

# NON-RESPONDERS – AN OPPORTUNITY TO LOOK INTO THEIR HEARTS & SOULS

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## Synopsis

Declining response rates have been identified as one of the major issues facing the market research industry today. ESOMAR in Europe and CASRO, CAMRO, and PMRS in North America have all placed the issue in the top tier of concerns facing the industry. It is arguably an even more significant issue in readership research where the audience measurement for an individual publication could differ between those responding to the survey and those who do not.

Non-response could impact the overall measurement of print media or advantage specific publications at the expense of others. To overcome this concern, media measurement studies demand high response rates. In fact, in comparison, most studies outside the media measurement sector place no demands on response rates.

It is well known that some demographics such as age and gender are affected by response rate. For example, younger people and males are more difficult to reach and require repeated callbacks. However, not all demographics or lifestyle elements are impacted by response rates. Do the readership habits of non-responders differ from those responding to the surveys?

The PMB Print Measurement Bureau Return-to-Sample study provides an excellent opportunity to explore whether or not a difference exists in the readership habits of the two groups. Readership of the publications covered in the study are known for both those responding to the Return-to-Sample survey and for those receiving this survey but who did not respond.

The results demonstrated that there are different patterns. Overall media consumption by those responding to the survey was higher than for the non-responders. The results demonstrate that, when summed across all print titles, higher readership levels are noted for those responding to the Return-to-Sample compared with those not replying. Overall, non-responders do not read as much. When comparing print titles there are some publications that are advantaged by lower response rates while other titles would have lower readership levels without higher response levels.

The following paper explores this process, the results, and the conclusions in more detail.

## 1. Introduction – The Issue

Non-response has always been a significant issue in marketing and survey issue. ESOMAR in Europe and CASRO, CAMRO, and PMRS in North America have all placed the issue in the top tier of concerns facing the industry. It is arguably an even more significant issue in readership research where the measurement of the audience of publications could differ between those responding to the survey and those who do not.

In many studies, the sample source can provide some insight into the behaviour and impact of non-responders. Selected demographics of non-responders such as age, gender, and income are sometimes available for the universe from which the sample was selected and can be compared with the same characteristics for those responding to the survey. Virginia Cable, Dan Jennings, and Val Appel looked at this opportunity in their paper in Florence and suggested the application “of a weighting system ... to remove some of the bias caused by non-response.”<sup>1</sup>

In some areas, we also have information available from industrial associations, or government statistical organizations, on the incidence of ownership of selected products. In Canada for example, data is collected on the ownership of television sets, travel outside Canada, etc. All of these sources are valuable input into the study of potential bias introduced by non-response to a survey.

However, we have little, if any, information on whether or not the readership patterns of those responding to surveys differ from the non-responders. This same concern also extends to other media including newspapers, radio, and television.

Even though the specifications for media research generally demand response rates significantly higher than those for other forms of research (e.g. consumer products and services), nevertheless, even at 60% or 65%, there remains one-third or more of the target population who are not covered. Do the media habits of this one-third differ?

At the San Francisco symposium, Hans Vorster and John Smart made an attempt to answer this question by inference. Knowing the demographic distribution of each sampling unit in the main PMB study, they imputed the demographic characteristics of the non-responders and then applied this to an ascription model to infer readership to non-responders<sup>2</sup>.

They concluded that, of six titles examined, three suffered some potential audience loss, one benefited from non-response and two were not affected. It was an interesting exercise. Nothing further was done but it does serve to stir the pot of not only whether or not a potential bias exists but also who might gain and who might lose.

At the San Francisco Symposium, we also presented a paper that looked at the impact of successive calls on the demographic distributions and readership of specific publications<sup>3</sup>. The results demonstrated that difficult to reach populations were gradually reached with successive calls and that some measurements were impacted by additional calls while others were not. The main conclusion from the results presented in the paper was that little if any changes were noted after seven calls and therefore this criterion should replace one based solely on response rates.

In this paper, we have taken another approach. This is not presented as a definitive answer to the question, but rather as a further insight into whether or not a potential problem does in fact exist.

## 2. Methodology – The Opportunity

The main print readership study conducted by PMB Print Measurement Bureau includes a return-to-sample component. Those people who complete the initial study are re-contacted later in the year to investigate whether or not they would be interested in participating in further research. The responses from these follow-up research programs are merged with the initial database. The return-to-sample process affords clients of PMB an opportunity to probe further on issues important to them and to link this information to data already collected during the previous survey process.

The PMB 2000 study included data for a total of 24,072 respondents. Of these, some had incomplete mailing addresses or had specifically indicated that they did not wish to be interviewed again. Of the 24,072, these two groups for whom addresses were not confirmed or who had asked not to be re-contacted numbered 1,867 (of these, most had undeliverable addresses).

In the 2000 PMB Return-to-Sample process, a 12-page questionnaire was mailed to the balance of respondents from the main PMB study (22,205) together with a personalized cheque for \$5. The mailing also included a personalized letter and a stamped, self-addressed business reply return envelope. Part way through the return period, a second questionnaire was sent to a sample of those who had not replied by that date. No other follow-up attempts were made. By the closing date for the study, a total of 6,524 completed surveys had been received. With a further 1,639 undeliverables, this translates to a response rate of 32%. These returns were merged with the data from the original PMB readership survey.

This combined database provides us a unique opportunity to look at the characteristics of non-responders. Other research studies have shown that people participating in additional, or follow-up surveys, behave in a similar fashion to those being surveyed for the first time.

With this background, the main PMB database offers the opportunity to compare the profile of those who responded to the second, or “Return-to-Sample”, study with the total sample from the main PMB database (i.e. our “universe”). The main PMB database contains a wealth of information on the non-responders to the follow-up survey. This includes not only standard demographic data but also behavioural data, media habits (e.g. newspaper readership, radio listening, and television viewing) and, of greatest interest, readership profiles.

Now the intriguing question – do the people who responded to the Return to Sample survey differ significantly from those who did not reply?

## 3. Analysis – The Insights

From the previous papers submitted to the various Worldwide Readership Research Symposia, we can make certain *a priori* assumptions of what we might expect. For example, from the Cable, Jennings, and Appel paper we might expect the non-responders to be,

- older,
- have no children,

For the purposes of this analysis, we have assumed that the original PMB database (24,072 respondents) represents the complete universe in which we are interested. Do those people who responded to the Return to Sample process (6,524) differ from the “original universe” (24,052)? If there are differences, then we can assume that those differences are caused by the non-responders.

The comparisons have been made using indexes. Data from the original sample of 24,072 are considered to represent an index of 100. For example, in the original study, males represented 47.1%; in the Return-to-Sample study, males represented 43.4%, an index of 92.0. Therefore in our pseudo-world “males” were underrepresented in the Return-to-Sample study.

To study the possible differences between the Return-to-Sample and the original PMB database, we looked at three major areas:

1. demographics;
2. use of selected products and services; and,
3. media habits

### 3.1 Demographics

Two basic demographic variables are presented in the following table – age and gender.

**Table 3.1.1**  
**Demographics – 1**

	<b><u>Index</u></b>
<b>Age:</b>	
12 to 17	100.6
18 to 24	64.4
25 to 34	73.9
35 to 49	99.1
50 to 64	126.8
65 or over	116.5
<b>Gender:</b>	
Male	92.0
Female	107.1

As in many survey research projects, when little or no effort is made to make repeated follow-up calls, one tends to under-represent the younger age groups with a correspondingly higher representation from the older age groups. This is exactly the pattern shown in these results.

We usually see the same result with gender, though not as strongly. Males tend to be under-represented. This age and gender pattern is usually attributed to mobility (spending more time out of the house) and other activities that take away from the time available to complete a survey.

These results are consistent with those reported by Cable, Jennings, and Appel. They are consistent with the results that we presented in San Francisco demonstrating that it was the very groups with indices below 100 that were gradually captured with repeated callbacks.

One of the concerns with non-response is whether or not we lose too many people with higher education and/ or with higher income. The results for these two variables are presented in the following table (Table 3.1.2)

**Table 3.1.2**  
**Demographics – 2**

	<b><u>Index</u></b>
<b>Education:</b>	
No certificate/ diploma	94.7
High school	98.1
Trade school	104.7
Some university	108.5
Graduated university	100.9
Postgraduate	92.9
<b>Household Income:</b>	
Less than \$20,000	93.6
\$20,000 to \$24,999	107.5
\$25,000 to \$34,999	104.3
\$35,000 to \$49,999	107.4
\$50,000 to \$74,999	100.3
\$75,000 or more	87.7

Except for the “\$75,000 or more” income level (which represents approximately 12% of households) and those respondents with a post-graduate education, all other levels of income and education are well balanced in the Return-to-Sample component.

Concerns over employment status and occupation represent an adjunct to this set of variables. The results for these variables are presented in Table 3.1.3

**Table 3.1.3**  
**Demographics – 3**

	<b><u>Index</u></b>
<b>Employment Status:</b>	
Full-time	92.5
Part-time	97.9
Not employed	110.9
<b>Occupation:</b>	
Professional	90.5
Senior Management	91.2
Other manager	94.5
Technical/ Sales	93.9
Clerk/ Secretarial	106.7
Skilled/ Unskilled	89.3
Other	109.8

These results remain consistent. Those who one might expect to be more difficult to reach without repeated contacts confirm this supposition. Those employed full-time are less likely to respond as are those who are employed in professional or management level positions. This is also consistent with the results presented in Florence by Cable, Jennings, and Appel who noted that people who receive subscriptions to business publications of the Wall Street Journal are less likely to respond to a survey than those with a consumer-oriented subscription.

In Canada, we also very interested in region and language. We are often accused of focusing our attention on the large urban areas and those that are predominantly English speaking. The results (presented in Table 3.1.4) are not unexpected and are consistent. The three largest urban areas in Canada are in Quebec, Ontario, and British Columbia (the regions with lower indices). There are also two large urban areas in Alberta (another region with an index below 100). Again, is this reflective of time available, or mobility of the individuals in these geographies? The response levels from the two official languages are almost identical removing any potential bias in that area.

**Table 3.1.4**  
**Demographics – 4**

	<b><u>Index</u></b>
<b>Region:</b>	
Atlantic	136.3
Quebec	103.7
Ontario	91.9
Manitoba/ Saskatchewan	118.4
Alberta	93.7
British Columbia	93.8
<b>Community Size:</b>	
Less than 100,000	113.6
100,000 to 1,000,000	102.8
1,000,000 or more	90.9
<b>Language:</b>	
English	102.7
French	103.9
Other	64.4

The final set of demographic variables presented cover marital status and household composition, (Table 3.1.5).

**Table 3.1.5**  
**Demographics – 5**

	<b><u>Index</u></b>
<b>Marital Status:</b>	
Married/ Living together	107.3
Separated/ Widowed/ Divorced	89.3
<b>Household Size:</b>	
One person	93.2
Two people	112.2
Three or more people	94.9
<b>Household with Children:</b>	
Under 2 years of age	90.0
2 to 11	96.1
12 to 17	110.7
Under 12 years of age	100.9
Under 18 years of age	99.8

This is the one set of results that does not appear to be consistent with those reported by Cable, Jennings, and Appel. People with children, and particularly those with younger children are less likely to respond to surveys and therefore require greater effort to secure their cooperation. However, the results are consistent with the analysis of response by number of calls made at the San Francisco symposium. Those results demonstrated that people who responded after repeated calls were more likely to have children in the household.

In summary, the results from the demographic analyses appear to support the widely held beliefs in survey research that repeated calls to increase response rates help to reach,

1. younger respondents;
2. males; and,
3. high income/ upper level management

However other profiles do show very reasonable representations. These include,

1. household income (with the exception of the highest level - \$75,000 or more);
2. education; and,
3. language.

While the results from this analysis confirm that certain segments in the population are more difficult to reach and do require special efforts to increase their response rates, it still does not answer the question about whether or not their use of products and services or media habits are different.

### **3.2 Products and Services**

Before looking at the media habits, we thought it would be useful to look at selected products and services to see if there was any difference in patterns of use. Do the consumption patterns, or ownership patterns, of those responding to surveys without subsequent follow-up efforts differ markedly from those who are more difficult to reach. In Table 3.2.1, we present data related to the ownership of selected financial products and services.

**Table 3.2.1**  
**Financial Products and Services**

	<b><u>Index</u></b>
Use telephone/ computer banking	98.3
Have a loan/ line of credit	104.0
Have a mortgage	105.0
Own life insurance	110.4
Own mutual funds	112.5
Have a will/ estate planning	122.0

The use of computer/ telephone banking, or having a loan (or line of credit) or a mortgage is similar for responders and non-responders alike. However the incidence of having life insurance and owning mutual funds is higher for survey responders. Even higher indices are noted for those with a will or who have planned their estate.

It is interesting to note that the more credit cards a person holds, the more likely they are to participate in survey research (Table 3.2.2).

**Table 3.2.2**  
**Number of Credit Cards**

	<b><u>Index</u></b>
None	88.3
One	100.2
Two	106.7
3 to 4	110.7
Five or more	129.5

Similarly, the more vehicles a person owns the more likely they are to respond to a survey (Table 3.2.3).

**Table 3.2.3**  
**Automobiles/ Vans/ Trucks**

	<b><u>Index</u></b>
None	79.0
One	101.3
Two	108.0
3 or more	111.2

People who own 35 mm cameras represent a segment that seem more likely to be home, or willing to participate in survey research, without significant efforts to insure their cooperation. On the other hand, those people who use the Internet appear less likely to cooperate (Table 3.2.4).

**Table 3.2.4**  
**Cameras/ Computers/ Telephones**

	<b><u>Index</u></b>
<b>Cameras:</b>	
Digital camera	98.9
Disposable camera	101.7
Video camera	107.2
35 mm camera	110.8
<b>Computers:</b>	
Have in the household	101.9
Use – for personal	101.2
Use – at work	98.1
Use the Internet	95.9

Finally, as one might expect, those who have pagers/ beepers or their own personal cellular telephone, represent more difficult to reach segments (Table 3.2.5) and as a result their indices are less than 100.

**Table 3.2.5**  
**Telephones**

	<b><u>Index</u></b>
Cellular telephone – personal use	87.7
Pager/ beeper	97.5
Have an answering machine	110.4

Each of these product areas appears to support the premise that certain segments of the population who are more mobile, or who are engaged in a number of different activities, have less time or inclination to respond to surveys.

### 3.3 Media Profile

The overall media profile was the first look at the possible differences in media habits between respondents and non-responders. For illustration, only the highest, medium and light quintiles are presented (Table 3.3.1) for print, television, and radio.

**Table 3.3.1**  
**Media Profile – Quintiles**

	<b><u>Index</u></b>
<b>Number of Issues per Month:</b>	
Heavy	112.1
Medium	99.6
Light	79.1
<b>TV Quintiles:</b>	
Heavy	112.5
Medium	105.5
Light	84.9
<b>Radio Quintiles:</b>	
Heavy	101.0
Medium	101.5
Light	92.6

It is interesting to note that the lighter quintiles were significantly less likely to respond to the Return-to-Sample survey. This would be consistent with other results from the demographic profiling – the more active the individual the less likely they appear to be to spend time engaged with media – whether print or television. While the lighter radio quintiles also are less likely to respond to surveys the impact is less than for print or television. For the other radio quintiles, the indices are much closer to 100 – a balanced representation.

It is interesting to note that newspaper readership does not seem to fit the same pattern as the other media. There would appear to be little difference between those responding to the survey and those not responding with respect to their newspaper readership habits (Table 3.3.2).

**Table 3.3.2**  
**Media Profile – Quintiles**

	<b><u>Index</u></b>
<b>Newspaper readership:</b>	
Read yesterday	104.5
Read Saturday	106.6
Read Sunday	104.8
Read community newspaper	106.2

While the previous data shows that for print media, those in the lighter quintiles are less likely to respond to a survey, does this same pattern remain consistent across titles? The answer appears to be ... no.

In the print media, there is no consistent pattern across individual titles (Table 3.3.3). However, there are definite differences by type of publication. Selected publications have been grouped by type of publication. The names have been removed but they do represent some of the most well known magazines in Canada.

**Table 3.3.3**  
**Media Profile – Magazine Readership**

<b>TYPE OF PUBLICATION</b>	<b>Index</b>
<b>Business/ Finance:</b>	
A	82.4
B	89.3
C	95.9
D	99.7
E	105.9
<b>In Flight:</b>	
A	90.3
B	96.6
<b>Entertainment:</b>	
A	81.7
B	90.0
C	92.3
D	98.6
E	109.6
F	111.1
G	111.7
H	125.4
<b>General Interest:</b>	
A	96.3
B	112.6
C	115.2
D	127.7
E	130.4

First, with one exception, business publications have an index lower than 100. Again this is consistent with the finding that business professionals are less likely to respond to surveys and require repeated callbacks to encourage their participation. The one publication with an index over 100 is actually delivered with a newspaper which may possibly account for the difference with other publications in the group.

The in-flight publications also show the same pattern (indices below 100) reflecting higher readership among those not responding to this survey.

The third group presents a series of publications labeled as entertainment. Several of those with indices less than 100 are movie listing publications, or in-theatre magazines. Publications in this group, with indices greater than 100, are most likely to be television listings. Again this is consistent with the finding that people not at home are less likely to participate in survey research; people watching television are more likely to be at home and therefore participate in surveys.

With one exception (a magazine covering out-of-door activities), the general interest magazines have indices greater than 100. In other words, non-responders are less likely to read these types of publications than those completing the questionnaire.

The same pattern holds for the final three categories – home decoration, women’s magazines, and news magazines. All have indices above 100. Their readership would decline as response rates increase.

**Table 3.3.3**  
**Media Profile – Magazine Readership (cont’d)**

	<u>Index</u>
<b>Home Decoration:</b>	
A	104.7
<b>Women’s Magazines:</b>	
A	101.4
C	116.5
D	119.7
E	121.4
F	121.6
G	132.0
<b>News Magazines:</b>	
A	104.0
B	110.2
C	110.4

From this data, it would appear that some publications are advantaged by higher response rates while there are others whose readership would decline as the response rate increases. This is a similar finding to that concluded by Vorster and Smart – some publications would be expected to increase, some to lose, and some to remain relatively unchanged.

#### 4. Conclusions

The comparisons made in this study between those responding to the Return-to-Sample study and those who did not return a completed questionnaire show that there are some definite differences. As expected there were significant differences by age and gender. However, one cannot make a blanket statement that everything is different.

There were little if any differences in other attributes such as income, education, and language.

Likewise there was a mixed result in product usage. For some products or services, responders show greater use while for others the reverse is true. Can one predict these differences? With the limited information studied to date, it would appear that products and services used by the more mobile component of the population, or those engaged in a number of different activities, will be under-represented while those used by people who are more likely to stay at home will be over-represented.

There appears to be little difference in newspaper readership between responders and non-responders.

However, there are definite differences in the print media sector. Like television (and to a lesser extent radio), non-responders tend to be lighter readers overall than those completing and returning the surveys. Therefore, in general, the higher the response rate the lower the overall readership levels one would expect for magazines.

However, there are exceptions across publication titles. Some titles (and usually groups of titles) would be advantaged by higher response rates – non-responders appear more likely to read these types of publications. This is also supported by other research findings. At the same time, there are other publications whose readership would decline as response rates increase – their readers are easier to survey ... they are more likely to take part in survey research.

In conclusion, if we are to reflect the “true world ... the true universe”, it is apparent that we need to make the continued efforts to maintain response rates even though it is likely that this will deflate overall readership levels.

#### References:

1. Cable, Virginia, Jennings, Dan and Appel, Valentine. “Using Database Overlays to Correct Survey Non-Response Bias.” Presentation to the 9<sup>th</sup> Worldwide Readership Research Symposium, Florence, 1999.
2. Smart, John and Vorster, Hans. “Readership and Survey Non-Response.” Presentation to the 6<sup>th</sup> Worldwide Readership Research Symposium, San Francisco, 1993.
3. Thompson, Ivor. “Enough Already, Please ... Just Leave Me Alone.” Presentation to the 6<sup>th</sup> Worldwide Readership Research Symposium, San Francisco, 1993.

