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This exploratory study seems to confirm that since some homes refuse to join a meter panel, TV meter ratings are biased.

Network TV ratings are currently based upon meters which measure the tuning of a given sample of TV sets to specific stations on a minute-by-minute basis. If a random sample of homes can be persuaded to allow all their sets to be metered, this technique can be assumed to provide unbiased projections of program tuning, with the particular advantage of eliminating human error.

But in real life, not all homes can be persuaded to accept meters within a randomly selected sample. Furthermore, some cooperating homes drop out of meter panels, and where a tape must periodically be extracted from the meter and mailed in, not all cooperating homes return usable tapes in time for processing. As a result, reports may be based upon samples in which only two out of three predesignated original homes are represented.

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(The only published figure is for ARB's New York ARBitron panel, which, as of October, 1967, consisted of 64 per cent of original homes, the remainder being substitutions. Since this panel operates on electronic, not tape, meters, there is no further reduction in cooperation rates due to nonmailing of tapes.)

It is important to determine the effect of nonresponse upon meter ratings for specific programs or types. Several studies of nonresponse in the TV *diary* method are available, published by ARF (1965) and ARB (1963), Nielsen (1962) and the Committee On Nationwide Television Audience Measurements. These studies tend to show that diary noncooperators view somewhat less TV than cooperators, probably because people less interested in TV are less likely to be willing to cooperate in a TV survey. These studies suggest three hypotheses about the effect of nonresponse upon meter ratings:

1. Meter noncooperators view less TV than do meter cooperators.
2. The relative popularity of specific programs varies between meter cooperators and meter noncooperators.
3. An alternative technique which minimizes, but does not eliminate, human error and obtains a 90 per cent response rate, provides less biased estimates of program ratings than current meter panels.

Hypothesis 1 assumes that interest in TV is correlated with willingness to cooperate in a TV survey. Hypothesis 2 assumes that it is unreasonable to expect that two groups with different levels of TV viewing will have identical program tastes.

Hypothesis 3 reflects several assumptions:

a. Ratings among noncooperators may vary from ratings among cooperators by more than 100 per cent for specific programs; therefore, a 90 per cent response rate allows for more than a 10 per cent error for specific programs.
b. If a technique with a 90 per cent response rate obtains 10 per cent of its responses in error, it allows for more than a 20 per cent error for specific programs.
c. If a technique with a 70 per cent response rate obtains none of its responses in error, it allows for more than a 30 per cent error for specific programs.

We decided to test Hypotheses 1 and 2 on an exploratory basis, using a telephone coincidental to obtain comparative ratings. The coincidental technique, in which respondents are asked to report on their TV viewing immediately prior to the interview, was used to obtain a high response rate and minimize response error by eliminating memory as a factor. Two approaches were taken:

1. Assume the coincidental does not necessarily provide unbiased rating estimates, but compare coincidental estimates obtained from meter cooperators with those obtained from meter noncooperators.
2. Assume that the coincidental method does obtain unbiased rating estimates against which to compare meter rating estimates.

Cooperator vs. Noncooperator Method

One thousand forty-three coincidental calls were evenly spaced between 7:30 and 11 P.M. on Tuesday, February 27, 1968, in the 17-county New York area. These calls were made by Hooper interviewers from their own homes to a listed telephone sample distributed by county in proportion to population. Seven hundred fifty-three homes verbally responded and 186 no-answers were assumed to be unoccupied—thus non-viewing—homes. One hundred four homes were lines-busy or refused after two attempts. Responsible telephone answerers were allowed to observe and report for their households as to the tuning condition of their sets in terms of program and channel.

A follow-up study two weeks later sought to persuade these same households to allow their sets to be metered. Gifts worth $25 annually, and free repairs to all sets as needed, were offered as incentives; the sets would be directly connected to our computer and no respondent effort would ever be required. Four hundred six homes agreed to be metered, 411 refused, and 226 could not be contacted after ten attempts.

Coincidental ratings for meter noncooperators were lower than for cooperators (see Table 1).

TABLE 1

NEW YORK COINCIDENTAL RATINGS, 7:30-11 P.M.

Tuesday, February 27, 1968

	Meter Agreers	*All Others*
Station A	8.0%	8.1%
B	18.3	7.6
C	12.3	10.1
D	16.9	13.9
E	1.7	1.1
F	4.3	2.3
Homes Using TV	62.8	43.3

When coincidental ratings were compared with those from the two meter panels in New York, agreement seemingly improved when coincidental ratings were based only on the meter-agreers (see Table 2).

TABLE 2

NEW YORK RATINGS, 7:30-11 P.M.

Tuesday, February 27, 1968

	Coincidental		*Meter*	
	Total Sample	*Meter Agreers*	*X*	*Y*
Station A	8.1%	8.0%	8.7%	10.1%
B	11.5	18.3	16.1	14.5
C	10.9	12.3	10.6	8.0
D	15.2	16.9	19.4	21.3
E	1.5	1.7	2.8	2.1
F	3.0	4.3	3.5	4.6
Homes Using TV	55.7	62.8	61.1	59.1

Coincidental vs. Meter Method

During February 23-29, 1968, 11,049 coincidental calls as in the latter study were made in the New York 17-county area. 10,574 homes (95.7 per cent) provided information either by responding or by not answering (classified as unoccupied—thus not-viewing—homes). Time periods studied were from 8 A.M.-11 P.M. Monday-Friday, and 7:30-11 P.M. Saturday and Sunday.

As might be expected from the cooperator vs. noncooperator study, meter ratings were higher than coincidental ratings (Table 3).

TABLE 3

NEW YORK HOMES USING TV

	February 23-29, 1968		
	Coincidental	Meter X	Meter Y
Monday-Friday			
9 A.M.-Noon	15.5%	17.7%	13.6%
Noon-5 P.M.	19.3	25.6	24.1
5-7:30 P.M.	40.8	48.5	45.9
Monday-Sunday			
7:30-11 P.M.	55.9%	60.9%	59.4%

The meter:coincidental varied for prime network program types similarly for Meter X:coincidental; Meter Y:coincidental; and for Meter Y: coincidental in a 30-market area during one week of January, 1968 (Table 4).

TABLE 4

METER: COINCIDENTAL INDEX
TOTAL RATINGS-PRIME NETWORK PROGRAM TYPES

	New York February 1968		30 Markets January 1968
	Meter X: Hooper	Meter Y: Hooper	Meter Y: Coincidental
Western	136	140	122
Spy	123	145	124
General Drama	123	127	122
Youth Adventure	112	128	120
Situation Comedy	119	126	118
Movie	115	119	117
Variety	99	98	113
Game	73	83	142

CONCLUSION

The hypothesis that nonresponse biases meter ratings appears to help explain the differences between coincidental and meter levels in New York. The extent to which nonresponse helps explain the program type differences between coincidental and meter is not known. However, these program type differences appear to be fairly consistent regardless of survey period, area, or research company.

Much more could be definitively stated if the coincidental method was known to provide unbiased estimates, but as used here the method has two limitations: 1. non-telephone and unlisted telephone homes were excluded from measurement; 2. response errors might exist. Further studies were pursued to shed light on these areas.

Total vs. Telephone Homes Method

Clients were asked if they could report findings of any studies to which they had subscribed which showed ratings for total vs. telephone homes. Two clients were able to provide information on an anonymous basis. One summarized a national meter study, the other a national product usage and multimedia recall study.

Among several dozen prime network programs selected to represent a variety of types, differences in meter ratings among all homes vs. telephone homes ranged from zero to one rating point with a median difference of 0.3 rating points. These differences tended to be in both directions, although the average program's rating among all homes was 0.2 rating points higher than among telephone homes.

When all prime network programs were divided into types, recall ratings among all homes differed from ratings among telephone homes from two to 14 per cent by program types (see Table 5).

TABLE 5

INDEX OF NATIONAL RECALL

Prime Network Programs	Women Ratings Total: Telephone Homes
War	102
Police	102
Spy	103
Situation Comedy	102
News/Documentary	114
Sports	94
Movie	98
Variety	96
Youth Adventure	103
Western	104
Game	96
General Drama	102
Format Varies	97

Verified vs. Unverified Multiset Method

Response error in a telephone coincidental may occur when the telephone answerer is not fully aware of the current household situation, or is unwilling to report it honestly. When more than one set is on, errors of the former type are most likely, and could result in deflated multiset data. This single type of telephone coincidental response error was selected as potentially the most important and a study was designed to help evaluate it.

On Sunday, February 25, from 7:30-9:30 P.M., as part of the New York coincidental study referred to above, respondents were asked to tell us the dial position on the channel selectors of all turned-off sets, in the hope that in this way, sets on but thought to be off by respondent would be properly measured.

With the dial check method on Sunday from 7:30-9:30 P.M., 106.9 "sets on" were found per 100 viewing homes, compared to 106.4 "sets on" per viewing homes Monday-Saturday 7:30-9:30 P.M. This suggests that response error relating to multiset tuning in the standard coincidental is in fact negligible.