

Telescoping: The Skeleton in the Recent Reading Closet

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1. Research Methods

In the United States, magazine audiences are generally measured using one of two different measurement techniques. The first, which is known as the *through-the-book* method, requires that respondents express certainty that they had read or looked into a suitably aged (five weeks for weeklies and 11 weeks for monthlies) test issue after having been shown the cover and taken through the editorial content.

The second technique, called the Recent Reading method, requires that respondents answer with certainty that they had read or looked into any issue of the magazine in the previous publication interval – past month for monthlies, past week for weeklies, etc.

2. Results of These Methods

Until recently, largely because of the historic similarity of the American Target Group Index (TGI) recent reading audience estimates to the Simmons through-the-book estimates, most American researchers were of the belief that the two methods produced roughly equivalent results (see Simmons Market Research Bureau (1978)). So much so, that in 1978 the Simmons company announced that,

starting with the 1979 Study, Simmons would use both methods in order to expand the number of titles that were being measured: the through-the-book method would continue to be used to measure all magazines with other than a monthly publishing frequency as well as all monthlies with a rating of 3 % or greater, and the recent reading method would be used for the smaller monthlies.

The historic similarity of the audience levels produced by the two methods notwithstanding, there was sufficient concern among magazines, agencies, and advertisers about what came to be known as the *mixed method* that the Advertising Research Foundation (ARF) was successful in raising nearly \$500,000 to conduct a methodological study to assess the comparability of the two methods. The reason for the enormous price tag was the then generally held belief that whatever differences would be produced by the two methods would be small and the sponsors wanted assurance that an average difference of as little as 10 % would be statistically significant.

Five months before the release of the ARF Top-Line Findings, when the results of the 1979 Simmons Study were first announced, the industry was stunned to discover that the Simmons recent reading estimates were nearly twice as large as what they had been accustomed to seeing.

That conclusion was subsequently confirmed by the ARF which found that for monthly magazines the recent reading method genera-

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ted audience estimates which were 86 % higher than those produced using the through-the-book method, and that for weekly magazines the overage was 27 % (see Advertising Research Foundation (1980)).

This one finding has generated a storm of controversy in the U.S. such as has not been seen in the advertising research community for some time. The controversy concerns two central issues. The first issue has to do with the procedure and propriety of adjusting recent reading levels to conform to those achieved using the more traditional through-the-book procedure. The second issue has to do with the question of which of the two methods is closer to providing the correct audience estimates.

This paper will confine itself only to the second issue: the validity of the two methods.

3. Validity of These Methods

When the Simmons company first announced that the recent reading estimates they were producing were nearly double those which either Simmons or TGI previously had reported, the recent reading audience estimates were immediately labelled as implausible first by Simmons, which offered an adjustment procedure to bring the estimates in line with through-the-book levels, and then by the industry. Later, the newly-founded Mediamark Research Inc. (MRI) produced their own recent reading magazine estimates which were to compete with the Simmons estimates. The Simmons questionnaire had asked simply whether or not the publication had been read in the last month, while MRI had developed what they described as a "perfected system" which went on to specify the length of the publishing interval in great detail, even to informing the respondent of the specific date when it began (see Joyce (1979)).

When the MRI data became available, it was clear to all that their technique had pro-

duced results which were virtually identical to the Simmons recent reading estimates.

The results implied that about as many people read two magazines a day as read the daily newspaper (see Mediamark Research Inc. (1980)). And despite the fact that the U.S. Department of Health, Education and Welfare found 21.7% of the U.S. adult population to be functionally illiterate (see U.S. Department of Health, Education and Welfare (1975)), the results indicated that 94% of all adults read an average of 11.6 magazine issues in the average month (see Magazine Publishers Association (1980)).

The root cause of this controversy is the fact that no one has ever been able to establish an objective standard of truth – a criterion if you will – against which the several magazine audience measurement techniques can be evaluated. The Advertising Research Foundation has been busily studying this problem for a number of years with little success, even having gone so far as to have conducted an unsuccessful study in which a former New York City Police Department fingerprint expert was engaged as a consultant to try to identify particular readers of particular magazine copies (see Greene and Maloney (1976)).

4. Telescoping Phenomenon

All of the ARF's efforts in this regard have been directed to attempting to validate the through-the-book procedure, believing that it is not possible to validate the non-issue specific recent reading method. Actually, however, it is a simple matter to demonstrate that respondents are incapable of judging accurately the recency with which past events have occurred. Psychologists have been studying this phenomenon for some time (see Hinricks and Buschke (1968)) and have generally concluded that:

(a) the longer the time interval between the event and the judgement of the recency of that event the less likely is the judgement to be accurate. From this we would expect that the judgement of whether a magazine had been read in the past month would be less accurate than the judgement of whether it had been read in the past week.

(b) the longer the time interval between the event and the judgement of the recency of that event, the more likely is it to be perceived to have occurred more recently than it actually did. From this principle one would expect that the recent reading method would spuriously favour magazines with longer publishing intervals where the method requires that recency judgements be made over longer periods of time.

The phenomenon has come popularly to be known as *telescoping*, and in our view completely explains the fact that the recent reading method produces inflated estimates in general and disproportionately higher estimates for monthlies than for weeklies.

5. The Television Test

However except for a few proprietary studies conducted by broadcasters, most of the research on the subject of telescoping has been conducted in the psychological laboratory using simple words or pictures as stimuli and judgements over very short time intervals. In preparation for this paper, therefore, we decided to perform a real life demonstration, using weekly television programmes, to show the inability of respondents to recall accurately whether or not an event had occurred even within as short a time period as seven days. We chose to perform the demonstration using weekly television programme viewing because, unlike magazine reading, the time of the viewing occasion is precisely known and there is no possibility of complications caused by replicated and parallel viewing.

The study was conducted by telephone using the Bergen County, New Jersey telephone directory as a sampling frame. The sample was limited to female household heads, and all interviewing was conducted after 18.00 in order to ensure a proper representation of working women. A total of 700 interviews were completed, 100 on each of seven consecutive days divided equally between two field periods; December 9–15, 1980 and January 11–17, 1981.

The interview proceeded as follows: respondents were read a list of 20 weekly television shows and asked whether each one had been watched in the past 30 days. Then for each programme watched, the interviewer asked whether the respondent happened to have watched that show in the past week, that is in the seven days since last (day of week) not including today. Those answering “yes” were classified as “recent viewers.”

We reasoned that if the respondents’ judgements of the recency of the telecast were accurate, we should observe the same ratings for these shows regardless of the day on which the recent viewing question was asked. However, to the extent that the recency judgements were distorted by the telescoping phenomenon, one would expect to find the ratings to be different depending upon the time interval between the telecast and the interview.

Fig. 1 shows the mean recent viewing rating of these shows aggregated according to the time interval between the day of the telecast and the day of the interview. The mean ratings are plotted on the vertical axis and on the horizontal axis are plotted the number of days between the day of the telecast and the date of the interview.

The mean rating observed as a function of the time interval from the day of the telecast to the day of the interview is represented by the seven dots, and the diagonal line represents the least squares best fit.

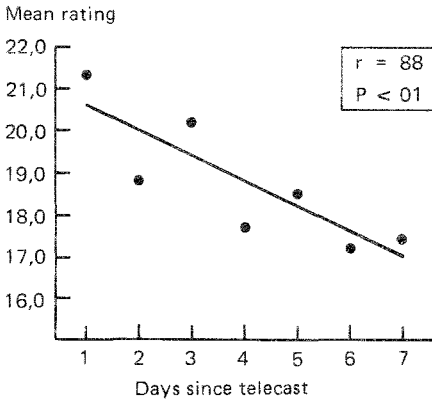


Fig. 1. Recent Viewing Ratings by Time Lapse of Interview

As can be seen, the longer the time interval between the day of the telecast and the day of the interview, the lower is the mean rating. The Pearson product moment correlation coefficient is .88 and is significant at the .01 level using five degrees of freedom. This relationship proves conclusively that respondents are incapable of judging accurately whether an event such as their most recent viewing of a weekly television programme occurred within the past seven days or not.

6. Forgetting or Telescoping

If memories were perfect, one would expect to find the same percentage claiming to view on each of the interviewing days regardless of whether the interview was conducted the day after the telecast or six days later. Obviously, memories are not perfect, or we could not observe the relationship seen here.

What causes it? If these were the only data available one could convincingly offer either of two equally plausible explanations. The first explanation would be that people simply forget with the passage of time, and that the true audience levels are actually higher than the recent viewing estimates would indicate.

The second explanation would be that we are looking at the result of telescoping caused by some people imagining that an event which actually occurred eight or more days ago happened within the past seven days.

Perhaps the telescoping concept requires more elaboration, and a concrete example will help. Were I to survey a sample of people on the day following the telecast of a weekly show, and were I to ask whether they had watched that show in the past seven days, virtually all of those who had watched the day before would answer that they had, as would some proportion of nonviewers who had actually watched eight days ago, but imagined it to be seven.

The next day, a smaller proportion of such nonviewers who had actually watched nine days ago would falsely answer "yes," and one would expect this proportion to drop with each successive day until the day of the next telecast.

Recognizing that the recent viewing estimates are necessarily in error, and wishing to resolve the question as to whether the declining audience levels were the result of telescoping or simple forgetting, we designed a questioning procedure to provide what we believe to be a more accurate estimate of viewing levels – more accurate because it shortened the recall period from seven days to one in order to minimize problems of memory distortion, and more accurate because it followed the ARF recommendation for obtaining measures of yesterday reading. Basically, it was the same method which is used both by Simmons and by MRI for measuring yesterday readership of daily newspapers.

Accordingly, everyone claiming to have viewed the show in the past seven days was asked for the last time she happened to watch it, not including today. Those answering "yesterday" on the day following the telecast were then classified as 'yesterday viewers.'

We reasoned that if the recent viewing rating was lower than the yesterday viewing estimate it would argue in favour of simple forgetting. If, on the other hand, the recent viewing rating was higher, it would argue in favour of telescoping caused by confusion of the recency of the last viewing occasion.

The mean yesterday rating was 14.4 %, the mean recent viewing rating, 18.7 %. Thus, the recent viewing rating was 30 % higher, and statistically significant at the .001 level using the method of sample replicates with nine degrees of freedom (see Frankel and Frankel (1977)). This highly significant difference supports the validity of the telescoping hypothesis.

7. The Magazine Test

Mindful, however, of the fact that our basic interest is with magazine audience measurement rather than television viewing, we performed the same exercise using nine weekly publications.²

National Enquirer	People
Newsweek	The Star
New York	Time
New Yorker	TV Guide
US News & World Report	

Then again we produced two estimates of weekly reading: a recent reading estimate based on the past seven day claim and the other based on the number of yesterday readers.

However, since we know that some consumers read some magazine issues on more than one day, it was necessary to take that fact into account in order to generate an average issue audience estimate. Accordingly two separate attempts were made to estimate the incidence of first time yesterday reading of the issue via direct questioning for each magazine. Without going into detail, suffice it to say that

both attempts produced first time reading estimates which when converted to weekly ratings were less than half the recent reading estimates.

Being reluctant to conclude that the recent reading estimates for weekly magazines are more than twice as large as they should be, we also explored the possibility of correcting the yesterday reading level for each magazine by dividing the yesterday reading incidence by the mean number of reading days as published in the 1980 Simmons report (Table 1).

When we compared the mean rating thus obtained with the 1980 Simmons through-the-book ratings drawn from a roughly comparable sample (female homemakers with listed telephones, living in the New York ADI), we found that the means were very close and that the ratings on a magazine by magazine basis correlated +.96 with each other (SMRB TTB 11.4 %; yesterday recall 12.0 %). In other words, the adjusted yesterday recall estimates were quite comparable with those obtained through-the-book.

The next step was to compare these estimates with those obtained using the recent reading method. The recent reading estimates at 15.1 % were higher than the yesterday recall at 12.0 % by 26 % ($p < .001$), which is virtually identical to the +27 % difference that was reported for weekly magazines in the ARF Comparability Study, and very close to the +30 % difference which emerged for television viewing when no correction for multiple day viewing was required.

Table 1. Yesterday recall adjustment factors

Title	Reading days
National Enquirer	2.2
Newsweek	1.8
New York	1.8
New Yorker	2.4
People	1.8
The Star	2.3
Time	2.1
TV Guide	5.5
US News & World Report	2.1

² Actually ten publications were included. *Midnight Globe* was subsequently deleted after learning of a name change.

8. Conclusion

(a) The recent reading method in theory is perfectly reasonable if one can accept the assumption that respondents can not only accurately remember that they have been exposed to a particular media vehicle, but also that they can accurately judge the recency of the last such occurrence.

However, we have proved conclusively that consumers are incapable of making accurate judgements of whether a media exposure – in this case the viewing of a weekly television show – occurred within the past seven days or not. If consumers were capable of making such judgements, there is no way that reported audience levels could show the pattern of decline we have seen as the time interval increases between the day of the telecast and the day of the interview.

(b) The recency method produces weekly television audience estimates which are about 30 % higher than the estimates which are produced on the basis of yesterday recall using the procedure recommended by the ARF to measure yesterday reading of newspapers.

(c) In the case of magazines, the same yesterday recall method, modified to accommodate the fact that magazines are frequently read on more than one day, produces audience estimates for weekly magazines which closely approximate those obtained using through-the-book procedures.

(d) When the recent reading magazine estimates were compared with those obtained on the basis of yesterday recall the recent reading estimates produced a 26 % overage relative to the yesterday recall estimates.

(e) The 26 % overage is roughly comparable to the 30 % overage which was reported for television viewing where no adjustment for multiple day exposure was necessary. Moreover, it is virtually identical to the 27 % overage which the ARF reported for the recent

reading method relative to through-the-book for weekly magazines.

We interpret these facts to mean that the recent reading method significantly overstates magazine audiences and does so by a process called telescoping caused by the inability of the respondent to judge whether or not a particular event has occurred within the publication interval.

Although we did not directly address this issue for monthly publications as we did for weeklies, all of the information available both in the psychological literature and in the ARF Study suggests that as the publishing interval increases so does the severity of the telescoping problem.

As a result, not only does the recent reading method produce spurious audience estimates, it does so in such a way as to seriously disadvantage weekly publications relative to monthlies.

9. References

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