

APPENDIX Q: ROTATION & DOUBLE SAMPLE DESIGNS

Since its inception, the GSS employed a rotation design under which most of its items appeared on two out of every three surveys. There are three rotation patterns, so overall the data appeared as in Table Q.1.

Table Q.1
Item Appearances on the GSS, 1972-1987

	Surveys				
	1	2	3	4	5
Permanent items	X	X	X	X	X
Rotation 1	X	X		X	X
Rotation 2		X	X		X
Rotation 3	X		X	X	

This rotation scheme (designed by Otis Dudley Duncan) allowed the GSS to include more regular items (since each rotating item appeared only 2/3 of the time), but still provided for the regular and reasonably dense repetition of questions. The importance of the rotation scheme has increased in recent years, since more items have been shifted from permanent to rotating status in order to open up sufficient room for the topical modules.

While this design proved to be a very useful device for both monitoring change and augmenting the content of the GSS, it had the disadvantage of irregularly spacing the data and allowing gaps in the time series. This situation was particularly acute during the 1978-1982 period when NSF did not fund surveys in 1979 and 1981. At that juncture, four-year gaps regularly appeared in the data and six-year lapses existed for bivariate correlations between items from different rotations. Even with annual surveys, two-year gaps and three-year intervals for bivariate correlations occur.

To reduce this imbalance in the time series and reduce the length of intervals, we switched in 1988 from the rotation, across-time design previously used to a split-ballot design. Under this design rotations 1, 2, and 3 occur across random sub-samples within each survey rather than across surveys (and years). Each sub-sample (know as "ballots") consists of 1/3 of the sample. Note that the variable BALLOT denotes which of these rotational sub-samples a person received, and the variable form (see Appendix P) tells which experimental form a person received.

Table Q.2
Item Appearance on the GSS, 1988+

	Surveys YEARS								
	1			2			3		
	Ballots			Ballots			Ballots		
	A	B	C	A	B	C	A	B	C
Permanent items	X	X	X	X	X	X	X	X	X
Rotation 1	X	X		X	X		X	X	
Rotation 2		X	X		X	X		X	X
Rotation 3	X		X	X		X	X		X

Table P.2 shows how ballots now take the place of surveys (years). Permanent items appear on all ballots of all surveys.

Items in rotation 1 appear on ballots A and B on each survey; items on rotation 2 appear on ballots B and C; and items on rotation 3 on ballots A and C. In effect, ballot A contains those items that appeared under year 1 of the old rotation across survey scheme (Table Q.1), ballot B represents year 2, and ballot C year 3. As one can see by comparing years 1-3 in Table Q.2, the content of the core GSS no longer varies across surveys (years) but remains fixed.

In terms of appearances, permanent items are not affected by this switch. They continue to appear on all cases for all surveys. Rotating items will now appear on all surveys and be asked on each survey of two-thirds of respondents. Over a three-year cycle, the same number of respondents are asked the "rotating" items as before (3,000), but instead of coming in two segments of 1,500 each from two surveys, they appear in three segments of 1,000 each from three surveys. More details on the rationale and implications of this switch are covered in Tom W. Smith, "Rotation Design of the GSS," GSS Methodological Report No. 52. Chicago: NORC, February, 1988.

Table Q.3 shows how the items in 1988 fit into the rotation design. There are 169 permanent items that appear on all forms; 92 rotating items that appear on ballots A and B, 94 rotating items that appear on ballots B and C, and 55 rotating items that appear on ballots A and C. Together these make up the replicating core of the GSS, and they will appear in the same fashion over the next

Table Q.3
Items on the 1988 GSS by Rotation Status

	A	Ballots B	C
Replicating Core			
Permanent	169	169	169
Rotation 1	92	92	0
Rotation 2	0	94	94
Rotation 3	55	0	55
	316	355	318
Supplemental Items			
Topical Module (Religious)			
Upgrades	0	0	27 *
Additions	70	70	70
AIDS Questions	27	27	27
ISSP	58	58	58
	471	510	500

*Religious items normally appearing on rotation 1 that will also be asked on ballot C.

four surveys. Altogether there are 316 core items on ballot A, 355 on ballot B, and 318 on ballot C. The bottom half of Table Q.3 shows the appearance of supplemental items. These items are not part of the replicating core and are not governed by the rotation design or ballots. Normally these items appear in a single year only, although supplemental items may repeat in different surveys.¹ One special feature of the 1988 design is that the topical module on religion not only added 70 new items, but also upgraded 27 religious items that are part of the replicating core. These items are part of rotation 1, regularly appearing on ballots A and B. In 1988, these religion items were added on ballot C so that they would be asked of all respondents just as were the new religion items in the topical module.

Appendix U indicates on which ballots a variable appears.

¹For example, a substantial part of the 1985 network module was repeated as part of the socio-political participation module in 1987 and part of the 1985 ISSP role of government module was repeated in 1990

Since 1994, the GSS has employed a biennial, dual sample design. That means that the GSSs appear in even years and consist of two, traditional samples. In effect, each dual sample GSS is two regular, annual GSSs administered simultaneously. These two surveys appear on the A and B samples and are listed as 94A, 94B, etc. in Appendix U. Each sample is subdivided into the three ballots as described above. To distinguish between the ballots that appear on samples A and B, the variable VERSION is used. The following table shows how sample, ballot, version, and year are related:

How VERSION Matches Sample and BALLOT by YEAR

	1994	YEAR 1996-2000	2002
Sample=A			
BALLOT A	1,4	1	1
BALLOT B	2,5	2	2
BALLOT C	3,6	3	3
Sample=B			(Reduced core)
BALLOT A	7	4	4
BALLOT B	8	5	5
BALLOT C	9	6	6

For example, in 1996 VERSION 2 is BALLOT B on sample A and VERSION 5 is BALLOT B on sample B.

There are three extra versions in sample A in 1994 because there was a special experimental design. VERSIONS 1-3 included the longer, old core and VERSIONS 4-6 included the shorter, new core. The new core is used in sample B and subsequent years. For more details on this experiment see Tom W. Smith, "Context Effects Resulting from the Revision of the GSS Core in 1994," GSS Methodological Report No. 84. Chicago: NORC, 1995. In 2002 the same six versions as used in 1996-2000 were employed, but the core items were greatly reduced in sample B (versions 4-6). In 2006 there was a 7th version. Some items appearing in version 1-6 also appeared in Version 7, but the rotation of items occurred on VERSIONS 1-6 only as described above.