

Validation of an Occupational Safety and Health Questionnaire

Supporting Statement Part B

Request for Office of Management and Budget Review and Approval
for Federally Sponsored Data Collection

December 2011

Donald E. Eggerth, PhD

National Institute for Occupational Safety and Health
Education and Information Dissemination Division

Robert A. Taft Laboratories
4676 Columbia Parkway, MS C-10

Cincinnati, Ohio 45226

deggerth@cdc.gov

513-533-8505

513-533-8560 (fax)

Table of Contents

B. Collections of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods
2. Procedures for the Collection of Information
3. Methods to Maximize Response Rates and Deal with Nonresponse
4. Tests of Procedures or Methods to be Undertaken
5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

B. Collections of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods

The respondent universe consists of the estimated 18 million Latino immigrants living and working the United States and all American-born workers employed in similar jobs. Approximately half of the sample will be female and the other half male. This questionnaire will be administered to a sample of approximately 600 workers (400 Latino immigrants and 200 American-born workers) from a broad range of industries. In order to account for differences in level of acculturation, 200 of the workers will be Latino immigrants who have been in the United States less than 2 years and 200 of the workers will be Latino immigrants who have been in the United States more than 5 years. An additional 200 American-born workers employed in similar occupations will be given the questionnaire so that their responses may be contrasted with those of the Latino immigrants. In order to account for potential regional differences, 300 of the workers will be from New Mexico, a state that has historically always had a large Latino population and 300 workers will be from Ohio, a state that has only recently experienced a large increase in its Latino population.

The sample size is not driven by power analyses aimed at identifying between group differences. Rather, the sample size is based primarily upon by recommendations in the literature and the lead investigator's experience in developing standardized tests and questionnaires. This sample size is sufficient to allow for stable psychometric properties of both individual items and scales to be determined. It is not expected that all items included in this validation draft form of the questionnaire will be included in the final version that will emerge as a result of this data collection. The merits of individual items will be assessed by looking at correlations between item response and total scale score, measures of internal consistency in responding to the scale both with and without a given item, factor loadings of the item and indicators of scale reliability. The individual scales will be assessed through structural analyses such as factor analysis and/or multidimensional scaling as well as measures of internal consistency. The proposed sample size allows for implementation of all these statistical procedures as well as cross-validation of findings through splitting the subject group. In addition, the sample size is sufficient to serve as a normative group with which future research efforts may meaningfully compare the response patterns of far smaller samples to that of these study participants. Finally, this sample size is more than sufficient to allow for meaningful comparisons to be made between study groups. For example, on a scale of 10 items with a standard deviation of 0.5, this sample size would allow for detection of differences in responding between two groups with an alpha of .05 and a beta of 100.

Data Collection Table

| | New Mexico | Ohio |
|-------------------|------------------|------------------|
| ≤ 2 years in U.S. | 100 participants | 100 participants |
| ≥ 5 years in U.S. | 100 participants | 100 participants |
| American-born | 100 participants | 100 participants |

2. Procedures for the Collection of Information

This study will use a convenience sample. This sample will be both recruited and administered the questionnaire by the contractors for the two data collection sites. In New Mexico, the contractor is Somos Un Pueblo Unido and in Ohio it is the Coalition for the Dignity and Rights of Immigrants. Both contractors are community-based immigrant advocacy groups and have performed similar activities for NIOSH in the past. Based upon these previous recruitment efforts, recruitment will be done by “word-of-mouth” within the community, including the referral of potential participants by individuals already recruited by the study (sometimes referred to as “snowballing”). No written recruitment materials will be used.

The Latino immigrants will be recruited and assessed first so that the American-born worker sample can be recruited to be matched in terms of occupation and industry. Depending upon literacy level and/or individual preferences, the questionnaire will be administered verbally or in “paper and pencil” format to participants in either English or Spanish. Both recruitment and assessment activities will be conducted by contractor personnel who have been trained by NIOSH researchers. These contractors will abide by all relevant CDC human subject protection guidelines. Depending upon individual circumstances, assessment of the questionnaire may immediately follow recruitment or be scheduled to take place at a later time. The data collection will occur in locations that are both convenient and familiar to participants. It is expected that most data collection will occur either in the agency offices of the contractors or in the homes of the participants. There will only be one data collection for all participants. No follow up data collection will be conducted.

The geographical and acculturation stratifications (discussed in Section B.1.) are based upon theoretical considerations and the findings from qualitative data collection conducted in previous phases of the study. As such there are no relevant statistical justifications beyond those already discussed in Section B.1. related to the evaluation of the psychometric properties of both individual items and scales. As was also discussed in Section B.1., the sample size is not driven by power analyses aimed at identifying between group differences, but is driven recommendations in the literature and the lead investigator’s experience in developing standardized tests and questionnaires. However, the sample size is sufficient to allow for meaningful comparisons to be made between study groups. For example, on a scale of 10 items with a standard deviation of 0.5, this sample size would allow for detection of differences in responding between two groups with an alpha of .05 and a beta of 100.

3. Methods to Maximize Response Rates and Deal with Nonresponse

The most important measure taken to maximize response rates is contracting with immigrant advocacy groups who are well-known and trusted in their respective immigrant communities to both recruit and collect the data. In addition to having a high level of credibility with their immigrant communities, the representatives of these contractors are fluently bilingual – often native Spanish-speakers. The contractor representatives who will be conducting both the recruiting and the data collection will be trained by NIOSH researchers regarding the purpose of the overall study and this data collection. It is expected that this training will assist them in responding to any concerns expressed by prospective participants as well as clarifying item meanings for participants completing the questionnaire. Based upon the past performance of these contractors on previous phases of this study, it is anticipated that in excess of 95% of the individuals approached will agree to participate in this study and of those that agree to participate, virtually all will complete the entire questionnaire. No follow up is required to this

data collection, so no special efforts are needed to insure tracking and future participation of subjects.

4. Tests of Procedures or Methods to be Undertaken

The questionnaire used by this study has been rigorously cognitively tested with small representative samples of the proposed target audience. This cognitive testing not only insured that the items were understood as intended by the researchers, but also insured that the translation of these items from English into Spanish occurred on the conceptual level, not just the linguistic. The items themselves were derived from extensive qualitative data collection with samples of the targeted audience, as well as insights provided by both community advocacy groups serving these communities and subject matter experts.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

The following individuals have been consulted regarding statistical aspects, data collection and/or data analysis:

Marcia Sytsma, MA
School Psychology Program
Minnesota State University – Mankato
Mankato, MN
Marcia.systema@mnsu.edu

Rene Dawis, PhD
Regents Professor Emeritus
Department of Psychology
University of Minnesota
Minneapolis, MN
612-625-2818
Dawis001@umn.edu

David Weiss, PhD
Professor
Department of Psychology
University of Minnesota
Minneapolis, MN
612-625-2818
djweiss@umn.edu

Michael A. Flynn
Public Health Advisor
CDC/NIOSH
Cincinnati, OH
513-533-8221
mflynn@cdc.gov