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READING REGULARITY AND INFLATION OF MAGAZINE AUDIENCE ESTIMATES

Each year in the United States we perform a rite which in some respects is tantamount to replicating the same magazine measurement experiment over and over again. The experiment is of gargantuan proportions. Two samples of approximately 20,000 respondents each are questioned concerning their magazine reading behaviour. One sample is questioned by Simmons using the Through-the-Book (TTB) method and the other is questioned by MRI using the Recent Reading (RR) method.

Each time the experiment is conducted the outcome is similar. The audience levels produced by the RR method are materially higher than those produced by the TTB method, the more so as the publication interval of the magazine increases.

Because the sizes of the differences tend to vary somewhat from year to year, it is difficult to be precise about them. In 1979, however, when the Advertising Research Foundation conducted such an experiment of their own they concluded that the size of the difference for monthlies was 86%. For weeklies it was 27%. In recent years, however, there has been a tendency for the RR estimates to move closer to those produced TTB.

The explanation for these differences has been a subject for considerable speculation, and a variety of presumed and subtle causes have been suggested. Some have attributed the differences to problems of aging and skeletonising the magazine issues used in the TTB interview, while others have attributed them to problems associated with replicated reading and the effect on the RR results. There is another explanation, however, which I was privileged to have been able to present to this group at the New Orleans Symposium in 1981. I would like further to develop that proposition here, namely that the differences in audience levels produced by the TTB and

RR methods are largely attributable to the simple fact that the RR method is based upon asking a question which survey respondents cannot accurately answer: Whether or not they have read any issue of a particular publication within the last seven days, last 30 days or whatever, depending upon publishing frequency.

As a result of their inability to answer this question accurately, survey respondents tend to imagine that the last reading occasion occurred more recently than it actually did, the net result of which is an over-estimation of audience size.

The phenomenon is called *telescoping*. It has been repeatedly documented in a variety of circumstances, and has become of considerable interest to psychologists concerned with memory and cognition.

The June 1985 issue of *Monitor*, the newspaper of the American Psychological Association, reported a number of recent interdisciplinary studies on the subject, much of it funded by agencies of the United States federal government whose responsibility it is to project levels of consumer expenditures, the incidence of various types of crime, national health statistics and the like. These agencies are concerned with discovering ways of solving what they recognise to be a measurement problem which results in a serious inflation of incidence estimates of consumer behaviour.

The telescoping concept is sufficient to explain the reasons underlying the RR/TTB discrepancy, and why the discrepancy increases as the publishing interval increases. The concept by itself is not sufficient, however, in explaining why different publications having the same publishing frequency will consistently perform disproportionately better or worse when measured using one method rather than the other.

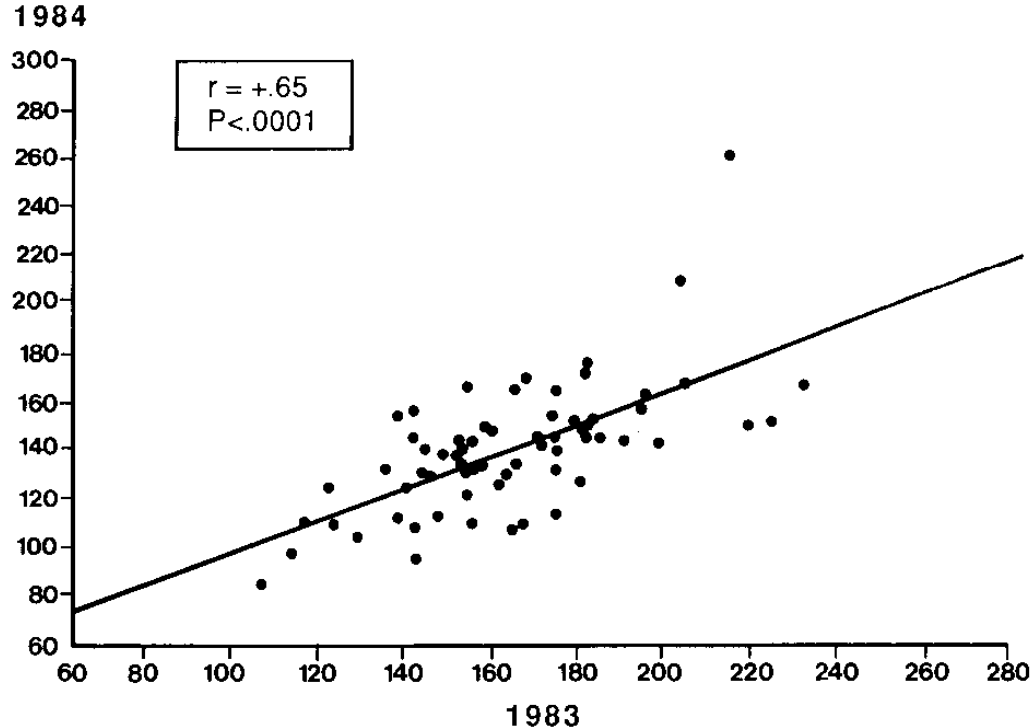
A demonstration of the fact that the RR method treats some publications disproportionately more favourably than others having the same publishing frequency is present in Figure 1. This figure compares the results of two successive years of RR and TTB data for the 66 monthlies measured by both services over the three-year period ending 1984, the data base upon which all of the following analyses were performed. Each point represents a different magazine with the ratio of its RR to TTB readers per copy estimate being plotted on each axis. The 1983 data are plotted on the horizontal axis and 1984 on the vertical.

The data are expressed as indices, an index greater than 100 meaning that the RR estimates are greater than those obtained TTB. Note that there is a

definite tendency for those magazines with high or low indices in one year to have similarly high or low indices in the next. The product moment correlation between these two years is $+0.65$.

The question now becomes: What accounts for this consistent tendency for the RR method to treat some magazines more favourably than others when they have the same publishing frequency? Although the answer to the question is not a simple one, I would like to advance the hypothesis that an important factor is the regularity with which the publication is read and hence the certainty with which the respondent can claim readership in the publishing interval. For publications which are

FIGURE 1
RR/TTB indices 1983 versus 1984



read with great regularity there can be little possibility for telescoping, since whenever a reader is interviewed he can testify with reasonable certainty that he read the magazine within the publishing interval.

For magazines for which reading behaviour is less regular, however, testimony of having read the magazine within the publishing interval will necessarily be less accurate on average.

A good estimate of regularity of reading is the Simmons turnover rate which is used in the calculation of reach and frequency estimates. The lower the turnover rate the more regularly is the magazine read and the more accurate should be the average respondent's Recent Reading testimony.*

On this basis one would further hypothesise that audience estimates for magazines with high turnover rates would be more subject to telescoping and would produce higher RR/TTB indices than would magazines with lower turnover rates.

In order to test this hypothesis we examined the data for the 66 single title monthlies which were measured in common by the two services. Since MRI publishes twice a year, we chose the Fall reports as being based on field periods more comparable with the SMRB interviewing dates.

To achieve maximum reliability, particularly for the smaller magazines whose published turnover rates tend to be somewhat unstable, the turnover rates and the RR/TTB readers per copy indices for each magazine were averaged across the three years.

These data are displayed in Figure 2,

* Although MRI also publishes turnover statistics, they are made available only to subscribers and have not been employed for purposes of this paper.

with each point representing a different magazine. The mean turnover rates are plotted on the horizontal basis, and the mean RR/TTB indices are plotted on the vertical axis.

As can be seen, the hypothesis was confirmed. The higher the turnover the higher is the RR/TTB index. The product moment correlation between these two variables was +.40, and significant at about the .001 level.

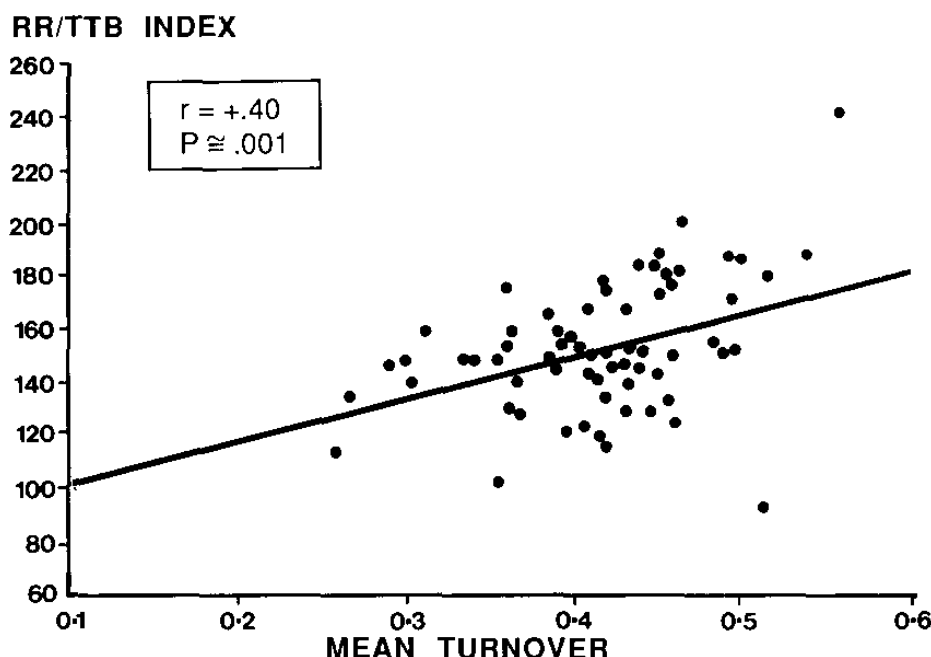
From this it is clear that, when compared with the audience estimates generated by the TTB method, the RR method systematically advantages some magazines more than others even when the publishing interval is not a variable to be contended with. Monthlies which are read with less regularity enjoy disproportionately larger RR audience estimates than do other magazines having the same publishing frequency but which are read more regularly.

It is my contention that this advantage is a spurious one rather than a reflection of true differences in audience size. More specifically, the higher the turnover of the magazine the more likely is it to exhibit spurious differences in audience level as a result of differences in questioning procedure.

To illustrate the validity of this proposition, I would like to make note of the fact that in the six years since the publication of the first MRI report, a number of changes have occurred in their questionnaire. The number of magazines questioned about has increased from 166 to well over 200 by 1984. In addition, the number of questions to be asked of each reader of each magazine, except those measured in special categories, has increased by 50%. Coincident with this increase in interview length, there has been a reduction in readers per copy.

To illustrate, of the 66 monthlies included in the earlier analysis, 57 had originally been reported upon by

FIGURE 2
RR/TTB indices versus turnover



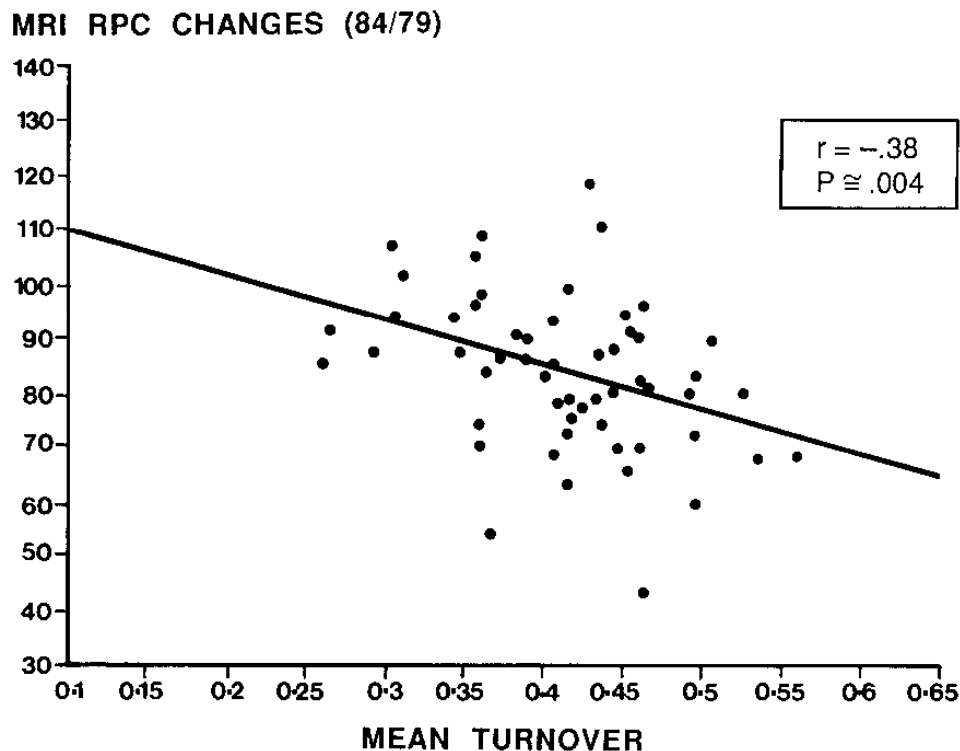
MRI in their first report published in the Fall of 1979. If we compare the MRI Fall 1984 report with the report published in 1979, we find that 50 of these 57 titles (88%) showed readers per copy declines. In sharp contrast, The Simmons' readers per copy estimates have remained at about the same level over this period.* The extent of the MRI readers per copy changes for the 57 measured magazines in relation to their turnover rates is shown in Figure 3, again in the form of a scatter diagram. The change in audience over the five-year period is plotted on the vertical axis and the turnover rate is plotted on the horizontal axis.

For purposes of showing the relationship between the magazines' turnover rates and their readers per copy changes over the five-year period, one of the 57 magazines, *Cuisine* has

been eliminated from the scatter diagram as an outlier. (*Cuisine* which has since discontinued publication, showed an explosive 77% increase in MRI

* Because Simmons was measuring the smaller monthlies using a modification of the RR method in 1979 this relationship can be demonstrated using common titles for only 18 of these 57 magazines. For those 18 titles which were measured in common using the two methods both in 1979 and in 1984, all 18 of the MRI measured titles showed readers per copy declines, 13 of them greater than 10%. The Simmons measured audiences on the other hand were about as likely to increase (8) as they were to decline (10) as one would expect by chance. Moreover, 14 of the 18 magazines had RPC changes which were within $\pm 10\%$.

FIGURE 3
RPC changes by turnover



readers per copy over the time period beginning in 1982 following a change in ownership and a radical change in their methods for securing subscription sales. The turnover rate over the 1982-84 period was 44%.)

Holding *Cuisine* aside, as can be seen from the shape of the scatter diagram and the slope of the regression line, the higher the turnover rate the greater is the RR drop in readers per copy. The correlation is $-.38$, and significant at about the $.004$ level.

To sum up, I would like to leave you with the following three thoughts:

(1) The RR method is based upon a questioning procedure which is known to produce inflated incidence estimates of consumer behaviour because of telescoping.

(2) Compared with TTB estimates, the extent of RR inflation is correlated with the certainty with which the respondent can claim readership in the publishing interval as measured by the magazines turnover rate.

(3) High turnover magazines, in addition to being more subject to audience inflation when measured by the RR method, are also more likely than others to exhibit losses in audience as a result of increases in questionnaire length.

In conclusion, I would like to emphasise that a prime requirement of syndicated audience research is that it be fair to all publications measured. The RR method falls far short of satisfying this requirement.

REFERENCES

Appel, V (1982) 'Telescoping: The skeleton in the Recent Reading closet' (New Orleans Proceedings)

Appel, V (1983) 'Hypnosis and telescoping: Some rediscovered facts' (Montreal Proceedings)

Cordes, Colleen (1985) 'Fields cooperate to study surveys' *Monitor* American Psychological Association, June p 32

Sudman, S and Bradburn, N M (1974) *Response effects in surveys* Chicago: Aldine Publishing Company pp 67-92.

APPENDIX

The 66 monthly magazines

- ** Better Homes & Gardens
- Bon Appetit
- Car & Driver
- * Changing Times
- ** Cosmopolitan
- * Country Living
- Cuisine
- Cycle World
- Decorating & Craft Ideas
- * Discover
- ** Ebony
- ** Esquire
- Essence
- Family Handyman
- ** Field & Stream
- GQ
- ** Glamour
- Golf Digest
- Golf Magazine
- ** Good Housekeeping
- Harper's Bazaar
- * Health
- ** House Beautiful
- ** Ladies' Home Journal
- Life
- Mademoiselle
- ** McCall's
- ** Mechanix Illustrated
- * Metropolitan Home
- Money
- Ms
- ** National Geographic
- Natural History
- Omni

- 1001 Home Ideas
- Organic Gardening
- ** Outdoor Life
- Parents
- ** Penthouse
- ** Playboy
- Popular Hot Rodding
- ** Popular Mechanics
- Popular Science
- Prevention
- ** Reader's Digest
- ** Redbook
- Road & Track
- * Runner's World
- Saturday Evening Post
- * Science 82/83/84
- * Science Digest
- Scientific American
- Self
- * Seventeen
- Ski
- Smithsonian
- Southern Living
- Sport
- Sports Afield
- Sunset
- Tennis
- Town & Country
- Travel & Leisure
- True Story
- Vogue
- Working Woman

* Nine titles not measured by MRI in 1979

** Eighteen titles measured by both services in 1979.