

3.2 Checking the validity of readership measures

INTRODUCTION

The idea of validating readership measurements by linking them with circulation, which appears in several papers of the New Orleans Symposium, was applied in France as early as 1973, following the inclusion of a 'source of copy' question in the CESP readership surveys. For each publication, the respondent reports the source of copy, permitting the calculation of the number of households where someone is a recent reader of a copy bought or subscribed by himself or by another member of his household (primary reader households).

If that number differs widely from the publication's audited circulation figure, the validity of the readership measure should be questioned.

Actually, for most of the publications covered by the CESP studies since 1975 with an unchanged questionnaire, the numbers of primary reader households estimated from the survey results were considerably higher than the corresponding circulation figures given by a reliable audit source, the Office de Justification de la Diffusion (OJD).

This paper describes the method of comparison between CESP and OJD data, tries to explain why the CESP recent reading technique gives misleading results, and proposes a correction method which, when applied to CESP data, leads to a new estimate of the average issue readership which is consistent with OJD audited circulation.

COMPARISON BETWEEN READERSHIP MEASURES AND CIRCULATION

If the number of recent readers is a correct estimate of the average issue audience, and if readers give reliable answers on the date of their last reading and on the source of the copy read, then the number of recent readers who have obtained their copy by personal subscription or purchase must be a correct estimate of the number of circulated copies.

The answers of the readers interviewed in the CESP studies lead to circulation estimates very much higher than the OJD audited circulation figures. In the example of *Reader's Digest* shown in **Table 1**, the number of personal subscribers or purchasers among recent readers exceeds by 110% the OJD audited circulation.

TABLE 1
Reader's Digest 1981

(numbers in thousand)

	CESP Recent readers by source of copy	OJD circulation
Recent readers (within last 30 days)	5,099	
Source of copy:		
personal subscription	1,655	
personal purchase	466	
	2,121	1,010
home mate subscription	1,008	
home delivered copy	21	
home mate purchase	216	
	1,245	
primary readers	(3,366)	
office subscription	34	
copy got/borrowed	898	
public place copy	802	
pass-on readers	1,734	

Such a wide discrepancy makes it necessary to investigate the possible sources of error in the CESP surveys.

A first reason is certainly that many primary readers claim, wrongly, that the subscription or purchase is theirs, while it is actually, that of another member of their household. Thus, for *Reader's Digest*, CESP indicates only an average of 0.6 readers in addition to the subscriber or buyer himself among the subscriber/buyer households, whereas for a family publication such as this one should find, in addition to the personal subscriber/buyer, about 1.2 other primary readers.

In order to eliminate this cause of error it is necessary to compare audited circulation with the number of households of at least one primary reader.

The estimation of the number of primary reader households can be made on the basis of three hypotheses:

(1) We assume that primary readers may have given a wrong answer about the person in the household responsible for the subscription or purchase, but not

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about the fact that the copy was indeed directly obtained by the household by subscription or purchase.

(2) We assume that every publication can be classified into one of three categories, according to whether the largest group in the primary audience consists of: head of household, housewives, young people (among adults who are neither "head of household" nor "housewife", 75% are under 25 years old).

The category is decided by the number of primary readers belonging to the following groups: heads of household; housewives and men living alone; men non-head of household and women non-housewife.

The largest group determines the category to which the publications belongs. Applied to the publications studied by the CESP, this method classes all daily newspapers in the "head of household" category and a few magazines in the young people category, the other magazines being classified approximately fifty-fifty in the categories head of household and housewife.

(3) We assume that when a publication reaches a primary reader household, it is *always* read, according to its category, by the head of household or the housewife or the young people, but can *also* be read by other people belonging to the household.

On the basis of these hypotheses, the number of primary reader households can be estimated by a procedure depending on the publication category. An example for *Reader's Digest* is shown in **Table 2**.

TABLE 2
Reader's Digest 1981 CESP

(numbers in thousands)

Primary readers (within last 30 days)	3,365
out of which:	
-heads of household	1,526
-housewives	1,360
men living alone	104
-men not head of household	356
-women not housewives	439
	795

According to hypothesis (2) *Reader's Digest* is therefore a head of household publication, and if we assume (hypothesis 3) that in every primary household reached by the *Reader's Digest* the head of household is a reader, the number of primary reader households would therefore be, according to CESP 1,529,000. This figure should match the OJD audited circulation ie 1,010,000 copies — but there is still an excess of 51%.

For all publications covered by the CESP study, the comparison between the number of primary reader

households (estimated by the above method) and the OJD audited circulation is shown in **Table 3**.

TABLE 3

PH = number of primary reader households estimated from CESP data

AC = OJD audited circulation

	Ratio PH/AC median value	
	1975	1981
Dailies	1.06	1.07
Weeklies	1.22	1.28
Monthlies	1.50	2.19

In the estimation procedure, the application of hypothesis (3) tends to minimize the number of primary reader households, because it assumes (for instance for a "head of household" publication) that all the non-head of household primary readers belong to households where the head is himself a reader: this contributes to reduce the gap between CESP and OJD.

We are now coming to believe that the overestimation of the number of primary reader households is due to a preceding overestimation of the average issue readership.

CAUSES OF ERROR IN RECENT READING TECHNIQUE

Among the causes of error which affect readership measurements using the 'recency' technique, two seem basic: replicated reading, and confusion about the date of last reading.

The well-known problem of *replicated reading* is the major defect of the 'recency' technique. The number of recent readers exceeds the average issue readership, and this excess is higher when the publication has a high proportion of readers who do not read all the issues and who may read and read again the same issue over a long period of time.

This is why the 'recency' technique better suits dailies (high proportion of regular readers and few repeated readings of the same issue) than magazines which frequently have many occasional readers who can read and read again the same issue for several weeks or even several months (see **Table 4**).

So far as concerns *the errors on the date of last reading*, it is clear that they are more frequent when the date of reading is farther back: this is likely to affect more the monthlies than the weeklies and the dailies.

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TABLE 4
Readers of 'every issue' (1982 CESP)

	<i>as % of readers within last 12 months</i>	<i>as % of readers within the qualifying period</i>
Regional dailies	54	80
National dailies	9	62
Weeklies	22	64
Monthlies	24	47

When trying to set up a method of readership measurement which reduces the errors on the date of last reading and which takes into account replicated reading (as well as parallel reading) one should consider using a readership panel whose members would record, day by day, all their readings, with the date of each issue read. But, in the meantime, if we want to make a better use of the CESP data, we must develop a correction method which leads to a new estimate of the average issue readership which is consistent with the OJD audited circulation.

This point is the subject of the last part of this paper.

CORRECTION METHOD OF CESP DATA

It should be emphasized straight away that the correction method presented hereafter is based on plausible hypotheses which have not yet been validated: it is proposed as an example of what can be done by a user of survey data who is more respectful of logic than of doubtful figures. When facing contradictory data is it wiser to correct the figures than to accept inconsistency?

The basic hypothesis of this correction method is that, whether through failure of memory or because of replicated reading, the true date of reading (which should have been identified to qualify a reader) is further back in time than the date alleged by the reader. As a consequence, this comes to the same as if the qualifying period had been unduly expanded. This kind of 'expansion' causes the excess of recent readers over the number of average issue readers, and consequently the excess of primary reader households over the audited circulation.

We make the hypothesis that all the readers of the same publication have expanded their qualifying period in the same way. In other words, we will consider that the qualifying period has been expanded by a coefficient (d) identical for all the readers of the publication concerned.

The CESP give, for each reading frequency category, the proportion (p) of readers within the qualifying

period. This proportion can be considered as an estimate of the average reading probability within the qualifying period of the readers of the frequency category. If the qualifying period has been expanded by a coefficient (d), the reading probability of an average issue is not (p) but (q) which is linked to (p) by the relation:

$$(1 - q)^d = (1 - p)$$

which means that, for a given reading frequency category, the average probability of not reading is the same for periods of the same duration.

The correction procedure involves, for each publication:

(1) To estimate, according to the method already presented, the number of primary reader households (PH), and to compare this with the audited circulation (AC).

(2) To take the primary readers who were taken into account for the estimation of (PH) (as the case may be, the heads of household, the housewives, or the young people) and to distribute these primary readers by reading frequency categories:

$$PH_1 PH_2 \dots PH_i \leq PH_i = PH$$

then to calculate for each category the average reading probability (p) derived from CESP data:

$$P_1 P_2 \dots P_i$$

Finally to determine the expansion coefficient (d), which, when applied uniformly to each frequency category, gives a set of average reading probabilities:

$$q_1 q_2 \dots q_i \quad q_i = 1 - (1 - p_i)^{1/d}$$

such that

$$\leq PH_i \times \frac{q_i}{p_i} = AC$$

(3) The expansion coefficient (d), which allows the number of primary reader households to be matched to the audited circulation, is then extended to the other publication readers (primary readers other than those who were taken into account for the estimation of PH, and pass-on readers).

In these two groups, for each reading frequency category, the reading probability (p_i) derived from CESP data is replaced by the reading probability (q_i), which results from the application of the expansion coefficient (d). A corrected estimate of the average issue readers of this frequency category is then calculated. The same method is applied for all frequency categories; the corrected audience of the publication is obtained by adding all the separate corrected estimates.

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Tables 5, 6, and 7 show the application of the correction method to the 1981 CESP data for *Reader's Digest*. It appears that the corrected audience represents 61% of the CESP recent readers; the correction effect being harder on occasional readers (50%) than on all-issues readers (67%), and on pass-on readers (53%) than on primary readers (65%).

Figures 1, 2 and 3 show comparisons between CESP recent readers and corrected estimates of average issue readers, for the weeklies, monthlies and national dailies covered by the 1981 CESP study.

CONCLUSION

The correction method presented here may produce an estimate of the average issue readership barely lower than the figures which CESP usually publish, but now this corrected audience is no longer inconsistent with the audited circulation.

Obviously this result, important for an unbiased evaluation of the audience of various publications, does not by itself justify the correction method used, which can be criticized, improved or replaced. It is however of some importance to know that the CESP data must not be taken as reliable audience measures, and that at the same time this unfortunate situation can be somewhat improved by a correction method readily applicable. Even if this is merely a temporary expedient, it is better for the users of the CESP readership surveys than to work with erroneous data.

Several papers given at the New Orleans Symposium and at this one also, seem to indicate that in many countries readership measures warrant the same criticisms as the French CESP. It is up to media researchers throughout the world to develop improved readership measurement techniques which would produce results in line with the audited circulation figures given by a reliable and independent source.

TABLE 5
Reader's Digest 1981
Determination of the expansion coefficient (d)

Number of primary reader households					
estimated from CESP data:		1,529,000			
OJD audited circulation:		1,010,000			
PRIMARY READERS, HEADS OF HOUSEHOLD					
<i>Claimed frequency</i>	<i>Readers within last 12 months</i>	<i>Recent readers</i>	<i>Derived probability (p)</i>	<i>Corrected probability (q)</i>	<i>Average issue readers corrected estimate</i>
Every month	1,333	1,176	.882	.620	826
6 to 10 per year	326	178	.546	.300	98
3 to 4 per year	528	146	.277	.137	72
1 to 2 per year	354	21	.059	.027	10
Less often	219	8	.037	.017	4
	2,760	1,529			1,010

It is found that by choosing an expansion coefficient $(d) = 2.21$ the relation $(1 - q)^d = (1 - p)$ gives the above corrected probabilities (q) and consequently a total number of average issue readers equal to the audited circulation

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TABLE 6
Reader's Digest 1981
Extension of the expansion coefficient (d) = 2.21
to readers other than primary readers heads of households

<i>Claimed frequency</i>	PRIMARY READERS, NON-HEADS OF HOUSEHOLD				<i>Readers of an average issue</i>
	<i>Readers within last 12 months</i>	<i>Recent readers</i>	<i>Derived probability (p)</i>	<i>Corrected probability (q)</i>	
Every month	1,629	1,387	.851	.578	942
6 to 10 per year	482	214	.444	.233	112
3 to 4 per year	644	157	.244	.119	76
1 to 2 per year	495	40	.082	.038	19
Less often	319	38	.119	.055	18
	3,559	1,836			1,167

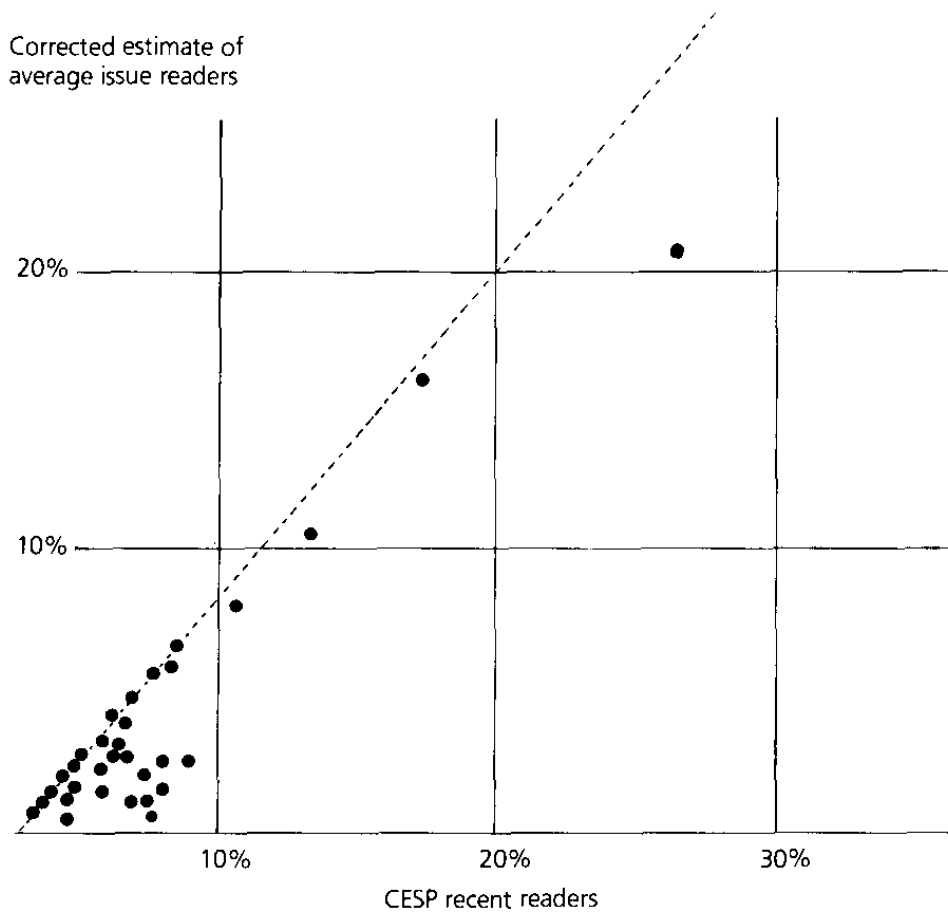
PASS-ON READERS					
Every month	830	594	.716	.434	360
6 to 10 per year	1,011	443	.438	.230	232
3 to 4 per year	1,766	362	.205	.099	174
1 to 2 per year	2,078	232	.112	.052	108
Less often	1,183	103	.087	.040	48
	6,868	1,734			922

TABLE 7
Reader's Digest 1981
Corrected audience of an average issue

CORRECTED ESTIMATE OF AVERAGE ISSUE READERS					
<i>Claimed frequency</i>	<i>CESP recent readers</i>	<i>Primary readers heads of households</i>	<i>Other primary readers</i>	<i>Pass-on readers</i>	<i>Total</i>
Every month	3,156	826	942	360	2,128
6 to 10 per year	835	98	112	232	442
3 to 4 per year	664	72	76	174	322
1 to 2 per year	293	10	19	108	137
Less often	150	4	18	48	70
	5,099	1,010	1,167	922	3,099

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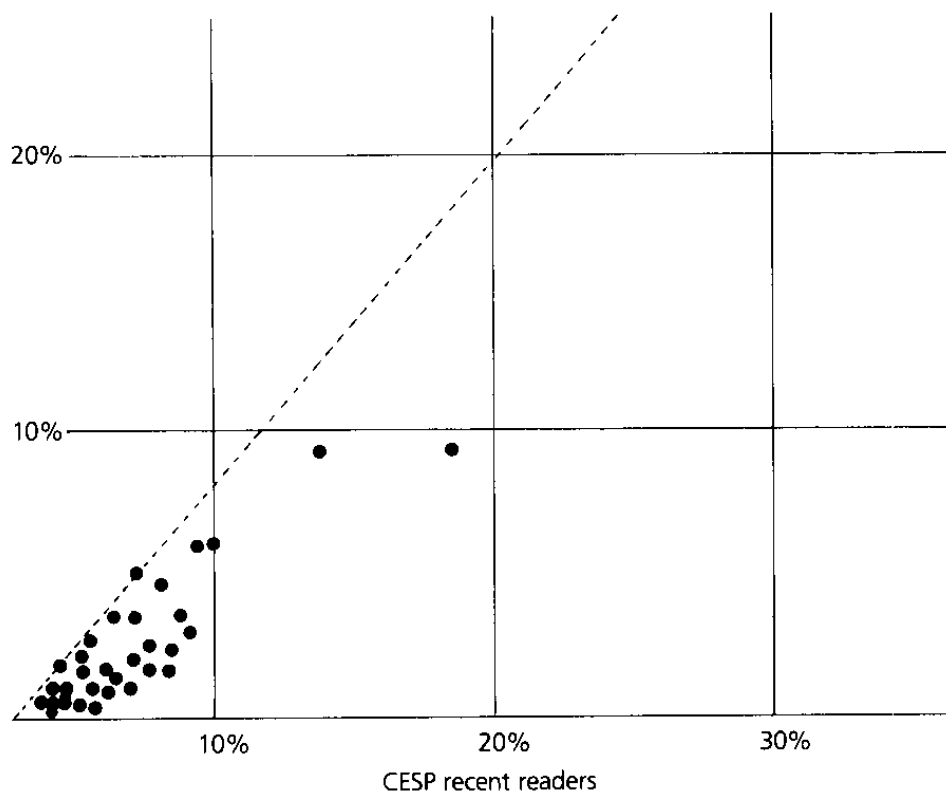
FIGURE 1
Weeklies — 1981 CESP



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FIGURE 2
Monthlies — 1981 CESP

Corrected estimate of
average issue readers



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FIGURE 3
National dailies — 1981 CESP

Corrected estimate of
average issue readers

