

# Introduction

This website provides public access to information from a database on the Reliability of Survey Measures (RSM). The RSM database was developed to investigate the quality of data obtained via the survey interview as a method of gathering social data.

There has been much written about the sources of measurement errors in surveys and best practices in developing high quality survey questionnaires. The overarching goal of this project is to establish more of a factual basis for conjectures that exist in the survey methods literature concerning the attributes of good survey questions. Through an analysis of the reliability information and the attributes of survey questions from several large-scale panel studies, practical conclusions may be drawn about the attributes of survey questions and the reliability of measurement. In the long run, such a knowledge-base will improve the quality of survey data.

The website contains information from a data base of roughly 1,200 questions representative of typical questions used in social science surveys. The data base contains estimates of question-specific reliabilities, along with detailed coding of attributes of the questions (e.g. content, response formats, and question length), which can be used to evaluate the optimal properties of survey questions with respect to levels of measurement error.

Elements of questions that coded are in these data sets, include the following: (a) content (fact, belief, value, attitude, self-assessment, self-perception, expectation, performance) (b) topic, (c) source of information (proxy vs. self-report), (d) question form, (e) if closed form, number of response options, (f) type of response scale (e.g. rating scale, agree vs. disagree, etc.) (g) unipolar vs. bipolar concept, (h) labeling of response categories, (i) question context (series, battery or stand-alone question), (j) length of series or battery, (k) position in series or battery, (l) number of words in the question (m) number of words in the introduction (if present) to a series or battery, (n) visual aids (i.e. use of show cards), (o) variations in question and/or response scale over waves, (p) derived or synthetic variable, (q) DK offered, (r) level of measurement (e.g. ordinal vs. interval measurement), (s) interview length, and (t) position in the interview.

## **Samples and Data Sources**

The study design for this project requires the use of large-scale panel studies that are representative of known populations, with a minimum of three waves of measurement separated by two-year re-interview intervals. Questions were selected for use only if they were exactly replicated (exact wording, response categories, mode of interviewing, etc.) across the three waves, and if the underlying variable measured was continuous (rather than categoric) in nature. Specifically, this research is based on ten nationally (or regionally) representative panel surveys of the American population, all involving probability samples and all using face-to-face interviews, as shown in Table 1. These selection criteria applied to these ten panel studies yielded more than 1,200 self- and proxy-report questions that are typical of the kinds of questions employed in contemporary surveys.

The panel data sets from which questions included in this project so far are listed in Table 1 as follows:

- (1) the 1956-58-60 National Election Study (NES) panel,
- (2) the 1972-74-76 NES panel,
- (3) the 1992-94-96 NES panel,
- (4) the 1986-94 American’s Changing Lives (ACL) panel study,
- (5) the Study of American Families (Detroit Area) panel study of mothers,
- (6) the Study of American Families (Detroit Area) panel study of children,
- (7) the 1998-2000-2002 Health and Retirement Study (HRS) panel study,
- (8) the 2006-2008-2010 General Social Survey (GSS) panel study,
- (9) the 2008-2010-2012 GSS panel study, and
- (10) the 2010-2012-2014 GSS panel study.

Table 1 presents descriptive information on the ten panel studies that produce reliability estimates for this project. This table lists the total sample sizes of these studies, along with the number of cases with data present at all three waves of the panel (listwise cases), and the number of available measures that fit the requirements of this study.

**Table 1. Sources of data for question-specific estimates of reliability and attributes of questions**

Panel studies	Acronym	Sample		Coding Complete	Data Merged
		Size	Number of Estimates Measures Complete		
1956-58-60 National Election Study Panel	NES60s	2,529	47	yes	yes
1972-74-76 National Election Study Panel	NES70s	4,455	122	yes	yes
1992-94-96 National Election Study Panel	NES90s	2,439	114	yes	yes
American's Changing Lives Panel	ACL	3,617	86	yes	yes
Study of American Families-Mother Panel	SAF-Mo	1,113	54	yes	yes
Study of American Families-Child Panel	SAF-Ch	1,113	46	yes	yes
1998-00-02 Health and Retirement Study	HRS	18,645	155	yes	tbc
2006-08-10 General Social Survey Panel	GSS06	1,276	201	yes	tbc
2008-10-12 General Social Survey Panel	GSS08	1,295	196	yes	tbc
2010-12-14 General Social Survey Panel	GSS10	1,304	191	yes	tbc
<b>Totals</b>		<b>37,786</b>	<b>1212</b>		

tbc = to be completed in the proposed research

Please see the **Publications** page for the publications from this project that provide detailed descriptions of these samples and data sources, as follows: Alwin, 2007, pp. 119-122; Alwin and Beattie, 2016, pp. 129-130; Alwin, Zeiser and Gensimore, 2015, pp. 104-105; Alwin, Baumgartner and Beattie, 2018, pp. 220-221)].

## **Funding Sources**

Previous accomplishments of this research program were supported by funding of a project, “The Reliability of Survey Data” (SES-9710403), by the National Science Foundation (NSF) in 1997-99. This initial funding provided the impetus for assembling a database relating estimates of reliability and the attributes of survey questions.

In addition, two grants from the National Institute on Aging (NIA) (R01-AG09747 and R01-AG020673) provided support for the study of the relationship of aging to errors of measurement.

This prior support from the NSF and the NIA made possible the publication of a book—*Margins of Error: A Study of Reliability in Survey Measurement* (John Wiley & Sons, 2007)—which summarizes the initial findings of the project, based on the first six of the studies listed in Table 1. This initial work was positively reviewed by survey methodologists. [See the review of this work in *Contemporary Sociology* by Peter Marsden (2011)].

This program of research was supported more recently by the NSF-supported project, “Archiving Information on the Quality of Survey Measurement” (SES-1259445), funded in 2014-16, which added data from four additional studies to the project (from the HRS and the GSS), and which began the work to make the database publicly available. This work is not yet completed and we have applied to the National Science Foundation to extend and complete this work.

More information about the study can be found on the **Background** and **Publications** page below.

See the **Methods** section for the details of the methodology behind the RSM database and how estimates of reliability are obtained.