

## **The Effect of Program Promotions on Viewing 90210 – A Pilot Study**

*Virginia Beal, Ehrenberg-Bass Institute, University of South Australia  
Virginia.Beal@MarketingScience.info*

*Jenni Romaniuk, Ehrenberg-Bass Institute, University of South Australia,  
Jenni.Romaniuk@MarketingScience.info*

### **Abstract**

This study investigates the effectiveness of on-air program promotions. It uses the OzTAM TV ratings data as a 'ready-made' single source data set (as per McDonald 2000) by merging viewing records with the schedule for promotions run for Network Ten program 90210. This provided individual level data covering both promotions exposure and subsequent viewing behaviour. We find that both frequency and recency of exposure to promotions have an effect on subsequent viewing of the premiere episode of 90210. We also found that recency has a stronger effect than frequency on those who have a low propensity to watch Ten. This suggests that to attract light channel viewers, a network needs to try to reach them on the day of viewing.

*Key words: Television, program promotions, advertising effectiveness, single source data*

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### **Introduction and Background**

Fred Silverman, a respected TV programmer at CBS, ABC and NBC during the 1970s, has been quoted as saying that 50% of a programs' success comes from the quality of the show and the other 50% comes from how it is promoted (Bedell, 1981). The main technique that television broadcasters use to promote their shows is on-air promotions. The amount of on-air promotion is staggering – making television programs the single largest product category advertised on TV and accounting for around 4.5 minutes of airtime per hour during prime-time (Eastman 2000). Broadcasters are using this valuable airtime, which could otherwise be sold to 3rd party advertisers, to promote their own wares with the primary goal of building or sustaining audiences for their programs or channel. This is very important for a network's revenue, as ratings figures are used to sell advertising space to other companies.

Most research into the effectiveness of on-air program promotions has focused on scheduling issues such as the frequency or timing of the promotion (e.g., Walker 1993; Billings, Eastman et al. 1998; Eastman and Newton 1999; Walker 2003). The results from this research have been mixed. There is relatively clear evidence that on-air promotions are more effective when aired closer to the time of program screening (Eastman, Newton et al. 1996; Billings, Eastman et al. 1998); Walker, 2003).

However, research on the effect of frequency of exposure has produced conflicting results, both across different studies, and when results are compared to mainstream advertising effectiveness studies (Newstead, Taylor et al. 2009). An early study found a negative relationship between frequency of showing the promotion and ratings (Walker 1993) while subsequent studies found a (more expected) positive relationship (Eastman and Newton, 1998, Walker, 2003). There was no obvious explanation for the disagreement.

Almost all of the previous research on promotion effectiveness (Billings et al., 1998, Eastman and Newton, 1998, Eastman et al., 2003, Walker, 1993) suffers from relying on aggregate level rating scores. These metrics are highly dependent on where the program is scheduled, what programs are scheduled against it, competing promotions, and of course program quality. Determining causality is problematic when using aggregate variation in ratings between programs, for example programs that were likely to be high rating might typically receive more promotion thereby producing a degree of spurious correlation between frequency of exposure and promotion effectiveness. This research seeks to overcome some of these issues by using a single source analysis approach to examine the relationship between recency and frequency of exposure to a program promotion and subsequent viewing of the program.

### **Single Source Analysis**

Determining advertising effectiveness is an issue that has plagued advertising researchers since inception. A stream of research, drawing on single source data, is one of the most significant areas of research that has enabled a richer understanding of the impact of advertising on sales. Single-source analysis refers to the analysis of panel data that records both the household's (or individual's) buying behaviour and their exposure to ads. This data captures advertising effects over extended periods of time. Using such data allows researchers

to see if advertising is working even when aggregate brand sales show no movement (which is typical for many established brands) (Kennedy, McDonald et al. 2008).

There are some common findings from single-source analysis concerning the sales effect that advertising can produce. First, if advertising is to be effective in the long-term it must first work in the short term (Jones 1995; Lodish, Abraham et al. 1995; McDonald 2003). Secondly, advertising can have an effect on stimulating sales (Jones 1995) and even more so when close to the purchase occasion (which Ephron (1997) developed into Recency Planning Theory). Thirdly, advertising's impact on sales produces a convex response curve, which means that the first exposure has the greatest effect while subsequent exposures have an effect, but with diminished returns (Jones 1995; McDonald 1996; Taylor, Kennedy et al. 2009). Clearly single-source analysis has created large leaps in learning, yet there is still so much to learn from this type of analysis (Kennedy, Driesener et al. 2008; Kennedy, Driesener et al. 2008; Wood 2009). This research study proposes to examine program promotion effectiveness by using the single-source method and drawing on the generalizations outlined above. Specifically the research questions that will be examined are:

RQ1: What is the impact of frequency of exposure to promotions and viewing of the promoted program?

RQ2: What is the impact of recent (on the day of broadcast) exposure to promotions and viewing of the promoted program?

In addition, television provides a unique opportunity to learn about advertising effects as we know the purchase occasion (it is the time-slot), there are no pricing or distribution effects to account for and everyone has the opportunity to act given they are at home and awake (i.e. they are in the market as opposed to purchase categories where a person may not be looking to purchase washing powder at the time when a washing powder ad reaches them).

### **Research Method**

The study uses OzTAM ratings data to create a single source data set. OzTAM records consist of more than 9,000 individual people-meters records of minute-by-minute television viewing. This viewing data was merged with the schedule for promotions run in Sydney for Network Ten program 90210 to provide individual level data covering both promotions exposure and subsequent viewing behaviour (as per McDonald 2000). This is effectively single source data as both advertising exposure (program promotions) and consumer behaviour (program viewing) are collected for the same individuals over time.

The analysis uses AGB's Arianna software to assess the performance of the program promotion schedules and the performance of the premiering episode of 90210. The analysis then utilises the Dynamic Targets function within the Arianna software to create groups of viewers based on exposure to the promotional campaign. These audience groups based on promotion exposure can then be assessed for subsequent viewing of the promoted program. The use of a premiere allows us to analyse the effects of the promotional efforts without needing to control for past viewing.

One factor the analysis must control for is known as 'purchase-viewing bias' (Broadbent 1996). This is a phenomenon that has been found within panel data - that heavier users of a product are also likely to be heavy media consumers and hence exposed to more advertising. This creates a confounding effect whereby it appears that exposure to advertising is having a

larger than usual impact (Broadbent 1996; Broadbent 1999; Roberts 1996) . It is likely that this effect will be even more pronounced within the OzTAM panel as heavy TV viewers (i.e., watching 5+ hrs per day) are automatically exposed to more program promotions, but are also more likely to watch the television shows anyway. This will likely create a ‘viewing-viewing bias’ that could lead us to over-estimate the effects of program promotions. Hence this ‘viewing-viewing bias’ will be controlled for at the outset, by splitting the audience into 2 groups based on weight of viewing (Lighter / Heavier) to the channel during the period that the promotional campaign is on air and the first episode of the program is broadcast.

Table 1 below shows the Light/Heavy audience groups based on viewing to Network Ten during the period 90210 was being promoted (21/8/08 – 8/9/08). As expected Table 1 shows that our groups watch substantially different amounts of television (Total and Network TEN). These two groups are designed to mitigate and confounding effects that may be produced by ‘viewing-viewing bias’ hence they will be used for further analysis with comparisons being made within the group.

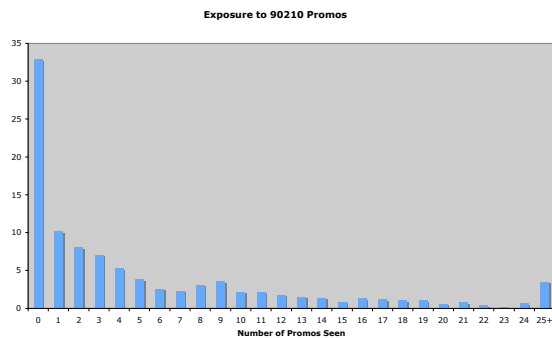
**Table 1: Average time spent viewing TV in average day (hours:mins) – (21/8/08 – 8/9/08)**

	n	Total TV	Network TEN
All Individuals	1,847	4:17	1:10
TEN_Light	800	3:29	0:31
TEN_Heavy	775	5:11	1:25

## Results and Discussion

To look at the performance of 90210 we consider three key measures of the program; firstly, Target Audience Rating Points (TARPs) shows the percentage of the audience watching across the average minute of a program, secondly Reach shows the total percentage of the audience that watched at least 1 minute of the program and thirdly lead-in shows the percentage of the audience that were watching 5 minutes prior to the program beginning and continued to watch at least 2 minute in the first 5 minutes of the program.

The premiere episode of 90210 aired in the 8:30 – 9:30pm timeslot and achieved a TARP of 6.1% and in total reached 15.2% of all individuals, while the lead-in from the program prior was 59%. The promotional campaign consisted of 161 spots being aired over the 18-day period prior to the program launch. The campaign reached 67% of the population in Sydney with those exposed seeing a promo an average of 8.1 times. This average masks a huge variation in exposure. Figure 1 (over page) shows the distribution of the frequency of exposure. We can see that a third of all individuals had no exposure while, a third were lightly exposed (1-6 times) and the remaining third saw the promo 6 or more times.

**Figure 1: Frequency of exposure to 90210 program promotions**

To examine the impact of frequency of exposure, we further split the Light/Heavy viewers based on their exposure to the promos. Table 2 below shows the viewers from the TEN\_Light/TEN\_Heavy groups who fall into each exposure group (none/no exposure, light and heavy) and the average number of promo spots seen by each group.

**Table 2 : Average number of 90210 promo spots seen based on exposure level**

Viewing Weight	n	Exposure to Promos			Avg Number Promos Seen		
		None	Light	Heavy	None	Light	Heavy
TEN_Light	800	48%	27%	25%	0	1.5	3.7
TEN_Heavy	775	1%	50%	49%	0	4.8	16.9

From Table 2 we can see that it is mostly TEN\_Light viewers who see no promotions (48%) while TEN\_Heavies are likely to have some exposure (99%). There is a statistically significant difference in the average number of times that the different groups were exposed to the promotions based on their weight of viewing (t=test p<0.001). Now that we have established suitable exposure groups we can explore how this weight of exposure affected their subsequent likelihood of viewing the premiere episode of 90210.

**Table 3: Viewing of 90210 premiere for groups with none, light & heavy exposure to promos**

Viewing Weight	TARP %			Reach %			Lead-in %		
	None	Light	Heavy	None	Light	Heavy	None	Light	Heavy
TEN_Light	1%	2%	3%	4%*	8%*	10%*	23%	26%	53%
TEN_Heavy	n.a.	9%	15%	n.a.	23%*	32%*	n.a.	40%	69%

\*p<0.01

The results show that there is a positive effect of exposure to more program promotions. Those with no exposure had the lowest propensity to view the program. Those with heavy exposure to the promotions had the highest propensity to view the program. This was evident across all three metrics. Comparing the effects on light and heavy Ten viewers, we see that the lead-in is particularly low for TEN\_Light viewers with light or no exposure to promotions. This could indicate that the promotions for 90210 had attracted light viewers to Ten at the time of the premiere. This effect is worthy of further exploration. Heavy viewers also appear to be impacted by promotions with those who had the opportunity to view more promotions more likely to view the program.

## Recency of Exposure to Promotion

To look at the effects of recency of exposure we grouped the audience according to Recent / Non-Recent Exposure to 90210 promotions. Recent exposure is defined as exposure to at least one of the 21 promotions on the day of the premiere episode. Non-recent indicates that the viewer did not see a promotion on the day of the premiere. Table 4, over page, shows the viewers from the TEN\_Light/TEN\_Heavy groups who fall into each exposure group (none or no exposure, non-recent and recent). There is a statistically significant difference in the average number of promo spots seen by each group ( $t$ -test  $p < 0.001$ ). Light Ten viewers are much more likely to have had no exposure or non-recent exposure to promos while Heavy Ten viewers are much more likely to have been recently exposed.

**Table 4: Average number of 90210 promo spots seen based on Recency**

Viewing Weight	n	Exposure to Promos			Avg Number Promos Seen		
		None	Non-Recent	Recent (On Day of Premiere)	None	Non-Recent	Recent (On Day of Premiere)
TEN_Light	800	48%	42%	9%	0	2.4	3.8
TEN_Heavy	775	1%	52%	46%	0	7.4	15.2

The results shown in Table 5 indicate that recent exposure to program promotions has an effect on subsequent viewing. In both the Heavy and Light Ten viewer groups, those with recent exposure to the promotion were more likely to watch the program, than those who had seen a promotion, but not on the day of viewing. This was consistent across all three metrics.

**Table 5: Average number of 90210 promo spots seen based on Recency**

Viewing Weight	TARP %			Reach %			Lead-in %		
	None	Non-Recent	Recent (On Day of Premiere)	None	Non-Recent	Recent (On Day of Premiere)	None	Non-Recent	Recent (On Day of Premiere)
TEN_Light	1%	2%	6%	4%*	7%*	20%*	23%	16%	83%
TEN_Heavy	n.a.	9%	15%	n.a.	22%*	34%*	n.a.	34%	72%

\* $p < 0.01$

## Conclusions and Future Research

The findings from our exploratory study shows evidence that the frequency and recency of exposure to program promotions have an effect on subsequent viewing of the promoted program. This is in line with the effects of advertising as previously found in single source data. We also found that recency of exposure appears to be having a stronger effect on Ten Light viewers than frequency of exposure (e.g., 7% to 20% compared to 8 to 10% for the reach metric). However, this may be more to do with availability to view television on the day of the premiere more so than the impact of the promotional exposure. This needs to be explored in more detail to disentangle frequency versus recency effects.

This program was not heavily promoted; further replications should examine campaigns of differing weight and length to see if the effects are consistent. Further replication of this study across many programs will allow us to create some generalisations around the effects and recommendations for the most effective scheduling of promotions.

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