Fieldwork/Data Collection Process

1. Selecting Field Workers
2. Training Field Workers
3. Supervising Field Workers
4. Validating Fieldwork
5. Evaluating Field Workers
Fieldwork/Data Collection Process

Selecting Field Workers

Training Field Workers

Supervising Field Workers

Validating Fieldwork

Evaluating Field Workers

General Qualifications of Field Workers

- **Healthy.** Field workers must have the stamina required to do the job.
- **Outgoing.** The interviewers should be able to establish rapport with the respondents.
- **Communicative.** Effective speaking and listening skills are a great asset.
- **Pleasant appearance.** If the field worker’s physical appearance is unpleasant or unusual, the data collected may be biased.
- **Educated.** Interviewers must have good reading and writing skills.
- **Experienced.** Experienced interviewers are likely to do a better job.
Fieldwork/Data Collection Process

Selecting Field Workers

Training Field Workers

Supervising Field Workers

Validating Fieldwork

Evaluating Field Workers

- Making the Initial Contact
- Asking the Questions
- Probing
- Recording the Answers
- Terminating the Interview
Fieldwork/Data Collection Process

- **Selecting Field Workers**
- **Training Field Workers**
- **Supervising Field Workers**
- **Validating Fieldwork**
- **Evaluating Field Workers**

- **Quality Control and Editing** – This requires checking to see if the field procedures are being properly implemented.
- **Sampling Control** – The supervisor attempts to ensure that the interviewers are strictly following the sampling plan.
- **Control of Cheating** – Cheating can be minimized through proper training, supervision, and validation.
- **Central Office Control** – Supervisors provide quality and cost-control information to the central office.
Fieldwork/Data Collection Process

Selecting Field Workers

Training Field Workers

Supervising Field Workers

Validating Fieldwork

Evaluating Field Workers

- The supervisors call 10% - 25% of the respondents to inquire whether the field workers actually conducted the interviews.
- The supervisors ask about the length and quality of the interview, reaction to the interviewer, and basic demographic data.
- The demographic information is cross-checked against the information reported by the interviewers on the questionnaires.
Fieldwork/Data Collection Process

- **Selecting Field Workers**
  - The interviewers can be compared in terms of the total cost (salary and expenses) per completed interview.

- **Training Field Workers**
  - It is important to monitor response rates on a timely basis so that corrective action can be taken if these rates are too low.

- **Supervising Field Workers**
  - To evaluate interviewers on the quality of interviewing, the supervisor must directly observe the interviewing process.

- **Validating Fieldwork**
  - The completed questionnaires of each interviewer should be evaluated for the quality of data.

- **Evaluating Field Workers**
  - The interviewers can be compared in terms of the total cost (salary and expenses) per completed interview.
  - **Response Rates.** It is important to monitor response rates on a timely basis so that corrective action can be taken if these rates are too low.
  - **Quality of Interviewing.** To evaluate interviewers on the quality of interviewing, the supervisor must directly observe the interviewing process.
  - **Quality of Data.** The completed questionnaires of each interviewer should be evaluated for the quality of data.
A questionnaire returned from the field may be unacceptable for several reasons.

- Parts of the questionnaire may be incomplete.
- The pattern of responses may indicate that the respondent did not understand or follow the instructions.
- The responses show little variance.
- One or more pages are missing.
- The questionnaire is received after the preestablished cutoff date.
- The questionnaire is answered by someone who does not qualify for participation.
Data Preparation Process

Prepare Preliminary Plan of Data Analysis

Check Questionnaire

Edit

Code

Transcribe

Clean Data

Statistically Adjust the Data

Select Data Analysis Strategy

Treatment of Unsatisfactory Results

- **Returning to the Field** – The questionnaires with unsatisfactory responses may be returned to the field, where the interviewers recontact the respondents.

- **Assigning Missing Values** – If returning the questionnaires to the field is not feasible, the editor may assign missing values to unsatisfactory responses.

- **Discarding Unsatisfactory Respondents** – In this approach, the respondents with unsatisfactory responses are simply discarded.
## Data Preparation Process

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### Coding Questions

- **Fixed field codes**, which mean that the number of records for each respondent is the same and the same data appear in the same column(s) for all respondents, are highly desirable.
- If possible, standard codes should be used for **missing data**. Coding of structured questions is relatively simple, since the response options are predetermined.
- In questions that permit a **large number of responses**, each possible response option should be assigned a separate column.
Data Preparation Process

- Prepare Preliminary Plan of Data Analysis
- Check Questionnaire
- Edit
- Code
- Transcribe
- Clean Data
- Statistically Adjust the Data
- Select Data Analysis Strategy

Diagram:
- Raw Data
  - CATI/CAPI
  - Keypunching via CRT Terminal
  - Mark Sense Forms
  - Optical Scanning
  - Computerized Sensory Analysis
  - Verification: Correct Keypunching Errors
- Transcribed Data
  - Computer Memory
  - Disks
  - Magnetic Tapes
Consistency checks identify data that are out of range, logically inconsistent, or have extreme values.

Treatment of Missing Responses

- **Substitute a Neutral Value** – A neutral value, typically the mean response to the variable, is substituted for the missing responses.
- **Substitute an Imputed Response** – The respondents’ pattern of responses to other questions are used to impute or calculate a suitable response to the missing questions.
- **In casewise deletion**, cases, or respondents, with any missing responses are discarded from the analysis.
- **In pairwise deletion**, instead of discarding all cases with any missing values, the researcher uses only the cases or respondents with complete responses for each calculation.
Data Preparation Process

- **Prepare Preliminary Plan of Data Analysis**
- **Check Questionnaire**
- **Edit**
- **Code**
- **Transcribe**
- **Clean Data**
- **Statistically Adjust the Data**
- **Select Data Analysis Strategy**

### Weighting
Each case or respondent in the database is assigned a weight to reflect its importance relative to other cases or respondents.

### Variable Respecification
Involves the transformation of data to create new variables or modify existing variables. E.G. Dummy variables.

### Scale Transformation
Involves a manipulation of scale values to ensure comparability with other scales or otherwise make the data suitable for analysis. E.G. Standardization.

\[
Z_i = \frac{x_i - \bar{x}}{S}
\]
Data Preparation Process

**Prepare Preliminary Plan of Data Analysis**

- Check Questionnaire
- Edit
- Code
- Transcribe
- Clean Data
- Statistically Adjust the Data
- Select Data Analysis Strategy

**Univariate Techniques**
Statistical techniques appropriate for analyzing data when there is single measurement of each element in the sample or there is several measurements on each element, each variable is analyzed in isolation.

**Multivariate Techniques**
Statistical techniques suitable for analyzing data when there are two or more measurements of each element and the variables are analyzed simultaneously. Multivariate techniques are concerned with the simultaneous relationships among two or more phenomena.
A Classification of Univariate Techniques

Univariate Techniques

Metric Data

One Sample
  * t test
  * Z test

Two or More Samples
  Independent
    * Two-Group test
    * Z test
    * One-Way ANOVA
  Related
    * Paired t test

Non-numeric Data

One Sample
  * Frequency
  * Chi-Square
  * K-S
  * Runs
  * Binomial

Two or More Samples
  Independent
    * Chi-Square
    * Mann-Whitney
    * Median
    * K-S
    * K-W ANOVA
  Related
    * Sign
    * Wilcoxon
    * McNemar
    * Chi-Square
A Classification of Multivariate Techniques

**Multivariate Techniques**

- **Dependence Technique**
  - One Dependent Variable
    * Cross-Tabulation
    * Analysis of Variance and Covariance
    * Multiple Regression
    * Conjoint Analysis
  - More Than One Dependent Variable
    * Multivariate Analysis of Variance and Covariance
    * Canonical Correlation
    * Multiple Discriminant Analysis

- **Interdependence Technique**
  - Variable Interdependence
    * Factor Analysis
  - Interobject Similarity
    * Cluster Analysis
    * Multidimensional Scaling