance is an important component of an assessment of overall data quality. As a result of this study, we hope to:

- help improve the 1995 NSCG questionnaire.
- improve interviewer training and procedures for the 1995 NSCG.
B. Major Findings
- Although we didn't measure interviewer effects among field cases, we believe the effects in CATI represent lower bounds on the effects in the field. The CATI interviewers were more closely monitored and supervised than field representatives, and the CATI instrument promoted more uniformity.
- Interviewer effects occurred in 86 of the 180 response categories analyzed, but only 15 of these 86 response categories had substantial interviewer effects. We consider an interviewer effect to be substantial if it inflates the standard errors of data collected by CATI by $20 \%$ or more.
- The following five questions evaluated both in this survey and the National Survey of Recent College Graduates (NSRCG), conducted by Westat, had categories that showed relatively high interviewer effects in both surveys. The "Detailed Results" (III) section describes the criteria we used to compare our results with Westat's.

A3 Reasons for not working.
A8 Reasons for working part-time.
A12 Type of educational institution.
A22 Activities occupying $10 \%$ or more of time on the job.
C1 Years of full- or part-time professional work experience.

- An additional six questions showed relatively high interviewer effects only in NSCG. These were:

A2 If not employed, did respondent look for work?
A7 If working, was work full- or part-time?
A13 What was type of employer (if not educational inst.)?
A23 On which activities did respondent work most hours?
D23 Highest level of education for parents.
D24 Degree of difficulty doing certain activities.
The "Detailed Results" (III) section describes the criteria we used to define large interviewer effects as well as the criteria we used to compare our results with Westat's analysis of interviewer effects for the National Survey of Recent College Graduates (NSRCG). We analyzed $\rho$ for a list of questions NSF considered important for interviewer effects. These questions were not necessarily common to NSCG and NSRCG.

Attachment A gives a complete listing of the results of the Census-DSMD analysis of the NSCG questions, and Attachment B contains a comparison of Westat's and Census's results.

## C. Recommendations

We suggest using cognitive techniques - for example, tape recorded interviews and focus groups - to assess why certain questions exhibit high interviewer effects.

We will discuss our results with the Field Division so they can emphasize these questions in the training for the 1995 NSCG.

## II. Methodology

## A. Background

Interviewer effects, between-interviewer variance, intra-interviewer correlation and correlated response variance are all aspects of the same problem - the tendencies of different interviewers to administer interviews differently. Consistent with these concepts, interviewer effects are random - that is, we consider the interviewers to be a random sample from an infinite pool of possible interviewers.

When response errors in data collected by an interviewer tend to be in the same direction, the responses are correlated. We measure the impact of interviewer variance with the intra-interviewer correlation coefficient, $\rho$ (rho). This coefficient represents the ratio of between-interviewer variance to total variance.

The intra-interviewer correlation increases total variance of survey estimates.

## B. Effect of $\rho$ on Variances and Standard Errors of Estimate

The presence of interviewer effects increases the estimated variance of the statistic of interest. This increase is based on $\rho$ and the interviewer workload. If the size of the interviewer workload increases, the increase in the variance becomes greater. This increase, $(m-1) \rho$, is called the variance inflation factor. The variance of the estimate (number of responses to a given category) is given by:

$$
\mathrm{V}(\overline{\mathrm{y}})=\frac{\mathrm{V}\left(d_{i j}\right)}{k m}[1+(m-1) \rho]
$$

where
$\left.\left.\begin{array}{ll}\mathrm{V}(y) & \begin{array}{l}\text { is the "true" variance of the estimate of the mean; } \\ \text { is the indicator denoting the } j^{\text {th }} \text { response to a given } \\ \text { category in interviewer } i \text { 's assignment (with a value }\end{array} \\ \text { of } 0 \text { if not in category, } 1 \text { if in category); }\end{array}\right\} \begin{array}{l}\text { is the usual form of the variance of the estimate of } \\ \text { the mean (sampling variance plus simple response } \\ \text { variance); this is equivalent to } p q / n \text { for categorical } \\ \text { data; } \\ \text { is the intra-interviewer correlation coefficient for } \\ \text { the category; }\end{array}\right\}$

In this analysis we assess the interviewer influence on the standard error (s.e.) of the estimate since the s.e.'s are published (vs. variances) with statistics for selected characteristics. The percent increase in s.e. caused by the interviewer is given by:

$$
\% \text { increase }=100 \sqrt{1+(m-1) \rho}-100
$$

where $\quad \rho \quad$ is the intra-interviewer correlation coefficient for the category and
$m \quad$ is the average workload per interviewer.

## C. Model Assumptions

Modeling categorical survey data in an interviewer variance study prompts careful consideration of model assumptions. We defined the categorical response variable:
$d_{i j}=1$ if response $j$ from interviewer $i$ is in the category of interest
$d_{i j}=0$ if response $j$ from interviewer $i$ is not in the category of interest

The common interviewer effects model assumes that

- $\operatorname{Cov}\left(d_{i j}, d_{i j^{\prime}}\right)=0$ for $i \neq i^{\prime}$ for all $j$
i.e., responses taken by different interviewers are independent.
- $\operatorname{Cov}\left(d_{i j}, d_{i j^{\prime}}\right)=\rho^{*} \sigma^{2}$ for $i=i^{\prime}$ and $j \neq j^{\prime}$
i.e., the covariance of responses taken by different interviewer may be different ( $\rho^{*}$ is the intra-interviewer correlation for a particular interviewer.
- $\operatorname{Cov}\left(d_{i j}, d_{i j^{\prime}}\right)=\sigma^{2}$ for $i=i^{\prime}$ and $j=j^{\prime}$
i.e., the variance of responses across all subgroups, including interviewers, is constant.

When interviewer effects exist, the probability of obtaining a response in a given category varies across different interviewers. Since the mean and variance of the proportion in a category are a function of this probability, they too vary by interviewer. However, nonconstant variance violates an important model assumption of the usual ANOVA method of variance estimation. Therefore, we use Pannekoek's method based on the beta-binomial distribution, which allows for nonconstant variance across interviewers, to model the interviewer effect [1].

## D. Limitations

Despite the limitations of the Westat and Census methods, the two analyses tended to agree on which questions had the greatest interviewer effects. (See IIIB,"Comparison of Census-DSMD and Westat Results," for details and [2] for a report on Westat's analysis.)

Regarding the Census analysis, the $\rho$ 's that we estimated reflect only the CATI portion of the NSCG. We were unable to measure $\rho$ in field assignments because the assignments are based on geography and are not random. Differences in data collected by field interviewers would be caused mainly by differences in the respondents they interviewed, not differences in how they carried out the interviews.

The CATI cases were not assigned perfectly randomly to the CATI interviewers. They were assigned to the site based on time zones, and to the interviewers based on shifts. Therefore, interviewers did not have equal probabilities of contacting specific respondents. The $\rho$ 's that we calculated may have been inflated by these effects, which we are unable to effectively isolate. For example, there may be some variance due to differences in the site (Hagerstown or Tucson) where the
interview was conducted. This variance, as well as differences due to interviewers, may have contributed to $\rho$. We believe that the $\rho$ 's Census produced tended to be higher than Westat's because Westat tried to account for and exclude fixed effects in their ANOVA analysis and the Census beta-binomial method did not.

Our analysis used unweighted data. This could confound our estimate of the impact of $\rho$ on the standard error of NSCG estimates, which are weighted. However, this does not affect our determination of which questions have high between-interviewer variance.

Westat's ANOVA analysis of interviewer variance violates the homoscedasticity assumption slightly when used for categorical data.
E. Estimation

We used the beta-binomial distribution to model the correlated response caused by interviewers. The model assumes that $F_{i}$, the number of responses that interviewer $i$ receives in a specific category, has a beta-binomial distribution.

We used the iterative method described by Stokes (1985) to compute the maximum quasi-likelihood estimate of $\rho$ for each question category [3].

## F. Model Fit

It is important to test the appropriateness of the beta-binomial model before making inferences about the presence of interviewer effects in the data.

We used the Wald-statistic to test the hypothesis that the beta-binomial model fits the NSCG data for a given response category. The statistic is given by:

$$
W^{2}=(\mathrm{F}-\hat{\mathrm{F}})^{\mathrm{t}} \hat{\mathrm{~V}}^{-1}(\mathrm{~F}-\hat{\mathrm{F}})
$$

where $\quad \mathbf{F}$ is the vector of observed frequencies,
F is the vector of estimated frequencies using the betabinomial distribution, and
$\mathbf{V} \quad$ is the estimated covariance matrix of $\mathbf{F}$.
$W^{2}$ is checked against the chi-square $\left(\mathrm{X}^{2}\right)$ critical value, with degrees of freedom equal to the total number of interviewers. If $W^{2}$ is greater than $X^{2}$, then we reject the null hypothesis and conclude that the beta-binomial model failed to fit the data in this particular question/category. If our analysis indicated a model failure, we denoted this with the uppercase letters "MF" (see Attachment A).

See Pannekoek [1] for a similar use of the Wald-statistic and the test of significance that follows.

## G. Statistical Significance of $\rho$

In this section we introduce a test to determine if interviewer effects exist. This is merely testing the null hypothesis that $\rho$ is not significantly different from zero.

We used a standard $Z$ test to test for the presence of interviewer effects. The $Z$ statistic is given by:

$$
\mathrm{Z}=\frac{(p q)^{-l} \sum_{i=1}^{I}\left(f_{i}-n_{i} p\right)^{2}-\Sigma_{n_{i}}}{\sqrt{\left(2 \sum_{i=1}^{I} n_{i}\left(n_{i}-1\right)\right)}}
$$

where $\quad p \quad$ is the expected response category proportion,
$q$ is 1- $p$,
$f_{i} \quad$ is the number of interviewer $i$ respondents in the category, and
$n_{i} \quad$ is the number of respondents for interviewer $i$.
Z is then checked against the standard normal critical value at the $\alpha=0.10$ significance level. If Z is greater than the critical value, we reject the null hypothesis and conclude that the interviewer effect is significant (nonzero). If our analysis indicated a $\rho$ that was not significant, we denoted this with the lowercase letters "ns."

## III. Detailed Results

## A. Census-DSMD Results

We analyzed 21 questions with 203 separate response categories. Some response categories displayed large values of $\rho$ ( at least 0.015). Fortunately, due to skip patterns, few respondents were asked these questions, so the inflation factors were not unreasonably large.

- Twenty-three of the 203 response categories analyzed did not fit the model.
- Ninety-four of the 180 categories fitting the beta-binomial model showed no statistically significant interviewer effects.
- The 86 remaining categories exhibited statistically significant interviewer effects.
- Fourteen categories had large values of $\rho$ (at least 0.015 ).
- Fifteen categories had substantial inflation factors (at least $20 \%$ ).
- Twenty-six categories had a high value of $\rho$ (11 categories), a substantial inflation factor (12 categories), or both (3 categories).

As described in "Methodology" above, $\rho$ is a measure of the magnitude of between-interviewer variance for a particular response category. A high $\rho$ indicates the question/response category has a large between-interviewer variance.

The standard error inflation factor that we calculated is based on $\rho$ and on $m$, the average workload per interviewer. The inflation factor increases as $m$ gets larger. The inflation factor can be used to isolate questions/response categories with interviewer effects likely to inflate the variance substantially.

The following table lists the question/response categories with large interviewer effects. The criteria for large effects were

- $\rho>=0.015 \mathrm{and} /$ or
- inflation factor $>=20 \%$

| NSCG Categories with High Interviewer Effects |  |  |
| :---: | :---: | :---: |
| Question/Response | Rho | S.E. Inflation Factor |
| A2Did you look for work during the preceding four weeks? <br> Yes <br> No | $\begin{aligned} & 0.019 \\ & 0.019 \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \% \\ & 10 \% \end{aligned}$ |
| A3 $\quad$ Reasons for not working  <br>  Retired <br>  Student <br>  Suitable job not available <br>  Did not need/want to work <br>  Other <br>   | $\begin{aligned} & 0.017 \\ & 0.018 \\ & 0.023 \\ & 0.081 \\ & 0.033 \\ & \hline \end{aligned}$ | $\begin{aligned} & 9 \% \\ & 10 \% \\ & 12 \% \\ & 38 \% \\ & 17 \% \\ & \hline \end{aligned}$ |
| A7Employed full- or part-time week of April 15 <br> Full-time <br> Part-time | $\begin{aligned} & 0.008 \\ & 0.007 \\ & \hline \end{aligned}$ | $\begin{aligned} & 21 \% \\ & 20 \% \\ & \hline \end{aligned}$ |
| A8 <br> Reasons for working part-time <br> Retired <br>  <br>  <br>  <br>  <br>  <br> Student not need/want to work full-time <br> Did nor <br> Other | $\begin{aligned} & 0.032 \\ & 0.065 \\ & 0.108 \\ & 0.061 \\ & \hline \end{aligned}$ | $\begin{aligned} & 9 \% \\ & 18 \% \\ & 28 \% \\ & 17 \% \\ & \hline \end{aligned}$ |
| A12 Was the educational institution - <br> 4-year college <br> Other | $\begin{aligned} & 0.020 \\ & 0.015 \\ & \hline \end{aligned}$ | $\begin{aligned} & 13 \% \\ & 10 \% \\ & \hline \end{aligned}$ |
| A13 $\begin{array}{c}\text { (If not educational institution) Was your employer - } \\ \text { Self-employed/not incorporated }\end{array}$ | 0.010 | 21\% |
| A22 Did these work activities occupy $10 \%$ or more of your time <br> during a typical work week on this job? <br>  <br>  <br>  <br>  <br>  <br> Production, op's - yes <br> Profestion, op's - no <br> Professional services - yes services - no | $\begin{aligned} & 0.011 \\ & 0.011 \\ & 0.008 \\ & 0.008 \\ & \hline \end{aligned}$ | $\begin{aligned} & 29 \% \\ & 29 \% \\ & 20 \% \\ & 20 \% \\ & \hline \end{aligned}$ |
| A23b On which activity did you work the second most hours during <br> a typical week on this job? <br> No activity with second most hours <br>  而 | 0.016 | 43\% |
| C1b $\begin{array}{l}\text { How many years of professional part-time work experience } \\ \\ \\ \text { have you had? } \\ 0 \text { (to one-half year) }\end{array}$ <br>   | 0.008 | 23\% |
| D23 What is the highest level of education completed by your parents? <br> At least some grad school - Father <br> At least some grad school - Mother | $\begin{array}{r} 0.010 \\ 0.006 \\ \hline \end{array}$ | $\begin{aligned} & 29 \% \\ & 20 \% \\ & \hline \end{aligned}$ |
| D24a What is usual degree of difficulty you have seeing newsprint? <br> Slight  | 0.010 | 30\% |
| D24b $\begin{array}{l}\text { What is usual degree of difficulty you have hearing } \\ \text { conversation? } \\ \text { Slight }\end{array}$ | 0.009 | 26\% |

The table below shows the distribution of the inflation factors for the 86 response categories that demonstrated significant interviewer effects.

| Distribution of NSCG Inflation Factors |  |
| :---: | :---: |
| Range of Inflation Factors | Number Falling in Range |
| $0 \%-4 \%$ | 1 |
| $5 \%-9 \%$ | 31 |
| $10 \%-14 \%$ | 30 |
| $15 \%-19 \%$ | 9 |
| $20 \%-29 \%$ | 12 |
| $30 \%$ and over | 3 |

Attachment A provides tables showing $\rho$, the standard error of $\rho$, the proportion of responses falling within each category (sample mean), the mean number of interviews per interviewer for each question, the total number of interviews for each question, and the inflation factor on the standard error for each category of the questions chosen for analysis.

## B. Comparison of Census-DSMD and Westat Results

Census-DSMD and Westat had important interviewer effects for the same 10 categories involving 5 questions, as shown in the following table. Census considers a category to have an important interviewer effect if $\rho$ is at least 0.015 and/or the s.e. inflation factor is at least $20 \%$. Westat considers any significant interviewer effect ( $\rho$ at least 0.0027 ) to be important.

Westat's interviewer variance study of the NSRCG analyzed most of the same questions Census did for the NSCG. Westat used an ANOVA model that explicitly takes into account fixed (nonrandom) effects. As a result, their estimates of interviewer variance are generally lower than those produced by the Census study.

As stated in IIC, "Methodology," Census's beta-binomial method is more appropriate for these data, as it takes into account the differences in variances by interviewer that occur in categorical data, whereas the ANOVA method assumes constant variance. Unfortunately, we could not account for fixed effects using the beta-binomial approach.

| Categories with High Interviewer Effects Found by Both Census and Westat |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Question/Response |  | Westat Rho | Census |  |
|  |  | Rho | S.E. Inflation Factor |
|  | Reason for not working Suitable job not available Did not need/want to work Other |  | $\begin{aligned} & 0.016 \\ & 0.010 \\ & 0.015 \end{aligned}$ | $\begin{aligned} & 0.023 \\ & 0.081 \\ & 0.033 \end{aligned}$ | $\begin{aligned} & 12 \% \\ & 38 \% \\ & 17 \% \end{aligned}$ |
|  | Reasons for working part-time <br> Student <br> Did not need/want to work full-time Other | $\begin{aligned} & 0.010 \\ & 0.016 \\ & 0.024 \end{aligned}$ | $\begin{aligned} & 0.065 \\ & 0.108 \\ & 0.061 \\ & \hline \end{aligned}$ | $\begin{aligned} & 18 \% \\ & 28 \% \\ & 17 \% \end{aligned}$ |
|  | Was the educational institution 4 -year college | 0.052 | 0.020 | 13\% |
| A22 Did these work activities occupy $10 \%$ or more of your time during a typical work week on this job? <br> Production, ops - yes <br> Production, ops - no |  | $\begin{aligned} & 0.017 \\ & 0.017 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.011 \\ & 0.011 \\ & \hline \end{aligned}$ | $\begin{aligned} & 29 \% \\ & 29 \% \\ & \hline \end{aligned}$ |
|  | ${ }^{1}$ How many years of part-time work experience have you had? <br> 0 (to one-half year) | 0.012 | 0.008 | 23\% |

See Attachment B for a comparison of $\rho$ 's for all matching categories from Westat's analysis of NSRCG and Census's analysis of NSCG.
${ }^{1}$ Westat and we used different methods to evaluate this question - we evaluated categories and Westat evaluated quantitative data. However, both analyses show evidence of high interviewer effects in question C1b.

## References:

[1] Pannekoek, Jeroen, "Interviewer Variance in a Telephone Survey, (1988) " Journal of Official Statistics, Vol 4. No. 4, pp. 375-384.
[2] Westat, Inc., "1993 NSRCG Interviewer Variance Study," May 1994.
[3] Stokes, S. Lynne and Hill, Joe R., (1985) "Modeling Interviewer Variability for Dichotomous Variables," American Statistical Association, Proceedings of the Section on Survey Research Methods, pp.344-348.

Measures of Correlated Response Variance for NSCG


## Measures of Correlated Response Variance for NSCG

|  | Question number | Rho | $\begin{gathered} \text { SE } \\ \text { of } \mathrm{rho} \end{gathered}$ | Sample mean | Mean \# of Interviews | Total \# of Interviews | SE inflation factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A12 | Was the educational institution Elementary/middle/secondary school 2-year college <br> 4 -year college <br> Medical school <br> Univ. affiliated research institute Other (specify) | $\begin{array}{r} 0.011 \\ \text { ns } \\ 0.020 \\ 0.014 \\ \text { ns } \\ 0.015 \end{array}$ | $\begin{aligned} & 0.006 \\ & 0 .-- \\ & 0.007 \\ & 0.007 \\ & 0 .-- \\ & 0.007 \end{aligned}$ | $\begin{aligned} & 0.489 \\ & 0.047 \\ & 0.228 \\ & 0.118 \\ & 0.038 \\ & 0.080 \end{aligned}$ | $\begin{aligned} & 15 \\ & 15 \\ & 15 \\ & 15 \\ & 15 \\ & 15 \end{aligned}$ | $\begin{aligned} & 4221 \\ & 4221 \\ & 4221 \\ & 4221 \\ & 4221 \\ & 4221 \end{aligned}$ | $7 \%$ -- $13 \%$ $9 \%$ --- $10 \%$ |
| A13 | ```(IF NOT EDUCATIONAL INSTITUTION) Was Private for-profit Private not-for-profit Self-employed/not incorporated Self-employed/incorporated Local government State government U.S. military U.S. government (civilian) Other (specify)``` | $\begin{array}{r} \text { employer } \\ 0.007 \\ \text { ns } \\ 0.010 \\ 0.004 \\ 0.004 \\ 0.003 \\ 0.002 \\ \text { ns } \\ 0.006 \end{array}$ | 0.002 $\qquad$ <br> 0.002 <br> 0.002 <br> 0.002 <br> 0.002 <br> 0.002 <br> 0.002 | $\begin{aligned} & 0.616 \\ & 0.069 \\ & 0.103 \\ & 0.043 \\ & 0.040 \\ & 0.044 \\ & 0.009 \\ & 0.058 \\ & 0.017 \end{aligned}$ | $\begin{aligned} & 48 \\ & 48 \\ & 48 \\ & 48 \\ & 48 \\ & 48 \\ & 48 \\ & 48 \\ & 48 \end{aligned}$ | $\begin{aligned} & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \\ & 15171 \end{aligned}$ | $16 \%$ --- $21 \%$ $9 \%$ $9 \%$ $7 \%$ $5 \%$ -- $14 \%$ |
| A19 | How closely related was your work on Closely related Somewhat related Not related | rincipa ns ns ns | job to you $\qquad$ <br> --- | $\begin{aligned} & \text { highes } \\ & 0.570 \\ & 0.261 \\ & 0.169 \end{aligned}$ | degree fiel 60 60 60 | $\begin{aligned} & 19363 \\ & 19363 \\ & 19363 \end{aligned}$ | --- |
| A21 | What is your most important reason for Pay, promotion opportunities Working conditions Job location <br> Change in career/prof. interests Family-related reasons Job in highest degree field not avail. Other reason (specify) | ing in <br> ns <br> ns <br> ns <br> ns <br> ns | area ou $\square$ <br> --- --- $\qquad$ $\qquad$ $\qquad$ | $\begin{gathered} \text { ide your } \\ 0.263 \\ 0.065 \\ 0.051 \\ 0.202 \\ 0.095 \\ 0.199 \\ 0.121 \end{gathered}$ |  | field? 3207 3207 3207 3207 3207 3207 3207 | --- <br> --- <br> --- <br> --- <br> --- <br> --- |

Measures of Correlated Response Variance for NSCG


Measures of Correlated Response Variance for NSCG

| Question number | Rho | $\stackrel{\text { SE }}{\text { of rho }}$ | Sample mean | Mean \# of Interviews | Total \# of Interviews | SE inflation factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A23b On which activity did you work the second | st hour | during | typical | ek on this | b? |  |
| Accounting, finance, contracts | ns | --- | 0.051 | 69 | 22690 | --- |
| Applied research | 0.002 | 0.001 | 0.052 | 69 | 22690 | 5\% |
| Basic research | ns | --- | 0.030 | 69 | 22690 | --- |
| Computer applications | 0.004 | 0.001 | 0.079 | 69 | 22690 | 12\% |
| Development | 0.002 | 0.001 | 0.046 | 69 | 22690 | 7\% |
| Design of equipment. | ns | - | 0.031 | 69 | 22690 | --- |
| Employee relations | ns | --- | 0.057 | 69 | 22690 | --- |
| Management and administration | ns | --- | 0.151 | 69 | 22690 | --- |
| Production, operations... | 0.002 | 0.001 | 0.018 | 69 | 22690 | 8\% |
| Professional services | ns | --- | 0.034 | 69 | 22690 | --- |
| Sales, purchasing, marketing | ns | --- | 0.040 | 69 | 22690 | --- |
| Quality/productivity management | ns | --- | 0.048 | 69 | 22690 | --- |
| Teaching | ns | --- | 0.050 | 69 | 22690 | --- |
| Other (specify) | 0.006 | 0.002 | 0.017 | 69 | 22690 | 19\% |
| No second most | 0.016 | 0.003 | 0.292 | 69 | 22690 | 43\% |
| A26 What was your hourly salary on this job? \$0 - \$5 | 0.006 | 0.002 | 0.050 | 47 | 15113 | 12\% |
| \$6-\$10 | 0.005 | 0.002 | 0.114 | 47 | 15113 | 10\% |
| \$11-\$15 | ns | --- | 0.185 | 47 | 15113 | --- |
| \$16-\$20 | ns | - | 0.211 | 47 | 15113 | - |
| \$21-\$25 | ns | --- | 0.169 | 47 | 15113 | --- |
| \$26-\$30 | ns | --- | 0.091 | 47 | 15113 | -- |
| \$31-\$35 | 0.003 | 0.002 | 0.061 | 47 | 15113 | 6\% |
| \$36-\$40 | ns | --- | 0.033 | 47 | 15113 | --- |
| \$41-\$45 | ns | --- | 0.015 | 47 | 15113 | --- |
| \$46-\$50 | ns | --- | 0.021 | 47 | 15113 | --- |
| \$51 and up | ns | --- | 0.051 | 47 | 15113 | -- |

Measures of Correlated Response Variance for NSCG

| Question number | Rho | $\begin{aligned} & \text { SE } \\ & \text { of rho } \end{aligned}$ | Sample <br> mean | Mean \# of Interviews | Total \# of Interviews | SE inflation factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B1 Were you working for pay (or profit) any Yes No | $\begin{gathered} \text { of } \mathrm{Ap} \\ \mathrm{MF} \\ \mathrm{MF} \end{gathered}$ | $\begin{array}{r} 1988 ? \\ \text {---- } \end{array}$ | 0.842 0.154 | 69 69 | 22634 | --- |
| B10 Did these factors influence your decision <br> Pay, promotion opportunities - yes Pay, promotion opportunities - no Working conditions - yes <br> Working conditions - no <br> Job location - yes <br> Job location - no <br> Change in career/prof. interests - yes <br> Change in career/prof. interests - no <br> Family-related reasons - yes <br> Family-related reasons - no <br> School-related reasons - yes <br> School-related reasons - no <br> Laid off/Terminated - yes <br> Laid off/Terminated - no <br> Retired - yes <br> Retired - no <br> Other reason (specify) - yes <br> Other reason (specify) - no | change ns ns ns ns ns ns ns ns ns ns ns ns 0.006 0.006 ns ns 0.010 0.010 | $\begin{gathered} \text { mployer/ } \\ --- \\ --- \\ --- \\ --- \\ \text {--- } \\ --- \\ --- \\ --- \\ --- \\ --- \\ 0.003 \\ 0.003 \\ --- \\ 0.004 \\ 0.004 \end{gathered}$ | $\begin{aligned} & \text { cupatio } \\ & 0.592 \\ & 0.407 \\ & 0.417 \\ & 0.582 \\ & 0.279 \\ & 0.720 \\ & 0.402 \\ & 0.597 \\ & 0.197 \\ & 0.803 \\ & 0.193 \\ & 0.806 \\ & 0.153 \\ & 0.846 \\ & 0.035 \\ & 0.964 \\ & 0.154 \\ & 0.845 \end{aligned}$ --- | in last 5 y | rs? <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 <br> 8444 | $8 \%$ $8 \%$ -- -- $12 \%$ $12 \%$ |
| ```C1a How many years of professional full-time 0 - 5 6 - 10 11 - 15 16-20 21-25 26 - 30 31 - 35 36 or more``` | exper ns ns 0.002 ns ns ns ns 0.003 | $\begin{array}{r} \text { ree have } \\ \text {--- } \\ \text {--- } \\ 0.001 \\ --- \\ \text {--- } \\ \text {---- } \\ 0.001 \end{array}$ | $\begin{aligned} & \text { pu had? } \\ & 0.167 \\ & 0.221 \\ & 0.181 \\ & 0.148 \\ & 0.106 \\ & 0.075 \\ & 0.051 \\ & 0.048 \end{aligned}$ | 69 69 69 69 69 69 69 69 | $\begin{aligned} & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \end{aligned}$ | -- <br> $6 \%$ <br> -- <br> -- <br> -- <br> $8 \%$ |
|  | $\begin{array}{r} \text { rk experi } \\ 0.008 \\ 0.003 \\ \text { ns } \\ \text { ns } \\ \text { ns } \\ \text { ns } \\ 0.004 \\ \text { ns } \end{array}$ | $\begin{array}{r} \text { nce have } \\ 0.002 \\ 0.001 \\ --- \\ ---- \\ \text {---- } \\ 0.001 \end{array}$ | $\begin{aligned} & \text { pu had? } \\ & 0.468 \\ & 0.060 \\ & 0.085 \\ & 0.067 \\ & 0.051 \\ & 0.071 \\ & 0.123 \\ & 0.068 \end{aligned}$ | 69 69 69 69 69 69 69 69 | $\begin{aligned} & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \\ & 22633 \end{aligned}$ | $23 \%$ $11 \%$ --- --- --- -- $13 \%$ |

Measures of Correlated Response Variance for NSCG

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Question number \& Rho \& \[
\begin{gathered}
\text { SE } \\
\text { of } \mathrm{rho}
\end{gathered}
\] \& \[
\begin{aligned}
\& \text { Sample } \\
\& \text { mean }
\end{aligned}
\] \& Mean \# of Interviews \& Total \# of Interviews \& SE inflation factor \\
\hline \begin{tabular}{l}
D13 During the week of April 1 were you Married \\
Widowed \\
Separated \\
Divorced \\
Never married
\end{tabular} \& \[
\begin{array}{r}
0.002 \\
0.003 \\
\mathrm{~ns} \\
\mathrm{~ns} \\
\mathrm{~ns}
\end{array}
\] \& \[
\begin{array}{r}
0.001 \\
0.001 \\
--- \\
--- \\
---
\end{array}
\] \& \[
\begin{aligned}
\& 0.686 \\
\& 0.020 \\
\& 0.014 \\
\& 0.081 \\
\& 0.193
\end{aligned}
\] \& 69
69
69
69
69 \& \[
\begin{aligned}
\& 22684 \\
\& 22684 \\
\& 22684 \\
\& 22684 \\
\& 22684
\end{aligned}
\] \& \begin{tabular}{l}
\(6 \%\) \\
\(9 \%\) \\
\hline-
\end{tabular} \\
\hline ```
D17a How many children living with you as
0
1
2 or more
``` \& \[
\begin{gathered}
\text { f your } \mathrm{f} \\
\text { ns } \\
\text { ns } \\
\text { ns }
\end{gathered}
\] \& nily
were
----
---- \& under th
0.548
0.278
0.173 \& \begin{tabular}{rc} 
age of \& \(6 ?\) \\
37 \\
37 \\
37
\end{tabular} \& 11790
11790
11790 \& --- \\
\hline ```
D17b How many children living with you as
0
1
2 or more
``` \& \[
\begin{gathered}
f \text { your } f \\
\text { ns } \\
\text { ns } \\
\text { ns }
\end{gathered}
\] \& nily

were
----
--- \& aged 6
0.608
0.271

0.119 \& 11? |  |
| :--- |
|  |
|  |
|  |
| 37 |
|  |
|  |
|  |
|  |
|  |
|  | \& 11790

11790
11790 \& ---- <br>
\hline ```
D17c How many children living with you as
0
1
2 or more

``` & \[
\begin{gathered}
f \text { your } \mathrm{f} \\
\text { ns } \\
\text { ns } \\
\text { ns }
\end{gathered}
\] &  & aged 12
0.662
0.229
0.108 & 17? \(\begin{array}{r} \\ \\ \\ \\ 37 \\ \\ \\ \\ \\ 37\end{array}\) & \[
\begin{aligned}
& 11790 \\
& 11790 \\
& 11790
\end{aligned}
\] & --- \\
\hline ```
D17d How many children living with you as
    O
    1
2 or more
``` & \[
\begin{aligned}
& \text { f your f } \\
& 0.004 \\
& 0.003 \\
& \text { ns }
\end{aligned}
\] & \[
\begin{gathered}
\text { mily were } \\
0.002 \\
0.002 \\
---
\end{gathered}
\] & \[
\begin{array}{r}
\text { ged } 18 \\
0.752 \\
0.188 \\
0.059
\end{array}
\] & older?
\[
\begin{aligned}
& 37 \\
& 37 \\
& 37
\end{aligned}
\] & 11790
11790
11790 & 7\% \\
\hline \begin{tabular}{l}
D23 What is the highest level of educatio \\
< High school diploma - Father \\
< High school diploma - Mother \\
High school diploma - Father \\
High school diploma - Mother \\
Some college - Father \\
Some college - Mother \\
Graduated from 4 yr college - Father \\
Graduated from 4 yr college - Mother \\
At least some grad school - Father \\
At least some grad school - Mother \\
Don't know - Father \\
Don't know - Mother
\end{tabular} & \[
\begin{gathered}
\text { leted by } \\
0.001 \\
\text { ns } \\
0.001 \\
0.004 \\
0.003 \\
0.003 \\
0.006 \\
0.005 \\
0.010 \\
0.006 \\
0.003 \\
0.004
\end{gathered}
\] & your pare
0.001
\(0 .--\)
0.001
0.001
0.001
0.001
0.002
0.001
0.002
0.002
0.001
0.001 & \[
\begin{aligned}
& s ? \\
& 0.212 \\
& 0.177 \\
& 0.262 \\
& 0.390 \\
& 0.157 \\
& 0.180 \\
& 0.188 \\
& 0.155 \\
& 0.156 \\
& 0.076 \\
& 0.022 \\
& 0.017
\end{aligned}
\] & 69
69
69
69
69
69
69
69
69
69
69
69 & \[
\begin{aligned}
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677 \\
& 22677
\end{aligned}
\] & \(4 \%\)
--
\(5 \%\)
\(13 \%\)
\(10 \%\)
\(10 \%\)
\(18 \%\)
\(15 \%\)
\(29 \%\)
\(20 \%\)
\(11 \%\)
\(12 \%\) \\
\hline
\end{tabular}

Measures of Correlated Response Variance for NSCG


Attachment B-1 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) Westat treated as one category)
\end{tabular} & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { SAMPLE }
\end{aligned}
\] & \begin{tabular}{l}
NSRCG \\
RHO
\end{tabular} & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline A12 & QB14_5 & TYPE OF EDUC INST: RESEARCH INST & 3,945 & 0.113 & A8 & WORKING PARTTIME WK APR 15 NO NEED FULL & 1,882 & 0.108 \\
\hline A12 & QB14_3 & TYPE OF EDUC INST: 4-YR COLLEGE & 3,945 & 0.052 & A3 & NOT WORKING WK APR 15 NO NEED & 3,340 & 0.081 \\
\hline A12 & QB14_4 & TYPE OF EDUC INST: MEDICAL SCH & 3,945 & 0.037 & A8 & WORKING PARTTIME WK APR 15 STUDENT & 1,882 & 0.065 \\
\hline A8 & B11G & WORKING PARTTIME WK APR 15 OTHER & 2,848 & 0.024 & A8 & WORKING PARTTIME WK APR 15 OTHER & 1,882 & 0.061 \\
\hline A22 & B24I & 10\% PRODUCTION, OPERATIONS, MAINTENANCE & 15,274 & 0.017 & A3 & NOT WORKING WK APR 15 OTHER & 3,340 & 0.033 \\
\hline A8 & B11F & WORKING PARTTIME WK APR 15 NO NEED FULL & 2,817 & 0.016 & A8 & WORKING PARTTIME WK APR 15 RETIRED & 1,882 & 0.032 \\
\hline A3 & B6F & NOT WORKING WK APR 15 NO SUITABLE JOB & 2,240 & 0.016 & A3 & NOT WORKING WK APR 15 NO SUIT JOB & 3,340 & 0.023 \\
\hline A3 & B6H & NOT WORKING WK APR 15 OTHER & 2,268 & 0.015 & A12 & TYPE OF EDUC INST: 4-YR COLLEGE & 4,221 & 0.020 \\
\hline A22 & B24N & 10\% OTHER & 15,307 & 0.012 & A2 & LOOK FOR WORK WEEK APRIL 15 & 3,426 & 0.019 \\
\hline C1 & C1B & YEARS EXPERIENCE WORKING PARTTIME & 17,416 & 0.012 & A3 & NOT WORKING WK APR 15 STUDENT & 3,340 & 0.018 \\
\hline A8 & B11B & WORKING PARTTIME WK APR 15 STUDENT & 2,744 & 0.010 & A3 & NOT WORKING WK APR 15 RETIRED & 3,340 & 0.017 \\
\hline A3 & B6G & NOT WORKING WK APR 15 NO NEED & 2,250 & 0.010 & A12 & TYPE OF EDUC INST: OTHER & 4,221 & 0.015 \\
\hline A3 & B6B & NOT WORKING WK APR 15 LAYOFF & 2,261 & 0.007 & A12 & TYPE OF EDUC INST: MEDICAL SCH & 4,221 & 0.014 \\
\hline
\end{tabular}

Attachment B-2 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) Westat treated as one category)
\end{tabular} & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { SAMPLE }
\end{aligned}
\] & NSRCG RHO & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline A3 & B6D & NOT WORKING WK APR 15 FAMILY RESP & 2,257 & 0.007 & A3 & NOT WORKING WK APR 15 LAYOFF & 3,340 & 0.013 \\
\hline A8 & B11C & WORKING PARTTIME WK APR 15 FAMILY RES & 2,843 & 0.006 & A12 & TYPE OF EDUC INST: ELEM/SECOND & 4,221 & 0.011 \\
\hline A12 & QB14_2 & TYPE OF EDUC INST: 2-YR COLLEGE & 3,945 & 0.004 & A22 & 10\% PRODUCTION, OPERATIONS, MAINTENCE & 19,361 & 0.011 \\
\hline A22 & B24F & 10\% DESIGN EQUIP, PROCESSES, STRUCTURE & 15,270 & 0.004 & A13 & TYPE OF EMPLOYER: SELF-EMPLOY NOT INC & 15,171 & 0.010 \\
\hline A22 & B24E & 10\% DEVELOPMENT & 15,275 & 0.003 & D23 & DAD'S HIGHEST ED LEV_SOME GRADUATE & 22,677 & 0.010 \\
\hline A8 & B11E & WORKING PARTTIME WK APR 15 NO FULLTIME & 2,812 & 0.003 & D24A & DEGREE OF DIFFICULTY SEEING SLIGHT & 22,672 & 0.010 \\
\hline A13 & QB15_1 & TYPE OF EMPLOYER: PRIVATE PROFIT & 11,316 & 0.003 & D24B & DEGREE OF DIFFICULTY HEARING SLIGHT & 22,672 & 0.009 \\
\hline A22 & B24G & 10\% EMPLOYEE RELATIONS & 15,282 & 0.003 & A22 & 10\% PROFESSIONAL SERVICES & 19,361 & 0.008 \\
\hline D24 & D18A & \({ }^{M}\) DEGREE OF DIFFICULTY SEEING & 17,570 & 0.003 & A7 & EMPLOYED FULL OR PARTTIME WK APR 15 & 19,393 & 0.008 \\
\hline A8 & B11A & WORKING PARTTIME WK APR 15 RETIRED & 2,851 & 0.002 & C1B & YEARS EXPER WORKING PARTTIME 0 & 22,633 & 0.008 \\
\hline A22 & B24D & 10\% COMPUTER APPLICATIONS & 15,282 & 0.002 & A13 & TYPE OF EMPLOYER: PRIVATE PROFIT & 15,171 & 0.007 \\
\hline A3 & B6C & NOT WORKING WK APR 15 STUDENT & 2,227 & 0.002 & A26 & PRINCIPAL JOB SALARY 0 TO 5 & 15,113 & 0.006 \\
\hline
\end{tabular}

Attachment B-3 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) Westat treated as one category)
\end{tabular} & NSRCG SAMPLE & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline A7 & B10 & EMPLOYED FULL OR PARTTIME WK APR 15 & 15,311 & 0.002 & D23 & MOM'S HIGHEST EDUC LEVEL-SOME GRAD & 22,677 & 0.006 \\
\hline A19 & QB21_2 & WORK AND EDUCATION: SOMEWHAT RELATED & 15,307 & 0.002 & D23 & DAD'S HIGHEST EDUC LEVEL-BACHELORS & 22,677 & 0.006 \\
\hline A22 & B24B & 10\% APPLIED RESEARCH & 15,285 & 0.002 & A22 & 10\% DEVELOPMENT & 19,361 & 0.005 \\
\hline A26 & QB28 & \({ }^{\text {MPRINCIPAL JOB SALARY }}\) & 11,450 & 0.002 & A22 & 10\% COMPUTER APPLICATIONS & 19,361 & 0.005 \\
\hline A22 & B24C & 10\% BASIC RESEARCH & 15,291 & 0.002 & A26 & PRINCIPAL JOB SALARY 6 TO 10 & 15,113 & 0.005 \\
\hline A13 & QB15_3 & TYPE OF EMPLOYER: SELF-EMPLOY NOT INCORP & 11,316 & 0.001 & D23 & \begin{tabular}{l}
MOM'S HIGHEST EDUC \\
LEVEL-BACHELORS
\end{tabular} & 22,677 & 0.005 \\
\hline A19 & QB21_1 & WORK AND EDUCATION: CLOSELY RELATED & 15,307 & 0.001 & A11 & WAS EMPLOYER AN EDUCATIONAL INST & 19,370 & 0.004 \\
\hline A22 & B24A & 10\% ACCOUNTING, FINANCE, CONTRACTS & 15,294 & 0.001 & A13 & TYPE OF EMPLOYER: SELF-EMPLOY INCORP & 15,171 & 0.004 \\
\hline A13 & QB15_7 & TYPE OF EMPLOYER: US MILITARY & 11,316 & 0.001 & A13 & TYPE OF EMPLOYER: LOCAL GOVT & 15,171 & 0.004 \\
\hline D23 & \[
\begin{aligned}
& \text { QMOM_ } \\
& 3
\end{aligned}
\] & MOM'S HIGHEST EDUC LEVEL-SOME COLLEGE & 17,459 & 0.001 & A22 & 10\% TEACHING & 19,361 & 0.004 \\
\hline D24D & D18D & \({ }^{\text {M }}\) DEGREE OF DIFFICULTY LIFTING & 17,571 & 0.001 & C1B & YEARS EXPER WORKING PARTTIME
6-10 & 22,633 & 0.004 \\
\hline A13 & QB15_8 & TYPE OF EMPLOYER: US GOVERNMENT & 11,316 & 0.001 & D17D & NUMBER OF CHILDREN 18 OR OLDER --
\[
0
\] & 11,790 & 0.004 \\
\hline A22 & B24K & 10\% SALES, PURCHASING, MARKETING & 15,206 & 0.001 & D23 & MOM'S HIGHEST ED LEV-HS DIPLOMA & 22,677 & 0.004 \\
\hline
\end{tabular}

Attachment B-4 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) Westat treated as one category)
\end{tabular} & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { SAMPLE }
\end{aligned}
\] & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline A8 & B11D & WORKING PARTTIME WK APR 15 ILLNESS/DISAB & 2,848 & 0.001 & A13 & TYPE OF EMPLOYER: STATE GOVT & 15,171 & 0.003 \\
\hline A11 & B13 & WAS EMPLOYER AN EDUCATIONAL INST & 15,306 & 0.001 & A22 & 10\% DESIGN EQUIP, PROCESSES, STRUCTURES & 19,361 & 0.003 \\
\hline D23 & QDAD_3 & DAD'S HIGHEST EDUC LEVEL-SOME COLLEGE & 17,404 & 0.001 & A26 & PRINCIPAL JOB SALARY 31 TO 35 & 15,113 & 0.003 \\
\hline A22 & B24M & 10\% TEACHING & 15,294 & 0.001 & C1A & YEARS EXPER WORKING FULLTIME > 35 & 22,633 & 0.003 \\
\hline A22 & B24L & 10\% QUALITY OR PRODUCTIVITY MANAGEMENT & 15,272 & 0.001 & C1B & YEARS EXPER WORKING PARTTIME 1 & 22,633 & 0.003 \\
\hline D23 & QDAD_4 & \begin{tabular}{l}
DAD'S HIGHEST EDUC \\
LEVEL-BACHELORS
\end{tabular} & 17,404 & 0.001 & D13 & MARITAL STATUS-WIDOWED & 22,684 & 0.003 \\
\hline A12 & QB1491 & TYPE OF EDUC INST: OTHER & 3,945 & 0.000 & D23 & MOM'S HIGHEST EDUC LEVEL-SOME COLL & 22,677 & 0.003 \\
\hline A19 & QB21_3 & WORK AND EDUCATION: NOT RELATED & 15,307 & 0.000 & D23 & DAD'S HIGHEST EDUC LEVEL-SOME COLL & 22,677 & 0.003 \\
\hline A12 & QB14_1 & TYPE OF EDUC INST: ELEM/SECOND & 3,876 & 0.000 & D24B & DEGREE OF DIFFICULTY HEARING MODERATE & 22,672 & 0.003 \\
\hline A3 & B6E & NOT WORKING WK APR 15 ILLNESS/DISAB & 2,261 & 0.000 & D24D & DEGREE OF DIFFICULTY LIFTING MODERATE & 22,672 & 0.003 \\
\hline A22 & B24J & 10\% PROFESSIONAL SERVICES & 15,173 & 0.000 & A13 & TYPE OF EMPLOYER: US MILITARY & 15,171 & 0.002 \\
\hline A13 & QB15_2 & TYPE OF EMPLOYER: NOT PROFIT & 11,316 & 0.000 & A22 & 10\% APPLIED RESEARCH & 19,361 & 0.002 \\
\hline A13 & QB15_6 & TYPE OF EMPLOYER: STATE GOVT & 11,316 & 0.000 & C1A & YEARS EXPER WORKING FULLTIME 11-15 & 22,633 & 0.002 \\
\hline
\end{tabular}

Attachment B-5 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) \\
Westat treated as one category)
\end{tabular} & NSRCG SAMPLE & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline A13 & QB15_5 & TYPE OF EMPLOYER: LOCAL GOVT & 11,316 & 0.000 & D13 & MARITAL STATUS-MARRIED & 22,684 & 0.002 \\
\hline D24C & D18C & \({ }^{\text {m }}\) DEGREE OF DIFFICULTY WALKING & 17,571 & 0.000 & D23 & DAD'S HIGHEST EDUC LEVEL-HS DIPLOMA & 22,677 & 0.001 \\
\hline D24B & D18B & \({ }^{\text {M }}\) DEGREE OF DIFFICULTY HEARING & 17,572 & 0.000 & D23 & DAD'S HIGHEST ED LEV-LESS THAN HS & 22,677 & 0.001 \\
\hline A3 & B6A & NOT WORKING WK APR 15 RETIRED & 2,270 & 0.000 & A12 & TYPE OF EDUC INST: 2-YR COLLEGE & 4,221 & ns \\
\hline C1 & C1A & YEARS EXPERIENCE WORKING FULLTIME & 17,429 & 0.000 & A12 & TYPE OF EDUC INST: RESEARCH INST & 4,221 & ns \\
\hline A2 & B5 & LOOK FOR WORK WEEK APRIL 15 & 2,275 & 0.000 & A13 & TYPE OF EMPLOYER: US GOVERNMENT & 15,171 & ns \\
\hline D13 & QD13_1 & MARITAL STATUS-MARRIED & 17,560 & 0.000 & A13 & TYPE OF EMPLOYER: NOT PROFIT & 15,171 & ns \\
\hline D13 & QD13_2 & MARITAL STATUS-WIDOWED & 17,560 & 0.000 & A19 & WORK AND EDUCATION: NOT RELATED & 19,363 & ns \\
\hline D13 & QD13_3 & MARITAL STATUS_SEPARATED & 17,560 & 0.000 & A19 & WORK AND EDUCATION: SOMEWHAT RELATED & 19,363 & ns \\
\hline D13 & QD13_4 & MARITAL STATUS_DIVORCED & 17,560 & 0.000 & A19 & WORK AND EDUCATION:CLOSELY RELATED & 19,363 & ns \\
\hline D13 & QD13_5 & MARITAL STATUS-NEVER MARRIED & 17,560 & 0.000 & A22 & 10\% BASIC RESEARCH & 19,361 & ns \\
\hline A1 & B4 & WORKING FOR PAY WK APR 15 & 17,586 & 0.000 & A22 & 10\% QUALITY OR PRODUCTIVITY MANAGEMENT & 19,361 & ns \\
\hline D23 & \[
\begin{aligned}
& \text { QMOM_ } \\
& 5
\end{aligned}
\] & MOM'S HIGHEST EDUC LEVEL-SOME GRADUATE & 17,459 & 0.000 & A22 & 10\% EMPLOYEE RELATIONS & 19,361 & ns \\
\hline D23 & \[
\begin{aligned}
& \text { QMOM_ } \\
& 4
\end{aligned}
\] & MOM'S HIGHEST EDUC LEVEL-BACHELORS & 17,459 & 0.000 & A22 & 10\% SALES,PURCHASING,MARKETING & 19,361 & ns \\
\hline
\end{tabular}

Attachment B-6 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\text {M indicates a multicategory question that }}\) Westat treated as one category)
\end{tabular} & \begin{tabular}{l}
NSRCG \\
SAMPLE
\end{tabular} & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline D23 & \[
\begin{aligned}
& \text { QMOM_ } \\
& 2
\end{aligned}
\] & MOM'S HIGHEST EDUC LEVEL-HS DIPLOMA & 17,459 & 0.000 & A22 & 10\% MANAGEMENT \& ADMINISTRATION & 19,361 & ns \\
\hline D23 & \[
\begin{aligned}
& \text { QMOM_ } \\
& 1 \\
& \hline
\end{aligned}
\] & MOM'S HIGHEST EDUC LEVEL-LESS THAN HS & 17,459 & 0.000 & A26 & PRINCIPAL JOB SALARY 11 TO 15 & 15,113 & ns \\
\hline A22 & B24H & 10\% MANAGEMENT \& ADMINISTRATION & 15,266 & 0.000 & A26 & PRINCIPAL JOB SALARY 26 TO 30 & 15,113 & ns \\
\hline D23 & QDAD_1 & DAD'S HIGHEST EDUC LEVEL-LESS THAN HS & 17,404 & 0.000 & A26 & PRINCIPAL JOB SALARY 41 TO 45 & 15,113 & ns \\
\hline D23 & QDAD_2 & DAD'S HIGHEST EDUC LEVEL-HS DIPLOMA & 17,404 & 0.000 & A26 & PRINCIPAL JOB SALARY 36 TO 40 & 15,113 & ns \\
\hline A13 & QB15_4 & TYPE OF EMPLOYER:SELF-EMPLOY INCORP & 11,316 & 0.000 & A26 & PRINCIPAL JOB SALARY > 50 & 15,113 & ns \\
\hline D23 & QDAD_5 & DAD'S HIGHEST EDUC LEVEL-SOME GRADUATE & 17,404 & 0.000 & A26 & PRINCIPAL JOB SALARY 21 TO 25 & 15,113 & ns \\
\hline - & - & - & - & - & A26 & PRINCIPAL JOB SALARY 16 TO 20 & 15,113 & ns \\
\hline - & - & - & - & - & A26 & PRINCIPAL JOB SALARY 46 TO 50 & 15,113 & ns \\
\hline - & - & - & - & - & A3 & NOT WORKING WK APR 15 ILL/DISAB & 3,340 & ns \\
\hline - & - & - & - & - & A3 & NOT WORKING WK APR 15 FAMILY RESP & 3,340 & ns \\
\hline - & - & - & - & - & A8 & WORKING PARTTIME WK APR 15 FAMILY RES & 1,882 & ns \\
\hline - & - & - & - & - & A8 & WORKING PARTTIME WK APR 15 ILL/DISAB & 1,882 & ns \\
\hline
\end{tabular}

Attachment B-7 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{M}\) indicates a multicategory question that Westat treated as one category)
\end{tabular} & \begin{tabular}{l}
NSRCG \\
SAMPLE
\end{tabular} & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & NSCG & DESCRIPTION & \[
\begin{aligned}
& \text { NSCG } \\
& \text { SAMPLE }
\end{aligned}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline - & - & - & - & - & A8 & WORKING PARTTIME WK APR 15 NO FULL TIME & 1,882 & ns \\
\hline - & - & - & - & - & C1A & YEARS EXPER WORKING FULLTIME 16-20 & 22,633 & ns \\
\hline - & - & - & - & - & C1A & YEARS EXPER WORKING FULLTIME 6-10 & 22,633 & ns \\
\hline - & - & - & - & - & C1A & \[
\begin{aligned}
& \text { YEARS EXPER WORKING FULLTIME } \\
& 31-35
\end{aligned}
\] & 22,633 & ns \\
\hline - & - & - & - & - & C1A & YEARS EXPER WORKING FULLTIME
\[
21-25
\] & 22,633 & ns \\
\hline - & - & - & - & - & C1A & YEARS EXPER WORKING FULLTIME
\[
26-30
\] & 22,633 & ns \\
\hline - & - & - & - & - & C1A & YEARS EXPER WORKING FULLTIME 0-5 & 22,633 & ns \\
\hline - & - & - & - & - & C1B & YEARS EXPER WORKING PARTTIME 5 & 22,633 & ns \\
\hline - & - & - & - & - & C1B & YEARS EXPER WORKING PARTTIME 2 & 22,633 & ns \\
\hline - & - & - & - & - & C1B & YEARS EXPER WORKING PARTTIME 3 & 22,633 & ns \\
\hline - & - & - & - & - & C1B & YEARS EXPER WORKING PARTTIME 4 & 22,633 & ns \\
\hline - & - & - & - & - & C1B & YEARS EXPER WORKING PARTTIME >10 & 22,633 & ns \\
\hline - & - & - & - & - & D13 & MARITAL STATUS-NEVER MARRIED & 22,684 & ns \\
\hline - & - & - & - & - & D13 & MARITAL STATUS-SEPARATED & 22,684 & ns \\
\hline - & - & - & - & - & D13 & MARITAL STATUS-DIVORCED & 22,684 & ns \\
\hline - & - & - & - & - & D23 & MOM'S HIGHEST ED LEV-LESS THAN HS & 22,677 & ns \\
\hline
\end{tabular}

Attachment B-8 October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{\mathrm{M}}\) indicates a multicategory question that Westat treated as one category)
\end{tabular} & NSRCG SAMPLE & NSRCG RHO & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline - & - & - & - & - & D24C & DEGREE OF DIFFICULTY WALKING SEVERE & 22,672 & ns \\
\hline - & - & - & - & - & D24D & DEGREE OF DIFFICULTY LIFTING CAN'T DO & 22,672 & ns \\
\hline - & - & - & - & - & A1 & WORKING FOR PAY DURING WK APR 15 & 22,690 & MF \\
\hline - & - & - & - & - & A22 & 10\% ACCOUNTING, FINANCE, CONTRACTS & 19,361 & MF \\
\hline - & - & - & - & - & A22 & 10\% OTHER & 19,361 & MF \\
\hline - & - & - & - & - & D24A & DEGREE OF DIFFICULTY SEEING NONE & 22,672 & MF \\
\hline - & - & - & - & - & D24A & DEGREE OF DIFFICULTY SEEING SEVERE & 22,672 & MF \\
\hline - & - & - & - & - & D24A & DEGREE OF DIFFICULTY SEEING MODERATE & 22,672 & MF \\
\hline - & - & - & - & - & D24A & DEGREE OF DIFFICULTY SEEING CAN'T DO & 22,672 & MF \\
\hline - & - & - & - & - & D24B & DEGREE OF DIFFICULTY HEARING CAN'T DO & 22,672 & MF \\
\hline - & - & - & - & - & D24B & DEGREE OF DIFFICULTY HEARING SEVERE & 22,672 & MF \\
\hline - & - & - & - & - & D24B & DEGREE OF DIFFICULTY HEARING NONE & 22,672 & MF \\
\hline - & - & - & - & - & D24C & DEGREE OF DIFFICULTY WALKING SLIGHT & 22,672 & MF \\
\hline
\end{tabular}

Attachment B-9
October 31, 1994
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|c|}{Intra-Interviewer Correlations for NSRCG and NSCG Sorted by Rho} \\
\hline NSCG & NSRCG & \begin{tabular}{l}
DESCRIPTION \\
( \({ }^{M}\) indicates a multicategory question that Westat treated as one category)
\end{tabular} & NSRCG SAMPLE & \[
\begin{aligned}
& \text { NSRCG } \\
& \text { RHO }
\end{aligned}
\] & NSCG & DESCRIPTION & \[
\begin{gathered}
\text { NSCG } \\
\text { SAMPLE }
\end{gathered}
\] & \[
\begin{aligned}
& \text { NSCG } \\
& \text { RHO }
\end{aligned}
\] \\
\hline - & - & - & - & - & D24C & DEGREE OF DIFFICULTY WALKING NONE & 22,672 & MF \\
\hline - & - & - & - & - & D24C & DEGREE OF DIFFICULTY WALKING CAN'T DO & 22,672 & MF \\
\hline - & - & - & - & - & D24C & DEGREE OF DIFFICULTY WALKING MODERATE & 22,672 & MF \\
\hline - & - & - & - & - & D24D & DEGREE OF DIFFICULTY LIFTING NONE & 22,672 & MF \\
\hline - & - & - & - & - & D24D & DEGREE OF DIFFICULTY LIFTING SLIGHT & 22,672 & MF \\
\hline - & - & - & - & - & D24D & DEGREE OF DIFFICULTY LIFTING SEVERE & 22,672 & MF \\
\hline
\end{tabular}```

