How Coviewing Reduces the Effectiveness of TV Advertising

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Abstract

In a naturalistic laboratory experiment, c*oviewing* of TV commercials reduced their effectiveness (delayed proven ad recall) by over 30%, most likely because coviewers distract each other's attention away from the screen. This reduction in ad effectiveness, due to partial exposure, was equivalent to the loss from *channel-change zapping*, but not as bad as s*kip-button zapping*, made possible by some DVRs (50% reduction), or *moderately fast zipping* (×8 fast forward), which reduced effectiveness by nearly 90%. A practical outcome of this study is an estimate of the effects of coviewing on delayed recall, and suggestions for improving the effectiveness of ads likely to be seen by a coviewing audience.

[108 words]

Keywords: TV advertising effectiveness, coviewing, ad avoidance

How Coviewing Reduces the Effectiveness of TV Advertising

Coviewing is a form of ad avoidance that has received little attention compared to the millions of dollars spent (Bronnenberg, Dubé, and Mela 2009) understanding the effects of the new avoidance methods made possible by digital video recorders (DVRs). TV viewers' increasing use of DVRs, present in 31% of US homes as of May, 2009 (Kempe and Wilbur 2009) and with ownership rising, is regarded as the greatest threat to the effectiveness of TV advertising. This is because viewers with DVRs can avoid commercials wholly or partially by *fast-forward zipping* (Brasel and Gipps 2008; Martin, Nguyen, and Wi 2002; Pearson and Barwise 2007; Siefert, Gallent, Jacobs, Levine, Stipp, and Marci 2008; Smith and Krugman 2009; Stout and Burda 1989), or *skip-button zapping* (Woltman Elpers, Wedel, and Pieters 2003), as well as by *channel-change zapping* (Tse and Lee 2001; Zufryden, Pedrick, and Sankaralingam 1993). But these DVR-enabled methods of ad avoidance are additional to the oldest method of all, which is to simply stop watching the commercial, thereby effecting ad avoidance by 'eyes-off-screen' and loss of attention (Speck and Elliott 1997). Also overlooked in the rush to document the effects of DVR-enabled ad avoidance is a long-standing and virtually unresearched audience variable: *coviewing*. The presence of other people in the room is probably the leading cause of inattention to the TV screen. This study explores how much coviewing reduces the effectiveness of TV commercials compared to other forms of ad avoidance, such as zapping, skipping, and zipping with DVRs.

Although theoretical attention has focused on DVR-enabled ad avoidance (Brasel and Gips 2008; Wilbur 2008), the latest data from the field suggest that DVRs are not much of a problem. They do not increase avoidance. Avoidance by skipping is low (6.5%: Bronnenberg et al. 2009), and its effects may be overstated. The intense concentration needed to fast forward ads at 20× can make zipped ads more effective than normal-speed ads

(Brasel and Gips 2008). And DVR recordings increase TV viewing, that is, ratings (The Nielsen Company 2008b), and therefore ad exposure. These latest findings, and the current sophistication of mechanical means for monitoring ad avoidance, such as set-top boxes and DVRs, may encourage advertisers to forget their fears and instead think that ad avoidance is no longer a problem. But what these mechanical means of monitoring ad avoidance cannot measure is visual inattention. In fact, lower rates of mechanical avoidance may indicate that inattention is rising (Zufryden et al. 1993). During breakfast time nowadays, for example, the TV is on as background noise.

If coviewing is associated with visual inattention, then its effects may be as serious as those produced by fast forwarding (Bellman, Schweda, and Varan 2010), but more prevalent. A meta-analysis of avoidance research (Bellman et al. 2010) suggests that visual inattention affects 40% of ads, six times the number affected by DVR zipping. If coviewing depresses viewers' recall of TV commercials as much as visual inattention does, then this audience variable potentially poses even more of a threat to advertisers than DVR usage. In this paper, however, we go beyond the intuition that talking to other people in the room distracts attention from the TV screen. Our review of the literature suggests that coviewing may even have a detrimental effect when coviewers are apparently watching the screen with full attention. Coviewing may, therefore, have an even greater impact than previous observational studies have suggested (Ritson 2002).

Nearly half (45%) of US TV viewers, aged 18-49, watch primetime with others in the room, and that percentage rises to over half for younger viewers (to 53% for Gen X and 55% for Millenials: Knowledge Networks 2008). Admittedly, the prevalence of coviewing has been slowly declining since its heyday in the 1950s, as TV has become available on more screens — the average US TV household now has more TV sets than people (2.5 people, 2.8 sets: The Nielsen Company 2008a) — including watching TV out-of-home and on PCs and handheld devices (The Nielsen Company 2009). But just as the end of mass ratings made TV a more targeted medium (Binet and Carter 2010), the shrinking of coviewing means that potentially media planners can predict when and where it will occur. Coviewing is no longer background noise that affects all ads and can therefore be ignored. Advertising exposure estimates in media plans may need to be adjusted if coviewing proves to be detrimental to advertising's effectiveness. Currently, media plans treat each additional viewer as an extra rating. But, potentially, if there is more than one person in the room, none of them is watching the set. Rossiter and Danaher (1998) argue that only one insertion (opportunity to see) during primetime is needed to generate a full-attention exposure, because primetime programs are watched with high attention. But if a primetime ad goes out to a coviewing audience, two or more insertions may be needed to achieve the same effect. As well as suggesting changes in media planning for ads likely to be coviewed, this paper explores some other remedies that advertisers could use to improve the effectiveness of of coviewed ads.

The best way to measure the presumed loss of effectiveness of avoided advertising exposures has not been agreed. However, a recent study has compared, in the same experiment and using the same set of commercials, the relative effects of various methods of avoiding TV ads on ad recall (Bellman et al. 2010). We extend that study to examine the relative effect of coviewing compared to full-attention solus viewing and other methods of TV ad avoidance: channel-changing, fast-forwarding, and skipping, as well as the older methods of eyes-off-screen (hearing the audio only) and not listening (muting to watch to watch the video only). Among coviewers, we further examine TV ad recall by the person operating the DVR remote control and the person who is a viewing partner.

So that we can compare our results to those of Bellman et al. (2010) we use the same dependent variable they used to measuring ad effectiveness: delayed brand-prompted proven ad recall. Recall measures whether an ad has been fully processed, that is, not only whether an ad's content was encoded (which can be measured by visual recognition), but whether that content was successfully stored so that it could be retrieved later (Lang 2000). Advertisers and media planners are most interested in the potential loss of processing of TV commercials during coviewing because, just as with commercials of shorter length than the standard 30 seconds, advertisers want to know whether they should pay less for ad placements that may receive less processing – and thus lower recall – than for a normal placement and, more specifically, *how much* less. At present, for instance, advertisers typically pay about 15% less for a 50% shorter commercial (see, e.g., Rossiter and Bellman 2005) and so the discount is not linear or directly proportional (even to loss of effectiveness, which is about 20% less for :15 ads: Mord and Gilson 1985).

The outline of the article is as follows. First, we present and discuss theoretical speculations and predictions for delayed ad recall under conditions of coviewing, solus viewing, and viewing with TV ad avoidance. We then describe the methodology for our empirical study (a laboratory experiment). Next, the findings are reported in as much detail as we can justify for a journal article (full findings are available from the authors). Lastly, we discuss the practical implications of our findings.

THEORETICAL BACKGROUND

We hypothesize that coviewing will decrease delayed ad recall, despite full exposure, that is, observed full attention to the screen by two or more coviewers, due to the 'mere presence' effect. The 'mere presence,' or social facilitation effect was first documented by Zajonc (1965), who found that the simple presence of another person or persons facilitates the original person's performance on easy tasks but inhibits performance on complex tasks. A later meta-analysis found that the mere presence effect on complex tasks is reliable, but small, and reliably affects only the speed of simple tasks, not their accuracy (Bond and Titus 1983). Several theoretical explanations have been proposed for social facilitation (e.g., Baumeister 1982; Blascovitch, Mendes, Hunter, and Saloman 1999; Zajonc 1965), but its effects continue to be documented, most recently in a television context. Gardner and Knowles (2008) found that the performance of a complex task, typing nonsense words with the nondominant hand, was impaired by the mere presence of an image of the person's favorite TV character on the computer desktop, whereas the same image increased the speed of a similar simple task: typing nonsense words with the dominant hand. Clearly, no conversation was possible in this case of parasocial facilitation, or at least, no two-way conversation.

Although it may not appear so, processing TV commercials is a complex task, or more specifically, it is a task performed with limited capacity, and therefore sensitive to changes in demands on this limited capacity (Lang 2000). The presence of another person during exposure to a TV commercial creates extra demands on available capacity that might otherwise be devoted to encoding and storage, and thus reduces processing of the ad's content. We further believe everyone has experienced the sensation of not being able to concentrate quite as well with someone else present as when alone. Also, Zajonc's 'mere presence' effect is subconscious and does not require thinking about the other person or, in the case of commercial watching, conversing with the other person. In other words, we expect to see effects of coviewing even when observation reveals the coviewers are attending to the screen during the commercial, although conversation is likely to exacerbate the effects of coviewing by further distracting attention away from the screen, and the soundtrack.

We note, however, that although on average conversing during a commercial is harmful to ad processing, it is possible that conversing about the ad can be a good thing. For many social groups, ads provide a shared topic of conversation (Ritson and Elliott 1999). Coviewing is an old social networking technology for instantly recommending ads to friends.

By drawing attention to the ad, therefore, conversation by coviewers about the ad on the screen may have a positive effect on delayed ad recall.

PREDICTED EFFECT OF COVIEWING

Table 1 lists various TV ad avoidance methods, sorted by delayed ad recall performance relative to solus full-attention viewing, indexed at 100, based on the results reported by Bellman et al. (2010). We add to that study here by proposing a series of explanations for these indices. As shown in the Table, moderately fast zipping, even at only eight times normal speed, reduces delayed recall the most. Not only is there a delay between exposure and measurement, during which memory can decay, but memory retrieval during the delayed recall task is interfered with by the traces of other ads seen during the delay. A fast-forward exposure is only a partial exposure, because at eight times normal speed, a 30-second ad whips by in 3.75 seconds. At this speed, assuming an average shot length of six seconds (i.e., an average of 5 shots: Lang, Bolls, Potter, and Kawahara 1999), the average shot displays for 0.75 of a second, much less than the two-second minimum required to remember brand content (Rossiter and Percy 1983). And finally, there is no audio soundtrack to make up for the shortfall in exposure to the video. At the even faster zipping speeds available on most DVRs, an ad may not even deliver a partial exposure. At 30 times normal speed (which is common: see Pearson and Barwise 2007), the average six-second shot lasts for one fifth of a second, which is longer than the minimum of .15 s required for visual processing of familiar targets (Rayner, Smith, Malcolm, and Henderson 2009), but probably not fast enough to process new content about an unfamiliar brand. Of course, an exception would be if the commercial happens to consist of long static video scenes (see Brasel and Gips 2008).

Place table 1 about here

In Bellman et al.'s study, moderately fast zipping fell into the lowest band of ad effectiveness, along with eyes off screen (audio only), in which no video is seen (and therefore all shots were < 2 s), but hearing the soundtrack increased delayed recall slightly, although not significantly. The top band for effectiveness was occupied by muting (video only), as viewers are able to correctly recall ads the next day by mentally replaying just the video content: missing the soundtrack is not critical. All the other forms of ad avoidance fell in the middle band for effectiveness. All provided partial exposures, but shot lengths greater than two seconds (at ×2 zipping, an average six-second shot would be three seconds long). In this middle band, only slow fast forwarding was significantly worse than a full-attention exposure, because no soundtrack is heard.

Our prediction for the relative effect of coviewing on delayed ad recall, compared to the spectrum of other forms of TV ad avoidance, is also listed in Table 1. We predict that coviewing will produce a 30% decline in delayed recall, for the following reasons. Like the other avoidance modes in the middle band, coviewing will result in partial exposure to the video. All shots seen will play at normal speed, and be two seconds long, or more, on average. At the extreme, coviewers may distract each other from viewing the screen, in which case coviewing could have as serious an effect on delayed recall as eyes off screen. If coviewers talk to each other over the soundtrack, even that information might be lost, and the effect of coviewing could be as disastrous as moderately fast zipping. However, we expect that for the most part, coviewers will focus their attention on the screen. Our prediction is, therefore, that even though coviewers will have their attention fixed on the screen, the mere presence of the other will distract resources from the task of processing ad content (Lang 2000; Zajonc 1965), and therefore all coviewing exposures will be partial exposures. This partial exposure effect should only be slight, however, and for this reason we have placed coviewing at the top of the middle band of avoidance modes, and set its expected loss at slightly less than channel-change zapping. Most importantly, we predict that coviewing will not interact with any of the other modes to produce a combination that is worse than either alone. Coviewing is just another form of partial exposure, and therefore does not add any unique form of attention decrement when combined with any of the other modes.

METHOD

Overview

A laboratory experiment was designed to investigate the effectiveness of TV commercials when coviewed versus solus viewed. So that the effects of coviewing could be compared to the effects of solus viewing under various forms of ad avoidance reported by Bellman et al. (2010), the coviewers and solus viewers in this study watched the same half-hour situation comedy used in that previous study, accompanied by the same twenty 30-second TV commercials placed before, during, and after the program. They were also assigned to the same range of avoidance mode conditions: channel-change zapping, skip button zapping, video only, audio only, slow and fast zipping, or no avoidance at all (normal viewing). At the conclusion of the viewing session, immediate recall of the ads was measured. Afterwards, between 24 and 36 hours after the viewing session, participants were telephoned at home to measure delayed ad recall.

Participants

Participants in the experiment were members of a nationally representative TV panel in Perth, Australia. A random selection of panelists were telephoned or emailed with an invitation to participate in a study evaluating a new TV program from the United States, for potential airing on Australian TV. To ensure that all our coviewers were natural couples, approximately a third of the panelists who agreed to participate were asked to bring along the person she or he usually watched television with. Each coviewer or solus viewer received a $20 (AUD) department store gift voucher. The resulting sample of participants was of somewhat higher socioeconomic status than the national average but, most importantly for the ad recall findings, the sample exactly matched the national adult (18 and older) population by age group (Dubow 1995), as well as gender (see Table 2). The total sample size of participants was 325, made up of 78 coviewing couples and 169 solus viewers.

Place table 2 about here

TV Program and Test Commercials

The half-hour television program in which the TV commercials were placed was a previously unseen episode of the US sitcom, *Crumbs*. Twenty 30-second TV commercials were placed in four pods of five commercials per pod: one pod before the program commenced, two pods as in-program breaks, and the last pod immediately following the program. Of the 20 commercials, eight were designated beforehand as the test commercials (for recall) and 12 as fillers. The eight test ads were rotated across the four ad pods, and appeared in positions two, three or four within each pod, that is, never first or last in a pod, to minimize the primacy and recency effects which can increase the price of these positions (see Pieters and Bijmolt 1997), so that we could report results for the 'average' brand. The random rotation ensured that every test commercial had an equal chance of being in the final pod; placement in the final pod can result in ad avoidance due to viewer fatigue (Woltman Elpers et al. 2003).

The test commercials (and the filler commercials) were US TV commercials that had not been aired in Australia, to ensure that these ads were being seen for the first time (cf. Brasel and Gips 2008). To explain this, participants were told that the test program had been recorded in the US, along with its embedded ads. We note that it is not unusual for Australians to see US ads for global brands, whereas it would have been highly unusual for Brasel and Gips's (2008) US undergraduates to see the UK ads used in their third study. Of the eight test ads, four were for advertised brands familiar in Australia and four were for unfamiliar brands. Six of the commercials were for relatively low-risk products (convenient meals, microwave pizza, ready-to-eat dessert, soft drinks, and chewing gum) and two were for relatively high-risk products (package delivery and consumer electronics). Although only eight test ads were used, they varied widely because they were strong or weak on five factors likely to influence the effects of ad avoidance (Bellman et al. 2010), according to a fractional factorial design (see Table 3).

Place table 3 about here

Normal Viewing and Ad Avoidance Conditions

Participants, either in coviewing pairs or as solus viewers, were randomly assigned to one of four experimental conditions, which manipulated seven ad avoidance modes. These are briefly described below.

Normal Viewing. In the normal viewing condition, participants viewed the TV program with the embedded commercials without any constraints. They were provided with a DVR remote control and, like all the other experimental groups, were first exposed to one of the test commercials, selected at random, so that they could practice voting on TV content using the remote control, but also so that we could investigate the effect of one recent prior exposure. After this commercial ended, participants were asked 'Did you like that ad?' and could respond 'Yes' by pressing the red button on their remote control or 'No' by pressing the yellow button. They were not told that the remote control had any other capabilities and in fact all they could use the remote for during the rest of the session was to vote – 'yes' or 'no' – on whether the new series of *Crumbs* should be shown in Australia, at the end of the program, before the final ad pod.

Channel-Change Zapping. Participants in the channel-change zapping condition were told that four other TV channels were available (equal to the number of free-to-air channels in Australia at the time) and that they could change to another channel, but only during an ad break. They were reminded of the channel-change opportunity by an icon appearing at the bottom left of the screen which meant ‘Remote Active.’ For the first five seconds of a break, though, and also for the first five seconds of viewing each new channel, this icon was visually canceled, to convey ‘Remote Not Active,’ as the computer program delivering the content ensured that viewers had to watch the first five seconds of each channel before changing the channel (i.e., zapping). Again, this reproduced the methodology used by Bellman et al. (2010), who used the five-second lockout to force partial exposure to ads even in avoidance modes capable of avoiding ad content completely. As soon as the 2-minutes and 30-seconds of ad break time had finished (no matter which channel they were tuned to), a warning message appeared alerting participants that they were being returned to the original program. The other channels featured a mix of lifestyle, history, and sports programs, either about to go into an ad break or about to emerge from one. The ads in these breaks, however, were the same ads shown on the main (*Crumbs*) channel, so that it was possible for participants to see the beginning or end of a commercial they had previously zapped on a different channel. Channel changing was voluntary and a commercial exposure was coded as ‘zapped’ if the participant or participating pair changed channel while the ad was playing. Potentially, though, viewers coded as zappers by this conservative definition could have been exposed to every second of an ad’s content, but distributed across multiple channels.

Skip-Button Zapping. Participants in the skip-button zapping condition also had to watch the first five seconds of the commercial before they could skip the remainder of it. We note that in a test of the effect of the five-second lockout versus having no lockout at all, the average time that a skippable 30-second ad was viewed was still about 20 seconds: the five-second lockout added a non-significant 1.67 seconds to ad viewing time. During the ad breaks, a ‘Skip’ icon (which changed from ‘canceled’ to ‘enabled’ after five seconds) appeared at the bottom left of the screen to alert participants that they could use the skip function on the remote control if they wished.

The four remaining ad avoidance modes were manipulated, within-subject, in the same forced-avoidance mode condition. As Bellman et al. (2010) explained, these modes were forced, rather than observed, because they are rarely used (e.g., maybe only 1% of ads are muted). The computer controlling the video content randomly assigned each of the four ad breaks to show all the ads in that break with a different one of the four avoidance modes described below.

Slow (× 2) Zipping. In the slow-speed zipping mode, the commercials were automatically played at × 2 fast forward (i.e., each commercial was condensed from 30 seconds to 15 seconds). Participants were told beforehand that some commercials would be played this way, and if they were, a '× 2' icon appeared at the bottom left of the screen. As is normal during fast-forwarding, there was no audio available. Note that because fast forwarding was automatic in this study (and in Bellman et al. 2010), the zipped ads were observed passively rather than actively, as in Brasel and Gips (2008). This means our zipping results are perhaps more applicable to coviewing partners than they are to coviewing DVR remote control users.

Fast (× 8) Zipping. In the faster-speed zipping mode, commercials in the break were automatically played at × 8 fast forward (i.e., each commercial was condensed to just under four seconds). Participants were told beforehand that some commercials would be played this way, and if they were, a '× 8' icon appeared at the bottom left of the screen. Again, of course, there was no audio available.

Video Only (Muted Audio). In the video-only mode, the commercials were automatically shown without any sound, at normal speed. Again, participants were told beforehand that this would happen so that they did not think something was wrong with the TV set, and during muted ads a 'no sound' icon appeared at the bottom left of the screen.

Audio Only (Eyes Off Screen). In the audio-only mode, only the audio track of the commercials was played and the TV screen went blank. Participants were told beforehand that this would happen, and during these black-screen ads a 'no vision' icon appeared at the bottom left of the screen.

Coviewing couples participating in the ad avoidance conditions were asked to nominate 'the usual remote control user' and this person was given the DVR remote control to operate throughout the experimental session. In the results, the remote control operator is called the 'coviewing DVR user' and the other coviewer is called the 'coviewing partner.' For convenience, the same labels are used to describe the couple in the normal viewing (no avoidance) condition although the DVR user used the remote control only to rate the practice commercial and the program, *Crumbs*. Solus viewers, of course, are also DVR remote control users in the experiment.

Ad Recall Measures

Immediate Ad Recall. Immediate ad recall (labeled 'recognition' by Bellman et al. 2010) was measured at the conclusion of the experimental session. Participants were asked 'Which of the following ads do you remember seeing during your viewing session today?' The ad recall measure was brand-prompted. The questionnaire showed a list of 13 branded products, comprising the branded products in the eight test commercials together with those in four of the filler commercials plus a foil branded product that was not advertised. Participants checked a 'Yes' box next to each branded product for *claimed* recall of the ad. This was the first question asked in the questionnaire to ensure that we measured ad recall and not recall of any mental rehearsal, and thus 'reprocessing,' of any of the ads prompted by answering other questions, such as attitude toward the ad. But, as is common with claimed, or 'unproven,' recall, there was some inaccuracy in the immediate ad recall results. False recall of the foil ad was 17%, which implies that the immediate recall figures for the test commercials are approximately 17% overstated. The relative differences in immediate claimed recall should be largely unaffected by this upward 'yea-saying' bias, however, and Bellman et al. (2010) reported that false positive recognition of the foil brand was not a significant influence on immediate or delayed recall.

Delayed Ad Recall. After completing the questionnaire, participants were told that they may be contacted by telephone later 'to answer a few further questions.' All who were reached by telephone between 24 and 36 hours after the experimental session (*n* = 235, 124 coviewers, 111 solus viewers, 72% of 325) were asked 'Which of these brands have you seen or heard advertised recently?' The brand names of the brands advertised in the eight test commercials were then read over the telephone and each participant – DVR user and partner in the case of couples – was asked, for each brand recalled, to 'Please describe the advertisement for this brand in as much detail as you can remember, and in particular, what the advertisement showed or said about the brand.' The telephone interviewer was instructed to probe thoroughly by asking 'Tell me more about the advertisement, what else did it show or say?' If the commercial was described in sufficient detail to satisfy the interviewer that it was indeed the test ad, recall of the ad was scored as 'Correct.' The delayed measure was thus brand-prompted *proven* ad recall.

Product category involvement was measured by the mean of five, seven-point semantic differential scales (α = .92 to .98 across the six product categories represented; Mittal 1995). Other variables, such as demographics, were collected in the sign-up survey participants had completed when they joined the audience panel.

RESULTS

First, the straightforward average results for each experimental condition are reported (in graphs) for immediate ad recall and delayed ad recall by solus viewers, coviewing DVR users, and coviewing partners. Second, a multivariate logistic regression analysis of the predictors of the main dependent variable, delayed ad recall, is reported. Finally, we report results based on observed conversations between coviewers during the ads, and whether that conversation was about the ad or about some other topic.

Raw-Data Results for Coviewing

Immediate ad recall and delayed ad recall under normal viewing conditions for solus viewers, coviewing DVR users, and coviewing partners are shown in Figure 1 (see the single bar chart in the top row). As can be seen from the three left-side bars in the chart, coviewing did not affect immediate ad recall. However, coviewing caused a 20% absolute decline in delayed ad recall for both coviewers. The *relative* decrement in delayed ad recall due to coviewing was just over the 30% we predicted, which means that commercials that were coviewed were only about 68% as effective as the same commercials solus viewed (i.e., index ≈ 70, as in Table 1).

Place figure 1 about here

As we expected, coviewing added no extra reduction of effectiveness when combined with any of the other six avoidance modes. In every case, the delayed recall rates for both types of coviewer are not significantly different from the rate for solus viewers, with one exception. As shown in the right-side bars in its chart, skip-button zapping had a very large decremental effect on the coviewing DVR user, whose delayed ad recall of the zapped ads was just 17%. Solus viewers and coviewing partners were less affected, down to 35%. The larger negative effect on the DVR user is perhaps attributable to their attention being distracted away from the ad content to the remote control icon in the bottom left corner of the screen, to check whether skipping was enabled or cancelled.

Multivariate Effects on Delayed Ad Recall

To provide a summary of the overall multivariate-corrected effects on the principal dependent variable, delayed ad recall, we constructed a logistic regression equation in which the predictors were coviewing, the other six ad avoidance modes and their interactions with coviewing, and the key covariates identified by a deliberate variable-selection process. First, we tested for the influence of demographics on the results for the coviewers, since each viewer self-selected their partner, rather than couples being randomly allocated. More coviewers were female (64%, vs. 55% of solus viewers; $\chi^2(1) = 32.18$, $p < .001$) and middle-aged (44% 35-44 years vs. 40% for solus viewers; other age groups: 18-35, both = 31%; 55+ coviewers = 25%, solus = 29%; $\chi^2(2) = 9.10$, $p = .011$). Coviewers also differed in occupation (e.g., professionals: coviewers = 31%, solus = 26%; $\chi^2(8) = 135.53$, $p < .001$). Of these variables, only age affected delayed recall, which, predictably, declined with age (35-54, $\exp(B) = .48$; 55+, $\exp(B) = .28$; both $p < .001$). There were no differences in education, TV viewing hours per day, and, importantly, product category involvement, which in this study had a negative correlation with delayed recall ($\exp(B) = .89$, $p < .05$), after controlling for other variables, most likely because of competitive interference from other ads for brands in the category seen during the delay. Whether the person liked the program (i.e., voted 'yes,' that the program should air in Australia) had no effect on immediate or delayed ad recall. The final covariates used were whether the commercial had been seen previously in full (see method), the percentage of the commercial watched or listened to before it was avoided, and immediate recall of the commercial, which effectively controlled for age, as immediate recall also declined with age (55+, exp(B) = .74, $p < .05$). Table 4 reports these multivariate regression results.

Place table 4 about here

The multivariate results largely confirm the univariate findings in Figure 1 (earlier). Firstly, compared with solus viewing, *coviewing* caused a significant decrement in delayed ad recall for both the DVR user and the coviewing partner (both effects $p < .001$). Secondly, *channel-change zapping* did *not* cause a statistically significant decline in delayed ad recall ($p > .10$), after correcting for the influence of covariates, and other avoidance modes, including coviewing, but *all other* TV ad avoidance modes did (all $p < .05$). Thirdly, all of the covariates were statistically significant ($p < .001$). There was a massive (largest Wald statistic by far) positive effect of immediate recall of the ad on its delayed ad recall; consistent with this covariate controlling for age. The significant positive finding for percentage of the ad viewed is also consistent with what Bellman et al. (2010) found, as was the finding that seeing (and hearing) the commercial one time previously in full (and close in time to its exposure in the experiment) led to a significant ($p < .001$) increase in its delayed recall.

Coviewer Conversation

If participants consented, their viewing sessions were recorded by digital video cameras and the video streams were coded, concurrently, and later in a second pass, by expert coders (trained research assistants). On average, the total amount of talking (as a percentage of total ad viewing time), about the ads as well as about other topics, was negatively related ($r = –.19$) to delayed recall. In other words, the more coviewers talked, the less attention they paid to the screen, and the fewer ads they recalled the next day. Note that this negative effect of conversation was in addition to the already substantial, and negative, mere presence effect of coviewing.

However, the more that coviewers talked about the ad playing on the screen, the more likely they were to recall the ad the next day. Talking about the ads ranged from a minimum of two seconds (8% of 30 s) for the Oscar Mayer® ad to nearly eight seconds (26%) for the JELL-O® ad. The correlation between talking time (in seconds) and delayed recall was substantial ($r = .43$; DVR users $r = .42$; partners $r = .44$). This result suggests that the problems associated with partial exposure due to coviewing can be alleviated if the ad is interesting enough to be a topic of conversation for the coviewers.

DISCUSSION AND CONCLUSIONS

There has been a proverbial rash of studies in the past several years on DVR-enabled ad avoidance (e.g., Wilbur 2008). The latest studies suggest, however, that the impact of DVR-enabled ad avoidance on sales is "tightly centered" around a null effect (Bronnenberg et al. 2009), and that DVR-avoided ads, even ads zipped at 20 times normal speed, are still effective exposures (Brasel and Gips 2008). In contrast, we show that a more widely prevalent form of ad avoidance, coviewing, has a significant negative effect on ad processing, measured by delayed ad recall. Like Bellman et al. (2010), we also tested other forms of TV ad avoidance. We show that coviewing has a negative effect equivalent to channel-change zapping, but not as extreme as DVR-enabled ad avoidance methods such as skip zapping and fast forward zipping.

Coviewing has been a natural, but neglected, source of TV commercial avoidance, even though it is an exposure situation which characterizes nearly half of US primetime viewing. The surprising aspect of this 'coviewing effect' is that much of it can be attributed to the distraction caused by the 'mere presence' of another viewer, as postulated long ago by

Zajonc (1965). While lapses into eyes off screen by coviewers would be readily noticeable in in-home observation studies, such studies might mistakenly code eyes-on-screen coviewing time as full-attention exposure, whereas our study shows that this is not the case.

Advertisers have not acknowledged the coviewing effect previously, as far as we are aware. The results of this study strongly suggest that they should. For a start, they should no longer count coviewers as equivalent to two solus viewers in audience-size or 'reach' estimates. Secondly, more research is needed to document when and where coviewing takes place, so that its effects on specific commercials can be estimated. In this study, we explored the effects of coviewing in a tightly controlled lab experiment. Future studies should gauge the prevalence of coviewing, and how it varies across dayparts, program genres, and demographics. These studies would require large samples that varied widely on all three of these variables.

Armed with reliable data about the likelihood of coviewing, advertisers would have two basic means of combating its effects. First, they can book ads in programs that the target audience tends to view solus, with full attention. Second, if that is not possible for some target audiences, advertisers could demand that they pay a lower price for coviewed spots, and they could also try to make their coviewed ads more effective.

One strategy is to increase the number of exposures (i.e., opportunities to see) to make up for the fact that each individual exposure is likely to be a partial one. Bellman et al. (2010) calculated an expected delayed ad recall rate for solus-viewed ads (22%), based on the relative effectiveness of the main ad avoidance methods viewers use, weighted by their relative prevalence. This expected figure was just under half the rate they reported for full-attention exposures (47%), which suggests that at least two solus exposures are needed in the field to achieve the effectiveness of a full-attention solus exposure in the lab. The results of this present study indicate that coviewed ads are two thirds as effective as full-attention solus-viewed ads (68%; coviewing = 43% vs. solus = 63%). This means that in the field, a coviewed ad would be only two thirds as effective as a solus ad, and therefore only one third as effective as a full-attention solus-viewed ad in the lab (68% × [22%/47%] = 32%). On average, therefore, to generate the equivalent of one full-attention exposure, advertisers need to book three exposures for ads likely to be coviewed rather than the two they need to book normally for solus-viewed ads. Of course, media plans achieve additional reach for each coviewer, so that on an individual basis, coviewing may be very efficient, despite the additional spots it requires. If the proportion of coviewers is unknown, advertisers could weight the number of exposures required by the average ratio of coviewing to solus viewing. Using Knowledge Networks (2008) estimates as a guide (45% coviewing to 55% solus viewing), advertisers would need an average of 2.45 exposures per flight to achieve full-attention equivalence generally.

A second strategy for advertisers is to modify the execution factors used in their coviewed ads so that they are more likely to be effective. We investigated this question to some extent by using test ads that varied on five ad execution factors likely to affect the performance of partially avoided TV advertising. None of these was significantly helpful for coviewing specifically. However, in general, strong sound and strong branding increased delayed ad recall for all the avoidance modes, as Bellman et al. (2010) found, and we would recommend these tactics for ads likely to be coviewed. The ad's message should be doubled in the sound track, just in case that is the only ad content a coviewer attends to, and branding should be shown on screen for at least two seconds, to increase the chances that it will be processed. A further suggestion comes from our finding that conversations between coviewers about the ad on the screen improves recall. It may be possible to fine-tune an ad's creative so that it deliberately generates talking about the ad by the coviewers, and therefore increases their attention to the ad. Wilbur (2008) offers other suggestions for reducing ad avoidance, such as not repeating an ad until it is worn out.

As we said above, there are many questions about coviewing that remain unanswered by this study. Our measurement of TV ad avoidance effects was as natural as researchers can hope for in a 'laboratory' situation. We used labs that were mock living rooms to simulate home-viewing conditions and our coviewers were not groups of strangers but natural pairs who regularly watched television together in real life. Nevertheless, we recognize that a limitation of this study is its lab-based nature and these results need replication using in-home observations.

The sample of commercials used in the study was deliberately varied, but quite small, and we cannot claim, either, that our sample of viewers is highly representative. Furthermore, we used only one program, even though ad avoidance rates vary across genre (Danaher 1995), and there may be interactions between genre and coviewing. Clearly, more work needs to be done in the lab and in the field investigating this issue. Our hope is that by revealing the importance of coviewing as a source of ad avoidance, this article inspires advertisers and researchers to channel more resources into the investigation of coviewing.

[6,790 words]

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FIGURE 1

Ad Recall of TV Commercials After Normal Viewing
and After Different Methods of Ad Avoidance
by Solus Viewers, Coviewing DVR Users, and Coviewing Partners

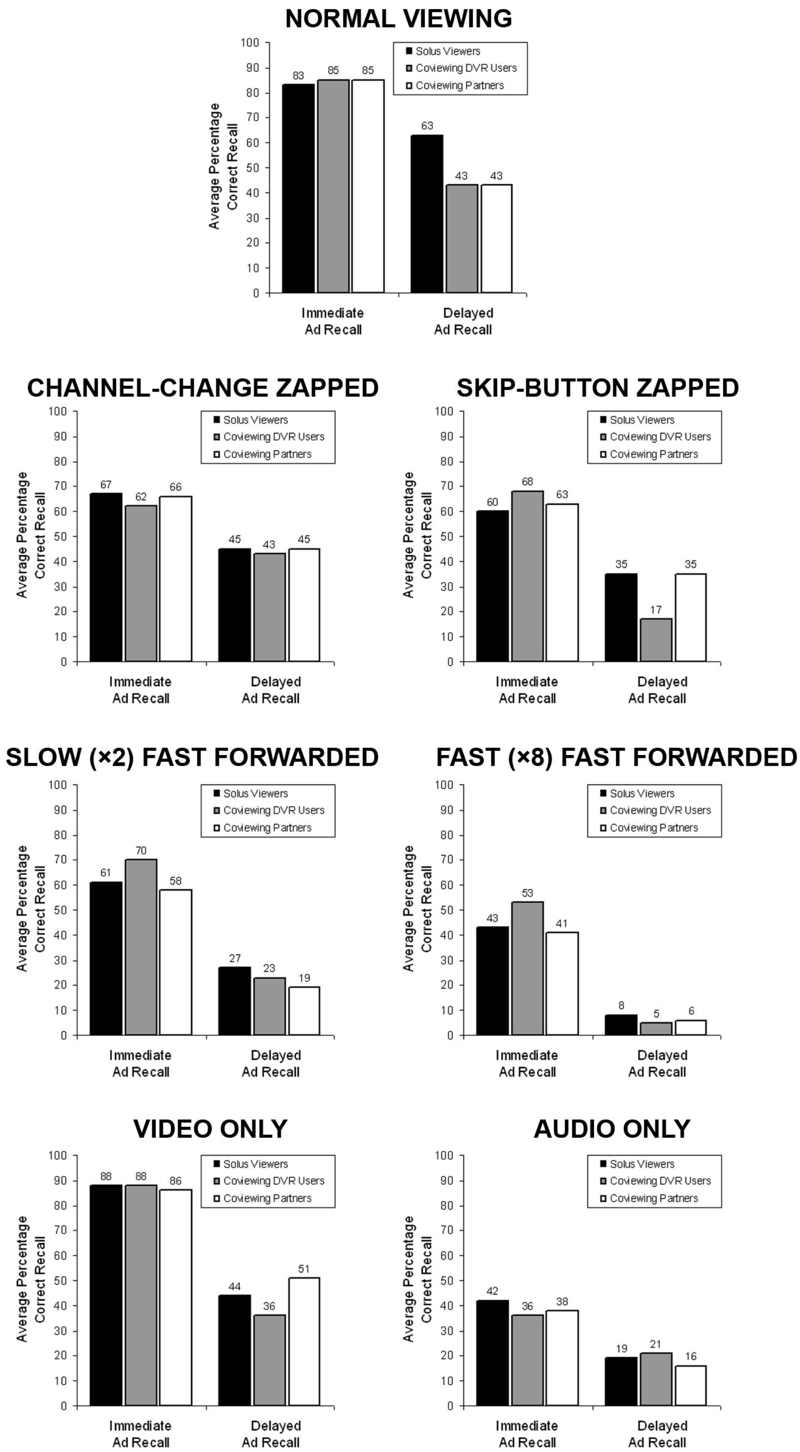

TABLE 1

Judgment-Based Explanations for the Effects of Coviewing and Other Modes of TV Ad Avoidance on Delayed Ad Recall

Avoidance Mode	**No Video**	**No Audio**	**Shot Length < 2 *s***	**Partial Exposure**	**Delay and Interference**	**Delayed Ad Recall Index (Predicted Change)**
None (Solus Normal)					●	100 (reference)
Video Only (Muted)		●			●	94 (–6%)
Coviewing (Normal)				●	●	*70 (–30%)**
Channel-Change Zapped				●	●	66 (–34%)
Skip-Button Zapped				●	●	55 (–45%)
Slow) Fast Forwarded		●		●	●	51 (–49%)
Audio Only (Eyes Off Screen)	●		●	●	●	28 (–72%)
Fast (×8) Fast Forwarded		●	●	●	●	15 (–85%)

*Estimated a priori. All other recall indices are based on Bellman et al. (2010), Table 4.

TABLE 2

Demographics of Sample

	This Study's Sample	**Australian Census (2001)**	**United States Census (2000)**
TOTAL N (18+)	325	14,223,687	209,128,094
Gender:			
Male	43%	49%	48%
Female	57	51	52
		$\chi^2(1) = 1.55$	$\chi^2(1) = 1.22$
		$p = ns$	$p = ns$
Age:			
18-34 years	33	32	32
35-54 years	41	39	40
55 years old and older	26	29	28
		$\chi^2(2) = 0.49$	$\chi^2(2) = 0.31$
		$p = ns$	$p = ns$
Education:			
Postgraduate qualification	11	3	8
Some university	17	33	43
Non-university qualification	72	68	49
		$\chi^2(2) = 27.89$	$\chi^2(2) = 27.20$
		$p < .001$	$p < .001$
Occupation:			
Professional or associate professional	29	18	13
Manager/administrator	9	5	8
Sales/Office/Service	13	17	26
		$\chi^2(2) = 10.17$	$\chi^2(2) = 25.13$
		$p = .006$	$p < .001$

TABLE 3

Ads Used in the Experiment

		Potential Avoidance Reducing Execution Factors 1 = present, 0 = absent				
Test Brands	**Product Category**	**Strong Vision**	**Strong Sound**	**Strong Branding**	**Strong Start**	**Fast Pace**
UPS (T)	Package delivery	0	0	0	0	0
Oscar Mayer® Bologna (T)	Convenient meals	0	**1**	0	**1**	0
Orbit White (T)	Chewing gum	0	0	**1**	**1**	**1**
JELL-O® (T)	Ready-to-eat dessert	0	**1**	**1**	0	**1**
Best Buy (T)	Consumer electronics	**1**	0	0	**1**	**1**
DiGiorno® (T)	Convenient meals	**1**	**1**	0	0	**1**
Kraft Macaroni & Cheese (T)	Convenient meals	**1**	0	**1**	0	0
DASANI® (T)	Soft drinks	**1**	**1**	**1**	**1**	0

Strong Vision: 1 = yes, conveys message visually, 0 = otherwise;
Strong Sound: 1 = yes, conveys message in the soundtrack, 0 = otherwise;
Strong Start: 1 = would watch the ad after seeing the first five seconds, 0 = would skip the ad;
Strong Branding: 1 = brand on screen for three seconds or more, 0 = otherwise;
Fast Pace: 1 = 15 shots or more in 30 seconds, 0 = otherwise.

TABLE 4

Logistic Regression Results for Delayed Ad Recall

Predictors	***B***	***SE***	**Wald χ^2**	**Significance**
Intercept (Solus Viewing, Normal TV)	–1.11	.26	18.30	<.001
Coviewing (Compared with Solus Viewing)				
Coviewing DVR User (Normal TV)	–1.04	.23	20.81	<.001
Coviewing Partner (Normal TV)	–1.05	.22	21.80	<.001
Avoidance Mode				
Channel-Change Zapping	.43	.32	1.80	.180
Skip-Button Zapping	–.89	.32	7.94	.005
×2 Fast-Forwarding	–1.61	.26	39.85	<.001
×8 Fast-Forwarding	–3.37	.39	75.34	<.001
Video Only	–1.05	.23	21.43	.021
Audio Only	–1.67	.28	34.39	<.001
Covariates				
One Full Prior Exposure to the Ad	1.09	.11	97.84	<.001
Percentage of the Ad Viewed	.02	.004	16.20	<.001
Immediate Ad Recall	2.82	.21	182.72	<.001

NOTES—Model $\chi^2(11) = 682.517$, $p < .001$, Cox & Snell $R^2 = .32$, Nagelkerke $R^2 = .44$, 76.3% of observations were correctly classified by the model.