The power of the programme: TV programme involvement and ad viewing behaviour

Maureen Syn and Mike Brennan

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Abstract

This paper reports a study that examined the relationship between audience involvement with particular TV programmes and the degree of attention paid to the advertisements. An in-home video-recording device was used to collect ‘live’ recordings of individuals as they watched television. Using a frame-by-frame analysis, the proportion of time each individual had ‘eyes-on-screen’ was measured for different types of programmes (eg, high or low involvement) and their associated ads. Building on the positive theory of programme involvement, it was hypothesised that participants would spend a larger proportion of their time looking at the screen during high involvement programmes than during low impact programmes. However, ad-viewing behaviour varied in an unpredictable way for different programmes, with level of attention to ads seemingly unrelated to programme involvement. Of note is the finding that the level of attention to ads was also unrelated to the amount of ‘presence’ during the ad breaks, that is, the proportion of the audience who remained in the room while the ads were on. The finding that a smaller presence during ad breaks can be associated with a higher proportion of attentive ad viewers among those who remain present is of particular relevance to advertisers.

Introduction

It is widely acknowledged that people often avoid advertisements either physically by leaving the room or mechanically by channel flicking or muting the sound (Moriaty & Shu-Ling, 1994; Gunter, Furnham & Beeson, 1997). And even if they are present when ads are screened, viewers can still be engaged in a combination of activities,
which may take their attention away fully or partially. An important television advertising decision thus concerns when to screen advertisements so as to capture the largest possible attentive audience.

Observational studies using in-home observation devices (Collett & Lamb, 1986; Krugman & Shamp, 1992) tend to report a positive relationship between programme attention and ad attention; viewers who pay high attention to the programmes are more likely to pay high attention to the ads (Krugman, Cameron & White, 1995). However, the question is whether ad viewing is a simple function of programme viewing or whether the quality of the viewing differs in different programmes. This has led to different studies that have tried to determine the factors contributing to programme contexts that encourage advertising viewing. Many of these studies have investigated how programme types differing in content and impact influence viewers' responses to advertisements. However, researchers have not been able to agree on what makes one programme context better than another (Norris & Colman, 1994), and there remain opposing views about how programme involvement affects ad involvement.

**Literature review**

When investigating the effects of programme content on viewers’ responses to ads, researchers have often proceeded on the basis of prior assumptions about the impact different types of programmes have on viewer behaviour. For example, Crane (1964) assumed that a western show would be more involving for men while a quiz show would engage women more; Schwerin (1958) assumed that dramas would be more involving than musicals; and Kennedy (1971) assumed that a suspense thriller would be more involving than a situation comedy. There has been, however, no consistency in the findings. Burke Marketing Research (1978) found that ad recall scores for programme types (dramas, movies, comedies, etc.) did not differ by very much.

Other researchers used programmes with high TV ratings to represent high involving programmes. According to Danaher and Lawrie (1998), high ratings shows had more viewers and the viewers were more committed. The correlations were also higher for
information type programmes than entertainment ones. In particular, news and soap operas had higher than average commitment scores than other programme types. However, the study did not specifically examine actual attention paid to ads.

Barwise and Ehrenberg (1988) found differences in the viewing patterns between what they classified as *demanding* and *less-demanding* (entertainment) programmes. *Demanding* programmes were defined as ones that involved the viewer and required the viewer to put in effort to watch them. They measured the demandingness of the programmes by getting viewers to indicate if each programme either "helped (them) think" or "helped (them) relax". Based on this, informational programmes (news, public affairs, documentaries), heavy drama and cultural programmes were termed *demanding* programmes. Entertainment programmes such as light entertainment, light drama, films and sports programmes were *less-demanding* programmes. They also reported that although fewer viewers watched *demanding* programmes, these programmes had a longer lasting effect on the viewers.

Hoffman and Batra (1991) suggested that measures of “involvement” needed to include both cognitive and affective factors that measure the viewers’ actual responses to the programmes, and developed a rating scale to do this. Using these scales, they grouped programmes into three categories: High Cognitive, High Affective and Low Impact programmes. High Cognitive programmes were programmes that viewers "watch to learn from" and "to get more from them". High Affective programmes were those that "touch (viewers’) feelings". In contrast, Low Impact programmes were those viewers "watch to pass time", from which they "do not learn anything" and which "do not touch (their) feelings".

Hoffman and Batra (1991) concluded that viewers would give the highest level of attention to High Impact Cognitive programmes (such as news and documentaries). Viewers watching High Affective programmes (eg, peak-time soap operas, mini series) would pay some attention to the screen but would leave the room during both the programme and the advertisements. And viewers of Low Impact programmes (eg,
situation comedies, action-adventure series) would pay little attention to the screen while in the room and leave the room during the programme itself.

While some studies suggest that viewers tend to respond more positively to high involving programmes than low involving programmes (Clancy & Kweshkin, 1971; Leach, 1981; Krugman, 1983), other studies suggest that higher involvement with programmes lessens the effectiveness of the ads (Bryant & Comisky, 1978; Soldow & Principe, 1981; Park & McClung, 1986; Thorson & Reeves, 1986; Norris & Colman, 1994), possibly because viewers become irritated by the interruption caused by the ad break.

Because of these conflicting findings, the purpose of the present study is to re-examine the relationship between programme involvement and ad involvement. Two published methods (Barwise & Ehrenberg, 1988; Hoffman & Batra, 1991) are used to classify programmes in terms of involvement, and ‘eyes-on-screen’ (EOS), a measure used in many ‘attention’ studies, is used to investigate the actual attention paid to advertisements during different types of programmes.

**Method**

A device known as a C-Box (first developed by Collett in 1986) was constructed to videotape viewers as they watched television in their own homes. The C-Box consisted of a 25-inch colour television, a cabinet that housed four video recorders, and a hidden outward-facing video camera. Within the range of the camera lens, the C-Box recorded the viewers and what they were doing. The video also recorded, picture-in-picture, whatever was playing on the TV set at the time of recording, so it was possible to view both what was on the screen and what the viewers were doing.

The C-Box was placed in the homes of 14 families over a continuous period of eight days. Approximately 350 hours of recordings were obtained. This rendered over 6000 ad-viewing observations across a range of different programmes.
Sample

From a face-to-face survey of households in Palmerston North, New Zealand, a small sample of respondents was recruited for the study. This group was also used to generate a snowball sample. The sample consisted of a wide range of people of different ages, income levels and occupations. There were an equal number of males (45 percent) and females (55 percent). Most people (36 percent) in the sample were between 30 and 40 years of age. The oldest adult participant was 51 years old and the youngest 16. In terms of occupation, there was a good representation of people involved in professional or highly skilled jobs and in less qualified or semi-skilled employment. Most of the participants belonged to the middle-to-higher income group (with household annual incomes above NZ$50,000).

Coding

The researcher coded information about the household's overall viewing over eight days as well as keeping a more detailed log of what viewers were observed to be doing during the ad breaks. For each selected ad pod, the behaviour of each viewer was observed at three-second intervals. For each observation, the researcher noted whether the viewer's eyes were oriented towards the screen (EOS) and whether the viewing was accompanied by another activity, such as eating and drinking, doing household chores, sewing, feeding children, stroking a pet or smoking.

The amount of time the television set was on during the study varied from family to family, ranging from approximately 12 hours to 41 hours. On average during the eight-day observation period, over all the households, the average time the television set was switched on amounted to slightly above 25 hours.

Analysis

The criteria developed by Barwise and Ehrenberg (1988), and Hoffman and Batra (1991) were used to classify the programmes. Viewers’ viewing behaviour was classified into one of four categories: eyes-on-screen only (EOS only), meaning the person was seen looking at the screen; eyes-on-screen and engaging in one or more
simultaneous activities (EOS + behaviour); not looking at the screen (No EOS); and not present. These first three categories combined constitute a measure of ‘presence’ in the room. In order to provide indices of ad-viewing quality, the ratios of EOS only: Presence and Total EOS: Presence were developed. EOS only: Presence shows the proportion of time when viewers had their eyes-on-screen only during the time viewers were present. On the other hand, Total EOS: Presence shows the proportion of time viewers had their eyes-on-screen, including those times when they were also engaged in other activities.

For each programme classification system, a series of chi-square tests was performed to find out whether the programmes differed in terms of ad-viewing behaviour.

**Ad-break behaviour using the classifications of Barwise and Ehrenberg (1988)**

Within the category of demanding programmes, the difference between news and information type programmes was not significant ($\chi^2 = 6.3747$, df = 3, $p > 0.05$) and the attention scores for both types of programmes were rather similar. On average, while viewers were absent for about a quarter of the time (26 percent), attention to the screen was around 26 percent (EOS only and EOS+ behaviour) and viewers were not looking for about half the time (45 percent) - see Table 1. For both types of demanding programmes, viewers gave their full attention to the screen as a sole activity (16 percent) more often than looking at the screen while concurrently doing something else (13 percent).

In the less demanding programmes, there were significant differences between the four programmes ($\chi^2 = 31.3000$, df = 9, $p < 0.01$). As shown in Table 1, light entertainment and light drama programme types had distinctly higher EOS only scores (14 percent) than films and sports (4 percent), and viewers were more involved during these two programmes. In comparison, during sports programmes there was noticeably less full attention (4 percent) and more time spent doing something else during the ad viewing (EOS + behaviour = 20 percent).
Table 1: Ad-break behaviours by programme type: Barwise and Ehrenberg (1988) categories

<table>
<thead>
<tr>
<th>Programme type</th>
<th>No. ads observed</th>
<th>Present</th>
<th>Not present</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EOS only</td>
<td>EOS + behaviour</td>
<td>No EOS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Demanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>1067</td>
<td>17</td>
<td>15</td>
<td>49</td>
</tr>
<tr>
<td>News</td>
<td>1135</td>
<td>15</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>16</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Less-demanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Ent</td>
<td>619</td>
<td>14</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>Light drama</td>
<td>2122</td>
<td>14</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Films</td>
<td>752</td>
<td>4</td>
<td>6</td>
<td>67</td>
</tr>
<tr>
<td>Sports</td>
<td>231</td>
<td>4</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>9</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Overall average</td>
<td></td>
<td>11</td>
<td>11</td>
<td>55</td>
</tr>
</tbody>
</table>

Note: Viewer must be present for 30 seconds before the ad breaks. % is subject to rounding error.

Viewers may be involved in less-demanding programmes in different ways. Of the four less-demanding programme types, Sports shows had the highest proportion of viewers present (84 percent), but the proportion of time ad viewers had their eyes fully on the screen was lowest (5 percent) - see Table 2, over the page. In contrast, Light entertainment programmes, which had the lowest proportion of time where viewers were present (73 percent), had the highest EOS score (19 percent).
Table 2: Ratios of visual attention to actual presence during ads (Barwise and Ehrenberg)

<table>
<thead>
<tr>
<th>Programme type</th>
<th>No. ads observed</th>
<th>EOS only</th>
<th>Total EOS (EOS only + EOS + behaviour)</th>
<th>Presence (EOS only + EOS + behaviour + No EOS)</th>
<th>EOS only: Presence</th>
<th>Total EOS: Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Demanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>1067</td>
<td>17</td>
<td>32</td>
<td>81</td>
<td>21</td>
<td>40</td>
</tr>
<tr>
<td>News</td>
<td>1135</td>
<td>15</td>
<td>25</td>
<td>66</td>
<td>23</td>
<td>37</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>16</td>
<td>29</td>
<td>74</td>
<td>22</td>
<td>39</td>
</tr>
<tr>
<td>Less-demanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Entertain</td>
<td>619</td>
<td>14</td>
<td>19</td>
<td>73</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>Light Drama</td>
<td>2122</td>
<td>14</td>
<td>24</td>
<td>84</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>Films</td>
<td>752</td>
<td>4</td>
<td>10</td>
<td>77</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Sports</td>
<td>231</td>
<td>4</td>
<td>24</td>
<td>84</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>9</td>
<td>19</td>
<td>80</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>Overall average</td>
<td></td>
<td>11</td>
<td>22</td>
<td>78</td>
<td>15</td>
<td>29</td>
</tr>
</tbody>
</table>

Note: Viewer must be present 30 seconds before the ad breaks. % is subject to rounding error. 
\(\chi^2\) for EOS / Presence was calculated by using EOS only % by presence % minus EOS only %
\(\chi^2\) for Total EOS / Presence was calculated by using Total EOS % by presence % minus total EOS

It is also apparent from Table 2 that, on average, ad breaks during demanding programmes had fewer viewers than those in less-demanding programmes (Presence = 74 percent versus 80 percent). But the proportion of time full attention was paid (EOS only) was higher for demanding than for less-demanding programmes (22 percent versus 11 percent). This indicates that viewers who stayed during the ad break tended to be more involved in ads during the demanding programmes than viewers who stayed during the less demanding programmes.

On average, the ratio of Total EOS:Presence was also significantly higher for the more demanding programmes than less-demanding programmes (39 percent versus 24 percent) \((\chi^2 = 4.2711, df = 1, p < 0.05)\). This indicates that the ads screened during demanding programmes had a smaller audience but this audience showed higher levels of involvement.
Ad-break behaviour using the classifications of Hoffman and Batra (1991)

In this study, a new category, High Impact, was added to the three High Affective, High Cognitive and Low Impact categories of Hoffman and Batra (1991) to include a programme category where viewers were involved both cognitively and affectively.

Compared with the other impact categories, High Cognitive ad viewers were "fully looking at the screen" for about 16 percent of their time and could be considered as "most involved" (See Table 3). In contrast, High Affective programmes had the lowest EOS only and EOS + behaviour scores (8 percent and 6 percent respectively). Ad viewers of this programme type hardly looked at the screen (No EOS = 71 percent). They were the least "involved". The scores for EOS only and EOS + behaviour of Low Impact programmes were 14 percent and 15 percent respectively. These scores were different from those of the High Cognitive impact programmes by no more than 2 percent. High Impact programmes had a slightly lower EOS only score (10 percent) but the EOS + behaviour score (15 percent) was not very different from High Cognitive impact programmes (13 percent).

Table 3: Ad-break behaviours by programme type: Hoffman and Batra (1991) impact scores

<table>
<thead>
<tr>
<th>Programme type</th>
<th>No. ads observed</th>
<th>Present</th>
<th>Not present</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EOS only</td>
<td>EOS + behaviour</td>
<td>No EOS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>High Impact</td>
<td>775</td>
<td>10</td>
<td>15</td>
<td>44</td>
</tr>
<tr>
<td>High Affective</td>
<td>566</td>
<td>8</td>
<td>6</td>
<td>71</td>
</tr>
<tr>
<td>High Cognitive</td>
<td>1213</td>
<td>16</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Low Impact</td>
<td>2819</td>
<td>14</td>
<td>15</td>
<td>55</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>12</td>
<td>12</td>
<td>53</td>
</tr>
</tbody>
</table>

Note: Viewer must be present 30 seconds before the ad breaks. % is subject to rounding error.

Contrary to expectations, programmes classified as High Impact (high in cognitive and affective impact) did not obtain the highest ad-attention scores. Viewers looked
fully at the screen 10 percent of the time (EOS only) and looked and did something else 15 percent (EOS + behaviour) of the time.

As seen from Table 4, on average, across the four impact classifications, viewers full attention (as measured by the ratio of EOS only: Presence) was low (16 percent). Viewers in High Cognitive programmes tended to be most attentive (22 percent), while viewers of High Affective programmes were least attentive (9 percent). During High Affective programmes, viewers were in the room for 85 percent of the time, yet EOS only: Presence was only around 9 percent. By contrast, viewers during High Cognitive programmes were present for 74 percent of the times yet were more attentive during that time (22 percent). Viewers of High Impact programmes were present for 69 percent yet were only moderately attentive (15 percent).

Table 4: Ratios of visual attention to actual presence during ads (Hoffman & Batra)

<table>
<thead>
<tr>
<th>Programme type</th>
<th>No. ads observed</th>
<th>EOS only</th>
<th>Total EOS (EOS only + EOS + behaviour)</th>
<th>Presence (EOS only + EOS + behaviour + No EOS)</th>
<th>EOS only: Presence</th>
<th>Total EOS: Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Impact</td>
<td>775</td>
<td>10</td>
<td>25 (%)</td>
<td>69 (%)</td>
<td>15 (%)</td>
<td>36 (%)</td>
</tr>
<tr>
<td>High Affective</td>
<td>566</td>
<td>8</td>
<td>14 (%)</td>
<td>85 (%)</td>
<td>9 (%)</td>
<td>17 (%)</td>
</tr>
<tr>
<td>High Cognitive</td>
<td>1213</td>
<td>16</td>
<td>29 (%)</td>
<td>74 (%)</td>
<td>22 (%)</td>
<td>39 (%)</td>
</tr>
<tr>
<td>Low Impact</td>
<td>2819</td>
<td>14</td>
<td>29 (%)</td>
<td>84 (%)</td>
<td>17 (%)</td>
<td>35 (%)</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>12</td>
<td>24 (%)</td>
<td>77 (%)</td>
<td>16 (%)</td>
<td>31 (%)</td>
</tr>
</tbody>
</table>

Note: Viewer must be present for 30 seconds before the ad breaks. % is subject to rounding error.

χ² for EOS / Presence was calculated by using EOS only by presence minus EOS only

χ² for Total EOS / Presence was calculated by using Total EOS by presence minus Total EOS

In comparing the ratio of Total EOS: Presence, the same trend was observed. The difference across the programme type categories for Total EOS: Presence was significant (χ² = 12.0592, df = 3, p < 0.01). High Affective programmes had viewers who paid the lowest amount of attention to the set (17 percent) and differed widely from the other three. In contrast, the scores for the other three programme types were similar to each other (35 percent for Low Impact, 36 percent for High Impact and 39 percent for High Cognitive).
Discussion, Conclusions and Limitations

Although the present study found no significant differences between the categories of demanding and less-demanding programmes in terms of the four viewing behaviours (EOS only, EOS + behaviour, No EOS and not present), viewers paid more attention to demanding programmes. This supports the argument that there is a positive correlation between programme involvement and ad attention.

Across the four less-demanding programmes, light entertainment and light drama programmes were more involving and are more similar to demanding programmes than to films and sports. If the receptivity of such viewers during the ad breaks can be enhanced, it would be cost effective to target viewers of these programmes.

Our results support Hoffman and Batra's (1991) results for High Cognitive programmes but not for High Affective programmes. Viewers of High Impact programmes tended to give a high level of attention to the programmes as well as the ads. During High Affective programmes, in contrast, viewers were less inclined to leave the room during the ad break (not present = 15 percent), but paid the least visual attention, as most of the time they were involved in activities that ‘compete’ with the viewing experience. Contrary to Hoffman and Batra's (1991) claims that Low Impact programmes were least effective for advertising, we found that ads screened during these programmes were ‘watched’ as often as High Impact programmes. Therefore ad-viewing behaviour does not seem to totally correlate with the expectations suggested by the impact categories.

The major limitations of this research were associated with data collection and the possibility that moderating factors may have affected the viewing behaviour of the participants. Although this research collected data on the spontaneous responses of participants watching television in their own homes, it was dependent on how participants interacted with the recording devices. Another factor is the question of audio attention versus visual attention during the viewing process. Viewers who rely on audio signals may reduce the amount of eyes-on-screen time they would spend looking at the television. A viewer may ‘learn’ from the ad by listening without
watching. Such listening may already be familiar to viewers via repeated listening elsewhere.

As the New Zealand television industry becomes more and more fragmented and more channels are being introduced, advertisers who chose to segment their markets may need more and more specific information about the effectiveness of particular ad placements. Traditional TV ratings in use today cannot convey all the information to show how audiences react to programmes and to advertisements. In this respect, this study has increased knowledge about general ad-viewing behaviour and the validity of using viewer involvement as an additional qualitative measure.

References


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