

# THE IDEAL READERSHIP SURVEY

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As the British National Readership Survey is currently the subject of much discussion as to its future content and methodology, this seemed to be as good a time as any to put forward a few thoughts which may or may not be regarded as helpful. Perhaps the first point to consider is what a readership survey is for and what it is reasonable to expect from it. The NRS claims that its objective is "... to provide the common currency of readership research data for newspapers and magazines, using a methodology acceptable to both the publishers of print media and the buyers of space ...".

## **The provision of a currency**

The first requirement of a readership survey is that it should indeed provide a currency by which press advertising space can be bought and sold. But any currency must be credible and trusted if it is to be universally used and it must provide an objective measure of value that does not benefit one product at the expense of another. So a readership currency must provide the same levels of objectivity and accuracy for all types of publication; it is unacceptable for it to overestimate the readership of some publications but not others.

## **A measure of "truth"**

That raises another point. Even if a readership survey can provide a relative measure of value by which publications can be evaluated and compared, is that enough? Surely it is reasonable to expect a level of absolute truth as well. In other words, trading could take place if publication A were to be estimated as having a readership of 80% of a given target market, while publication B were to be estimated at 60% and publication C at 40%. The relative values of the three publications might be quite accurate, the price of advertising space could be set based on the estimated readership values and trading could take place. But if the real readerships of the three publications were 20%, 15% and 10% respectively, i.e. each being 25% of the estimated readerships but with the same relationship between the publications, then, although the trading currency would be unaffected, any calculations as to the likely effect of the advertising on the target market would be significantly affected. So the readership survey should provide an accurate absolute measure, not just a relative measure, of readership.

## **The components of media planning**

Thirdly, a readership survey should provide all the information necessary for press schedule planning to be carried out. That will include the accumulation of readership from one issue to another of a given publication, as well as the duplication between the readership of one publication and another. A definition of media planning is "trying to reach the right people, the right number of times, as economically as possible". The readership survey should provide all the information necessary for the planner to achieve that aim, by supplying data from which schedule reach and frequency evaluations can be achieved.

So the three requirements of a readership survey are that it should (a) provide a reliable, credible, universal currency for the buying and selling of advertising space, (b) provide absolute, as well as relative, measures of press readership and (c) provide all the information necessary for schedule planning and evaluation in terms of coverage and frequency of a target market. Let us look at these three requirements in turn and see to what extent they are provided by the G.B. National Readership Survey, which I shall refer to as the "NRS" for short.

## **The "recent reading" method.**

The "recent reading" readership method is used in the NRS, the Target Group Index and many other surveys throughout the world and indeed has been used in Great Britain for as long as most of us can remember; it provides the basis for press media planning and the currency by which newspapers and magazines are bought and sold. And yet it has a defect which distorts the readership of some publications to an extent which is dangerously misleading.

### Replication

The problem lies in the readership question itself. Respondents are asked when they last saw a copy of a publication; if they claim to have done so in the last "publishing interval", for example in the last week for a Sunday newspaper or weekly magazine, or the last four weeks for a monthly magazine, they are included in the "average issue readership". Now that would be quite correct if the reading event in the last publishing interval were the first time the respondent had seen the particular issue of the magazine. But if he or she picks up or reads the magazine at any point outside the issue-period in question, then, using the "recent reading" methodology, that reading event is counted again. That phenomenon, which is called "replication", can seriously inflate the apparent "average issue readership" estimate for a magazine. A respondent can be given a copy of a magazine at Christmas and happily read it again and again every week for the rest of the year and into the future. If asked in any subsequent month whether or not he or she has read that particular magazine in the past four weeks, the respondent can reply, perfectly correctly and truthfully, in the affirmative. The "recent reading" method will treat that respondent (or his or her equivalent) as an "average issue reader" every time the original copy is picked up again in a fresh issue-period.

The readership is artificially inflated because the "recent reading" method cannot distinguish between "publishing interval reading occasions" and "average issue readership", that is between frequency and coverage. That might not matter so much from the point of view of establishing a "readership currency" by which advertising in publications is priced, bought and sold, if all publications were inflated by approximately the same degree. But they are not. Replication is caused by reading a publication again in one or more subsequent issue-periods; it is more likely to occur in magazines which (a) have a longer publishing interval, (b) are non-topical (i.e. where the editorial content does not become quickly out-of-date), (c) are robust and can stand repeated handling without falling to pieces and (d) are used for reference or contain lengthy and detailed instructions. Replication thus is less likely to occur for daily newspapers which are highly topical, but tends to increase with the publishing interval and is at its worst with magazines which are bought occasionally but used repeatedly for reference long after their original publication. The effect of the phenomenon is that, wherever the "recent reading" method is used (as in the NRS), the "average issue readership" estimate of magazines, particularly monthly magazines, is inflated relative to daily newspaper "average issue readership". This phenomenon is known as "model bias", which is now the most generally-used term to describe the distortion inherent in the methodology that over-estimates the "readership" of some magazines but has little effect on other publications such as national newspapers. When referring to "recent reading" estimates, such as those published in the NRS, one can only use the term "readership" in the loosest possible sense.

### "Readers-per-copy"

We can check the credibility of the NRS "readerships" by dividing by the circulation in each case to obtain "readers-per-copy". Some of the readers-per-copy figures are absolutely incredible, as can be seen from these figures taken from the NRS (January-December 1998).

**Table 1. Readers per copy. ("Recent reading" methodology).**

Monthly magazine	NRS	Circulation	Readers per copy
	"readership" '000		
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What Car?	1328	152	8.7
Practical Woodworking	195	18	10.8
Coarse Angling	261	23	11.5
Rugby World	427	32	13.2
Classic Cars	926	48	19.3

*Source: NRS. January - December 1998.*

Remember that those figures are averages; for every person who keeps his copy of Classic Cars to himself, another copy must be read by over 37 people to get to that average of 19.3. Of course, these "readership" figures are plainly ridiculous. "What Car" provides details of every motor car on the market. An issue can be 300 pages long; it is crammed with information and it is used for reference again and again. It is beyond all credibility that each copy is read by 8.7 people; it is far more likely to be an average of 2 readers-per-copy, each picking up the magazine an average of 4.35 times each. The trouble is that the NRS "recent reading" technique cannot distinguish the difference.

### Frequency of reading

We should look at other information in the NRS that might tend to confirm or disprove the "recent reading" readership estimates and it might be hoped to gain some evidence from the "reading frequency" questions. Respondents who have claimed to have read or looked at a given publication in the past 12 months are then asked to place themselves in one of three categories which "... best describes how often they read or look at ...." the publication.

These three categories are:-

"Almost always (at least 3 issues out of 4)"

"Quite often (at least 1 issue out of 4)"

"Only occasionally" (less than 12 issue out of 4)"

It should be noted that these frequency claim categories imply a theoretical probability of reading in each case. For example, if somebody claims to read at least 3 out of 4 issues of a publication, then his or her probability of reading an average issue could be expected to be at least 3/4, i.e. 0.75. Similarly, if somebody claims to read fewer than 1 out of 4 issues of a publication, then the probability of reading an average issue might be expected to be smaller than 0.25. In fact, the NRS derive reading probabilities in practice from those in each frequency claim cell who are also "readers" (as defined by the "recent reading" question) of the publication. Thus, if 2,070 weighted respondents claim to read the Daily Telegraph "almost always" and 1,818 of them are "readers" as defined by the NRS, then the assumed group mean probability of those in that frequency claim cell actually reading an average issue of the Daily Telegraph is  $1,818 / 2,070 = 0.878$ . We can look at the average probabilities, based on the "recent reading" estimates in each frequency claim category, for each type of publication:-

**Table 2. Probabilities of reading, based on NRS "recent reading" question**

ADULTS	← Frequency claims →		
	Almost always ≥ 3/4	Quite often ≥ 1/4	Only occasionally < 1/4
Publication Category			
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Av. daily newspaper (12)	.835	.259	.059
Av. Sunday newspaper (13)	.962	.433	.103
Av. General Weekly (29)	.820	.345	.083
Av. General Fortnightly (4)	.888	.532	.163
Av. General Monthly (69)	.977	.795	.323
Av. Gen. Bi-monthly/Quarterly (4)	.966	.923	.544
<b>WOMEN</b>			
Av. Women's Weekly (13)	.903	.363	.093
Av. Women's Fortnightly (3)	.875	.536	.152
Av. Women's Monthly (51)	.969	.775	.306
Av. Women's Bi-monthly (7)	.950	.890.	.416

Source: NRS. January - December 1998.

It can be seen that the probabilities, particularly among the less regular readers, increase with the publication interval. The daily newspapers, where little or no replication occurs, have probabilities that are consistent with the theoretical values in each case. For example, the average probability among those claiming to see a daily newspaper "only occasionally" is about .06, which is well below the theoretical limit of 0.25. Compare that with the calculated probabilities (based on "recent reading") for monthlies where the average probabilities for those claiming to read "only occasionally" are greater than 0.3 for general and women's publications. Those values are not only over 5 times as large as the average probability for daily newspapers; they also exceed the theoretical limit of 0.25. Similarly, the probabilities for monthly magazines among those reading "Quite often" (.795 and .775 respectively for general and women's magazines) are also several times larger than the figure for daily newspapers (.259) and again exceed the theoretical maximum (0.75). The probabilities for bi-monthly magazines are dramatically higher still. We might wonder why people, asked the same question about their frequency of reading of different publications, would attribute such different mathematical meanings to a phrase like "less than 1 out of 4", dependent on whether the publication is a monthly or a weekly. The answer, of course, is that they do not. The high probabilities are caused by the overestimation of magazine readership inherent in the "recent reading" methodology, not by variations in the frequency claims.

### The amazing case of the Illustrated London News

If the "recent reading" method produces higher readership estimates for magazines with a longer publication interval, then if a publication were to change its frequency of issue, for example change from a weekly to a monthly, then one would expect its readers-per-copy to increase. It just so happens that the Illustrated London News was removed from the NRS in April 1971 when it changed from a weekly to a monthly periodical, being re-inserted in the survey (as a monthly magazine) in January 1972. We therefore have data for the Illustrated London News for the period January-December 1970 (when it was a weekly) and also January-June 1972 (now a monthly). The comparison is fascinating:

**Table 3. Illustrated London News NRS readerships (all adults)**

Period	Circulation ( '000)	NRS "readers" ( '000)	Readers per copy
January - December 1970	51,217	407	7.9
January - June 1972	73,044	1,349	18.5
% change	+43%	+231%	+134%

We are asked to believe that, for a circulation increase of 43 per cent, the readership more than trebled, increasing the numbers of readers per copy by 134 per cent to a startling 18.5. I am afraid that is stretching credibility too far. What we are looking at is a good example of replication causing even more drastic overestimation of the "readership" of a monthly magazine than the overestimation of the "readership" of a weekly magazine.

### A little history

The problem of replication is not a new one. Over 37 years ago, in 1962, the Thomson Gold Medal and Award was offered for the best solution to precisely the same problem, that of replication. The Thomson Gold Medal Committee set out the problem very lucidly in their introduction, which is well worth re-reading. Referring to replication itself it was stated:-

"There is evidence that for some monthly magazines this source of error can result in the readership figures produced by current survey methods being almost three times as large as they should be. And while this 'replicated readership' may be of some value to the advertiser, it is not what the readership survey is supposed to measure . . ." (Ref. 1).

The award was won by Messrs. T. Corlett, B. J. Pretty and L. J. Rothman, though the judges published several other papers as well, because of their technological and methodological interest. In all the papers submitted, there seemed little doubt of the inadequacy of the NRS average-issue question:

"It is our view that the discomfort caused by the "replication bogie" and the facts of respondents memory failure render the present IPA readership technique demonstrably inadequate for monthly periodicals. A new way of measuring these audiences must therefore be found immediately . . ." (Schlaeppli and Nuttall) (Ref. 2).

"... it is now established that - because of readership replication - a right assessment of the audience reached would still not be possible even if these actual facts were exactly known . . . the only logical conclusion is to reject the IPA research technique particularly when applied to monthly publications." (Agostini) (Ref. 3).

Quite so! Except that 37 years later the same flawed "recent reading" methodology is still being used. I drew attention to the problem again over 25 years ago in an article in ADMAP in January 1973 (Ref. 4), although in those days, being younger, more respectful and more hesitant to criticise the establishment, I entitled it diffidently "Magazine readership - is there something wrong?". Since then, because of the distortions caused by replication, the "recent reading" method has been attacked by rational media researchers all over the world and the subject has been raised (and tempers as a result) at every one of the International Readership Research Symposia since 1981. At the Montreal Symposium in 1983, papers by Jean-Michel Agostini (Ref. 5) and Wally Langschmidt (Ref. 6) drew attention to the possibility of validating readership by means of circulation and copy-origin data. However, it is only in the last few years that extra information has been included in the G.B. NRS, which provides the evidence to discredit the "recent reading" technique beyond any reasonable doubt. I first drew attention to the validation method at the San Francisco Symposium in 1993 (Ref. 7), but I will now discuss it in more detail.

### A mathematical diversion

Before I go on to describe the new evidence, which inevitably involves an element of mathematics, let me get you into a numerate frame of mind with a simple little arithmetical problem. Let's say that you are driving home after work, the traffic is much as usual getting out of town and, by the time you are exactly half the distance to your home, you find you have been travelling at an average speed of exactly 10 miles per hour. By then you have reached the motorway, which is miraculously clear and leads you all the other half of your journey to your home. How fast do you have to travel on the second half of your journey, to have done the whole trip at an average speed of 30 miles per hour? Just jot down the answer before reading any further.

Many people would say that one would have to travel at 50 m.p.h. for the second half of the journey, to combine with the 10 m.p.h. of the first half to give an average of 30 m.p.h. At first sight, it looks a reasonable answer, but it is wrong. Let's say the journey is 20 miles. At 10 m.p.h, the first half of your journey would then take an hour. If one did the second half at 90 m.p.h., it would take another 6 minutes, 40 seconds, meaning that it would have taken over an hour for the 20 mile journey and the average speed for the whole journey would be 18 m.p.h. And even if one could travel infinitely fast, doing the second half of the journey in no time at all, the first half of the journey still took an hour and the average speed for the whole journey can never exceed 20 m.p.h. It may be helpful to remember that little calculation while we look at the validation of the NRS average issue readership estimates using new information about the source of copy.

### Validation of average issue readership estimates

It will perhaps be easiest to explain the method by taking a specific example of a magazine, in this case the weekly television programme magazine "T.V. Times". I emphasise that I have picked this magazine purely as an example; there is nothing unusual about the magazine and the principles described below could be applied equally to any other publication.

The January-December 1998 NRS gave an "average issue readership" estimate (using the "recent reading" method) of 3,341,000 readers aged 15 or over. 81.1% of the AIR readers said that it was either "delivered to the informant's home by a newsagent" or was a "postal subscription to the home" or "bought by the informant" or "bought by somebody else in the household" for the occupants of the household. In other words, 81.1% of the readership claimed to have read a "household" copy, as opposed to an "office or work" or "someone else's copy" (who does not live in the informant's household). If we apply that percentage to the total 15+ adult average issue readership, we can derive an estimate of the number of those, aged 15+, reading a copy originating in their own home, defined as "primary" readers in the NRS.

#### All adults aged 15+ reading T.V. Times. Source: NRS (January - December 1998).

AIR (Recency method) (000)	% reading household copy %	"Household" readers (with household copy origin) (000)
3,341	81.1	2,710

It is also possible to tabulate from the NRS the average number of people aged 15+ in the households of the readers of the T.V. Times who have claimed to read a household copy. If we assume that all the occupants of the household are potential readers of the T.V. Times, we can divide the average size-of-household figure into the "household readers" to find the minimum number of copies necessary to generate the household readership.

#### All adults aged 15+ reading T.V. Times. Source: NRS (January - December 1998).

Household Readership (000)	Average size (15+) of household	Minimum copies (000)
2,710	2.4	1,129

Having calculated the minimum number of copies necessary to provide the household readership, we can then proceed to the next stage of validation which is to compare the figure of 1,129,000 copies with the total audited circulation. Unfortunately, we then discover a horrible inconsistency; the total average G.B. T.V. Times circulation for the period January-December 1998 was only 858,841 which is significantly fewer than the minimum number of copies needed to achieve the household readership, let alone the other 631,000 readers who see an "office/work" or "someone else's" copy.

Clearly, there is something drastically wrong. We should perhaps just re-check our assumptions to see how varying them affects the conclusion. First, we assumed that all the members of the household read the magazine; that could easily be an over-estimate. However, if we reduce the number of average readers-per-copy within the household, the minimum number of copies necessary then increases, which makes the situation worse. For example, if for the T.V. Times we assume that there are only 2 readers-per-household rather than the full 2.4, then the minimum number of copies necessary to provide the household readership of 2,710,000 increases to 1,355,000, which is over 496,000 copies more than the actual circulation of 858,841.

The next figure that we might examine is the 81.1% of the readership claiming to have seen a "household" copy. It is interesting to note how very different the percentage of the readership seeing a household copy has to be before the various data become consistent. In the case of the T.V. Times, in order to generate the AIR readers from the given circulation, the percentage of "household" readers cannot be greater than 61.6% and that assumes (i) readership by all members of every household and (ii) that all the remaining 38.4% (over 1.2 million readers) are generated solely from passed-on household copies! There is a simple mathematical relationship between the maximum readers-per-copy and the percentage of readers seeing a household copy; I shall return to that point later on.

Given the circulation, the percentage of the readership seeing a "household" copy and the maximum possible readers-per-household (taken to be the average number of adults in the household), it is possible to calculate the total maximum readers using the following method. If the average issue readership estimate exceeds the maximum readership, then the AIR estimate must be incorrect.

Given: Circulation, Household readership percentage, Average size of household.

- (1) Maximum no. of household copies = total circulation  
That assumes that some or all of the household copies are later passed on to generate the "out-of-household" readership.
- (2) Maximum household readership = Average size of household x Maximum no. of household copies
- (3) Total readers = household readers / household readership percent.
- (4) Therefore ....Maximum total readers = Total circulation x (average size of household) x 100

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Percentage of readers seeing household copy

For the T.V. Times ....

Max. household readership (000) = 858.841 x 2.40 = 2,061  
 Max. total readers (000) = 2,061 x 100 / 81.1  
 = 2,541 (2.96 readers-per-copy)

The NRS "recent reading" estimate of 3,341,000 (3.89 readers-per-copy) is therefore 31.4% greater than the absolute maximum possible readership, given the parameters of circulation and household readership. I have taken the T.V. Times at random to illustrate the problem. However, the result shown for this particular publication is not an isolated case; indeed, for many magazines the inconsistencies are far more dramatic than we have just seen. In Appendix 1 to this paper, I show similar calculations carried out for all magazines in the January-December 1998 NRS for which I could obtain audited circulation figures for the same period. I have also summarised, in Table 4 below, the individual figures by showing the average results for general weekly, fortnightly, monthly and bi-monthly magazine categories.

**Table 4. Maximum and NRS readers-per-copy.**

<b>ADULTS Publication Category</b>	<b>% seeing household copy</b>	<b>Average household size</b>	<b>Maximum readers per copy</b>	<b>NRS readers per copy</b>	<b>% excess</b>
Av. daily newspaper (12)	73.0	2.36	3.2	2.9	-
Av. Sunday newspaper (13)	79.9	2.37	3.0	2.8	-
Av.Gen.Weekly (29)	68.0	2.48	3.6	4.7	+28%
Av.Gen.Fortnightly (4)	70.5	2.60	3.7	4.1	+11%
Av.Gen.Monthly (69)	61.7	2.54	4.1	6.3	+52%
Av.Gen.Bi-monthly/Quarterly (4)	58.7	2.30	3.9	2.9	-

For each category, I show the average "household" copy readership percentage, average household size, the average maximum readers-per-copy, the average NRS readers-per-copy and, where the NRS result exceeds the maximum, the percentage by which it exceeds the maximum. The readers-per-copy estimates, given by the "recent reading" method, exceed the maximum for 22 out of the 29 general weekly magazines and are on average 28% greater than the maximum (see Table 21 in Appendix 1). For the general monthly magazines (see Table 23), 51 out of 69 failed the validity test, and the variation is far more dramatic, with the readers-per-copy average being 6.3 which is 52% greater than the average maximum figure. That, of course, is completely consistent with other evidence that the replication phenomenon affects monthly magazine "recent reading" readership estimates far more seriously than those for weekly magazines. These averages conceal a wide range of variation and Table 23 shows that 13 of the 69 general monthly magazines have an AIR r.p.c. estimate over twice as big as the maximum. It should be emphasised that the above calculations of the maximum readers are based on the optimistic assumption that all members (aged 15+) of a household are readers. Any realistic reduction of that parameter will reduce the household readers-per-copy and thus the maximum readers; the variations of the "recent reading" AIR estimates from the maximum readerships are therefore likely to be greater in practice than those shown in the table above.

**Table 5. Maximum and NRS readers-per-copy.**

WOMEN Publication Category	% seeing household copy	Average household size	Maximum readers per copy	NRS readers per copy	% excess
Av.Wom.Weekly (13)	55.2	1.33	2.4	3.0	+24%
Av.Wom.Fortnightly (3)	72.8	1.90	2.6	2.5-	
Av.Wom.Monthly (51)	56.9	1.40	2.5	3.9	+58%
Av.Wom.Bi-monthly (7)	56.1	1.40	2.5	5.3	+111%

Carrying out similar calculations on women's magazines, but using readership among women only and women-per-household figures, we see the same pattern as for the general magazines, with average monthly magazine "recent reading" estimates exceeding the maximum figure to a far greater extent than the weeklies. Bi-monthlies, with more opportunities for replication, have an average RPC value over twice as large as the maximum.

The sensitivity of the maximum possible readers-per-copy to the "household" readers-per-copy will now be apparent. The relationship can be expressed by means of the following formula, which is conceptually equivalent to the average speed calculation shown earlier:-

$$T = (100 \times H) / P \text{ where } \begin{matrix} T = \text{maximum total readers-per-copy} \\ H = \text{maximum household readers-per-copy} \\ P = \text{percent of readers seeing a household copy} \end{matrix}$$

The following table shows the maximum limits of total readers-per-copy for various levels of household readers-per-copy and household readership percentages.

**Table 6. Total readers-per-copy limits.**

Average no. in household. (househld rpc)	Percentage of readership seeing household copy							
	20	30	40	50	60	70	80	90
1.0	5.0	3.3	2.5	2.0	1.7	1.4	1.3	1.1
1.2	6.0	4.0	3.0	2.4	2.0	1.7	1.5	1.3
1.4	7.0	4.7	3.5	2.8	2.3	2.0	1.8	1.6
1.6	8.0	5.3	4.0	3.2	2.7	2.3	2.0	1.8
1.8	9.0	6.0	4.5	3.6	3.0	2.6	2.3	2.0
2.0	10.0	6.7	5.0	4.0	3.3	2.9	2.5	2.2
2.2	11.0	7.3	5.5	4.4	3.7	3.1	2.8	2.4
2.4	12.0	8.0	6.0	4.8	4.0	3.4	3.0	2.7
2.6	13.0	8.7	6.5	5.2	4.3	3.7	3.3	2.9
2.8	14.0	9.3	7.0	5.6	4.7	4.0	3.5	3.1
3.0	15.0	10.0	7.5	6.0	5.0	4.3	3.8	3.3
3.2	16.0	10.7	8.0	6.4	5.3	4.6	4.0	3.6
3.4	17.0	11.3	8.5	6.8	5.7	4.9	4.3	3.8

*Example:* If household average readers-per-copy = 2.4 and the percentage of readers seeing a household copy = 60% then the total readers-per-copy cannot exceed 4.0

Note that the formula applies for any readerships or circulation. If 54% of a magazine's readership claim to have seen a household copy with a maximum potential of 2.5 readers-per-household, then the total readers-per-copy cannot exceed  $(100 \times 2.5) / 54 = 4.63$ . That is not a media research opinion; it is a mathematical fact.

**Is the "maximum" readers-per-copy value too high?**

Following my paper at the 1993 San Francisco Readership Research Symposium<sup>(Ref. 7)</sup>, an interesting comment was provided by Brian Allt in an appendix to a paper<sup>(Ref. 8)</sup>, distributed, but not presented, at the 1995 Berlin Readership Research Symposium. He pointed out that if, in the NRS, more than one respondent is interviewed per household and the multi-respondent households tend to be those with more adults per household, then my calculation of "adults-per-household" would tend to be an overestimate. The corollary of that is that my calculation of the maximum number of readers-per-copy would also be an overestimate. I can only say that, theoretically, Brian Allt's point is entirely correct and I am most grateful to him for drawing it to our attention. I have no idea how often more than one respondent per household is interviewed in the NRS but if the occurrence is significant and, as seems likely, tends to happen in larger households, then my calculation of adults-per-household and thus maximum readers-per-copy is indeed an over-estimate and the true situation is even worse than I have indicated.

**The robustness of source-of-copy data**

We therefore have a firmly based mathematical method of validating the upper limit of average issue readership estimates. Moreover, the method is based on research which should be considerably more reliable and easier to collect than the readership data themselves. Source-of-copy data are sometimes criticised on the grounds that it is extremely difficult to remember exactly where a particular copy originated, particularly for out-of-home reading. That is a view which may have some validity but it is completely irrelevant in this case because we are not interested in the precise origin of a copy picked up outside the home. All we have to establish is whether the copy was a "household" copy or not and a moment's reflection will suggest that "source of copy" information, as defined in the simple terms applicable in this case, is likely to be considerably more robust and reliable than the average issue readership measure. Let me give an example.

In the last month, I have read, among other publications, two monthly magazines. "What Car" provides full details of every new motor car available in the U.K. and, as I am considering the purchase of a new car, I bought a copy some months ago (though I can't remember exactly when) and have read it on many occasions since. Because I read it so often, I am pretty sure that I have read it in the past 4 weeks and so would be counted under the "recent-reading" measure as an average issue reader. Because I have read the magazine over and over again during the past few months, my reading has been subject to serious replication and my last reading event might be subject to "telescoping", i.e. I might have mistakenly thought that it was within the last four weeks although it had really been earlier. However, in that rather hazy recollection of reading events, I am absolutely certain that (i) I bought the copy of the magazine (though I can't recall where) and (ii) it has never left my brief case since and nobody else has seen it.

The other magazine that I have read recently is "Practical Boat Owner". I think it was probably during the last four weeks (though again I may be "telescoping") but I certainly cannot be sure of precisely where or when. It might have been at the dentist's or in the doctor's waiting-room or where I had my hair cut or in the reception area of any one of several London media owners. The one fact of which I am absolutely certain is that it was not a "household" copy that I saw. We do not subscribe to "Practical Boat Owner", my wife is not interested in boats and we certainly do not have a copy in the house.

In both of the above examples, the necessary "source of copy" data, to distinguish between a "household" copy or otherwise, are far more reliable and robust than the readership measure itself. A moment's thought about one's personal reading habits will confirm that it is far easier to state with certainty whether or not a magazine was a "household" copy than it is to say with accuracy when it was last read. This general experience is confirmed by a recent study carried out by R.S.L. to assess "quality of reading" measures. The research was described by Hilary Cade in a paper<sup>(Ref. 9)</sup> presented to the 1993 International Research Symposium in San Francisco and repeated subsequently in London at an M.R.G. evening meeting. Referring to the NRS "source of copy" questions, it was stated:- "Source of copy" was found to be understood and readily assessed by respondents" and "95% of claims for the 'source of copy' question were confirmed." In other words, source of copy data provide very reliable information and can safely be used to validate the readership claims.

Examining the other components of the equation, we have no ostensible reason to doubt the validity of the circulation figures and indeed it is difficult to imagine the circumstances in which these might be too low. Furthermore, whatever problems there might be in answering readership questions accurately, a respondent might reasonably be expected to know how many people there are in his or her household. Of the components of the calculations which lead us to the demonstrable inconsistencies described above, the recent-reading estimate is the most unreliable.

**The seriousness of the replication problem**

The detailed tables in Appendix 1 (Tables 21 - 28) demonstrate the enormity of the problem by showing how far the "recent reading" estimates of readership for individual publications exceed the maximum in each case but, to highlight the discrepancies, here are the five monthlies with the greatest variation from the maximum.

**Table 7. All adults aged 15+.NRS Jan-Dec 1998**

<b>Monthly Magazine</b>	<b>% seeing household copy</b>	<b>Average household size</b>	<b>Maximum readers per copy</b>	<b>NRS readers per copy</b>	<b>% excess</b>
Classic Cars	51.8	2.48	4.8	19.3	+304%
Practical Woodworking	66.2	2.31	3.5	10.8	+210%
Coarse Angling	69.7	2.61	3.7	11.5	+208%
Classic CD	61.4	2.04	3.3	9.5	+186%
Rugby World	58.8	2.76	4.7	13.2	+181%



For example, with 51.8% of the readers of "Classic Cars" seeing a household copy, it cannot have more than 4.8 readers-per-copy and yet the "recent reading" method attributes it with 19.3! Interestingly, all these magazines are designed for specialist reader groups and contain an enormous amount of information; they are the sort of magazines that are picked up and used for reference on numerous occasions. But a figure of over 19 readers-per-copy exceeds the bounds of all credibility. What is happening in each case is rampant replication. Readers are picking up these magazines again and again and the "recent reading" method, which is incapable of distinguishing between one reader picking up a magazine on 12 occasions and 12 readers doing so once each, is inflating the average issue readership estimate accordingly. However, that is not necessarily true for all monthly magazines.

**Table 8. All adults aged 15+.NRS Jan-Dec 1998.**

<b>Monthly Magazine</b>	<b>% seeing household copy</b>	<b>Average household size</b>	<b>Maximum readers per copy</b>	<b>NRS readers per copy</b>	<b>% excess</b>
Sky TV Guide	80.9	2.58	3.2	1.6	-
The Garden	78.2	2.20	2.8	1.8	-
Saga Magazine	73.1	1.94	2.7	1.8	-

For example, where a magazine has a high level of regular readers, as in the three examples here, the "recent reading" method will not inflate the readership estimate to any great extent. When readers take a magazine regularly, and read it every month, they may well re-read previous issues from time to time but the failure of the "recent reading" method to detect the multiple pick-up will not inflate the readership estimate because the latest issue is being read anyway. Such magazines therefore pass the validity test, as you see, but may be placed at a disadvantage compared with competitive magazines with less regular readership and a correspondingly inflated readership estimate. Moreover, the added frequency of exposure provided by the multiple pickup, which could be of great value to an advertiser, cannot be measured by the "recent reading" method.

### Multiple reading occasions

On the other hand, it could be argued that the recent-reading method is at least measuring some form of publication exposure and that the multiple pickup of monthly magazines, that causes the replication, is of value to a potential advertiser and should be taken into account. The trouble is that the "recent reading" method underestimates reading occasions; however many times a respondent picks up a magazine within an issue-period, he or she is only counted once. What is needed is a measure of reading-days or, better still, number of pickups, as provided in the useful 1998 "Quality of Reading Survey", published by the IPA, ISBA and PPA<sup>(Ref. 10)</sup>. The average number of pickups for individual magazines are given in tables 29 - 36 in Appendix 2. Below, taken from the QRS, are average number of pickups for each type of publication:-

**Table 9. Average number of pick-ups.**

<b>Publication category</b>	<b>Average number of pick-ups</b>
<b>ADULTS</b>	
Av. daily newspaper (12)	3.0
Av. Sunday newspaper (13)	3.0
Av.Gen. Weekly (29)	5.3
Av.Gen. Fortnightly (4)	3.7
Av.Gen. Monthly (68)	5.9
Av.Gen. Bi-monthly/Quarterly (4)	3.8
<b>WOMEN</b>	
Av. Women's Weekly (13)	3.6
Av. Women's Fortnightly (3)	4.6
Av. Women's Monthly (51)	4.7
Av. Women's Bi-monthly (7)	5.7

These figures do not give the complete picture, because the QRS did not distinguish between multiple pick-ups within the publication interval and multiple pick-ups outside the issue-period. The figures must also be treated with some caution, due to the difficulty that respondents have in estimating with accuracy the number of times they pick up a given magazine during the course of its life. This difficulty can lead to logical discrepancies in the data. For example, an average issue of SkyTVGuide is claimed to be picked up an average of 11.2 times during the course of its life, but it is also claimed to be read on average on 12.0 different days. A magazine can of course be picked up several times a day and thus have more pick-ups than different days on which it is read; however, the converse cannot be true. Nevertheless, the QRS research demonstrates conclusively that magazines are picked up many times in the course of their lives. That phenomenon is what causes replication and the over-estimation in readership estimates obtained by the "recent reading" method.

### **"Parallel readership"**

Further evidence of replication is provided by the QRS with the data showing the number of different issues read on the last reading day. For every magazine, the average number of issues read exceeds 1.0. Again, the data do not give the complete picture. If a respondent re-reads an issue of a magazine outside the original issue period, then that is replication and will inflate the NRS readership estimate unless the respondent also sees another issue of the magazine for the first time. However, it is possible that both of two issues are read for the first time within an issue period; that situation, known as "parallel readership" will tend to deflate the NRS readership estimate. If an informant suddenly acquires several issues of a publication and reads them all on the same day, he can only be counted as a reader once by the "recent reading" question, though obviously if he had read the same issues at monthly intervals he (or his equivalent) would qualify as a "reader" several times. So, replicated readership artificially inflates the readership estimate as established by the NRS question, while parallel readership deflates it. While both effects are possible in theory and could indeed occur in practice, the "official" view, (based on hope rather than evidence), has always been that the two effects tend to be small and to "cancel each other out", thus producing little effect on the overall estimate of average-issue readership. This superficially attractive, if fallacious, argument has been used to justify the lack of need for any action to improve the NRS methodology or indeed even to give the matter any detailed thought, thus perpetuating the use of the flawed "recent reading" method. So this is as good a place as any to terminate this particular red herring while trying to avoid clouding the waters any further.

Replicated readership results from multiple pick-up of a given issue. Parallel readership results from perusal of several issues over a very short time-period. For the regular readers, seeing each issue of a magazine soon after it appears, neither parallel readership nor replication are likely to matter, since they are correctly recorded by the NRS question as "readers" anyway. It is among the irregular readers that the trouble lies. The readership among those reading a magazine "only occasionally" can easily be inflated by replication if the magazine is picked up and read on more than one occasion. The very high "probabilities of reading" shown in Table 2 prove that is exactly what is happening. But these people, reading only occasional issues, could never see enough issues of the magazine to suffer from the parallel readership that would redress the balance. So the NRS average-issue readership question can inflate the estimate of readership among irregular readers of magazines, but parallel readership, that could in theory compensate to some extent, cannot occur for these groups of readers. The logical impossibility of parallel readership "cancelling out" replication, is of course confirmed in practice. If the overestimation caused by replication were negated by parallel readership, then the NRS readership estimates would not be as high as they are and would pass the validity test of household readership.

### **"Recent reading" can only provide a biased "currency"**

Let us return to the three requirements from a readership survey. The "recent reading" methodology clearly does not even satisfy the first requirement, that is to provide a credible currency by which press advertising may be bought and sold. The current NRS readership figures are fatally flawed, being biased in favour of magazines, particularly monthly magazines, to the particular detriment of daily newspapers. The NRS "recent reading" methodology is crippled by replication, that inevitably leads to the over-estimation of the "readership" of those publications with (a) with a longer publishing interval, (b) that are non-topical, (c) that are sufficiently robust to withstand repeated handling and (d) are used for reference or contain lengthy and detailed instructions. That removes any pretence of the NRS "readership" figures to provide an accurate and unbiased measure as a basis for a currency.

### **The importance of an absolute measure of media exposure**

Even if the market were to accept the NRS methodology and, ignoring the demonstrable bias and inaccuracy, were to treat the "readership" figures as an acceptable relative currency for the buying and selling of press advertising, the over-estimation of the readership of most of the publications in the NRS destroys the accuracy of any measure of the real value of press advertising exposure. If the readership estimates of individual magazines are artificially high, then so will be the reach estimates of schedules. If the coverage of a given schedule is not really the apparent 80% with an average frequency of 3.0, but in reality is only 40% with an average frequency of 6.0, then the actual effect on the target population will be very different to the effect that might have been expected. Econometric models, linking sales to advertising exposure, depend on accurate measurements of such exposure. If the sales effect of press advertising cannot be accurately predicted then increasingly cost-conscious advertisers will tend to transfer their advertising to other media, such as television, where the link between advertising and sales is more demonstrable. There is often a reluctance on the part of media-owners to countenance any action that would seem to have the effect of reducing the apparent performance of their product, such as the average issue readership of the magazine. In fact, if the readership of individual magazines is smaller, then it will take more insertions to achieve a given level of schedule coverage and frequency, which means larger press advertising budgets.

### **The time factor**

Even realistic and credible average issue readership figures, that could be validated by a method such as the one described earlier, were to be made available, the data necessary for accurate press media planning would still be incomplete. Every day, all over the world, press schedule planning is being carried out based on an assumption which, given a moment's thought, very few media planners would accept and yet is inherent in the basic raw data used by the media planner. I am referring to a limitation in the average-issue readership figures themselves.

We have already seen the very high readers-per-copy estimated by the NRS "recent reading" method. You may recall "Classic Cars" with an apparent readership of 926,000, and thus an RPC value of 19.3. The point that I shall be making is equally valid whether Classic Cars has 19 or 9 readers-per-copy, as I hope will become clear. But let us assume that we have somehow eliminated the overestimation caused by replication, that we have achieved an accurate readership measurement and that a magazine (let's call it "Practical Homemaking" does indeed have high pass-on readership with an average RPC of, say, 6.0. So the figures might be as follows:-

Adult average issue readership:	300,000
Circulation:	50,000
	-----
Average adult readers-per-copy	6.0

Assuming, purely for the sake of this argument, that the average issue readership figure (300,000) for Practical Homemaking is correct, then that figure can then be used as a basis for media evaluation. Cost-per-thousand calculations are based on it, and it is used as a parameter for schedule reach and frequency estimates when combined with other publications. However, all those everyday media activities are based on the assumption that all the 300,000 readers are achieved on day 1, the day that the magazine actually arrives at the bookstalls. But is that assumption justified? Let us look at the 300,000 readers in more detail. Given the circulation figures, then we can say that, for Practical Homemaking, a maximum of 50,000 are readers who actually bought the magazine, and the remaining 250,000 (i.e. another 5.0 readers-per-copy) are "pass-on" readers who see the copy after the buyer has finished with it. Because some copies are read only by the buyers, it must mean that other copies are read by even more readers, because the average number of "pass-on" readers-per-copy is 5.0. Each of the people who see the copy will take time to read it; moreover it is very unlikely that the next reader in each case is waiting impatiently to pick up the copy the very instant that the previous reader puts it down and the copy might hang around unperused for a significant time between readings. Depending on the size and content of the magazine, the process of a copy being seen by a succession of readers might take weeks or even months, which means that it is taking weeks or even months to build up to that total readership figure of 300,000. And if copies of magazines find their way into hairdressers', doctors' or dentists' waiting rooms, then they could stay there for years accumulating readers!

So when one starts thinking about the problem, it becomes obvious that readership of a publication will take some time to build up. The speed of the growth is something that we might look to research to establish. However, that is not a very easy task. To find out the readership accumulation pattern of magazines it is necessary to establish the readership of specific issues as opposed to average issue readership. The process normally means asking people to keep detailed diaries to record when they read specific issues of publications; that sort of research, carried out on a large scale, can be very expensive and therefore is not done very often. I have however managed to find some figures from the USA, which I think can be put in the category of "received wisdom". They are so old that I have been unable to establish their source; if they do deserve some respect, then perhaps it should be due to age rather than pedigree! Anyway, they do tend to confirm a common-sense view and they give the following average picture of week-by-week accumulation for various types of publication:-

**Table 10. U.S. data**

Publication Type	← Week by week percentage accumulation of readership →												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Dailies	100												
Sunday Supplements	95	98	100										
TV Guide	89	96	100										
Weeklies	60	79	91	95	98	99	100						
Monthlies	44	60	70	76	81	86	89	92	95	97	98	99	100

Whatever the source of the U.S. data, it is interesting and encouraging to note that more recent figures from Germany tend to confirm them. In 1982, the Axel Springer publishing house, in association with the Doyle Dane Bernbach advertising agency, carried out a study of readership accumulation which indicated the following average results:-

**Table 11. German data**

Publication type	← Week by week percentage accumulation of readership →											
	1	2	3	4	5	6	7	8	9	10	11	12
Sundays	80	99	100									
TV Weeklies	78	97	98	99	99	100						
General Weeklies	65	82	88	92	94	96	97	98	98	99	99	100
Women's Weeklies	58	78	85	89	92	94	95	96	97	98	99	100
Fortnightlies	47	67	79	84	90	92	94	95	96	97	98	99
General Monthlies	38	57	66	72	77	82	86	89	90	93	95	96
Women's Monthlies	40	57	66	73	75	77	80	82	83	85	87	90
Reader's Digest	48	66	77	80	84	85	86	89	90	91	92	93

Source: Die Dimension Zeit in der Mediaplanung  
Axel Springer Verlag AG - 1982

I am most grateful to Rolf Speetzen, who was kind enough to let me have a copy of that valuable and interesting study. It was of 12 weeks' duration only and it will be noted that the fortnightly and monthly publications do not achieve their entire readership within that period, but the similarity to the U.S. data will be immediately apparent.

Another very interesting study was carried out by Millward Brown in the U.K. in 1990. Most of the results were confidential but average accumulation figures for 9 women's monthly magazines are given below. As can be seen, the Millward Brown figures show much slower readership accumulation than the U.S. or West German data.

**Table 12. Millward Brown data**

Publication type	← Week by week percentage accumulation of readership →												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Women's Monthlies	8	14	21	27	32	37	42	46	50	54	58	61	64

Source: Millward Brown, U.K. 1990.

There is one more source of research data in this field. In the U.K., in 1978, Research Services Ltd. carried out, for Standbrook Publications, a very interesting study into the readership of women's monthly magazines. This report, which has come to be known as the "Living" survey after the sponsoring magazine, differed from previous surveys in that it recognised the problem of readership accumulation over time and went some way towards tackling it. Acknowledging, in the preamble to the report, that "... the process of building-up the total readership of any given issue of a publication with high pass-on and secondary readership must therefore take a long time ...", the survey, among other aims, tried to establish how readership is "... divided over time between early readers who read or look at an issue within a few weeks of its publication and deferred readers who see it later". In this survey it was not possible to establish readership on a week-by-week basis but the readership of six monthly magazines was analysed into three categories:-

- (i) "Primary" readers "who had personally bought the issue or were members of a household in which the issues had been bought."
- (ii) "Early Pass-on" readers who had read the issue within eight weeks of publication.
- (iii) "Deferred Pass-on" readers who had not seen the issue within eight weeks of publication.

The results were as follows:-

**Table 13. Categories of readership as a percentage of total AIR.**

Publication	Primary	Early pass-on	Total 8 weeks	Sample
Living	38.5%	13.6%	52.1%	62
Family Circle	26.5%	11.4%	37.9%	83
Good Housekeeping	18.9%	19.5%	38.4%	60
She	12.4%	20.1%	32.5%	39
Woman & Home	16.3%	20.8%	37.1%	82
Ideal Home	9.9%	21.0%	30.9%	34
Total	20.6%	17.5%	38.1%	360

Source: R.S.L. The Readership of Women's Monthlies. September 1978

There are plainly differences in the patterns of readership but the sample sizes are small and it may be better to take the six titles together. It is not possible to establish week-by-week accumulation, but it is not unreasonable to suppose that primary readers had seen a given issue by the end of the first week and we do have an indication of the eight week readership. It is interesting to note that the average figure for the six titles of 38.1% of the total average issue readership being achieved after eight weeks, is again very different from the U.S. data and the Axel Springer study, which tended to confirm each other:-

**Table 14. Comparison of weekly readership accumulation for monthly magazines**

Study	← Weeks →												
	1	2	3	4	5	6	7	8	9	10	11	12	13
U.S. data	44	60	70	76	81	86	89	92	95	97	98	99	100
A.S. Gen.Monthly	38	57	66	72	77	82	86	89	90	93	95	96	
A.S. Wom.Monthly	40	57	66	73	75	77	80	82	83	85	87	90	
M.B. Wom.Monthly	8	14	21	27	32	37	42	46	50	54	58	61	64
"Living" W.Monthly	21							38					

Quite why the Millward Brown study and the "Living" study should show such markedly different results from the other two sources is difficult to say, but such differences merely illustrate my main point which is that there is a serious lack of research in this field. However, leaving aside these observed differences and accepting that figures for one country cannot necessarily be assumed to apply directly to another, if monthly magazines achieve only 40% of their potential readership within the first week then that is surely something that should be taken into account in media planning. Most reach and frequency evaluation models use as their basis the average issue readership figures for each publication, but make the assumption that all such readership is achieved on the first day of issue. It can be seen that estimates of coverage and frequency may, as a result, be seriously misleading.

A great improvement is to use a model that takes the readership build-up of each publication into account and then provides a reach and frequency evaluation on a week-by-week basis. That can be done by storing, for each publication in a given readership survey, an estimate of the cumulative build-up pattern over any period up to say 6 months. It is then a comparatively straightforward matter to prompt the user for the start and end dates of a given campaign and the insertion date for each booking in the schedule. The model can then provide weekly breakdowns of reach and frequency within a total schedule reach and frequency evaluation.

Let us take a very simple fictitious example to illustrate the sort of analysis that I mean. Suppose that we have a 10-week campaign consisting of six insertions, being two in each of three monthly magazines A, B and C. A standard reach and frequency evaluation of the schedule might give us the following results:-

Magazine A (1) readership	16.0%
Magazine A (2) readership	16.0%
Magazine B (1) readership	12.0%
Magazine B (2) readership	12.0%
Magazine C (1) readership	14.0%
Magazine C (2) readership	14.0%

Schedule reach 45.0%. Average frequency = 1.87

Let us suppose that these monthly magazines each have the same sort of accumulation pattern that we have seen earlier, with the following weekly cumulative build-up:-

Magazine	← Week by week percentage accumulation of readership →											
	1	2	3	4	5	6	7	8	9	10	11	12
Magazines A, B & C.	40	57	66	72	75	78	81	84	87	90	93	95

Let us further suppose that we propose to schedule them four weeks apart, in weeks 1, 5 and 9, in the following schedule:-

**Table 15. Schedule of 3 magazines, 6 insertions**

Magazines	← Weeks →									
	1	2	3	4	5	6	7	8	9	10
Monthly A (1)	X									
Monthly A (2)					X					
Monthly B (1)	X									
Monthly B (2)									X	
Monthly C (1)					X					
Monthly C (2)							X			

If we analyse the schedule on an "exclusive" week-by-week basis, that is showing the reach and frequency attained in each week separately, the result will be something like this:-

**Table 16. Week-by-week reach and frequency for 3 magazines, 6 insertions**

Magazines	← Weeks →										Total
	1	2	3	4	5	6	7	8	9	10	
	%	%	%	%	%	%	%	%	%	%	%
Monthly A (1)	6.4	2.7	1.4	1.0	0.5	0.5	0.5	0.5	0.5	0.5	16.0
Monthly A (2)					6.4	2.7	1.4	1.0	0.5	0.5	16.0
Monthly B (1)	4.8	2.0	1.1	0.7	0.4	0.4	0.4	0.4	0.4	0.4	12.0
Monthly B (2)									4.8	2.0	12.0
Monthly C (1)					5.6	2.4	1.3	0.8	0.4	0.4	14.0
Monthly C (2)									5.6	2.4	14.0
Reach %	10.9	4.7	2.5	1.7	12.3	5.8	3.5	2.6	11.5	5.9	45.0
Gross %	11.2	4.8	2.5	1.7	12.8	5.9	3.5	2.6	12.1	6.2	84.0
Av. frequency	1.03	1.01	1.01	1.00	1.05	1.03	1.02	1.02	1.05	1.04	1.87

On this type of analysis, showing each week separately as if it were completely independent of all other weeks, it is interesting to note the variations in the media exposure levels (particularly in reach) week by week and it might well be thought desirable to boost the media exposure in certain weeks by using, say, daily newspapers.

An alternative method of evaluating the schedule is on a "cumulative" basis, showing the reach and frequency for the campaign to date as the readerships accumulate week by week:-

**Table 17. Cumulative week-by-week reach and frequency for 3 magazines, 6 insertions**

Magazines	← Weeks →										Total
	1	2	3	4	5	6	7	8	9	10	
	%	%	%	%	%	%	%	%	%	%	%
Monthly A (1)	6.4	9.1	10.6	11.5	12.0	12.5	13.0	13.4	13.9	14.4	16.0
Monthly A (2)					6.4	9.1	10.6	11.5	12.0	12.5	16.0
Monthly B (1)	4.8	6.8	7.9	8.6	9.0	9.4	9.7	10.1	10.4	10.8	12.0
Monthly B (2)									4.8	6.8	12.0
Monthly C (1)					5.6	8.0	9.2	10.1	10.5	10.9	14.0
Monthly C (2)									5.6	8.0	14.0
Reach %	10.9	15.3	17.6	19.2	26.6	29.9	31.7	33.1	37.5	39.6	45.0
Gross %	11.2	16.0	18.5	20.2	33.0	38.9	42.5	45.1	57.3	63.4	84.0
Av. frequency	1.03	1.04	1.05	1.05	1.24	1.30	1.34	1.36	1.53	1.60	1.87

Now it can be seen that, although the total reach is 45%, that level may not be achieved for several more weeks, which may be some time after the campaign is officially over. The analysis shows that the reach and frequency in the early stages of the campaign may be below what was intended. It is quite possible that, if the time factor is not taken into account, advertising campaigns are currently being planned on a basis that is at best incomplete and, at worst, dangerously misleading, particularly for campaigns for seasonal products. The preamble to the "Living" study drew attention to this point: "... To manufacturers of highly seasonal goods and those making special offers for a limited time, readership deferred beyond this season may have negligible value." If an advertiser wished to advertise Christmas Puddings in the December issue of our fictitious magazine "Practical Homemaking" (which is editorially ideal for the product), then the fact that it will have achieved only 20% of its readership by Christmas Day (and nobody buys Christmas puddings after that) is surely something that should be taken into account in media planning.

Present day computer hardware in the form of ubiquitous micro-computers, coupled with models and software already available, mean that the only limiting factor to time-based media planning is the lack of relevant data. Currently, in existing computer models, it is necessary to use generalised readership accumulation data such as the information derived from the Axel Springer study. Though limited, it is far better than basing schedule evaluation on the assumption that all readership is generated instantaneously on the date of publication, but there may well be differences between individual magazines within the same media group that only research will reveal.

### Time - the vital ingredient

The time factor in press media planning is not one that can be safely ignored. Once the principle of time-based media planning is more universally appreciated, and it also becomes possible to apply such a principle in practice with reasonable precision, then that should go some way towards reducing the competitive advantage of television, where precise timing of advertising exposure has been one of the medium's benefits. However, there is a further important point. There is, throughout the world, an increasing interest in the improvement in the allocation of advertising budgets by linking advertising exposure to sales, such as the system operated by I.R.I. in the U.S.A. The general experience appears to be that such work is more successful with television campaigns than with press. One reason is that, using television, it is possible to determine advertising exposure precisely, while, in the press, given the data currently available, such precision is impossible to achieve. Press is therefore at a disadvantage arising from the difficulties of evaluation, even though, as a medium, it may be as or more effective than television. Research data should reflect the needs of the market place and the necessity for time-related press exposure data will become increasingly urgent. Richard Dodson's thought-provoking paper<sup>(Ref.11)</sup> presented to the San Francisco Readership Research Symposium in 1993, suggests the provision of print exposure data over time is vital if the decline in the print share of advertising expenditure is to be reversed.

It is also likely that, because readership accumulates slowly over time in magazines, the week-by-week exposure levels for traditional magazine schedules are lower than those that can be achieved on television. However, if the expenditure on magazine schedules were to be increased significantly, though still without the necessity to spend as much as on a television campaign, the week-by-week magazine exposure levels could be increased to a level comparable with broadcast media, which would then be reflected in a similar increase in advertising response.

In the USA, much support has been found for the hypothesis, put forward particularly by John Philip Jones, that advertising effect is determined to a great extent by the advertising exposure in the past week. As so often happens, there has been some thought-provoking work but it is doubtful whether the available research information throughout the world is in fact good enough to support it. John Philip Jones's hypothesis depends on evaluating the reach of the target market in the past week but the available readership data in most countries simply cannot supply that information. With one or two valuable exceptions, most print readership surveys make the assumption that all the readership of an average issue of a magazine is achieved on the day that it is first published. More accurate and relevant research data really must be provided, if print media are to continue to provide a convincing alternative to broadcast media.

### OTS or impacts?

When discussing the requirements of a readership survey, we must, for completeness, consider the matter of whether the evaluation of a print schedule should be in terms of "**opportunities to see**" the component publications or of the **impacts** to be achieved from the advertisements in those publications. An advertiser is not really interested in how many people read a given magazine. To be quite accurate, he is not **directly** interested except in so far as that magazine happens to be a vehicle for his advertising. What he really wants to know is how many of his target market are likely to see and act on his advertisement as a result of using the magazine as a vehicle. So it is irrelevant to him if more people read an average issue of Magazine A than read Magazine B, if it can be established that, for the same cost, more people will actually see his advertisement in Magazine B than in Magazine A.

There will obviously be a connection between the number of readers of an issue of a magazine and the number of people who see an advertisement in that issue, because nobody can see the advertisement without being a reader of the issue; however, it is highly unlikely that everybody who reads the issue sees every advertisement in it. The late Timothy Joyce, in the introductory chapter of his excellent booklet entitled "Page Exposures"<sup>(Ref.12)</sup> published in March 1984 makes this point most clearly:- "... Media exposure is a necessary condition for advertising exposure but it is not a sufficient condition ..." He goes on to bemoan the fact that media audience and advertising audience are "... commonly, but incorrectly, equated ..." and suggests that one of the reasons may be the use of the "... prevalent use of the word 'exposure' to signify either media or advertising exposure ..." I can only say that I completely agree with him; frankly I think that "exposure" is a most misleading term, implying not only something being exposed but also someone being exposed to. I much prefer the European term "Opportunity-to-see", usually abbreviated to OTS; the fact that an opportunity has been offered does not mean that it is necessarily taken. For that reason alone, the term seems to be much less ambiguous and is unlikely to be confused with "impacts", meaning advertising exposures actually received by members of the target market. In an attempt to avoid ambiguity, I shall use the terms "OTS" and "impacts" throughout this paper but, whatever the nomenclature, the point that Timothy Joyce made is a very valid one; we ignore the difference between media audience and advertisement audience at our peril.

It is for that reason that, all over the world, the more sophisticated media planners have for years tried to reduce the rather vague estimate of those having an opportunity to see a publication to something a little more precise, i.e. to an estimate of those receiving an impact from the advertisement. In most cases, that has been done by applying an "impact factor" to each publication in the schedule. An impact factor is in fact a probability of receiving an impact from the advertisement, to be applied to each opportunity to see the publication.

It should be remembered that impact factors are applied in each case as estimated conditional probabilities. In other words, if a magazine issue is "read", i.e. the informant has been established as a reader of an issue of the magazine, then the impact factor is an estimate of the probability that the respondent will receive an impact from the given advertisement. In accordance with

probability theory, the assumption is of course made that such probabilities are independent, i.e. that the probability of receiving an impact from a second advertisement is unaffected by the fact that the individual has or has not received an impact already. In the absence of any reliable evidence to the contrary, the assumption is a perfectly reasonable one.

We can put the matter into perspective with a simple example. Suppose we have a magazine schedule apparently reaching 75% of our target market with an average OTS frequency of 6.0; in other words, every person reached (75% of the total potential) on average has an opportunity to see 6 issues in total of the magazines in the schedule. If we then decide that the probability of seeing our advertisement in each issue is around 40%, i.e. we apply an impact factor of .40, then the impact reach will drop to say 60% with an average impact frequency of 3.0. In other words the number of people "reached" is actually 20% lower than we thought it was, and each of those people will on average see our advertisements only 3 times which is half as often as might have been thought from the OTS figure.

It can now be appreciated why it is so important to take impact factors into account when planning media schedules; if the actual impact reach and frequency numbers are significantly lower than would be implied by the unmodified OTS figures, then it may well be necessary to increase the advertising budget in order to increase the number of uses of each media vehicle to achieve the agreed reach and frequency goals. Indeed, it is possible that campaigns planned without taking impact factors into account may be in danger of serious under-spending, based on a faulty estimate of the effectiveness likely to be achieved. If one accepts the view that not everybody who sees an issue necessarily sees every advertisement in it, then schedule evaluations produced on an OTS basis (without incorporating impact factors) will produce advertising reach and frequency estimates that are grossly exaggerated.

For years, discerning media planners all over the world have tried to modify OTS figures to a more realistic estimate of those receiving an impact from the advertisements. In doing that, attempts have been made to take account of several different elements. One of the most important of these is the size of the advertisement, which has been handled by the use of research data called "noting scores" which give the percentage of readers of a given issue of a magazine who claim to have "noted" advertisements of a given size. However, it is important to remember that noting scores are averages based on many advertisements. Indeed, it is important to examine as many advertisements as possible of a given size in a particular magazine in order to minimise, as far as possible, the effect of the creative content. While there has always been a certain amount of controversy over what noting scores are actually measuring, they have a certain reassuring consistency, in that larger advertisements tend to get higher noting scores than small ones (though not pro-rata to their size), and colour advertisements tend to get higher scores than black-and-white advertisements of the same size. However, it is important to remember that the average noting score for a given space size often conceals a range of values and it might be necessary to modify the average score for a particular advertisement.

Media planners have also felt that readership figures should be modified by qualitative judgements; the standard of colour reproduction, the editorial environment and the atmosphere or "tone" of the publication have been quoted in this context. These qualitative factors, once quantified, are usually referred to as "media weights" and taken into account when specifying impact factors. Unfortunately, as we have mentioned earlier, media research terminology is far from standardised and the impact factor itself is sometimes referred to as a media weight. There are I think two points to make here; firstly, it is arguable whether qualitative factors can actually affect the number of impacts received as the result of an advertising campaign, as opposed to affecting the quality of those impacts. Secondly, I think the planner should guard against the tendency to apply too powerful a qualitative media weight in the absence of any research data to back his judgement. It is important to remember what the qualitative media weight is doing; it is an attempt to quantify the effect of an impact received by an individual in one magazine as opposed to another. Often there is confusion or a tendency to double-weight; we sometimes hear of planners giving publications an increased weight "because its readers more closely match the target market" forgetting that the question of the profile match has already been sorted out by the computer at the target market definition stage. It is important to keep in mind the concept of the **same** individual actually noting the **same** advertisement in two different publications and **then** think about the different effect produced on the individual by each publication. I would suggest that it is difficult to justify modifying impact factors by more than about 10% in either direction on purely qualitative grounds.

Another source of confusion is the modification of readership figures as a result of circulation changes since the readership survey. While that is a perfectly justifiable and indeed sensible practice, adjusting the readership upwards or downwards is **not** the same as applying an equivalent adjustment to the impact probability. For example, reducing the estimated readership of all publications in a schedule by 25% might reduce the resulting OTS reach from say 80% to 60%, and the impact reach could never exceed that value. But reducing the impact factors by 25%, leaving the readership figures unaltered and the OTS reach at 80%, would still allow the impact reach to get close to 80% after sufficient insertions. Adjusting readership figures and incorporating impact factors are both vital tools in the hands of the media planner but they have different effects and should not be confused.

Impact factors cannot be avoided, but only misapplied! If impact factors are **not** used in media planning, it has precisely the same effect as giving each advertisement in each magazine the same impact factor, i.e. 1. That is of course the same as saying that everybody having an opportunity to see the publication is certain to see and receive an impact from every advertisement in it, which is a concept that by any common-sense standards is obviously ludicrous. It is no wonder that all over the world, media planners have often in desperation been applying impact factors in the absence of any valid research data whatsoever. They really have no idea whether their advertisements are likely to give an impact to 60%, 50% or 40% of those picking up the magazine issue; the one fact of which they are certain is that it is not 100%! So they apply an impact probability of say 0.5 to every vehicle on the schedule and their reach and frequency evaluations as a result give a more realistic idea of how hard their media expenditure is working. That is far better than avoiding the decision, evaluating the schedule on an OTS basis and, as a result,



producing estimates of reach and frequency levels which could be at best optimistic and at worst dangerously misleading. The only problem has been the shortage of data to back their judgement.

There have been valuable exceptions. MRI published page exposure data in 1984. They distinguished between magazines not only in terms of the likelihood of page exposure, but also in terms of the number of times each issue is picked up. Similar data were subsequently provided in the U.K. in the 1986 MPX study, although to the discredit of the media planning industry the data did not achieve general acclaim nor widespread use. Happily, more recent data has become available as part of the valuable 1998 "Quality of Reading Survey", published in the U.K. by the IPA, ISBA and PPA<sup>(Ref. 10)</sup>. As before, the study provides the two essential components of page exposure being (i) the number of times a magazine is picked up and (ii) the proportion of pages opened. The "page openings percentage" can be treated as a probability of page exposure within each issue and expanded by the number of pickups. It is to be hoped that, this time, these potentially valuable data will be more enthusiastically received by and widely used by media planners. It is arguable that page exposure data need not form part of a readership survey as such, but could be provided by additional studies like the MRI page exposure study or the QRS study. However, the concept of page exposure is far too important to be ignored, which is why it is included in this paper.

### **Some possible solutions to the problems of readership measurement**

So far, I have dealt with the problems and it might be worth suggesting some possible solutions, although a full specification for the ideal readership survey is beyond the scope of this document. It will probably be helpful to consider each solution in the light of whether it satisfies the three criteria:- (a) provides an unbiased industry currency, (b) provides a real measure, as opposed to just a relative measure of readership and (c) provides all the necessary data for media planning, including readership accumulation over time.

Accurate readership research is extremely difficult. It is beset by potential dangers:- the fallibility of human memory, the difficulties of quantifying human behaviour, confusion between similar titles, fatigue, and the problems of a respondent having to answer detailed questions about a very insignificant event in his or her life like a reading occasion several days or weeks ago. It is for that reason that skilled research professionals apply their experience to devising research questionnaires with prompts specifically designed to stimulate the memories of respondent and obtain accurate answers to the questions posed. One must always start with a method of ascertaining readership that is logically impeccable; efforts can then be devoted to making it as easy as possible for the respondents to give accurate answers in practice. So, whenever I think about a potential readership measurement technique, I therefore, first of all, apply what I call my test of "conceptual impeccability" which is "If respondents had perfect memories and told the precise truth, would the method work?" The recent-reading technique demonstrably fails that test because of replication. It over-estimates the readership of magazines, particularly monthly magazines, to the detriment of newspapers. Because of its inherent bias, it does not even satisfy the first criterion of providing a credible relative currency, let alone criteria B and C. The method has had a good run, but it is now time to put the poor beast out of its misery.

If the "recent reading" method of estimating average issue readership produces unacceptable distortions, then what method should be used? That is not an easy question. There have now been eight International Readership Research Symposia, in which some of the brightest and most experienced media researchers in the world have put in months, if not years, of work and then come together for about a week on each occasion to share their experience and to try to solve the problems of readership research. It might be thought surprising therefore that the industry is still no nearer solving some of the most basic problems than it was at the time of the first Symposium in New Orleans in 1981. Nowhere has the battle raged more fiercely than over the basic technique to use for establishing average issue readership.

### **"Through the book"**

There are several main approaches. The two most widely-used methods have traditionally been "Recent reading" (or "Recency") and "Through-the-book" (or "Editorial interest"). The war between the devotees of both these methods has been long and bloody; fanaticism on both sides has led to some thoroughly interesting and involving debates since the first Symposium in 1981. It is generally agreed by both camps that the "Recency" method tends to produce higher readership estimates, particularly for monthly magazines, than the "Through-the-book" method; the argument is about which is right. Critics of the "Recency" method, of whom you may have discerned that I am one, think that the "Recent reading" technique inevitably overestimates readership due to its inability to eliminate replication. "Through-the-book" consists of finding out whether respondents have read specific issues of a given publication. The "Recency supporters" have maintained that the "Through-the-book" method inevitably tends to underestimate readership, suggesting that, if too young an issue is used, then it does not have time to build up all its pass-on readership but, on the other hand, if it is too old, then the first readers tend to have forgotten that they have done so. There have also been several practical difficulties associated with the method, mainly involving the problem of physically transporting copies of anything more than a few magazines to an interview and it has therefore been impractical to use it for the NRS which measures over 60 publications. However, with the increased power and capacity of computers, it might be possible to store, on CDs, details of several issues of each publication and, with suitable software, to show on a screen articles and pictures to identify each issue beyond any doubt. The only limiting factor might be the cost of keeping the C.D.s up to date as new issues were published, but the problem of interviewers carrying round large numbers of magazines would be eliminated. The ability to measure the readership of specific issues would permit the observation of issue readership accumulation over time. However, the possible recall problems associated with the readership of older issues would still remain and any editorial interest technique would have to be carefully validated.

**"First read yesterday"**

Another technique, used particularly in the Netherlands, is the "first-read-yesterday" (FRY) method. It is a technique with which I personally have some sympathy, because it tends to avoid memory problems and, assuming that readers can accurately say that the reading occasion yesterday was indeed for the first time, then it removes the problem of replication. Critics of the method point out the need for a huge sample size to get reliable results for monthly publications, but developments in telephone interviewing techniques have made that less of a problem. More serious is the fact that while it can generate a probability of reading each publication for each respondent, it cannot measure duplication for weekly or monthly magazines. That is a pity, because duplication between publications is an important factor in schedule reach and frequency evaluations.

**Generating readership estimates from frequency claims**

Another method of establishing average issue readership is to ask respondents how often they read a publication and then to apply probabilities to each frequency claim to calculate the average issue readership. The problem of using any probabilities is how those probabilities are calculated. Everybody has a personal probability of reading an average issue of each publication; that probability can range from 0 if the respondent never reads and never would read the magazine to nearly 1 if the user always reads every issue and waits impatiently for the next issue to be published. However, it is very difficult to establish what each person's probability of reading a given publication actually is. Usually the only way is to find out what percentage of a group of people, segmented in a certain way, actually read a publication and then assume that every member of the group has the same probability of doing so. It will be noted that a person can therefore have a different probability, depending on the group of which he or she is a member. For example, a 36-year old man claiming to read a particular daily newspaper "almost always" could be included in the following groups:-

**Table 18. Respondents claiming to read publication X "almost always"**

Group	Claimers	Readers	Probability
All adults	7,500	6,375	.850
All men	3,500	3,150	.900
Men aged 35-44	650	610	.938

It can be seen that if our respondent is treated as an adult, his probability of reading an average issue of publication X is .850. If he is treated as a man, his probability increases to .900. If he is treated as a member of a group of men aged 35 - 44, then his probability increases to .938. In principle, the more detailed the segmentation, the more accurate the probabilities will be but as the groups get smaller, the sampling error increases so that the probabilities become less accurate.

It has been suggested that, as the readership of daily newspapers, as established by the "recent reading" method, is not likely to suffer from the replication inherent in the measurement of magazines, then the average probabilities for each frequency claim for daily newspaper could be regarded as reasonably reliable and undistorted. It will be recalled (see table 2) that the probabilities for daily newspapers were as follows:-

ADULTS  Publication category	← Frequency claims →		
	Almost always >= 3/4	Quite often >= 1/4	Only occasionally < 1/4
----- Av. daily newspaper (12)	.835	.259	.059

It has been suggested that these probabilities could be regarded as a good approximation to the true meaning of each frequency claim and could be applied to the frequency claims made for all publications to obtain the average issue readership. For interest, I have carried out those calculations and the results are given in Appendix 2 (Tables 29 - 36). I show below how calculating readership from the frequency claims reduces the average RPC for all publication groups:-

**Table 19. A comparison of NRS RPCs with frequency based RPCs.**

<b>Publication category</b>	<b>NRS RPC</b>	<b>Frequency based RPC</b>
<b>ADULTS</b>		
Av. Sunday newspaper (13)	2.8	2.3
Av. General Weekly (29)	4.7	4.4
Av. General Fortnightly (4)	4.1	2.7
Av. General Monthly (69)	6.3	3.1
Av. General Bi-monthly/Quarterly (4)	2.9	1.2
<b>WOMEN</b>		
Av. Women's Weekly (13)	3.0	2.5
Av. Women's Fortnightly (3)	2.5	1.8
Av. Women's Monthly (51)	3.9	1.8
Av. Women's Bi-monthly (7)	5.3	1.8

It can be seen that calculating readership by applying the probabilities derived from the readership of daily newspapers to the frequency claims made for other publications can reduce the readers per copy values to much more credible levels, but there is no guarantee that those levels will satisfy the validation test of household readership. Moreover, the method suffers from the same disadvantages as FRY does in dealing with duplication but has none of FRY's benefits of recent recall. It can, at best, only be regarded as providing a short-term solution to the problem of magazine readership over-estimation.

### "FRIPI"

Given that we need an accurate and unbiased method of estimating average issue readership without the distortions of replication, I must draw attention to the "First reading in the last publishing interval" method, developed by Michael Brown for use in the A.M.P.S. survey commissioned by the South African A.R.F. When I first discussed this concept, I called it "FRIPI" for short, and that now seems to be its usual name. The method was described in papers by Michael Brown<sup>(Ref. 13)</sup> and Gert Yssel<sup>(Ref. 14)</sup> at the Barcelona Readership Research Symposium, and all average issue readership in the South African A.M.P.S. survey is obtained from the use of a "first reading" question following the establishment of any reading within the issue-period. The use of the FRIPI methodology can, in theory, eliminate the replication problem and produce credible readership figures. Moreover it is not subject to the disadvantages of the "First-read-yesterday" method of needing a large sample and being unable to give readership duplication figures for any publications other than daily newspapers.

The reason that the FRIPI methodology was developed is interesting. It was in response to a demand from the industry, including media owners, which at first sight looks a little puzzling. Why should media owners want lower readership figures? Well, the reason was that media planners considered the existing readership figures for magazines to be so incredible that they were tending to use their computers and press planning software to down-weight the readership of all magazines (the good with the bad) by a significant factor in each case. That was clearly not in the interests of magazines which were not badly affected by replication and so the demand became overwhelming, from publishers as well as agencies, for readership figures that everybody could accept.

The FRIPI method is logically based and passes my suggested test of conceptual impeccability. If respondents had perfect recall and told the absolute truth then the FRIPI method would produce accurate average issue readership estimates. It is strongly recommended that the FRIPI technique should be developed, piloted and validated, with a view to its use in providing a credible and universally accepted average issue readership currency as part of the NRS.

### The need for a readership panel

However, even if FRIPI can provide validated and accurate average issue readership figures, it cannot satisfy the requirement that a readership survey should provide all the data necessary for diligent press schedule planning. It cannot provide information on the multiple pick-up of magazines, although the repeated opportunities for exposure to the advertising should clearly be taken account of when planning press schedules. FRIPI also cannot provide information on readership accumulation over time, although without such data any estimates of coverage and frequency may be at best inaccurate and, at worst, dangerously misleading. These extra data depend on establishing the readership of specific issues of publications day by day and, given the problems of accurate recall over anything but a very short-term period, would need to be captured by a panel of respondents, to record all reading behaviour on a daily basis.

It would be necessary for the respondents on the panel to record all reading occasions, including out-of-home reading, on a daily basis, carefully identifying the specific issue of each publication read. Traditionally, panellists have used a carefully designed paper diary, but it might be possible to provide respondents with a computer-based diary, either on a stand-alone micro-computer or via the Internet. The advantage of using a computer-based system would be the ability to display pictures or articles to help the panellists identify the precise issue of each magazine. Responses could also be validated at the time of input, for example to prevent claiming the first time reading of an issue of a publication recorded as having been read by the same respondent the previous week. A single computer input station could serve several members of the same family to enable the panel to include more demographic breakdowns with the minimum of expense.

The cost of such a panel would be the limiting factor, and one can already imagine the suggestion being ruled out on those grounds alone. However, the panel need not provide continuous research but could be a single, if expensive, project. The panel could (a) validate the average issue readership estimates obtained contemporaneously from another method such as FRIPI. It is very likely that general factors for multiple pick-up and readership accumulation over time can be derived from the panel for different types of publication and then be applied to subsequent annual average-issue readership measures without the need to repeat the panel project until it is felt necessary to have updated research, years later. If the panel is clearly recognised to be a one-off project, the results of which can be used to improve the marketing of press media for many years, the cost may not appear so daunting. The need to provide the press with the benefits of (a) quantified multiple pick-up information and (b) accurate readership accumulation data over time is something that it would be foolhardy to ignore, in view of the competition from electronic media and the increasingly sophisticated and stringent evaluation of all advertising opportunities.

### **Should newspapers and magazines be surveyed separately?**

The trouble with demonstrating that the "recent reading" method over-estimates the readership of magazines but not daily newspapers is that it tends to increase and reinforce the demands that newspapers and magazines should be surveyed separately. Although, at first glance, that might appear to be a good idea because it would enable the correct readership methodology to be used for the publications that each survey was attempting to measure and could provide credible currencies for trading in each case, it overlooks the important matter of print schedule planning.

Print schedule planning needs three basic components within the target market for which the schedule is being evaluated. The first is the average issue readership of each publication; the second is the readership accumulation from one average issue to another for each publication; the third is the duplication between the average issue readerships of all combinations of pairs of publications. From these three parameters, computer models can provide a credible estimate of the reach and frequency of a schedule with any number of insertions in any combination of publications. Like the other two parameters, the inter-publication duplication figures are critical but if newspapers and magazines are surveyed separately then no newspaper/magazine duplication data will be available. In the U.K., we have national newspapers as well as magazines and "press" (i.e. print) schedules are constructed using both sets of media. Occasionally, there may be newspaper-only schedules or schedules limited to women's magazines, but many schedules are constructed using newspapers and magazines to complement each other, often with identical copy and advertisement design. Indeed, it is sometimes not easy to distinguish precisely what is a newspaper and what is a magazine. Are the colour supplements forming part of Saturday and Sunday newspapers really weekly magazines? For the press planner, the question does not arise and does not matter; magazines and newspapers are candidate media vehicles from which he or she may construct the most economical schedule to satisfy agreed reach and frequency targets. However, if newspapers and magazines were surveyed separately, then the duplication data would not exist and the construction of combined newspaper and magazine schedules would be impossible.

From the separatists, ingenious suggestions have been put forward to get round this problem. It has been suggested that "basic" newspaper readership data could be collected on the magazine survey and similarly "basic" magazine readership data could be collected on the newspaper survey, in order to provide the admittedly necessary duplication data. That would of course introduce into the U.K. for the first time two sets of readership estimates for the same publications. Having seen the problems that two or more readership currencies have caused in other countries, particularly the USA, and with no clear idea on what action to take if the two sets of figures were to anything more than insignificantly different, that is not a prospect which most people in the U.K. media industry consider to be attractive. There have then been confident (if ill-informed) proposals to "fuse" the two surveys to derive the duplication data, without any detailed knowledge of the limitations of such techniques. The separation of the G.B. NRS into two separate studies would undoubtedly provide opportunities for honest employment for those proficient in the skills of modelling but it is highly questionable whether it would add anything to accuracy or provide any benefit to the media planning industry.

### Using more than one methodology in a survey.

Given the evidence that demonstrates the over-estimation, caused by replication, of average-issue readership estimates, it is difficult to see how the use of the "recent-reading" technique can possibly be justified to measure the readership of magazines. However, the method has been widely used all over the world and has the advantage of being (a) easy to use and (b) comparatively inexpensive. For the readership of daily newspapers, replication is an insignificant problem and so the "recent reading" method can provide a reliable average issue readership estimate. If there are benefits of simplicity and comparatively low cost, then there would appear to be no reason why it should not be used. Indeed, it might be preferable to a technique like FRUPI, which could potentially annoy a respondent. For example, if I were to confirm to an interviewer on a Wednesday that I had read the Daily Telegraph "yesterday" (with the assumption that it was Tuesday's issue), then, if I were then to be asked subsequently if that was the first time I had seen that issue, I would point out that I had no opportunity to have seen it earlier since it did not exist until Tuesday morning and would undoubtedly feel that my time was being wasted by somebody of unusual incompetence. If a readership measurement technique can provide accurate answers for the type of publication that is being measured in each case, then it does not matter that two or more methods are used in the same survey, any more than it matters that daily newspapers are usually assessed on the basis of "yesterday" readership while weekly magazines are measured on the basis of the "last seven days".

### Should the number of magazines be restricted?

When newspapers and magazines are measured on the same survey, as in the current NRS, some concern has been expressed that including "too many" magazines in the questionnaire may in some way "damage" the readership estimates of newspapers or other magazines. The actual "damage" has not been quantified, though it is probably safe to assume that the fear is that readership levels are reduced by the inclusion of too many magazines in the survey; if they were found to be increased, then no doubt the anxiety would not be so great. The apprehension is similar to the misgivings expressed when the NRS included frequency of reading questions for the first time in the 1960s, providing the facility to calculate the accumulation of readership over successive issues of each publication, but inevitably increasing the duration of the interview. In fact, the development of the ingenious "EML" (Extended Media List) technique for the NRS meant that it was no longer necessary for respondents to be asked about every candidate publication individually, but to be exposed to cards listing many publications so that all could be eliminated at once if the respondent did not read any. The important point is not how many magazines are included on the questionnaire but how many are actually read by each respondent. Below I show the number of magazines of each type included in the NRS (January - December 1998) and also the average number of titles seen in the last year based those adults who read any in each case.

**Table 20. The number of magazines in the NRS (January - December 1998).**

Publication type	Number of magazines in the survey	Average number read in last year
General weeklies	31	2.44
Women's weeklies	16	3.34
General fortnightlies & monthlies	78	3.28
Women's fortnightlies & monthlies	59	4.08
Bi-monthlies and quarterlies	15	1.45
All magazines	199	8.95

Note that the number of titles refers to "screened-in" titles (i.e read at all during the past year) and is not based on average issue readership. The total average number read is not the sum of the individual types because not every respondent reads every type.

If the average number of magazines read in the past year is only 8.95, the fact that there may be 199 titles on the survey may not matter. The problem is to identify the screened-in titles as quickly as possible and computer software incorporating a series of filters based on subject categories of magazines might be of help here. For example, I can be absolutely certain that, in the last year, I have seen no women's weekly nor monthly magazines, nor any magazines connected with sport in any way nor any connected with pop music, nor any concerned with motorbikes nor fishing. That eliminates over 100 magazines immediately and a carefully designed series of computer screens listing the various subject categories could establish that very quickly and reduce the number of titles to be included in the questionnaire. Software could then amend the subsequent questions to be asked..

### Screening in

There is one other important point to consider. Respondents are capable of learning very quickly that if they admit to reading a publication in the past year, they are then going to be asked a lot more questions about how often they did so, when they last did so and so on. If each publication is dealt with in turn, with all readership questions being asked in each case, the respondents would learn not to admit to reading in the last year, in order to avoid further inquiries. It is therefore vital to screen in all publications before asking any further questions of any title. Once it has been established exactly which titles have been read in the last year, there is no way for the respondent to avoid answering further questions.

## Summary

A readership survey should:-

1. provide an unbiased currency for buying and selling press advertising,
2. provide an absolute measure as well as a relative measure of readership,
3. provide all the information necessary for press schedule planning.

The "recent reading" method, used in the NRS and other surveys, over-estimates the readership of some publications (but not all) due to replication, where respondents re-reading a magazine outside the issue-period are counted as "readers". The effect applies particularly to publications that (a) have a longer publishing interval, (b) are non-topical (i.e. where the editorial content does not become quickly out-of-date), (c) are robust and can stand repeated handling without falling to pieces and (d) are used for reference or contain lengthy and detailed instructions. Replication thus is less likely to occur for daily newspapers which are highly topical, but tends to increase with the publishing interval and is at its worst with magazines which are bought occasionally but used repeatedly for reference long after their original publication. The effect of the phenomenon is that, wherever the "recent reading" method is used (as in the NRS), the "average issue readership" estimate of magazines, particularly monthly magazines, is inflated relative to daily newspaper "average issue readership". This phenomenon is known as "model bias", and means that "readership" estimates derived via the "recent reading" method, cannot be used as a credible readership currency.

"Reading probabilities" within frequency of reading claim groups in the NRS, are inconsistent and exceed theoretical levels for monthly and bi-monthly magazines. The readers-per-copy value for the Illustrated London News, increased by 134% when the magazine publication frequency was changed from a weekly to a monthly. Many of the NRS "readership" estimates are mathematically inconsistent with (a) circulation data and (b) household readership data from the same survey. A simple mathematical formula provides the maximum readers-per-copy value, given the adults-per-household and the household readership as a percent of total readership.

The "Quality of Reading" Survey confirms that magazines are picked up and re-read many times during the course of their life; however, no distinction is made between multiple pick-ups within or outside the issue-period. The "recent reading" method detects multiple pickup outside an issue-period but ignores multiple pick-up within an issue-period.

An accurate, absolute measure of the coverage and frequency of press schedules is necessary if the press is to compete against broadcast media. Press schedule is currently being carried out ignoring the time factor, and assuming that the total readership of a magazine is achieved on its publication day, in spite of evidence that the readership may take weeks if not months to accumulate. Computer software to evaluate schedules taking the time factor into account already exist; up-to-date reliable data are not currently available and must be supplied.

Data must be provided to permit the transformation of "opportunities-to-see" publications to "impacts" from advertisements in the publications. If impact factors are **not** used in media planning, that is equivalent to assuming that everybody having an opportunity to see the publication is certain to see and receive an impact from every advertisement in it, which is an indefensible concept that can lead to dangerously inflated estimates of reach and frequency. It is arguable that page exposure data need not form part of a readership survey as such, but could be provided by additional studies like the MRI MPX study or the QRS study. However, the concept of page exposure is far too important to be ignored.

The "recent reading" methodology cannot provide an unbiased readership currency because it over-estimates the readership of magazines to the detriment of newspapers. The use of the "Through-the-book" method might be facilitated by the use of issue details stored on computer CDs., but there would remain the problem of the recall of older issues. The "FRY" method needs very large samples for monthly magazines and it cannot provide accurate measure of inter-publication readership duplication. The generation of AIR estimates from frequency claim data depends on the accurate estimation of readership probabilities and the method is also unable to provide accurate duplication parameters. "FRIPI" could, in theory, remove the problem of replication, has been used successfully in South Africa and should be developed, piloted and validated with a view to being used as the basis for magazine average issue readership figures. Readership accumulation over time, can only be ascertained accurately by a readership panel, that would solve all problems of readership research. A panel need not be continuous, but should provide factors for multiple pick-up and readership accumulation over time, to be applied to average issue readership figures obtained by another readership research method, such as FRIPI. The need to provide accurate and complete readership data is now urgent.

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### APPENDIX 1. Analysis of the household readership of individual magazines.

The following tables show, for all general and women's weekly, fortnightly, monthly, bi-monthly and quarterly magazines for which relevant data could be found, the maximum readers possible based on audited circulation figures, tabulated household size and the percentage of average issue readership claiming to have seen a "household" copy. Definitions are as follows:-

1. The analyses are based on the NRS for January-December 1998, using a universe of all adults aged 15+ for general magazines and all women aged 15+ for women's magazines.
2. The "Household readers %" column gives all adults aged 15+ claiming to have seen a "household" copy of a given magazine, expressed as a percentage of the total average issue readership aged 15+. A "household" copy is defined as one either "delivered to the informant's home" or "bought at a newsagent or news-stand by the informant or another member of the household" or was a "postal subscription delivered to the informant's home for the informant or another member of the household".
3. The "NRS household readership" is calculated by applying the "household readership percentage" (see 2) to the total adult 15+ average issue readership. (see 1).
4. The "15+ adults per household" is the average size-of-household for all 15+ household average issue readers of the given magazine.
5. Minimum household circulation in 000" is the NRS household readership (3) divided by the average household size (see 4).
6. "Circulation in 000" is the average audited circulation in thousands (A.B.C. wherever possible) for the period January-December 1998. Publications for which an audited January-December 1998 circulation could not be found were excluded from the analysis.
7. "Maximum readers in thousands" are calculated by multiplying the circulation in thousands (see 6) by the average household size (see 4), then dividing by the household readership percentage expressed as a fraction (see 2).

For example, where           circulation = 3,164,088,  
  household readership percentage = 91.5%,  
average household size = 2.4986

$$\text{Maximum readers (000)} = 3,164.088 \times 2.4986 \times 100 / 91.5 = 8,640$$

8. "Maximum readers-per-copy" is found by dividing the maximum readers (see 7) by the circulation (see 6).
9. "NRS readers-per-copy" is found by dividing the NRS 15+ average issue readership estimate (see 1) by the circulation (see 6).
10. "Percentage excess" shows the variation between the AIR readers (see 1) and the maximum readers (see 7) expressed as a percentage of the maximum readers in each case. Where the AIR readers do not exceed the maximum, no percentage excess is given. Publications are ranked within each group in descending order of percentage excess.



**Table 21. General weekly magazines. All adults aged 15+ : 46,400,000**

	<b>NRS 15+ rdrs '000</b>	<b>Hhld rdrs %</b>	<b>NRS hhld rdrs '000</b>	<b>15+ adults per hhld</b>	<b>Min. hhld '000</b>	<b>Circ '000</b>	<b>Max rdrs '000</b>	<b>Max rpc</b>	<b>NRS rpc</b>	<b>% excess</b>
Exchange & Mart	1022	68.4	699	2.54	275	130	484	3.7	7.8	111.3
The Big Issue	1114	90.8	1012	2.47	410	198	540	2.7	5.6	106.5
Amateur Gardening	261	73.2	191	2.06	93	56	158	2.8	4.6	64.8
Angling Times	448	68.5	307	2.50	123	75	275	3.6	5.9	62.7
Angler's Mail	242	72.3	175	2.50	70	45	156	3.5	5.4	55.6
Melody Maker	230	69.6	160	2.96	54	37	157	4.3	6.2	46.1
Auto Trader	2113	69.9	1478	2.61	566	393	1467	3.7	5.4	44.1
Shoot	416	76.4	318	2.85	112	78	290	3.7	5.3	43.3
NME	499	68.7	343	2.79	123	90	363	4.1	5.6	37.3
Amateur Photographer	118	68.6	81	2.27	36	26	87	3.3	4.5	35.0
Country Life	312	34.9	109	2.10	52	39	233	6.0	8.0	33.6
TV & Satellite Wk	780	82.6	644	2.49	259	196	591	3.0	4.0	32.0
TV Times	3341	81.1	2710	2.40	1129	859	2541	3.0	3.9	31.5
Autocar	478	52.1	249	2.65	94	72	366	5.1	6.6	30.6
Time Out	413	70.0	289	2.38	121	96	328	3.4	4.3	26.0
Kerrang	212	63.2	134	2.88	47	38	172	4.6	5.6	23.6
Horse & Hound	289	70.2	203	2.50	81	66	236	3.6	4.4	22.5
Motorcycle News	558	68.5	382	2.31	165	140	471	3.4	4.0	18.5
Garden News	260	78.5	204	2.24	91	79	224	2.9	3.3	15.8
Auto Express	413	61.5	254	2.53	100	89	365	4.1	4.7	13.2
Autosport	228	64.5	147	2.54	58	56	221	3.9	4.1	3.0
Radio Times	3910	84.1	3290	2.33	1412	1401	3878	2.8	2.8	0.8
New Scientist	462	49.8	230	2.63	87	88	463	5.3	5.3	-
Match	435	76.8	334	2.86	117	122	453	3.7	3.6	-
What's on TV	4219	87.0	3671	2.22	1654	1722	4394	2.6	2.4	-
Times Ed. Supp	553	53.3	295	2.59	114	130	629	4.9	4.3	-
Weekly News	505	68.7	347	2.18	159	200	635	3.2	2.5	-
The Economist	388	44.3	172	2.42	71	117	641	5.5	3.3	-
Time	210	55.2	116	2.18	53	113	444	3.9	1.9	-
		68.0		2.48				3.6	4.7	27.9

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 22. General fortnightly magazines. All adults aged 15+ : 46,400,000**

	<b>NRS 15+ rdrs '000</b>	<b>Hhld rdrs %</b>	<b>NRS hhld rdrs '000</b>	<b>15+ adults per hhld</b>	<b>Min. hhld '000</b>	<b>Circ '000</b>	<b>Max rdrs '000</b>	<b>Max rpc</b>	<b>NRS rpc</b>	<b>% excess</b>
Bike Trader	341	67.7	231	2.46	94	41	148	3.6	8.4	130.9
Private Eye	651	63.6	414	2.32	178	179	654	3.6	3.6	-
Smash Hits	867	73.5	637	2.68	238	380	1384	3.6	2.3	-
Big!	327	77.4	253	2.92	87	159	600	3.8	2.1	-
		70.5		2.60				3.7	4.1	11.2

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 23. General monthly magazines. All adults aged 15+ : 46,400,000**

	NRS 15+ rdrs '000	Hhld rdrs %	NRS hhld rdrs '000	15+ adults per hhld	Min. hhld circ '000	Circ '000	Max rdrs '000	Max rpc	NRS rpc	% excess
Classic Cars	926	51.8	480	2.48	194	48	229	4.8	19.3	303.8
Practical Woodworking	195	66.2	129	2.31	56	18	63	3.5	10.8	210.3
Coarse Angling	261	69.7	182	2.61	70	23	85	3.7	11.5	207.9
Classic CD	176	61.4	108	2.04	53	19	62	3.3	9.5	185.8
Rugby World	427	58.8	251	2.76	91	32	152	4.7	13.2	180.8
Golf Monthly	731	54.9	401	2.39	168	60	262	4.4	12.1	178.8
Pract. Caravan	411	75.4	310	2.35	132	47	148	3.1	8.7	178.4
Total Football	372	63.4	236	2.85	83	31	138	4.5	12.1	170.2
Classic Bike	377	57.8	218	2.51	87	34	148	4.3	11.1	154.9
BBC Match/Day	788	59.3	467	2.77	169	67	312	4.7	11.8	152.7
Sporting Gun	262	61.5	161	2.38	68	28	110	3.9	9.2	137.5
What Hi-Fi?	595	62.4	371	2.49	149	63	251	4.0	9.5	137.1
BBC Top Gear	1638	53.7	880	2.52	349	169	793	4.7	9.7	106.5
Superbike	507	50.3	255	2.63	97	50	263	5.2	10.1	93.0
What Car?	1328	54.4	722	2.50	289	152	700	4.6	8.7	89.8
Performance Bikes	562	54.8	308	2.41	128	70	309	4.4	8.0	82.0
Trout & Salmon	270	65.9	178	2.37	75	42	149	3.6	6.5	80.9
Land Rover Owner	359	57.4	206	2.40	86	50	207	4.2	7.2	73.1
FourFourTwo	596	65.3	389	2.80	139	82	350	4.3	7.3	70.2
Yachting World	143	49.7	71	2.40	30	17	84	4.8	8.2	70.0
Golf World	494	57.3	283	2.37	119	71	295	4.1	6.9	67.3
Mixmag	541	62.8	340	2.66	128	77	326	4.2	7.0	65.8
BBC Gardeners World	1700	69.7	1185	2.23	531	330	1056	3.2	5.1	61.0
Geographical Mag	160	46.9	75	2.38	32	20	101	5.1	8.0	57.7
The Field	250	40.0	100	2.19	46	29	161	5.5	8.5	55.3
Classic & Sportscar	392	57.4	225	2.50	90	58	253	4.4	6.8	55.1
BBC Wildlife Mag	555	53.5	297	2.30	129	87	373	4.3	6.4	48.8
Max Power	1541	52.4	808	3.20	253	176	1076	6.1	8.7	43.2
Fore!	285	69.1	197	2.39	82	58	202	3.5	4.9	41.0
Bike	385	67.3	259	2.47	105	75	274	3.7	5.2	40.3
Pract. Photography	258	71.7	185	2.27	81	58	185	3.2	4.4	39.5
Scot's Magazine	213	57.3	122	1.94	63	46	157	3.4	4.6	35.6
Sky Magazine	1033	61.3	633	2.81	225	167	765	4.6	6.2	35.1
Fast Car Magazine	535	56.6	303	2.87	106	81	409	5.1	6.6	30.8
Cars & Car Conv.	169	67.5	114	2.70	42	33	132	4.0	5.1	28.2
Q Magazine	817	67.6	552	2.70	204	167	667	4.0	4.9	22.5
Your Garden	242	73.1	177	2.23	79	66	201	3.0	3.7	20.6
Today's Golfer	277	59.9	166	2.37	70	58	231	4.0	4.7	20.1
Revs	468	54.3	254	3.23	79	66	394	6.0	7.1	18.8
BBC Music Magazine	216	72.7	157	2.43	65	56	186	3.3	3.9	16.4
Esquire	322	49.7	160	2.72	59	52	283	5.5	6.2	13.8
GQ	723	48.1	348	2.64	132	116	637	5.5	6.2	13.5
Ride	249	75.5	188	2.43	77	69	222	3.2	3.6	12.1
Yachting Monthly	164	53.0	87	2.54	34	31	148	4.8	5.3	10.9
The Face	312	53.5	167	2.84	59	53	282	5.3	5.9	10.6
Pract. Classics	264	72.3	191	2.43	79	71	239	3.4	3.7	10.6
Custom Car	273	50.5	138	2.67	52	47	250	5.3	5.8	9.1
Garden Answers	470	78.3	368	2.19	168	157	439	2.8	3.0	7.0
Pract. Boat Owner	231	55.8	129	2.65	49	46	218	4.7	5.0	6.1
Select	317	63.7	202	2.79	72	69	302	4.4	4.6	4.8
Mojo	203	61.1	124	2.34	53	51	196	3.8	4.0	3.8
FHM For Him Mag	3240	59.3	1921	2.92	658	685	3374	4.9	4.7	-
Loaded	2191	54.5	1193	2.89	413	432	2290	5.3	5.1	-
Men's Health	819	67.9	556	2.55	218	230	864	3.8	3.6	-
Empire	582	63.4	369	2.80	132	145	642	4.4	4.0	-
Car/Performance Car	369	52.3	193	2.58	75	88	434	4.9	4.2	-
Maxim	1002	60.4	605	2.77	218	267	1226	4.6	3.7	-
Choice	297	60.9	181	2.24	81	100	368	3.7	3.0	-
Moneywise	237	73.8	175	2.16	81	102	297	2.9	2.3	-
Reader's Digest	4229	61.4	2598	2.34	1110	1458	5553	3.8	2.9	-

**Table 23 (contd.) General monthly magazines. All adults aged 15+ : 46,400,000**

	<b>NRS 15+ rdrs '000</b>	<b>Hhld rdrs %</b>	<b>NRS hhld rdrs '000</b>	<b>15+ adults per hhld</b>	<b>Min. hhld circ '000</b>	<b>Circ '000</b>	<b>Max rdrs '000</b>	<b>Max rpc</b>	<b>NRS rpc</b>	<b>% excess</b>
Total Sport	322	63.7	205	2.86	72	99	443	4.5	3.3	-
Cable Guide	3240	77.9	2524	2.53	998	1431	4647	3.2	2.3	-
Saga Magazine	1555	73.1	1136	1.94	586	884	2347	2.7	1.8	-
Arena	226	52.7	119	3.08	39	59	343	5.8	3.9	-
Focus	167	71.3	119	2.45	49	76	260	3.4	2.2	-
The Garden	403	78.2	315	2.20	143	223	627	2.8	1.8	-
TV Hits	564	64.9	366	2.82	130	223	971	4.3	2.5	-
SkyTVguide	5704	80.9	4615	2.58	1789	3543	11297	3.2	1.6	-
Top Of The Pops	803	67.2	540	2.77	195	445	1833	4.1	1.8	-
		61.7		2.54				4.1	6.3	52.2

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 24. General Bi-monthlies and Quarterlies. Adults 15+ : 46,400,000**

	<b>NRS 15+ rdrs '000</b>	<b>Hhld rdrs %</b>	<b>NRS hhld rdrs '000</b>	<b>15+ adults per hhld</b>	<b>Min. hhld circ '000</b>	<b>Circ '000</b>	<b>Max rdrs '000</b>	<b>Max rpc</b>	<b>NRS rpc</b>	<b>% excess</b>
The Countryman	187	40.1	75	1.89	40	40	187	4.7	4.7	-
Viz	1457	53.6	781	2.50	312	320	1493	4.7	4.6	-
AA Magazine (Qtly)	3789	83.7	3170	2.28	1390	4033	10991	2.7	0.9	-
Ford Magazine (Qtly)	1113	57.5	640	2.51	255	790	3450	4.4	1.4	-
Av. Bi-mthly/Qtly		58.7		2.30				3.9	2.9	-

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 25. Women's weekly magazines. All women aged 15+ : 23,820,000**

	AIR 15+ rdrs '000	Hhld rdrs %	AIR hhld rdrs '000	15+ adults per hhld	Min hhld circ '000	Circ '000	Max rdrs '000	15+ Max rpc	15+ AIR rpc	% excess
Woman's Own	2620	55.5	1454	1.35	1077	660	1605	2.4	4.0	63.2
Chat	1569	61.6	967	1.33	727	483	1042	2.2	3.2	50.5
The Lady	154	57.8	89	1.24	72	49	105	2.1	3.1	46.4
Woman's Realm	782	50.0	391	1.26	310	221	558	2.5	3.5	40.2
Woman	2107	58.9	1240	1.32	939	694	1556	2.2	3.0	35.4
Best	1641	54.8	900	1.37	657	494	1233	2.5	3.3	33.1
Woman's Weekly	1731	54.1	936	1.31	715	542	1313	2.4	3.2	31.8
My Weekly	1051	50.1	527	1.21	436	356	859	2.4	3.0	22.4
Eva	502	61.0	306	1.44	213	183	432	2.4	2.7	16.2
People's Friend	985	52.7	519	1.12	463	416	885	2.1	2.4	11.3
Hello	1665	43.2	719	1.35	533	482	1506	3.1	3.5	10.5
OK! Magazine	573	53.2	305	1.46	209	202	555	2.7	2.8	3.2
Now	366	65.0	238	1.52	157	323	755	2.3	1.1	-
		55.2		1.33				2.4	3.0	24.4

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 26. Women's fortnightlies All women aged 15+ : 23,820,000**

	AIR 15+ rdrs '000	Hhld rdrs %	AIR hhld rdrs '000	15+ adults per hhld	Min hhld circ '000	Circ '000	Max rdrs '000	15+ Max rpc	15+ AIR rpc	% excess
Inside Soap	472	69.9	330	1.61	205	200	461	2.3	2.4	2.4
Mizz	288	72.9	210	2.02	104	110	305	2.8	2.6	-
More!	791	75.6	598	2.07	289	321	880	2.7	2.5	-
		72.8		1.90				2.6	2.5	-

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 27. Women's bi-monthly magazines. All women aged 15+ : 23,820,000**

	AIR 15+ rdrs '000	Hhld rdrs %	AIR hhld rdrs '000	15+ adults per hhld	Min hhld circ '000	Circ '000	Max rdrs '000	15+ Max rpc	15+ AIR rpc	% excess
Classic Stitches	188	66.0	124	1.26	98	15	29	1.9	12.4	548.6
Hair	938	45.2	424	1.59	267	136	479	3.5	6.9	95.7
Slimmer	223	72.6	162	1.46	111	58	116	2.0	3.9	92.3
You & Your Wedding	167	51.5	86	1.35	64	37	98	2.6	4.5	70.5
Rose. Conley Diet	495	68.9	341	1.28	266	182	338	1.9	2.7	46.4
Wedding & Home	157	44.6	70	1.37	51	45	138	3.1	3.5	13.6
Brides & Setting	161	44.1	71	1.48	48	54	180	3.4	3.0	-
		56.1		1.40				2.5	5.3	111.1

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**Table 28. Women's monthly magazines. All women aged 15+ : 23,820,000**

	AIR		AIR	15+	Min		Max	15+	15+	
	15+	Hhld	hhld	adults	hhld	Circ	rdrs	Max	AIR	%
	rdrs	rdrs	rdrs	per	circ	'000	'000	rpc	rpc	excess
	'000	%	'000	hhld	'000	'000	'000			
	----	----	----	----	----	----	----	----	----	----
Mother & Baby	642	55.6	357	1.16	308	88	183	2.1	7.3	251.1
Pract. Parenting	484	63.2	306	1.14	268	79	142	1.8	6.1	240.5
Babycare & Pregncy	221	53.8	119	1.19	100	30	67	2.2	7.3	231.4
Pregnancy & Birth	317	59.9	190	1.19	160	50	100	2.0	6.3	218.0
Our Baby	236	66.5	157	1.17	134	43	75	1.8	5.5	212.7
Parents	245	56.3	138	1.17	118	40	83	2.1	6.1	194.9
Homes & Gardens	1047	45.2	473	1.26	375	141	394	2.8	7.4	165.5
House & Garden	810	44.4	360	1.24	290	109	305	2.8	7.4	165.3
Sainsbury's Mag.	1849	64.5	1192	1.28	931	397	787	2.0	4.7	134.8
Ideal Home	1117	52.6	587	1.25	470	204	486	2.4	5.5	129.8
Homes & Ideas	1070	54.5	583	1.25	466	213	489	2.3	5.0	118.7
Perfect Home	329	69.6	229	1.21	189	87	151	1.7	3.8	117.6
BBC Veg Good Food	276	68.1	188	1.29	146	73	138	1.9	3.8	99.4
Country Homes	444	44.6	198	1.21	164	84	227	2.7	5.3	95.6
Elle Decoration	216	55.6	120	1.40	86	46	117	2.5	4.7	85.1
World of Interiors	159	50.9	81	1.19	68	37	87	2.3	4.3	82.9
BBC Good Food	945	70.5	666	1.23	541	300	524	1.7	3.1	80.3
Here's Health	132	62.1	82	1.27	65	36	74	2.0	3.7	79.2
Slimming	417	73.4	306	1.38	222	125	234	1.9	3.3	77.9
Vogue	1104	40.3	445	1.61	276	156	624	4.0	7.1	77.0
Period Living	300	69.3	208	1.18	176	100	169	1.7	3.0	77.0
Good Housekeepng	1637	52.7	862	1.26	684	427	1021	2.4	3.8	60.3
House Beautiful	881	65.6	578	1.22	474	301	559	1.9	2.9	57.5
Home & Country	314	36.9	116	1.19	97	63	205	3.2	4.9	53.5
Inspirations	269	73.2	197	1.20	164	109	178	1.6	2.5	51.1
Woman & Home	1211	45.9	556	1.20	463	310	810	2.6	3.9	49.4
Country Living	548	50.9	279	1.23	227	161	388	2.4	3.4	41.3
Family Circle	793	59.1	469	1.28	366	268	581	2.2	3.0	36.5
Prima	1331	67.6	900	1.30	692	522	1003	1.9	2.6	32.7
Elle	853	53.0	452	1.86	243	187	656	3.5	4.6	30.1
BBC Homes/Antiques	461	66.6	307	1.20	256	197	355	1.8	2.3	29.7
Cosmopolitan	1669	58.5	976	1.77	551	430	1301	3.0	3.9	28.3
Essentials	699	65.7	459	1.32	348	276	555	2.0	2.5	26.0
Marie Claire	1385	55.2	764	1.63	469	392	1158	3.0	3.5	19.6
Top Sante	474	61.6	292	1.52	192	165	407	2.5	2.9	16.3
She	727	51.2	372	1.44	258	231	649	2.8	3.2	11.9
Vanity Fair	255	29.0	74	1.45	51	46	232	5.0	5.5	10.1
Woman's Journal	346	47.1	163	1.25	130	119	315	2.7	2.9	10.0
Harpers & Queen	320	31.6	101	1.31	77	80	332	4.2	4.0	-
Looks	329	70.2	231	1.99	116	121	343	2.8	2.7	-
New Woman	632	58.9	372	1.50	248	266	677	2.5	2.4	-
Sugar	1101	72.9	803	2.05	392	427	1199	2.8	2.6	-
"19"	450	70.0	315	2.15	147	167	514	3.1	2.7	-
Options	252	56.0	141	1.46	97	116	302	2.6	2.2	-
Company	631	67.2	424	1.90	223	276	782	2.8	2.3	-
Yours	388	59.0	229	1.10	208	268	499	1.9	1.4	-
Bliss	834	72.8	607	2.09	290	376	1080	2.9	2.2	-
Minx	266	78.6	209	2.30	91	155	455	2.9	1.7	-
Tatler	188	25.5	48	1.31	37	72	368	5.1	2.6	-
Candis	526	53.8	283	1.37	207	463	1179	2.5	1.1	-
Somerfield Mag.	1543	24.4	377	1.26	299	1111	5727	5.2	1.4	-
		----		----				----	----	----
		56.9		1.40				2.5	3.9	58.1
		----		----				----	----	----

Source: National Readership Survey (NRS Ltd.) January - December 1998.

**APPENDIX 2. Comparison of NRS and frequency-based readership estimates.**

The following tables show, for all general and women's weekly, bi-monthly and quarterly magazines for which relevant data could be found, (a) the average number of times each magazine is picked up, (b) the "NRS readers-per-copy" and (c) the readers-per-copy based on fixed probabilities of reading applied to the claims of the frequency of reading each publication. Definitions are as follows:-

1. All data in the following tables (except Column 2) are based on the G.B. NRS for January-December 1998, using a universe of all adults aged 15+ for general magazines and all women aged 15+ for women's magazines.
2. Column 1 gives the NRS "average issue readership" estimate in 000s.
3. Column 2 gives the "average number of pickups" for each magazine. The source is the "Quality of Reading Survey", date March 1998, commissioned by IPA, ISBA and PPA and conducted by RSL - Research Services Ltd.
4. Columns 2, 3 and 4 give the number of weighted respondents claiming to read each magazine "almost always", "quite often" or "only occasionally" respectively.
5. The "frequency based AIR" (Average Issue Readership) is derived, in 000s, in each case by multiplying those making each frequency claim by the appropriate average probability of reading a daily newspaper, (.835, .259 and .059 respectively) and summing the products across the three frequency claims. (See page 17 for more details.)
6. "Circulation in 000" is the average audited circulation in thousands (A.B.C. wherever possible) for the period January-December 1998. Publications for which an audited January-December 1998 circulation could not be found, were excluded from the analysis.
7. "NRS RPC" (readers-per-copy) is found by dividing the NRS 15+ AIR estimate (see 2) by the circulation (see 6).
8. "Frequency-based RPC" (readers-per-copy) is found by dividing the frequency-based AIR estimate (5) by the circulation (6).

**Table 29. Comparison of NRS and frequency-based AIR estimates. General weekly magazines. All adults : 46,400,000**

	No. of		Claim				Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR	NRS RPC		based RPC	
Exchange & Mart	1022	4.4	496	778	4318	868	130	7.8	6.7	
The Big Issue	1114	2.8	781	1240	2865	1141	198	5.6	5.7	
Amateur Gardening	261	4.5	233	262	1179	331	56	4.6	5.9	
Angling Times	448	5.5	374	217	775	414	75	5.9	5.5	
Angler's Mail	242	4.9	206	133	366	228	45	5.4	5.1	
Melody Maker	230	4.2	166	171	569	216	37	6.2	5.8	
Auto Trader	2113	5.6	1174	1333	4940	1614	393	5.4	4.1	
Shoot	416	3.3	315	277	994	393	78	5.3	5.0	
NME	499	3.3	377	384	1183	483	90	5.6	5.4	
Amateur Photographer	118	9.4	114	107	562	156	26	4.5	5.9	
Country Life	312	3.4	215	300	2038	376	39	8.0	9.7	
TV & Satellite Wk	780	10.2	709	149	399	654	196	4.0	3.3	
TV Times	3341	9.1	2627	770	3667	2607	859	3.9	3.0	
Autocar	478	4.3	331	321	1338	438	72	6.6	6.1	
Time Out	413	5.6	228	390	1182	361	96	4.3	3.7	
Kerrang	212	5.6	147	104	406	173	38	5.6	4.6	
Horse & Hound	289	4.2	239	159	646	279	66	4.4	4.2	
Motorcycle News	558	5.9	454	265	767	493	140	4.0	3.5	
Garden News	260	4.2	227	120	423	245	79	3.3	3.1	
Auto Express	413	4.6	295	245	989	368	89	4.7	4.1	
Autosport	228	4.1	188	180	488	232	56	4.1	4.1	
Radio Times	3910	10.3	3137	759	4422	3075	1401	2.8	2.2	
New Scientist	462	5.2	399	299	875	462	88	5.3	5.3	
Match	435	3.7	296	282	694	361	122	3.6	3.0	
What's on TV	4219	10.0	3656	795	1658	3355	1722	2.4	1.9	
Times Ed. Supp	553	4.0	502	258	750	530	130	4.3	4.1	
Weekly News	505	3.0	435	154	554	435	200	2.5	2.2	
The Economist	388	3.6	261	298	1010	354	117	3.3	3.0	
Time	210	4.7	159	147	674	210	113	1.9	1.9	
Average		5.3						4.7	4.4	

**Table 30. Comparison of NRS and frequency-based AIR estimates. General fortnightly magazines. All adults : 46,400,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
Bike Trader	341	3.5	155	178	608	211	41	8.4	5.2
Private Eye	651	5.1	345	364	1589	475	179	3.6	2.6
Smash Hits	867	3.1	454	360	1284	547	380	2.3	1.4
Big!	327	3.1	197	147	459	229	159	2.1	1.4
Average		3.7						4.1	2.7

**Table 31. Comparison of NRS and frequency-based AIR estimates. General monthly magazines. All adults : 46,400,000**

	No. of		Claim			Freq. based		Freq. based	
	NRS AIR	pick ups	AA	QO	OO	AIR	Circ. '000	NRS RPC	based RPC
Classic Cars	926	5.8	306	257	1339	400	48	19.3	8.4
Practical Woodworking	195	6.4	80	62	266	98	18	10.8	5.5
Coarse Angling	261	7.8	135	83	223	147	23	11.5	6.5
Classic CD	176		61	50	275	80	19	9.5	4.3
Rugby World	427	4.4	198	124	438	223	32	13.2	6.9
Golf Monthly	731	5.5	321	253	725	376	60	12.1	6.2
Pract. Caravan	411	6.4	189	105	552	217	47	8.7	4.6
Total Football	372	5.1	154	110	336	177	31	12.1	5.8
Classic Bike	377	6.2	159	108	434	186	34	11.1	5.5
BBC Match/Day	788	2.9	281	209	732	332	67	11.8	5.0
Sporting Gun	262	5.7	120	65	287	134	28	9.2	4.7
What Hi-Fi?	595	5.7	245	215	691	301	63	9.5	4.8
BBC Top Gear	1638	4.7	552	526	1899	708	169	9.7	4.2
Superbike	507	5.9	199	157	484	235	50	10.1	4.7
What Car?	1328	4.6	346	402	2266	526	152	8.7	3.5
Performance Bikes	562	6.7	240	165	471	271	70	8.0	3.9
Trout & Salmon	270	5.9	123	60	286	135	42	6.5	3.3
Land Rover Owner	359	6.8	161	113	358	185	50	7.2	3.7
FourFourTwo	596	4.8	139	174	997	219	82	7.3	2.7
Yachting World	143	5.4	52	44	221	68	17	8.2	3.9
Golf World	494	6.6	173	192	497	223	71	6.9	3.1
Mixmag	541	6.8	223	149	536	256	77	7.0	3.3
BBC Gardeners World	1700	6.8	780	486	2032	896	330	5.1	2.7
Geographical Mag	160	5.8	59	35	258	73	20	8.0	3.7
The Field	250	2.6	84	52	460	111	29	8.5	3.8
Classic & Sportscar	392	7.9	115	153	533	167	58	6.8	2.9
BBC Wildlife Mag	555	5.0	232	170	771	283	87	6.4	3.3
Max Power	1541	6.1	646	469	1123	727	176	8.7	4.1
Fore!	285	7.0	152	78	291	164	58	4.9	2.8
Bike	385	6.1	179	106	400	200	75	5.2	2.7
Pract. Photography	258	5.3	108	84	412	136	58	4.4	2.3
Scot's Magazine	213	3.9	118	56	256	128	46	4.6	2.8
Sky Magazine	1033	7.7	555	218	839	569	167	6.2	3.4
Fast Car Magazine	535	7.6	242	168	431	271	81	6.6	3.4
Cars & Car Conv.	169	8.2	77	63	187	92	33	5.1	2.8
Q Magazine	817	6.0	318	268	882	387	167	4.9	2.3
Your Garden	242	4.1	102	81	300	124	66	3.7	1.9
Today's Golfer	277	6.1	108	125	242	137	58	4.7	2.3
Revs	468	7.4	247	140	280	259	66	7.1	3.9
BBC Music Magazine	216	8.2	84	68	278	104	56	3.9	1.9
Esquire	322	5.9	106	120	507	149	52	6.2	2.9
GQ	723	4.0	240	238	1046	323	116	6.2	2.8
Ride	249	6.2	132	61	207	138	69	3.6	2.0
Yachting Monthly	164	4.2	74	52	195	87	31	5.3	2.8
The Face	312	4.1	102	111	428	139	53	5.9	2.6
Pract. Classics	264	13.0	130	84	282	147	71	3.7	2.1
Custom Car	273	5.0	100	77	425	128	47	5.8	2.7
Garden Answers	470	7.9	206	161	525	244	157	3.0	1.6
Pract. Boat Owner	231	5.9	99	69	298	118	46	5.0	2.6
Select	317	4.7	119	137	384	157	69	4.6	2.3
Mojo	203	5.1	76	81	293	102	51	4.0	2.0
FHM For Him Mag	3240	6.0	1580	891	2194	1678	685	4.7	2.5
Loaded	2191	6.1	910	697	1796	1045	432	5.1	2.4
Men's Health	819	5.1	338	199	846	383	230	3.6	1.7
Empire	582	5.5	248	176	632	290	145	4.0	2.0
Car/Performance Car	369	5.2	125	122	492	165	88	4.2	1.9
Maxim	1002	6.3	438	286	781	485	267	3.7	1.8
Choice	297	5.4	148	42	356	155	100	3.0	1.6
Moneywise	237	4.4	139	58	201	143	102	2.3	1.4
Reader's Digest	4229	5.9	2536	813	3900	2556	1458	2.9	1.8
Total Sport	322	5.5	104	89	400	133	99	3.3	1.4



**Table 31 (contd). Comparison of NRS and frequency-based AIR estimates.  
General monthly magazines. All adults : 46,400,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
Cable Guide	3240	11.1	2615	335	757	2314	1431	2.3	1.6
Saga Magazine	1555	3.9	1095	289	958	1045	884	1.8	1.2
Arena	226	3.0	74	82	380	105	59	3.9	1.8
Focus	167	8.8	90	38	161	94	76	2.2	1.2
The Garden	403	5.7	301	50	222	277	223	1.8	1.2
TV Hits	564	3.8	152	145	611	200	223	2.5	0.9
Sky TV Guide	5704	11.2	4795	503	964	4190	3543	1.6	1.2
Top Of The Pops	803	2.7	242	240	772	309	445	1.8	0.7
Average		5.9						6.3	3.1

**Table 32. Comparison of NRS and frequency-based AIR estimates.  
General bi-monthlies and quarterlies. All adults : 46,400,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
The Countryman	187	5.1	55	44	241	71	40	4.7	1.8
Viz	1457	4.9	370	396	1792	516	320	4.6	1.6
AA Magazine (Qtly)	3789	2.4	2985	379	722	2633	4033	0.9	0.7
Ford Magazine (Qtly)	1113	2.7	676	126	493	626	790	1.4	0.8
Av. Bi-mthly/Qtly		3.8						2.9	1.2

**Table 33. Comparison of NRS and frequency-based AIR estimates. Women's weekly magazines. All women : 23,820,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
Woman's Own	2620	3.3	1750	1488	4129	2088	660	4.0	3.2
Chat	1569	4.0	1205	870	1734	1333	483	3.2	2.8
The Lady	154	4.1	88	111	807	149	49	3.1	3.0
Woman's Realm	782	3.1	548	507	1481	675	221	3.5	3.1
Woman	2107	3.4	1446	1196	3036	1695	694	3.0	2.4
Best	1641	3.7	1140	1098	2340	1373	494	3.3	2.8
Woman's Weekly	1731	3.5	1283	876	2468	1442	542	3.2	2.7
My Weekly	1051	3.7	826	477	1365	893	356	3.0	2.5
Eva	502	3.7	376	265	746	426	183	2.7	2.3
People's Friend	985	3.4	820	364	1176	848	416	2.4	2.0
Hello	1665	3.1	1069	1129	3035	1362	482	3.5	2.8
OK! Magazine	573	2.8	335	381	1122	444	202	2.8	2.2
Now	366	2.9	250	219	540	297	323	1.1	0.9
Average		3.4						3.0	2.5

**Table 34. Comparison of NRS and frequency-based AIR estimates. Women's fortnightlies. All women : 23,820,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
Women's fortnightlies									
More!	791	4.0	526	419	1018	607	321	2.5	1.9
Inside Soap	472	4.7	322	163	482	339	200	2.4	1.7
Mizz	288	5.0	156	151	519	200	110	2.6	1.8
Average		4.6						2.5	1.8

**Table 35. Comparison of NRS and frequency-based AIR estimates. Women's bi-monthly magazines. All women : 23,820,000**

	No. of		Claim			Freq.	Circ. '000	Freq.	
	NRS AIR	pick ups	AA	QO	OO	based AIR		NRS RPC	based RPC
Classic Stitches	188	9.8	62	48	206	76	15	12.4	5.0
Hair	938	4.6	151	231	1147	253	136	6.9	1.9
Slimmer	223	4.3	59	56	260	79	58	3.9	1.4
You & Your Wedding	167	4.5	28	35	294	50	37	4.5	1.3
Rose. Conley Diet	495	4.9	154	110	610	193	182	2.7	1.1
Wedding & Home	157	6.6	26	33	285	47	45	3.5	1.0
Brides & Setting	161	6.1	24	31	296	45	54	3.0	0.8
Average		5.8						5.3	1.8

**Table 36. Comparison of NRS and frequency-based AIR estimates.  
Women's monthly magazines. All women : 23,820,000**

	No. of		Freq.					Freq.	
	NRS AIR	pick ups	Claim AA	Claim QO	Claim OO	based AIR	Circ. '000	NRS RPC	based RPC
Mother & Baby	642	4.7	182	220	1069	271	88	7.3	3.1
Pract. Parenting	484	6.1	153	160	810	217	79	6.1	2.7
Babycare & Pregncy	221	5.0	70	75	364	99	30	7.3	3.3
Pregnancy & Birth	317	5.2	95	102	541	137	50	6.3	2.7
Our Baby	236	5.0	83	77	365	111	43	5.5	2.6
Parents	245	4.5	78	97	373	112	40	6.1	2.8
Homes & Gardens	1047	5.5	255	342	1956	416	141	7.4	2.9
House & Garden	810	5.2	185	247	1574	311	109	7.4	2.8
Sainsbury's Mag.	1849	3.3	731	684	1757	890	397	4.7	2.2
Ideal Home	1117	5.0	299	383	2163	475	204	5.5	2.3
Homes & Ideas	1070	5.8	262	338	1809	412	213	5.0	1.9
Perfect Home	329	6.7	104	118	465	145	87	3.8	1.7
BBC Veg Good Food	276	5.4	104	86	419	134	73	3.8	1.8
Country Homes	444	5.7	143	152	720	201	84	5.3	2.4
Elle Decoration	216	6.0	82	56	360	104	46	4.7	2.2
World of Interiors	159	4.7	53	42	297	73	37	4.3	1.9
BBC Good Food	945	6.2	384	302	1292	474	300	3.1	1.6
Here's Health	132	5.2	57	51	165	70	36	3.7	2.0
Slimming	417	4.9	152	139	555	195	125	3.3	1.6
Vogue	1104	3.6	302	390	1848	461	156	7.1	3.0
Period Living	300	7.5	108	107	422	143	100	3.0	1.4
Good Housekeepng	1637	5.2	635	478	2252	786	427	3.8	1.8
House Beautiful	881	6.9	330	300	1172	422	301	2.9	1.4
Home & Country	314	3.4	150	80	378	168	63	4.9	2.6
Inspirations	269	5.8	91	103	346	123	109	2.5	1.1
Woman & Home	1211	4.5	442	313	1720	551	310	3.9	1.8
Country Living	548	6.4	182	205	821	253	161	3.4	1.6
Family Circle	793	3.9	259	261	1179	353	268	3.0	1.3
Prima	1331	5.3	607	405	1245	685	522	2.6	1.3
Elle	853	4.1	279	297	1236	382	187	4.6	2.0
BBC Homes/Antiques	461	5.7	199	142	547	235	197	2.3	1.2
Cosmopolitan	1669	5.4	610	537	2080	770	430	3.9	1.8
Essentials	699	5.2	297	231	772	353	276	2.5	1.3
Marie Claire	1385	4.7	524	485	1665	661	392	3.5	1.7
Top Sante	474	4.2	210	143	553	245	165	2.9	1.5
She	727	5.0	219	223	1206	311	231	3.2	1.3
Vanity Fair	255	2.3	81	69	411	110	46	5.5	2.4
Woman's Journal	346	4.3	106	102	610	151	119	2.9	1.3
Harpers & Queen	320	3.6	102	80	535	137	80	4.0	1.7
Looks	329	4.2	115	135	370	153	121	2.7	1.3
New Woman	632	5.0	219	201	774	280	266	2.4	1.1
Sugar	1101	4.1	461	316	842	516	427	2.6	1.2
"19"	450	4.1	153	167	419	196	167	2.7	1.2
Options	252	5.3	63	116	451	109	116	2.2	0.9
Company	631	4.7	274	255	670	334	276	2.3	1.2
Yours	388	5.8	262	65	177	246	268	1.4	0.9
Bliss	834	4.0	340	268	680	393	376	2.2	1.0
Minx	266	3.9	73	103	277	104	155	1.7	0.7
Tatler	188	2.8	63	62	336	88	72	2.6	1.2
Candis	526	3.3	443	54	200	396	463	1.1	0.9
Somerfield Mag.	1543	2.7	925	387	642	910	1111	1.4	0.8
Average		4.8						3.9	1.8

