Does Crime Pay For Violent Program-Embedded Ads?

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This paper aims at studying the impact of emotional context in television programs on ad memorization. Many experimental works show that affect is an important factor to be considered, as to better understand both consumer behavior in general and memorization phenomena in particular. Here, we partially replicate Bushman and Bonacci’s (2002) recent work and invalidate their main findings, namely that emotionally neutral TV programs entail better ad memorization and retention, whereas we confirm the major role of arousal on memory consolidation processes, by showing significantly higher memory scores for violent programs.

INTRODUCTION
A television commercial never appears alone. It is embedded in a specific program. The impact of television program context on commercial effectiveness in terms of brand recall, attitude toward the ad (Aad), attitude toward the brand (Ab) or purchase intention (PI), is a relatively old research topic, as about 20 years ago, Soldow and Principe (1981) wrote: “Research provides inconclusive findings regarding the relationship between liking a program and commercial effectiveness”. Since then, several studies have been conducted, bringing sometimes, as we shall see, divergent results. A recent publication (Bushman and Bonacci, 2002) addresses the impact of violent programs on ad memory. In the advertising research field regarding the effects of program context on advertising effectiveness, the specific theme of violence is important because it has not been largely studied and it is frequently displayed on TV screens. Media responsibility is often evoked and a divide is perceptible between on the one hand, those who consider that media must be exonerated of any responsibility charge because they just relay or echo the actual surrounding violence which pervades society and those, on the other hand, who regard violence on TV as an aggravating factor. While media responsibility is debatable, the very presence of violence on television does not appear to be contested by anyone, as the violence index created by Gerbner proves it. This index, aimed at major networks, is calculated on a weekly basis of programming and published by the University of Pennsylvania’s Annenberg School for Communication, since 1967. This quantitative index that allows international comparisons (the score was 130 for Canadian networks in 1994, vs. 169.5 for US networks) does take into account the number of violent acts but less easily assesses the magnitude or intensity of violence depicted in television shows. It nevertheless permits to state that violence pervades most TV shows (60% of aired programs contain scenes of violence; National Television Violence Study, 1997). Brand managers and advertising professionals must then question the influence of this type of program on advertising effectiveness, an issue that has been insufficiently addressed.

THEORETICAL FRAMEWORK AND HYPOTHESES

Emotion
Emotional states have been the subject of a growing and constant attention for more than two decades in consumer behavior research. However, as some authors have pointed out (Luomala and Laaskonen, 2000), a clear consensus has not been found yet, as far as the terminology and the taxonomy of the emotional states are concerned. We will use here primarily two terms pertaining to emotional states: mood and emotion. The former refers to “constantly evolving general affective states felt by the individuals”, while the latter represents “specific affective responses prompted by particular [consumption] experiences”. Thus, moods “describe milder, more diffuse feeling states that both color and reflect the overall pattern of ongoing activity”, whereas “by contrast, emotions indicate more intense, object-specific feeling states that respond to particular [consumption] activities” (Holbrook and Gardner, 2000). As for taxonomy, two great postures coexist: the discrete or categorical approach (Izard, 1977; Ekman, 1994) which considers that there are basic emotions (the number of which varies according to the authors) and the multidimensional or composite approach (Mehrabian and Russell, 1974, 1977; Russell, 1979) which posits that an emotional state is the result of underlying dimensions. According to these latter authors, affect is composed of two (or maybe three) distinct and orthogonal dimensions: arousal or activation (A) and the hedonic valence or pleasure (P), to which the concept of dominance (D) is sometimes added, this latter being related to the level of free-will, free movement or control of close environment.

Emotion and memory
Many research studies have confirmed the role of emotion or mood on memory, both at encoding and retrieval stages. Most authors agree to acknowledge that emotional stimuli are better memorized than neutral ones (Revelle and Loftus, 1992; Hamann et al., 1999; McGaugh, 2000), whereas some contend that a reversal is possible for very strong emotional stimuli, which are not met in the advertising realm anyway (Kroeker-Riel, 1979). Besides, Friestad and Thorson (1986) showed the positive effect of emotion on memory and judgement, particularly for individuals denoting a strong emotional intensity, as described elsewhere (i.e. affect intensity for Moore, Harris and Chen, 1994). Other studies consider emotion not as a discrete variable but as composed of distinct dimensions: pleasure, arousal and dominance. Some authors privileged valence (Berg and Lippman, 2001), while others focused on activation levels (Srrl, 1987).

Valence and memory, Goldberg and Gorn (1987) stressed that “while the literature suggests that mood has an assimilative effect on a variety of attitudes and behaviors, the literature on the effects of mood on recall is more mixed.” But Isen (1984) suggested that “a positive mood may increase the efficiency of information processing”, while in marketing research, Lee and Sternthal (1999) demonstrated that a positive emotion (i.e. of positive valence) was likely to enhance encoding, leading consequently to a better retrieval (recall or recognition). Beauregard et al. (2000) state that valence would have an impact on retrieval (recognition, particularly). Congruence, i.e. the same affective tone between current mood and valence-laden stimulus, would also play a significant part in evaluations or judgments (Blaney, 1986).

Arousal and memory. For other investigators, the real crucial emotional dimension could actually be not the valence (pleasure–displeasure), but rather arousal or activation (Bradley et al., 1992), either purely physiological or emotional (Phaf and Wolters, 1986; Katzen Perez et al., 2001). Thus, Blake, Varnhagen and Parent (2001), showed that memory enhancement at encoding is related to emotional arousal and this, independently of the polarity of valence.
In a same manner, Singh and Churchill (1987) emphasized that several reviewed works induced the conclusion that stimuli producing high arousal levels were likely to be better remembered (Archer and Margolin 1970; Kaplan and Kaplan 1968).

Most of these studies, even those implemented in marketing research, are conceived of by introducing / manipulating in a first stage a specific emotion, then by presenting target stimuli (stage 2) and finally by measuring the memorization of these stimuli (stage 3). However, this kind of studies, no matter how indicative of interesting paths they can be, are not sufficient to predict what the influence of a program on embedded ads will be, the latter having a specific status, likely to get—for instance—a very different attention according to individuals’ knowledge and expectancies.

Effects of program-induced emotion on ad recall and recognition

The influence of a program’s emotional tone on advertising effectiveness must be distinguished from another theme, not addressed here, i.e. the recourse and effectiveness of affect-laden commercials for brand persuasion, which has been largely scrutinized in marketing research (for a review, see Weinberger and Gulas, 1992). However, some authors have tied these two research domains, by studying the effects of emotional congruity between context and advertising, on ad memorization (Horn and McEwen, 1977; Perry et al., 1997).

To address the subject of a program’s emotional tone on advertising effectiveness, several approaches were chosen: (a) some researchers used TV programs containing specific emotional tonality: thriller or sit com (Kennedy 1971), sit com, documentary or action / adventure (Murphy Cunningham and Wilcox 1979), (b) other investigators varied the general emotional tone of the program: sad vs. happy shows (Golberg and Gorn 1987), humorous programs (Perry et al., 1997), violent vs. neutral broadcasts (Bushman and Bonacci, 2002), (c) while others finally managed to manipulate the viewer’s involvement level in function of:

- program type: high involving program vs. low involving program (Soldow et Principe 1981), or involving and non-involving programs (Norris and Colman, 1993)
- advertising break location: low vs. high elaboration locations (Lord and Burnkrant, 1988)
- level of intrusiveness: intrusive vs. non intrusive breaks (Tavassoli, Shultz and Fitzsimons, 1995)
- program specificity: involvement or not toward soccer games (Pham, 1992), or toward Super Bowl game (Pavelchak, Antil and Munch, 1988).

Dependant variables mainly observed in studies, may include memory scores in terms of free / cued recall or recognition (Kennedy, 1971; Soldow and Principe, 1981; Goldberg and Gorn 1987; Lord and Burnkrant, 1988; Pavelchak, Antil and Munch, 1988; Norris and Colman, 1992; Pham, 1992; Tavassoli, Shultz and Fitzsimons, 1995), attitude toward advertising (Kennedy, 1971; Soldow and Principe, 1981; Goldberg and Gorn, 1987; Tavassoli, Shultz and Fitzsimons, 1995), attitude toward the brand (Kennedy, 1971; Norris and Colman, 1992) or purchase intentions (Kennedy, 1971; Soldow and Principe, 1981; Goldberg and Gorn, 1987).

If one focuses on memory score, usual instrument for measuring ad effectiveness, results often differ for various independent variables. For some researchers, an increase in arousal entails a better ad effectiveness (Singh and Churchill, 1987). Others, conversely, record opposite results: for Pavelchak, Antil and Munch (1988), “day-after recall is better when arousal is low”; Lord and Burnkrant (1988) indicate a better memorization when commercials are inserted in a program setting characterized by low levels of elaboration, while Pham (1992) shows that “high arousal entails lower recognition scores”. Others, finally, underscore the absence of arousal level effect on ad memory scores (Mates and Cantor, 1982). As far as involvement is concerned, while Krugman (1983) writes: “involvement with advertising tends to be consistent with interest in the editorial environment”, Norris and Coleman (1993) note that the more subjects are involved, the less they remember commercials. Meanwhile, Tavassoli, Shultz and Fitzsimons (1995) announce a more complex relationship: “memory scores are better under moderate as compared to low and high levels of program involvement”, as well as Pham (1992), who declares that “effect of felt involvement on the recognition is curvilinear”. One of the main reasons which is given to explain these disparities is the fact that “in many experiments, no attempt has been made to control for prior exposure to the advertising materials” (Norris and Coleman, 1993).

Notice that this control is sometimes undertaken but seems insufficient. Indeed, when a subject is simply requested to say if he already saw a commercial (yes or no), the “yes” answer does not give any indication on the number of ad exposures prior to the experiment. But this point is particularly important insofar as memory scores are concerned and collected.

Advertisers’ main focus on the optimization of budgets, the discrepancies in results between various studies and the heavy presence of violence on television (Bushman and Bonacci, 2002; p 558), all these reasons argue for a thorough study of the influence of violent programs on advertising effectiveness.

It is legitimate to presume that exposure to a violent program entails an increase in arousal, both on physiological and affective sides. This statement will be evaluated here by comparing the subject’s mood before and after exposure to the program with Mehrabian and Russell’s PAD scale (1977). Henceforth, if one agrees with the statement that there is a positive relationship between an arousal level increase and memory—a high activation enhances or facilitates memorization process—then the following hypothesis may be set forth:

\[ H1: \text{Ads embedded in a violent program will be better recalled than ads in a neutral, low-involving program.} \]

Should one agree with the belief that there is a negative relationship between an arousal level increase and memory—a strong activation is detrimental to memory consolidation (e.g. Pavelchak, Antil and Munch, 1988)—then the alternative hypothesis should be proposed:

\[ H2: \text{Ads inserted in a neutral, low-involving program are likely to be better recalled than those inserted in a violent or arousing context.} \]

METHOD

The experiment consisted in exposing subjects to commercials embedded in neutral or violent programs, edited on video cassettes, and in asking them after the exposure to carry out tasks of explicit memorization (recall and recognition).

Stimuli selection

In this experiment, two types of stimuli have been elaborated and tested. The first type regards TV program contexts, for which we pre-selected movie or documentary clips to subsequently mimic television programs. The second type of stimuli pertains to advertising material, i.e. commercials designed to be embedded together in the program as a commercial break.
Selection of programs: Before the experiment, a questionnaire was submitted to a jury of about 50 students, requesting them to remember and write down the name of movies they saw, containing violent scenes. Based on these statements, a pre-edited video was made, i.e. a cassette containing 12 clips of movies previously judged as “very violent”. Then another group of 47 students was asked to give an evaluation mark for each sequence, ranging from 1 (“really not violent at all”) to 10 (“really very violent”), so as to get an average mark for each violent clip or sequence. The first 8 sequences, having obtained the highest marks (“Saving private Ryan”, “Another day in paradise”, “Taxi driver”, “Apocalypse now”, “Lethal weapon 4”, “Blade runner” and “The devil’s advocate”), were selected for final editing. The “neutral” program, not jury-evaluated, was composed of 2 sequences extracted from 2 documentaries: one on the ancient tribes of Easter Island, the other on the future NASA Mars Explorer mission. Both sequences were devoid of violence. All selected sequences were digitally edited then copied on video VHS tapes. The two resulting programs on video cassettes both had a total duration of 31 minutes.

Selection of commercials: The selection of commercials responded to several criteria: (a) the tested subjects being students, advertised products had to be possibly consumed by this target, (b) they were to be pertinent for both men and women, and (c) in order to minimize as much as possible the effects of previous exposures to brands or advertisements, commercials aired in 1996 were chosen. Four brands and products portrayed in these commercials have since disappeared from the market: Mukti cereal bar, Aquavital shampoo, Vie Active deodorant and Le Roule cheese. The remaining four commercials were either (1) presumably unknown by students, due to marginal market shares, or (2) absent from main distributing networks, or (3) absent from mass media communication since 1996. These latter brands are: Metaspirine aspirin tablets, ADO house curtains, Quintonine tonic and Dr Scholl’s foot products. This methodological choice was voluntary made to get as close as possible to optimal experimental conditions, where subjects are exposed for the first time to professionally-shot commercials, promoting products of “a new brand”, so as to get both acceptable internal validity and external validity.

Main experiment
Subjects: Groups of subjects (N=357; mean age 19.6 years; 64.7% were female) were randomly assigned to one of the two experimental conditions–neutral (N) or violent (V)–totaling 151 and 206 subjects, respectively. Disparity of groups (15 to 45 students) explains the discrepancy in sample size. All subjects were regularly-registered college students (mostly freshmen and sophomores) following courses in marketing or management. They voluntarily participated in the experiment, after having been plainly informed of the programs’ emotional tones, especially that of the “violence” (V) experimental condition.

Design of experiment: The type of program, neutral or violent, was manipulated in the experiment (between-subject factor). The subjects’ optimal stimulation level (OSL) and moods (pre- and post-exposure) represented the moderating variables. Right after the projection, subjects were asked to assess the program’s violence intensity and to remember the name of the advertised brands.

Procedure: The experiment was presented as part of a University research program on the evaluation of cable TV programs, regarding variety and tonality. Subjects in each group were informed that program duration was about 30 minutes; they were asked to stay relaxed, to watch the program as if at home, and to refrain nevertheless from talking with their neighbors. No mention was made of the advertisements. Before effective video projection, participants were requested to fill in both the Change Seeker Index (CSI) scale from Steenkamp and Baumgartner (1995), consisting in seven 5-point items measuring the subject’s optimal stimulation level and the iconic Self-Assessment Manikin (SAM) scale (Bradley and Lang, 1994), comprising here two 9-point scales for tested mood dimensions (i.e. pleasure and arousal). This latter scale has the advantage to be quick to submit and non-verbal (Morris and McMullen, 1994; Morris et al., 2002).

Groups of subjects (between 15 and 45), randomly assigned either to condition V or N, were invited to watch a 31-minute program. In both edited videos, the same advertisements were embedded in the middle of the program (13th minute) to form a single commercial break, totaling 2'43". Considering that CRT monitors would not be efficient enough for the simultaneous testing of many subjects under satisfactory conditions of exposure, programs were projected using a “Barco” video projector on a wide screen, equipped with stereo loudspeakers. Immediately after viewing, subjects were asked to: (1) to fill in the SAM scale, to express their post-exposure mood, (2) to indicate on a 10-point scale if the program shown was: “not boring at all–extremely boring” and “not violent at all–extremely violent”, (3) to write down as much as possible the brand names promoted in the commercials (immediate free recall task), during a maximum allotted time of 1’15”, (4) to indicate if they had previously seen one or more of the projected commercials, and to specify which ones, (5) to say on average, how many hours spent daily in front of the television set, (6) to estimate approximately the share of violent programs watched, (7) to recognize the 8 promoted brands within a list of 40 brands (immediate recognition task; maximum time: 1’15”). The 40 listed brands were presented in two different orders for each half of each sample.

RESULTS
Violence ratings: The evaluations of tested subjects are coherent with those obtained at the time of the pretest sessions and thus substantiate the previous choices of sequences, since the subjects exposed to the “V” condition evaluated the program as being significantly more violent than the other subjects from the “N” condition (p<0.001) (see Table 1).

Mood ratings: Mood self-evaluations of subjects, who were assigned either to V or N conditions, reveal that before presentation of stimulus, respective levels of pleasure (hedonic valence) or arousal (activation) did not significantly differ (respectively p>0.1 and p>0.5). Whereas after exposure, mood measures show a significant variation of subjects’ mood on both controlled dimensions (see Table 2), at the p<0.001 level.

Also, in each condition group, within-subject comparisons of dimension mean scores, before and after exposure to video stimulus, indicate that the nature of this exposure did entail a change in subjects’ mood (significant at the p<0.001 level). Subjects in neutral condition had both their pleasure and arousal levels decreased (they got bored), whereas subjects exposed to a violence-laden program saw their pleasure level plummet while their arousal level soared (they got mildly shocked).

Memory ratings: Results indicate that memory scores, both for immediate free recall and recognition, are significantly different between the two program conditions (see Table 3). As for the free (i.e. unaided) recall test, subjects who were exposed to a violent TV program remembered more advertised brands than those exposed to a neutral program (p<0.001). Again, regarding the recognition test, subjects exposed to the violent condition displayed a better recognition memory than the other group (p<0.05); about 5.4 brands were recognized against 5.0, respectively.


Consequently, H1 is validated and H2 is rejected. Besides, no significant difference was found for other antecedent or moderating variables, such as gender and optimal stimulation level. Other computations such as structural equation modeling will shortly be undertaken to determine the existence of any explanatory personal factors.

**DISCUSSION**

Results obtained in the present experiment—ad memory is enhanced in a context of violent vs. neutral programming—do not replicate Bushman and Bonacci’s (2002), as for the “Violence” and “Neutral” conditions, since no “Sex” condition had been tested by the present authors. These results are nevertheless consistent with prevailing views of neuropsychology, who consider that emotional arousal, more than valence of the stimulus, is a key factor of memory enhancement at encoding or retrieval (Hamann et al., 1999). This discrepancy may be explained by some differences in experimental procedures. *Firstly*, Bushman and Bonacci (2002) exposed their subjects to one continuous clip of a violent movie (for instance “La Femme Nikita” or “Millenium”), while we purposely exposed our subjects to an editing composed of several successive violent movie clips, less regularly aired on TV. As a matter of fact, Bushman and Bonacci’s (2002) violence score in V condition reaches 6.34 (from 1 “not violent at all” to 10 “extremely violent”), which may be considered as a moderate level. Using the same violence scale, our editing in V condition attains a score of 8.41. Therefore, this would mean that a mildly violent program would impair memory of embedded commercials, while a very violent program would enhance recall and recognition of inserted ads. This point has to be carefully and thoroughly addressed, to the extent that it would mean a curvilinear, “U”-shaped (and not inverted) relationship between arousal levels and strength of memory retention. *Secondly*, Bushman and Bonacci (2002) carried out memory strength evaluations (recall and recognition) right after exposure to stimulus but also a week after (Day 7). We had opted in a first stage for the same methodology but it soon appeared that the measurement of immediate recognition memory could inherently bias subsequent delayed recall and recognition memories (Haist, Shimamura and Squire 1992). To verify this point we compared, in an initial procedure, two 30-individual groups. Results unmistakably indi-
cate that delayed recall and recognition scores significantly differ according as these measures are preceded or not by an immediate recognition memory test. If a delayed measurement is needed, the adequate sequence should be: immediate recall, delayed recall and delayed recognition. Therefore, some memory results might be biased.

Besides, it is surprising that these authors did not detect any interaction between the mnemonic performance scores and the age of the subjects: “there were no main effects or interactions for any of the demographic variables (i.e. sex, age, race) on any of the memory measures (p > .05)” (Bushman and Bonacci, 2002; p 560). According to these authors, the older subjects, aged 50 to 54, show performances identical to those of the 18-24 year-olds, which is certainly soothing but little in agreement with present research on cognitive aging (Reuter-Lorenz, 2002; Daselaar et al., 2003). Indeed, if it seems demonstrated that implicit memory effects resist fairly well to the effects of aging, it is conversely well established in psychology (Parkin and Streete, 1988) as well as in marketing (Hawkins and Yoon, 1998) that performances obtained during explicit memory tasks—such as free recall and recognition which are manipulated here by the two authors—, requiring voluntary and conscious retrieval of specific episodes, decline with age. Moreover, the quantity of to-be-remembered items (9 commercials in three separate breaks) leaves out any possible non-significant performance differences because of a too easy task for all subjects.

Finally, it appears precarious to use recent or current advertising material, as did Bushman and Bonacci (2002) even if, as a control check, they asked the subjects to say after exposure, if they had already seen before, one or more of these commercials (yes / no). The manipulation check appears weak since the “yes” answer does not indeed give any indication on the number of ad exposures preceding the experiment; some subjects will have been exposed one or twice, while others will have maybe dozens of time. It is also important that the consumer’s familiarity and loyalty with the advertised (current) brands be controlled. No question relates to the use, by the subjects, of the advertised brands. Beside any problem of commercial exposure evoked supra, it is obvious that the mere regular use of a brand will have a significant impact on its further memorization and accessibility (Kent and Allen, 1994).

LIMITATIONS

In this study, we show that embedding of commercials in a violent television program facilitates ad memory. This results were obtained with 18- to 25-year-olds, generally considered as large consumers and fans of violent programs or movies. The choice of this population segment seems substantiated or justified but it now appears necessary to attempt a replication of this study with other categories of age. Besides, as other researchers previously suggested (Horn and McEwen 1977; Blaney 1986), it would be useful to investigate the subject of emotional tone congruence between the television program and the embedded commercial: does a humorous commercial inserted in a violent program, for instance, yield a lower effectiveness than in a humorous program?

IMPLICATIONS AND FUTURE RESEARCH

Beyond current marketing research agendas, violence is a societal issue of our times. Bushman previously stated that violence-laden programming on television was detrimental to an effective ad memorization: “if the television program bleeds, memory for the advertisement recedes” (Bushman and Philips, 2001). Our results are opposite: violence on television does not impair memorization in any way, but on the contrary, does enhance ad memory, via reinforced encoding and retention. In an unfortunate sense, crime or violence does pay in the realm of television advertising. Two final comments emerge from this statement of divergence. Firstly, as previously underscored by increasing numbers of researchers, marketing particularly needs replication works (Hunter, 2001). The present study enters this category. Secondly, should violence in television programs entail—as we think—a better memorization of inserted commercials, through a heightened level of arousal and vigilance in the individual, we should then not expect in the near future any call for reduction or curtailment from national brands and media networks.

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