

A Review of Church Attendance Measures

Tom W. Smith

NORC
University of Chicago

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Introduction

Recent research (Hadaway, Marler, and Chaves, 1993 and Chaves and Marler, 1994) reports that weekly church attendance is grossly overreported in standard surveys in the United States. This claim both seriously challenges our understanding of the profile of contemporary religious behavior in the United States and questions the accuracy of survey research in general. This paper reviews several recent studies of the level of church attendance and reports on new experiments conducted on the 1996 General Social Survey (GSS).¹ The items used in the 1996 GSS appear in Appendix 1.

Comparing Measures of Weekly Church Attendance

Four procedures have been used to assess the level of church attendance in standard surveys. First, survey vs. headcount comparisons estimate weekly church attendance from surveys and from counts of the number of people attending religious services. Second, survey experiments compare a standard question asking about weekly attendance with a variant wording designed to yield lower, more accurate estimates.² Third, inter-survey evaluations compare weekly attendance estimates from one survey with a standard item to

¹The 1996 GSS is a full-probability, in-person interview of adults living in households in the United States. For details see Davis and Smith, 1996.

²The presumption is that there is net overreporting. That does not mean that there is no underreporting.

another survey with a supposedly more accurate measure. Finally, more indirectly, studies look at how reports of different groups or for different target populations differ and evaluate what this indicates about propensities to misreport church attendance.

The survey-headcount comparisons indicate that standard attendance questions about attending church last week (e.g. the Gallup item "Did you, yourself, happen to attend church or synagogue in the last seven days?") yield much higher reports than do counts of the number of people attending services. As Table 1 indicates, three survey-headcount comparisons found that church counts were only 52-59% of the level reported by surveys.³

These results led to the design of a series of survey experiments using alternative questions to minimize overreporting and to yield lower, more reliable estimates. The first two, by Gallup and the National Election Studies (NES), failed to find any statistically significant differences between the standard and variant wordings and thereby questioned the finding of the survey-headcount studies that surveys overreport church attendance (Table 1). The Gallup experiment was a fairly weak test. The variant version gave respondents more time to think about their answer and required that they substantiate their reported attendance by naming the church involved, but it did nothing to reduce a social

³Here and elsewhere in the paper overreporting is measured by the ratio of the new method (e.g. census count) to the standard method (e.g. Gallup weekly attendance item). A proportion of 1.0 indicates no difference between methods. Proportions less than 1.0 indicate that the new method produced a lower estimate than the standard method or, in other words, that the standard method reports more attendance than the new method.

desirability pressure to report attending and only for the unchurched would the required mentioning of the church attended present a notable cognitive deterrent to overreporting. The NES experiment, however, appears to be a stronger test. The variant wording a) encourages respondents to think carefully about attending church, b) tries to eliminate telescoping by focusing attention on specific events related to the last attendance, and c) reduces social desirability pressures by assuring respondents that regular attenders may miss a particular week and by providing response categories that allow respondents to indicate that they are regular attenders, but did not do so last week. However, the NES experiment showed even less evidence of overreporting than the Gallup experiment did.

The 1996 GSS experiment however did produce a significant effect (prob.=.011). The standard Gallup question showed 37.1% attending and the GSS variant 30.6% (ratio of .825). This reduction was achieved by a) repeatedly emphasizing that reports were to cover only the last seven days and b) focusing not on church attendance, but on events occurring during the last week - church attendance was the fourth activity following doctor visits, eating out, and going to the movies. The intent of the first was to minimize telescoping while the latter was to reduce social desirability by framing the question as about events in general during last week.

A non-experimental comparison also considered standard, direct estimates of weekly attendance and an indirect measure. Both the

standard Gallup item and GSS's general attendance item converted to a weekly estimate were compared to an item on a time-use survey of the University of Maryland's Survey Research Center (SRC) that asked people interviewed on Mondays to report their full schedule of activities for the preceding day (i.e. from Saturday midnight until Sunday midnight). Like the GSS experiment, this approach cognitively focuses on a well-defined, time frame and on events in general rather than on church attendance in particular. In this case, there is not even any prompt or direct inquiry about church services. The event must be spontaneously recalled and reported by the respondent. The Gallup and GSS surveys produced estimates of weekly attendance of from 37 to 43%, while the SRC report for Sunday attendance was significantly lower at 27%.⁴ When this latter figure is adjusted upwards to account for non-Sunday attendance (based on 1996 GSS estimates), the adjusted SRC level is 29.6% and the ratios are .688-.800.

Finally, Hout, and Greeley (this issue) considered the plausibility of the survey-headcount findings of gross overreporting, by considering whether 1) well-educated, "skeptical" respondents reported less church attendance than others and 2) married respondents report differently for themselves than for their spouses. In both cases they were trying to see if groups more impervious to social desirability effects reported lower levels of church attendance. On the basis of this analysis they concluded

⁴On converting measures of general church attendance to weekly rates see Smith, 1997.

that some minor overreporting might occur yielding a ratio of about .91.⁵

In brief, while findings are quite mixed, it appears that alternative methods of measuring weekly church attendance that reduce telescoping and social desirability effects do result in lower levels of church attendance.⁶

The Meaning of Attending Religious Services

The survey-headcount comparisons assume that the standard church attendance questions are referring to personal attendance in a formal place of worship at a regular worship service. This is probably what the designers of the items intended and what most analysts also assume. However, it is possible that respondents may interpret the key phrases ("attend religious services" in the GSS items and "attend church or synagogue" in the Gallup question) differently than researchers intended. In particular, it seems

⁵In line with their spousal analysis, Smith (1985) shows that direct reports by married respondents and spousal reports yield highly similar and statistically indistinguishable estimates on a wide range of demographics. This is what one would expect if no differential measurement effects are present since both represent random samples of married persons. On the 1986-1989 GSSs which included questions on church attendance for self and spouse, 44.7% of married respondents directly reported going to church last week and 42.8% of married respondents reported that their spouses attended last week. If we accept the spousal reports as more accurate (perhaps less influenced by social desirability), then that would indicate a ratio of .957.

⁶The presumption is that the lower levels are more accurate, but this has not been substantiated by case-level validation studies.

plausible that some people may apply a broader definition of these activities.

Taking the GSS weekly church attendance figure as the basis, we tried to verify that reports were accurate and whether they matched the definition that was used in survey-headcount comparisons. The main adjustment involved the definitional issue. Everyone who said that they had "attend[ed] religious services" was asked if they did any of the following during the last week:

- a. Attend a regular, weekly worship service at a church/synagogue (e.g. mass or Sunday morning services). Don't include watching a service on TV or listening to one on the radio.
- b. Watch a religious program on television or listen to a religious program on the radio.
- c. Attend some other type of religious event or meeting (e.g. prayer breakfasts, Bible study groups, choir practices, church sponsored lectures, adult fellowship meetings)?

Only those who said "yes" to the first part or who mentioned an activity in the last part that was described as a worship service in the open-ended follow-up were accepted as indicating that they had "attend[ed] religious services." 88.8% were confirmed attenders, 4.6% non-attenders, 0.4% lacked a confirmed day, and

6.5% were uncertain. Taking the minimum exclusions of 5% lowered estimated attendance to 29.2% and also excluding all uncertain reduced it to 27.2%. An intermediate procedure that allocated the uncertain cases produced a best estimate of 28.0% with a ratio of 0.755 (Table 2).

The use of a broader definition is also shown by a close examination of what people included in their reports of what days they attended church. Verbatims both on the GSS pretest (Smith, 1995b) and the 1996 GSS indicate that many of the weekday reports represent participation in other than a full worship service. Looking at those who attended on two or more days, it appears that over half are counting both worship services and other religious events (e.g. Bible study, prayer groups, choir practice, etc.) as "attend[ing] religious services."⁷

In addition to searching for overreports, an attempt was made to locate underreports. All respondents who said they did not "attend religious services" in the last week were asked in follow-up questions identical to those presented above whether they had watched or listened to a religious program or whether they had attended "some other type of religious event or meeting..." These other religious events were then detailed and coded as representing worship services, religious events other than worship services, and non-religious events. None of the non-attenders reported going to

⁷Although there is no direct evidence about the Gallup question's formulation ("attend church or synagogue"), it is likely that it is also understood by many respondents to include more than regular, worship services.

a religious event that was in a fact a worship service. As such no underreports appear to have occurred. However, this analysis did reveal that 22.7% of the non-attenders were religiously active during the week.⁸

In brief, people tend to understand phrases like "attend religious services" more inclusively than only referring to going out to attend regular worship services. If the questions are intended to capture only such activities, then the current wordings lead to overreports. However, if one is trying to capture weekly religious participation that includes worship services, but is not restricted to this, then the current wording apparently underreports church involvement since some, but not all people, now include religious activities beyond personally attending worship services in their self-reports.

Summary

The 1996 GSS experiments and the Presser and Stinson (this issue) comparisons both document moderate levels of overreporting with mid-range estimates of respectively .755 and .744. Moreover, the GSS and SRC estimates of the absolute level of survey attendance are also highly similar (28.0% for the GSS in 1996) and

⁸Moreover this excludes family and personal activities such as saying grace, private prayers, Bible reading, and other such actions.

29.6% for SRC in 1992-94.⁹ The overreports appear to occur because of some combination of a social desirability bias and telescoping (with perhaps the former encouraging the latter) and because people use a broader definition of "attend[ing] religious service" than intended by researchers. (The latter leading to "overreports" only if the narrower definition is accepted as the proper base.) Notable as these overreports are, they are still substantially smaller than those shown in survey-headcount studies (ratios of .52-.59). It is likely that the survey-headcount procedures overestimate the overreporting, because of congregational undercounts (e.g. not including non-weekend services), the difficulty of separating adult attendance from total attendance, and other problems (see Smith, 1995a; Hout and Greeley, (this issue); Celio, 1993).

⁹And since the GSS shows a slight decline in church attendance over time these estimates would be even closer if period was adjusted for.

Table 1

Weekly Church Attendance Estimates

	% Attending Church Last Week	New/Old ^a
A. Survey vs. Headcount Methods		
1. Hadaway, Marler, and Chaves, 1993		
a. Catholics		
Survey: Gallup, 1991	51	
Headcount: 18 Dioceses	28.0	.549
b. Astabula Protestants		
Survey: Astabula	35.8	
Headcount: Astabula	19.6	.547 ^b
Survey: Astabula	33.2 ^c	
Headcount: Astabula	19.6	.590
2. Chaves and Cavendish, 1994		
Catholics:		
Survey: Gallup, 1991	51	
Headcount: 48 dioceses	26.7	.524
B. Survey Wording Experiments		
1. "Do That....," 1994 ^d		
Standard Item: Gallup, 1993	41	
Variant Item: Gallup, 1993	40	.976
2. Smith, 1995b ^e		
Standard Item: NES Pilot, 1995	32.3	
Variant Item: NES Pilot, 1995	31.9	.988
3. GSS 1996 (Table 2) ^f		
Standard Item: GSS, 1996	37.1	
Variant Item: GSS, 1996	30.6	.825

Table 1 (continued)

	% Attending Church Last Week	New/Old ^a
C. Survey Comparisons		
Presser and Stinson, (this issue) ^c		
Standard: Gallup & GSS, 1993-94	37-43	
Variant: Maryland SRC, 1992-94	27	.628-.730
		.688-.800 ^b

^aSee note 3.

^bAn alternative calculation from figures in Hadaway, Marler, and Chaves, 1993 yields a ratio of .573.

^cAdjusted for people attending church on weekdays only.

^dStandard Item: Did you, yourself, happen to attend church or synagogue in the last seven days, or not?

Variant Item: Now, I would like to ask you whether or not you happened to attend church or synagogue in the last seven days--that is, between last [day of the week] and today, and the name of the church or synagogue you attended. Did you, yourself, happen to attend church or synagogue in the last seven days? Please tell me the names of the church or synagogue you attended.

^eStandard Item: Now I would like to ask you whether or not you happened to attend church or synagogue this (this past) weekend. Did you yourself attend church or synagogue this (this past) weekend?

Variant Item: Lots of people tell us that they attend religious services quite regularly, but that this (this past) weekend, for some reason or another, they could not attend. In a moment, I am going to ask you whether you attended religious service this weekend. Before you answer, think of a number of different things that will likely come to mind if you actually did attend religious services; things like whether you walked, drove or were driven by another person to the service [pause]; what the weather was like on the way [pause]; if someone you expected to see was not there [pause]; and the particular hymns or prayers that took place. [pause] After thinking about it, you may realize that you did not go this weekend, but you can remember another earlier weekend in which you did attend. [pause] Now that you've thought about it, which of these statements best describe you? I did not attend religious services this weekend/I thought about going this weekend, but didn't/I usually go, but didn't this weekend/I am sure I attended religious services this weekend/(VOLUNTEERED) I went on an earlier weekend/(VOLUNTEERED) I never go to religious services

^fSee Appendix 1 for wordings. Since the random sub-sample that included the experimental GSS church attendance item had lower level of church attendance than the sub-sample with the Gallup item (as measured by the standard GSS attendance item which appeared on

Table 1 (continued)

all firms, it is possible that much of the measured difference is due to sample composition rather than wording.

^aStandard: Standard item on Gallup surveys in 1993 and 1994 and GSS standard item converted to weekly rates in 1993 and 1994. See Table 2.

Variant: I would like to ask you about things you did yesterday-- from midnight Saturday to midnight last night. Let's start with midnight Saturday. What were you doing? Where were you? What did you do next?" [And so on until midnight Sunday.]

^bAdjusted for people attending church on other than Sunday based on 1996 GSS. 8.3% of weekly church attenders went only on a day other than Sunday.

Table 2

Church Attendance Estimates from the 1996 GSS^a

	% Attending Last Week		New/Old
Standard Gallup Item	37.1	(511)	1.000
Standard GSS Item, Converted ^b	35.9	(2823)	0.968
Last Seven Days Variant	30.6	(951)	0.825
Last Seven Days Confirmed ^c	30.5	(951)	0.822
Last Seven Days Worship Only ^d	29.2	(951)	0.787
Last Seven Days Worship Only Est. ^e	28.0	(951)	0.755
Last Seven Days Worship Only Min. ^f	27.2	(951)	0.733

^aQuestion wordings are given in Appendix 1.

^bSee Smith, 1997 for details.

^cMinus one case for which no day reported.

^d4.2% of those saying they "attended religious services" reported media viewing/listening and/or other religious activity, but no worship service.

^eEstimate based on an allocation of the cases referred to in note "f" partly as worship service attenders and partly as non-attenders as explained in footnote 5.

^f6.5% of those saying that "attended religious services" report no religious activity (no viewing/listening, no worship service, no other religious activity)

Appendix 1: Question Wordings

A. Standard GSS Church Attendance Question

How often do you attend religious services? (Use categories as probes, if necessary.)

B. 1996 GSS Experimental Questions

1. Now I'm going to ask you about things you did during the **last seven days**. I'm only interested in what you did during the **last seven days**. From last (DAY OF WEEK) to today did you...

a. Go to see a doctor or receive medical treatment at a clinic or hospital?

b. Have a meal (breakfast, lunch, or dinner) at a restaurant (including fast food places and take-out)?

c. Go to a movie theater to see a film?

d. Attend religious services?

Yes

No (SKIP to Q. 5)

2. On what day or days did you attend religious services during the **last seven days**? (PROBE: "Did you attend religious services on any other days during the **last seven days**?" ASK UNTIL R SAYS "NO.")

3. During the **last seven days** did you do the following:

a. Attend a regular, weekly worship service at a church/synagogue (e.g. mass or Sunday morning services). Don't include watching a service on TV or listening to one on the radio.

b. Watch a religious program on television or listen to a religious program on the radio.

c. Attend some other type of religious event or meeting (e.g. prayer breakfasts, Bible study groups, choir practices, church sponsored lectures, adult fellowship meetings)?

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