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HOW TELEVISION PROGRAMS AFFECT
EMOTIONAL RESPONSE TO COMMERCIALS

By

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ABSTRACT**HOW TELEVISION PROGRAMS AFFECT EMOTIONAL RESPONSE TO
COMMERCIALS****By****Vance Carter Broach, Jr.**

There is growing interest in understanding the contextual effects television programs have on viewers' emotional response to commercials. Excitation-transfer theory might explain the effects. It predicts that if a viewer is aroused by a television program, residual program arousal increases the viewer's emotional response to subsequent commercials.

Two experiments were conducted to test the theory, employing a 2 by 2 factorial, repeated measures analysis of covariance. The first experiment manipulated program arousal (low, high) and program (un)pleasantness (unpleasant, pleasant), measuring emotional response to four emotionally neutral commercials embedded at the end of a program segment. The positions of the commercials were the repeated measures and mood was the covariate. The second experiment replicated the first except that it employed emotionally pleasant commercials.

The results indicated an assimilation effect, rather than excitation-transfer theory, explained how programs affect

viewers' emotional response to commercials. A program arouses viewers. The felt arousal causes viewers to assess whether the feeling is pleasant or unpleasant. Both arousal by, and, (un)pleasant reaction to the program constitute viewers' feelings toward the program. A residual of those feelings affects viewers' emotional responses to commercials.

Program arousal and program unpleasantness jointly affected viewers' emotional response to commercials, dissipating by successive commercial position. The effect influenced viewers' response to emotionally neutral commercials but not to emotionally pleasant ones. It was suggested that the source of program arousal might explain the difference.

There was no support for excitation-transfer theory.

Program arousal alone did not affect viewers' emotional response to commercials. Excitation-transfer theory might be under-specified. It appeared that prior studies of the theory used only psychophysical sources of program arousal. Thus, the theory might be limited to explaining how those sources of arousal affect viewers' emotional response to commercials.

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Dedicated
to
the memory of
VANCE CARTER BROACH

who
"...lives forever
in our Father's mansions...
beyond the stars." (Lamkin 1946)

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INTRODUCTION

Some advertisers believe emotional advertising appeals might be more effective than factual ones (Holbrook 1986). For example, Plummer stated, "Premeditated emotional selling is what separates the 'big' selling idea from the ordinary" (1985, p. 18). Cilo indicated, "EP is a powerful advertising ingredient that can give one product an advantage over other similar products in any given category. EP is the Emotional Plus added to the facts of a product that imparts a separable image and motivating stimulus to buy" (1985, p. 28). Academics also have increasingly recognized the role of emotional appeals in advertisements. For instance, Batra and Ray (1986) argued "affective responses" should supplement cognitive responses in understanding the effect of advertising on audiences.

Emotional appeals could be used to enhance the advertisement's communication effectiveness as well as to increase positive attitudes toward the advertisement and/or brand (Mizerski and White 1986). As a result there is growing interest in understanding the relationship between

emotional response to an advertisement and advertising effectiveness.

Problem Area

Stout and Leckenby (1986) contended that understanding how consumers respond emotionally to advertising is necessary before we can comprehend the relationship between emotional response and advertising effectiveness. They differentiated "emotional appeal," which is a quality of the advertisement, from "emotional response," which refers to a quality of the viewer. Little is known about the latter (Stout and Leckenby 1985). For instance, how do television programs affect viewers' emotional response to subsequent commercials?

Previous research suggested that viewers' emotional reaction to the television program in which a commercial appears influences their response to that advertisement. For instance, Axelrod (1963) demonstrated that mood, induced by a movie, affected respondents' perceptions of how pleasant or unpleasant commercials make them feel. Goldberg and Gorn (1987) demonstrated that happy or sad television programs affected how subjects rated commercials.

However, there is little research on how viewers' emotional response to a television program affects their emotional response to subsequent commercials. For example, what comprises emotional response to a television program or commercial? How is emotional response measured? How do the factors constituting that emotional response affect subsequent commercials?

LITERATURE REVIEW

The relevant theory tries to answer two questions: what is an emotional response to advertising, and, what causes an emotional response to advertisements?

What is an Emotional Response to Advertising?

Mitchell (1986), in a summary of the theoretical issues confronting research on emotional response to advertising, concluded that one of the most critical concerns is conceptualizing and measuring emotion. Mandler stated, "...there is no commonly, even superficially, acceptable definition of what a psychology of emotion is about" (1979, p. 279). Thus, there is a need to define "emotion," and, "emotional response to advertising."

Kreshel (1984) noted a tendency to confound emotion with affect, attitude, liking and preference. Batra and Ray

(1986) indicated the term "affect" encompasses all emotions, moods, feelings and drives. Therefore, affect is too broad a description. Holbrook and O'Shaughnessy (1984) differentiated emotion from such concepts as sentiment and mood. Emotion is a short-lived response whereas sentiment is a persistent reaction. Both emotion and mood are short-lived reactions to external stimuli but emotion is a response to some specific stimulus (e.g., an advertisement) while mood is a general reaction. "Emotion," then, can be defined as a short-lived reaction to a specific stimulus. "Emotional response to advertising" specifies the advertisement as the stimulus.

There is little consensus on what constitutes emotional response to an advertisement or how to measure it (Batra and Ray 1986). Izard (1972) identified two approaches to defining emotional response: the typological and the dimensional. The former stipulates that there are different types of emotions which are distinct qualitatively. Each emotion is a special state which has particular experiential properties. "Basic" emotions, evoked by a stimulus, are identified and measured for their intensity.

A leading proponent of the typological approach is Plutchik (1980). He identified eight primary emotions--arrayed as

four bipolarities: acceptance-disgust, joy-sadness, anticipation-surprise, and fear-anger--asserting that all other emotions are combinations of these eight. His research supported four bipolarities in two dimensions. Holbrook and Westwood (1983) tested Plutchik's theory using 54 television commercials. Their results confirmed only a two bipolarities in two dimensions (acceptance-disgust and joy-sadness). Thus, it appears the typological approach may reduce to a dimensional one.

The dimensional approach holds that emotion is not a special state but part of a more general process of arousal. Emotional experience is a function of physiological and attitudinal processes. Indices of these processes can be obtained by developing dimensions of the verbal expression of emotion.

Numerous researchers have used data reduction methods, such as factor analysis, cluster analysis, and multi-dimensional scaling, to explore the dimensions of emotion. All recovered multiple factors. The two factors found consistently are labeled "arousal" and "(un)pleasantness". The former appears to be a physiological manifestation of emotion; the latter a cognitive evaluation of arousal (Figure 1).

Dimensions of Emotion

Researcher(s)	(Un)pleasantness	Arousal	Others
Frijda & Philipszoon (1963)	Pleasant-Unpleasant	Intensity	Attentional Activity vs. Disinterest Social Submission vs Condescension
Osgood (1966)	Pleasantness	Activation	Interest Control
Davitz (1969)	Hedonic Tone	Activation	Relatedness Competence
Frijda (1969)	Pleasant-Unpleasant	Level of Activation	Attention -Rejection Social Evaluation Surprise
Izard (1972)	Pleasantness (Hedonic Tone)	Arousal or Activation	Self-Awareness
Averill (1975)	Evaluation	Activation	Depth Uncontrol
Bottenberg (1975)	Pleasantness vs. Unpleasantness	Activation	Depth
Osgood, May & Miron (1975)	Evaluation	Activity	Potency
Russell & Mehrabain (1977)	Pleasure-Displeasure	Degree of Arousal	Dominance -Submissiveness
Russell (1978)	Pleasure-Displeasure	Degree of Arousal	Control Potency Dominance Depth of Experience Locus of Causation
Mehrabian (1980) Russell (1980)	Pleasure Pleasure-Displeasure	Arousal Arousal-Sleepiness	Dominance
Russell & Steiger (1982) Daly, Lancee & Polivy (1983)	Pleasure-Displeasure Pleasantness	Arousal-Sleepiness Intensity	Activity

Figure 1

Applied to a television program or commercial, an interpretation of these two factors is that some programs or commercials generate arousal in the viewer. The felt arousal triggers an appraisal of how pleasant or unpleasant the program or commercial makes the viewer feel. That is, arousal causes an (un)pleasant reaction to the program or commercial. The appraisal is the emotional response to the program or commercial.

Several authors have suggested similar explanations. Stout and Leckenby (1986) proposed that emotional response to advertisements "exhibits valenced feelings occurring as reaction to self-relevant events" (1986, p. 36).

"Self-relevant events" may evoke the arousal dimension.

"Valenced feelings" may correspond to the (un)pleasantness factor. Since program or commercial arousal can affect the viewer's emotional response to the program or commercial, program arousal also might affect the viewer's emotional response to subsequent commercials. For example, Singh and Churchill (1987) contended that television programs generate physiological arousal and that program-induced arousal could affect ensuing commercials.

What Causes an Emotional Response to Advertisements?

Excitation-transfer theory (Zillmann 1971) explicates the relationship between program arousal and emotional response to subsequent commercials. It posits that sympathetic nervous activity (i.e., "arousal") dissipates slowly. That is, the perception of arousal declines faster than actual (physiological) arousal. Therefore, when someone is exposed to a series of arousing stimuli s/he retains a residue of arousal from prior stimuli as s/he experiences subsequent stimuli. That residue affects his/her response to subsequent stimuli. Thus, the individual experiences an enhanced emotional response to the subsequent stimulus. The residual arousal may affect any stimuli in the individual's environment. What stimuli it does affect depends upon which are salient to the individual.

Arousal can be measured in two ways. Perceived arousal can be measured by self-reports. Physiological arousal can be measured by pulse, heart rate, blood pressure, or galvanic skin response.

Excitation-transfer theory assumes that the residual arousal is not identified with a particular source. That is, the arousal is non-specific. The theory proposes that prior stimuli affect a person's emotional response to

subsequent stimuli only if the residual arousal, generated by the prior stimuli, is non-specific. If the individual correctly perceives that s/he is aroused by prior stimuli, then that arousal is not mis-attributed to the subsequent stimuli. The individual takes into account the effect of prior stimuli and apparently adjusts his/her emotional response to the subsequent stimuli.

Cantor, Bryant, and Zillmann (1974) demonstrated that the higher the arousal level the more likely the arousal is specific (i.e., ascribed accurately). Thus, excitation-transfer theory predicts that non-specific arousal (i.e., arousal generated by, but not attributed to, the stimulus) has an effect, but that stimulus-specific arousal (i.e., arousal generated by, and attributed to, the stimulus) does not.

Excitation-transfer theory does not specify that an (un)pleasant reaction occurs only when initiated by an arousing stimulus. It merely predicts the conditions under which arousal affects an individual's (un)pleasant reaction to stimuli when arousal is present.

Applied to television programming, the theory predicts that some television programs generate arousal in viewers. The perception of that arousal triggers an appraisal by

viewers of how pleasant or unpleasant the program is. The process continues as long as viewers watch the program. When the viewers no longer see the program (e.g., when the program is interrupted by a commercial break), arousal from the program begins to decrease as viewers attend to other stimuli (e.g., the commercials). The viewers' perception of arousal evoked by the program declines faster than the actual (physiological) arousal. Thus, a residue of arousal, induced by the television program, remains.

Following the program, viewers are exposed to commercials. The commercials may or may not generate arousal. In either case the viewers' reaction to the commercials is enhanced by the residual (physiological) arousal from the preceding television program (Figure 2).

Excitation-transfer Theory

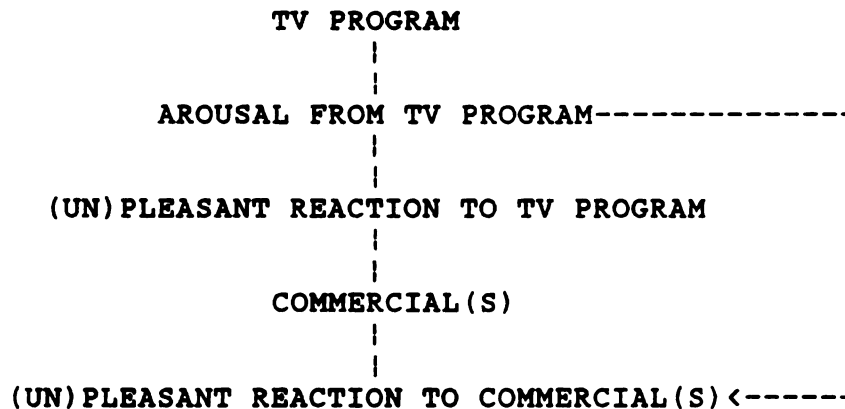


Figure 2

There seems to be considerable evidence for excitation-transfer theory. Reisenzein (1983) reviewed 22 experiments providing empirical support for the model. Two studies were particularly relevant. Zillmann, Mody, and Cantor (1974) used film segments to manipulate viewer arousal (low, high) and (un)pleasant viewer reaction (pleasant, unpleasant) in a 2 by 2 factorial experiment. The film clips inducing the high arousal condition were not typical television programming. The high arousal, pleasant film segment was from Naked Under Leather showing an attractive young couple making love. The high arousal, unpleasant film was from Bullitt depicting a hired killer brutally beating and gunning down two people. The subsequent film used to collect dependent measures also cannot be considered a typical commercial. The film depicted an argument between a newly-wed couple having sexual difficulties due to their mutual inexperience. Nevertheless, the results are instructive.

After viewing films inducing the manipulated conditions, 100 female undergraduates provided judgments about those films. Forty-five seconds after the end of those films the undergraduates were exposed to the subsequent sad film about the newly-weds. Measures were collected on the subjects' ratings of their emotional reaction to the sad

film and empathetic perception of the emotions expressed in the film. The latter ratings were collected because it was speculated subjects might be hesitant to report their own feelings about such an intimate matter as sexual inexperience. While perceived arousal and (un)pleasantness produced insignificant effects on self-ratings of emotional response to the sad film, both generated significant effects on ratings of empathetic perception of the sad film.

The other relevant study was by Mattes and Cantor (1982). These researchers used film segments to manipulate arousal (low, high) and (un)pleasantness (pleasant, unpleasant) in a 2 by 2 factorial experiment. Mattes and Cantor admitted the scenes from the films in the high arousal condition were atypical television offerings. The highly arousing pleasant segment was from an erotic feature film China Doll depicting a couple engaging in a variety of sexual acts. The highly arousing unpleasant segment was from Hemorrhaging After Birth, a medical film depicting bloody afterbirth. Thus, a higher level of arousal might have been generated in this experiment than that engendered by usual television fare.

Sixty male and female undergraduates were exposed to five non-controversial, unfamiliar, emotionally neutral,

30-second commercials, starting one minute after the end of the film segment. Fifteen seconds separated every advertisement to provide subjects time to react to each commercial. Thus, commercials were seen from 1:00 to 4:30 minutes after viewing the film clip. Commercials were rotated to minimize order effects. The researchers collected measures of commercial enjoyment and perceived commercial effectiveness (i.e., how well the commercial communicated information and a positive impression of the product).

In the repeated measures design, Mattes and Cantor predicted a main effect for arousal, and, a two-way interaction of arousal by commercial position. No main effect for (un)pleasantness was predicted. The predicted main effect was significant but the forecasted interaction effect fell short of significance (enjoyment: $F(4, 208) = 1.89$, $p = .11$; perceived effectiveness: $F(4, 208) = 2.06$, $p = .09$). However, there was a significant enhancement in mean ratings of commercial enjoyment and effectiveness in the high arousal condition for commercials in the third and fourth position. Mattes and Cantor concluded the interaction produced by commercial positions three and four was obscured by the lack of interaction for commercials in the first, second and fifth positions. The researchers speculated that commercials in the first two positions

appeared during a period in which perceived arousal had not subsided and, therefore, before residual non-specific arousal was expected to influence the commercials; and, that the commercial in the fifth position appeared after the effect of residual non-specific program arousal had dissipated to insignificance.

Thus, although the researchers found no significant program arousal by commercial position interaction, they did find evidence of the predicted effect for some of the commercials. Mattes and Cantor suggested the films manipulating the high arousal condition were so arousing that perceived arousal did not subside quickly enough to allow residual (physiological) arousal to affect all the subsequent commercials.

The researchers reasoned that scenes inducing less high levels of arousal would enhance commercial response earlier. That is, with less arousing scenes, perceived arousal would dissipate sooner so that the effect of residual non-specific arousal would occur quicker. Thus, less arousing scenes would produce the expected interaction on the commercials without a delay between program and commercials and without a delay between commercials.

Conclusions

These two studies provided evidence sufficiently encouraging to contend that excitation-transfer theory might explain a television program's effect on a viewer's emotional response to subsequent commercials. Zillmann, Mody, and Cantor (1974) demonstrated that both arousal and (un)pleasantness produced by a film enhanced empathetic emotional response to a subsequent film. Mattes and Cantor (1982) showed that arousal generated by a film enhanced reactions to some subsequent commercials. These studies provided evidence not only that the arousal induced by a television program might affect the viewer's emotional response to subsequent commercials (Figure 3).

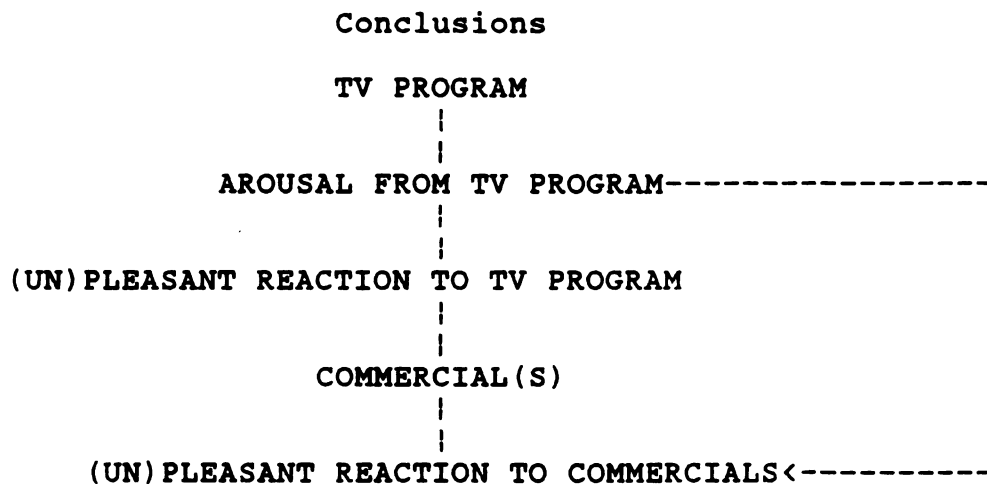


Figure 3

HYPOTHESES

Based on the research by Zillmann, Cantor, and their colleagues, it was predicted that television programs would have four effects on commercials. The first two hypotheses forecasted that residual arousal generated by the television program would affect emotionally neutral, and, emotionally pleasant commercials. These hypotheses were an application of excitation-transfer theory. The second two hypotheses explicated how the (un)pleasant reaction induced by program arousal would affect emotional response to subsequent commercials.

Hypothesis 1a

H1a: The later the commercial appears in a series of four emotionally neutral commercials, the more the residual arousal, induced by a preceding television program, will

influence viewers' emotional response toward the commercial.

That is, in a 2 by 2 factorial experimental design manipulating program arousal (low, high) and program (un)pleasantness (unpleasant, pleasant), two effects were predicted. A main effect of program arousal on emotionally neutral commercials was predicted (Figure 4). Within the highly arousing (un)pleasant program conditions, a two-way interaction of program arousal by commercial position on emotionally neutral commercials was predicted (Figure 5):

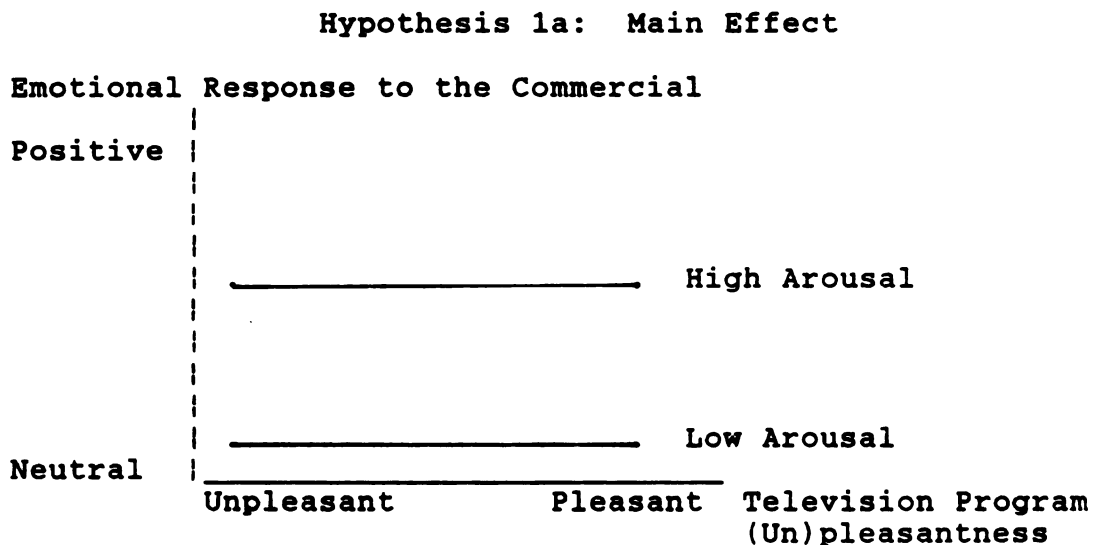


Figure 4

The predicted main effect of program arousal forecasted that emotionally neutral commercials seen after highly arousing television programs would receive a more positive

emotional response from viewers than those same commercials would get when seen after less arousing segments. These were the effects found by Zillmann, Mody, and Cantor (1974) as well as Mattes and Cantor (1982).

Hypothesis 1a: Two-way Interaction

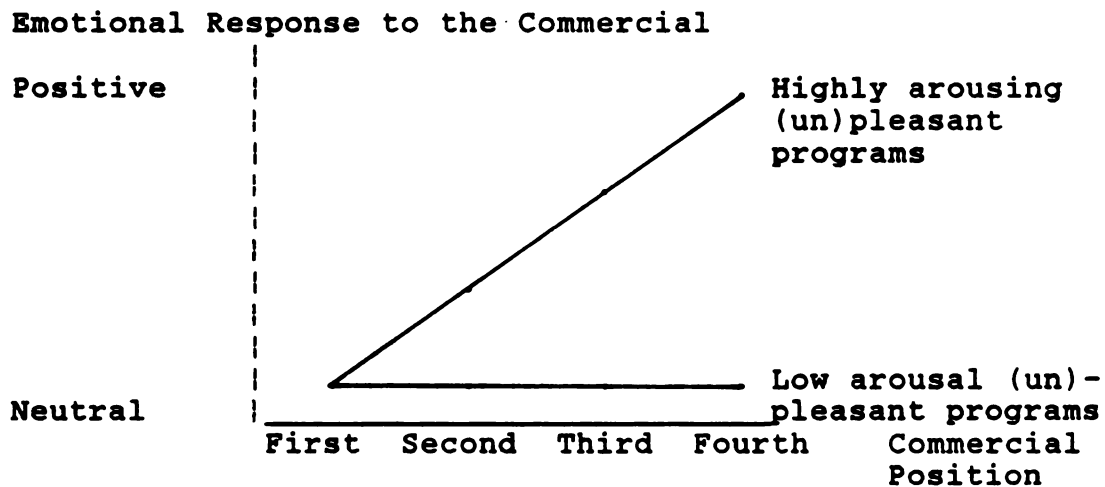


Figure 5

The predicted two-way interaction of program arousal by commercial position forecasted that, within the highly arousing (un)pleasant program conditions, emotionally neutral commercials seen after highly arousing television programs would receive more positive responses than those same commercials seen after less arousing segments.

Further, the positive response to those commercials would increase sequentially by commercial position. Although arousal induced by the television program would decrease

with each succeeding commercial, correctly attributed arousal induced by the television program would decline faster than physiological arousal. While viewers would discount the effect of the correctly perceived arousal from the program on their response to commercials seen earlier, the physiological arousal may not be correctly attributed to the program. Therefore, the residual (physiological) arousal would reinforce the viewers' positive reaction to the commercial seen later. Thus, the positive response to commercials would increase sequentially by commercial position.

Program-induced arousal was expected to be perceived by viewers such that they discounted its effect on immediately subsequent commercials. Therefore, program arousal would not influence emotional response to commercial(s) in the early positions. However, program arousal would increasingly affect viewers' emotional reaction to later commercials because, as perceived program arousal declined, viewers would be unaware that the residual (physiological) arousal affected their reaction to succeeding commercials. Thus, program arousal would enhance viewers' emotional response to the later commercials.

This hypothesis predicted the same effect forecasted by Mattes and Cantor (1982). Although the researchers found

no significant program arousal by commercial position interaction, they did find evidence of the predicted effect for some of the commercials. Mattes and Cantor suggested the films manipulating the high arousal condition were so arousing that perceived arousal did not subside quickly enough to allow residual (physiological) arousal to affect all the subsequent commercials. The researchers indicated the high arousal films were atypical television fare (Mattes and Cantor 1982, p. 556). It was expected that an experiment using more normal television programs would generate a more usual level of arousal than that observed in the study by Mattes and Cantor. Further, it was anticipated that a more usual level of arousal would affect all four subsequent commercials in the manner predicted by excitation-transfer theory.

Hypothesis 1b

Whereas hypothesis 1a predicts how residual program arousal affects a series of emotionally neutral commercials, hypothesis 1b forecasts a similar effect on a series of pleasant (i.e., emotionally positive) commercials.

H1b: The later the commercial appears in a series of four

pleasant commercials, the more the residual arousal, induced by a preceding television program, will influence a viewer's emotional response toward the commercial.

Hypothesis 1b extends the results of Zillmann, Mody, and Cantor (1974). The researchers found that arousal affected viewers' reaction to a subsequent negative stimulus.

Hypothesis 1b augments that prediction by forecasting that program arousal would affect a series of emotionally pleasant commercials. Specifically, a main effect of perceived program arousal on pleasant commercials was predicted (Figure 6). Further, within the highly arousing (un)pleasant program condition, a two-way interaction of program arousal by commercial position on pleasant commercials was predicted (Figure 7):

Hypothesis 1b: Main Effect

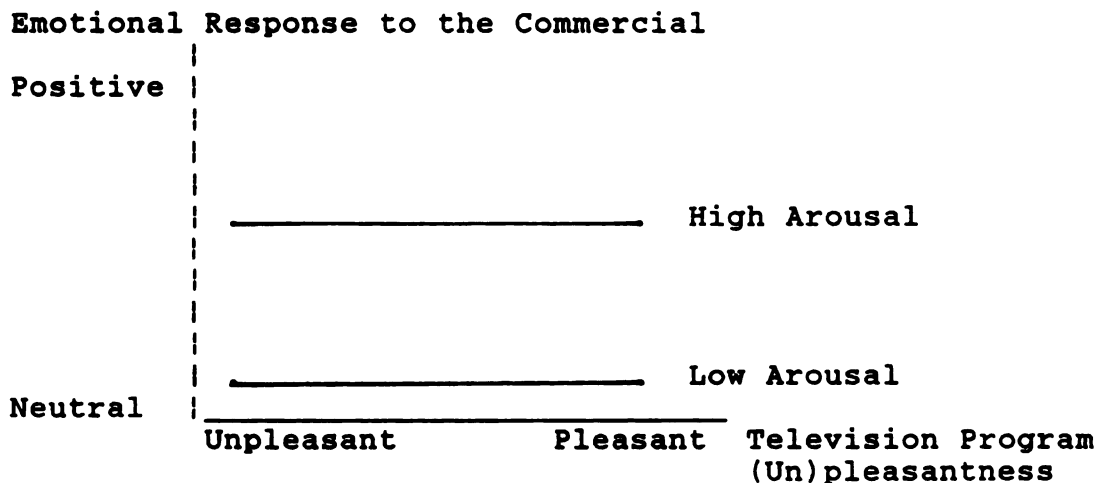


Figure 6

The predicted main effect for program arousal forecasted that pleasant commercials seen after highly arousing television programs would receive more positive ratings than those same commercials seen after less arousing segments.

Hypothesis 1b: Two-way Interaction

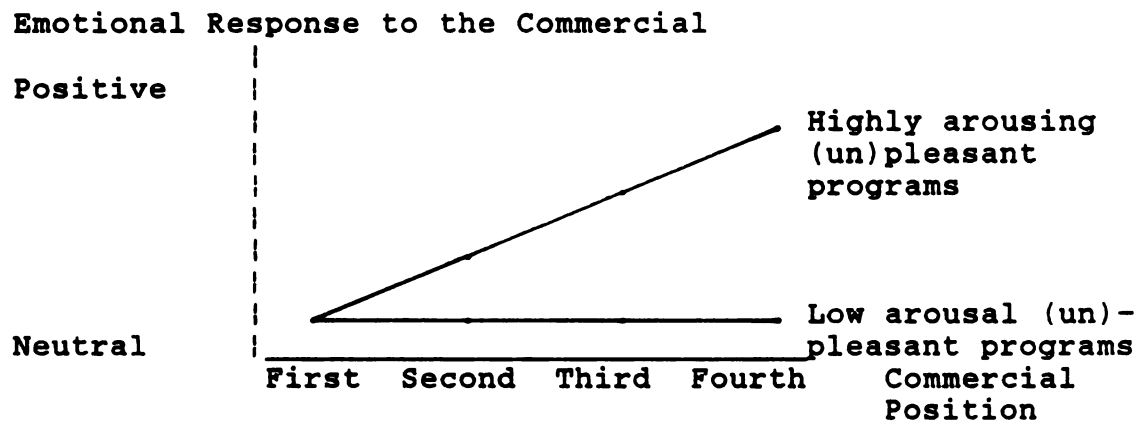


Figure 7

The predicted interaction of program arousal by commercial position forecasted that, within the highly arousing (un)pleasant program conditions, pleasant commercials seen after highly arousing television programs would receive more positive ratings than those same commercials seen after less arousing segments. Viewers' emotional response to commercials would be the same in all conditions for those commercials seen earliest in a pod. However, viewers'

response to commercials would be increasingly positive in the highly arousing (un)pleasant conditions for those commercials seen later in the pod.

Although arousal induced by the television program would decrease with each succeeding commercial, perceived arousal induced by the television program would decline faster than physiological arousal. Therefore, the residual (physiological) arousal would reinforce the viewers' positive reaction to the commercial. Thus, the positive response to commercials would increase sequentially by commercial position.

Excitation-transfer theory assumes that only residual arousal induced by, but not attributed, to a television program affects viewers' emotional response to subsequent commercials. The theory is silent on other effects that arousal induced by the program might have on viewers' emotional response to subsequent commercials. Further, the theory does not explicate how an (un)pleasant reaction induced by the television program might affect viewers' emotional response to subsequent commercials. The second two hypotheses explicate those relationships.

Hypothesis 2a

H2a: The higher the program arousal, the more program (un)pleasantness will affect viewers' positive emotional response toward pleasant commercials.

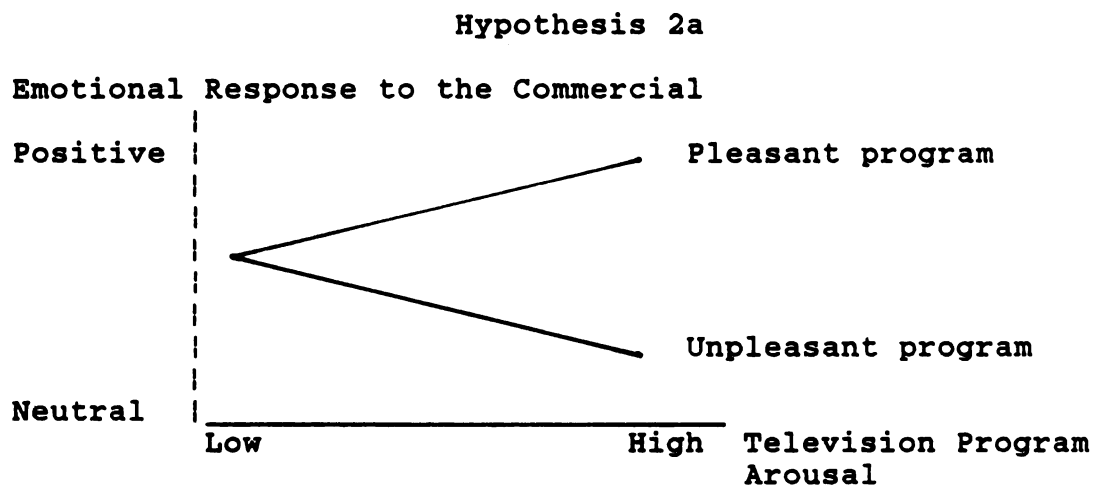


Figure 8

That is, it was predicted that a two-way interaction of program arousal by program (un)pleasantness would affect viewers' positive emotional response to pleasant commercials (Figure 8).

The forecasted effect is similar to that found by Goldberg and Gorn (1987). They manipulated television program mood (happy, sad) as a between-subjects factor and commercial type (informational, emotional) as a within-subjects factor. Subjects viewed either a humorous segment of Real

People in which unusual people taught frogs to improve their self image, or, the subjects viewed a segment of 60 Minutes in which the brutal murder of a child was described. Each subject was exposed to two emotional commercials and two informational commercials which the researchers embedded in the program. The commercials were rotated to minimize order effects.

The humorous show evoked higher happiness ratings for the emotional commercials while the sad program produced lower happiness ratings for the emotional commercials. The programs had no effect on the informational commercials.

Goldberg and Gorn suggested the effect was due to an "assimilative tendency" (1987, p. 387). A pleasant or unpleasant program activates viewers' memory of past experiences. Those experiences evoke feelings similar to the program. These feelings are available to affect viewers' emotional responses to the program. A residual amount of those feelings are available when viewers see commercials. Thus, the feelings might affect viewers' emotional responses to those commercials.

Goldberg and Gorn considered two factors which might contribute to the assimilation--mood congruency (i.e., (un)pleasantness) and mood intensity (i.e., arousal). They

specified a role for mood congruency but not for mood intensity. However, both arousal and (un)pleasantness might contribute to an assimilation effect. Under this interpretation, an emotional response toward commercials could be changed by altering either or both program arousal and program (un)pleasantness. Such an interpretation appeared more consistent with the literature which indicates there are at least two dimensions of emotion (see Figure 1).

One explanation would be that viewers' emotional response toward the commercials would be biased jointly by viewers' arousal and (un)pleasant reaction induced by the program. For example, viewers' emotional response to pleasant commercials would be more positive after seeing a highly arousing pleasant program than it would be after seeing a low arousal pleasant program. Similarly, viewers' emotional response to pleasant commercials would be less positive after seeing a highly arousing unpleasant program than it would be after seeing a low arousal unpleasant program.

Hypothesis 2a specified that an assimilation effect is due to the interaction of arousal by (un)pleasantness induced by the television program. The factors jointly affect viewers' emotional response to the commercial. The

forecasted effect is similar to that found by Axelrod (1963). He asked subjects to evaluate use of 11 products on nine factors. One of those factors was "pleasantness." Then, he induced a negative mood by having subjects view a movie, The Nuremberg Trials. The movie produced significant shifts in respondent ratings of "activation" and "deactivation" (measures of arousal) as well as "pleasantness." Subjects, then, were asked to re-evaluate use of the products on the same nine factors. Axelrod found a significant negative shift in "pleasantness" of use for all 11 products. That is, using the products was seen as less pleasant.

Hypothesis 2b

H2b: The earlier a pleasant commercial appears in a series of four pleasant commercials, the more program (un)pleasantness will affect viewers' positive emotional response toward the commercial.

That is, within the highly arousing (un)pleasant program conditions, it was predicted that a two-way interaction of program (un)pleasantness by commercial position would affect viewers' positive emotional response to pleasant commercials. The (un)pleasant program would make viewers'

emotional response to commercials in early positions more extreme. The (un)pleasant program effect would diminish with each succeeding commercial. The commercials seen in later positions would become more salient to the viewers than the program. The commercials would evoke viewers' memories of past experiences. Those experiences would elicit feelings similar to the commercials. These feelings would dissipate the impact of the feelings induced by the (un)pleasant program.

Under the pleasant program treatment, the pleasant program would increase viewers' positive response to the commercials in the initial position. The positive effect of the program however, would dissipate with each successive commercial position because of the pleasant feelings generated by the intervening emotionally pleasant commercials. Thus, viewers' positive emotional response would decline with each successive commercial position (Figure 9).

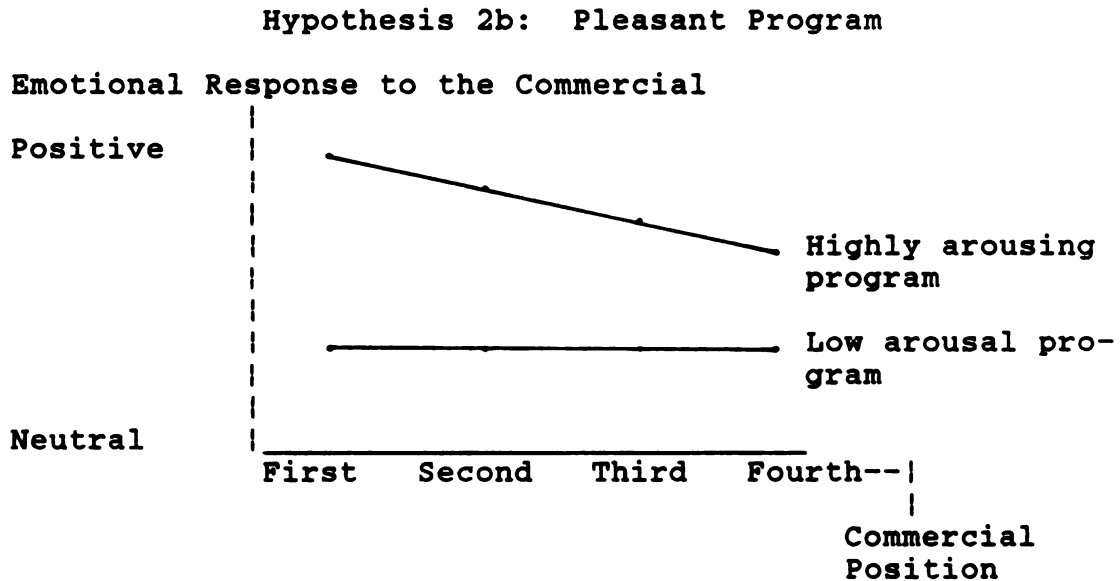


Figure 9

Under the unpleasant program treatment, the unpleasant program would diminish viewers' positive response to commercials in the initial position. However, with each successive commercial position, the feelings generated by the intervening emotionally pleasant commercials would dissipate the unpleasant effect of the program. Therefore, viewers' positive emotional response would increase with each successive commercial position (Figure 10).

Hypothesis 2b: Unpleasant Program

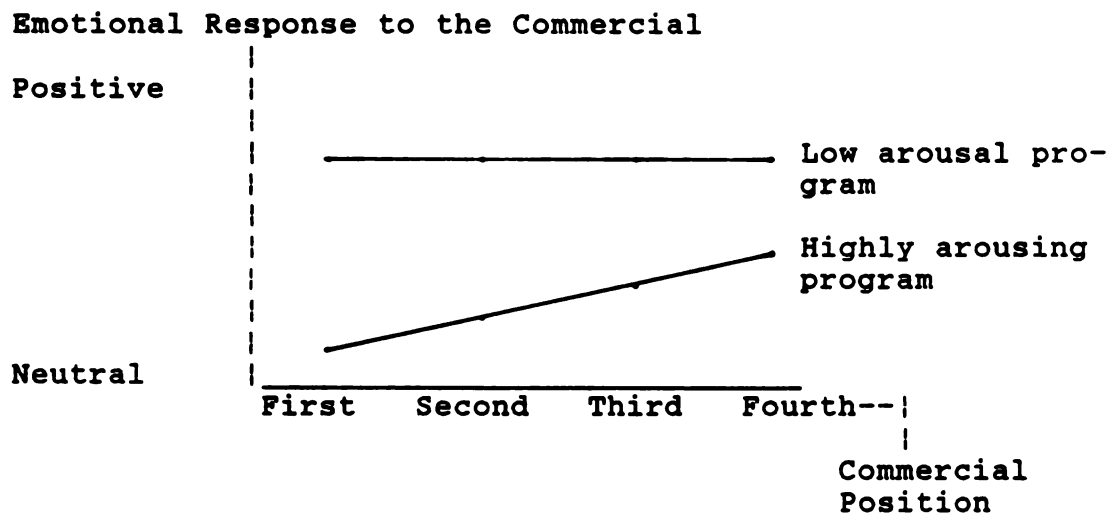


Figure 10

METHOD

Although the studies by Zillmann, Mody, and Cantor (1974) as well as Mattes and Cantor (1982) are instructive, they incorporated six decisions which caution against using the an identical method to assess television programming's impact on succeeding commercials. First, some of the films used were not typical television program fare. For example, the films within the high arousal condition used erotica to manipulate pleasantness and gory scenes to manipulate unpleasantness. Thus, the films were not typical television programs. The manipulation probably produced a level of arousal higher than that generated normally by programs. Second, the sad film used by Zillmann, Mody, and Cantor to obtain dependent measures concerned subject matter inappropriate for a commercial. Thus, the sad film could not be considered a surrogate for a typical commercial. Third, time delays between viewing the program and the commercial as well as delays between

viewing successive commercials in the Mattes and Cantor study did not replicate customary television programming. Fourth, the Mattes and Cantor study collected dependent measures which were not necessarily ones of a viewer's emotional response. Fifth, Zillmann, Mody, and Cantor used a sample of only females, thus limiting the generalizability of the results. Sixth, the Zillmann, Mody, and Cantor study did not replicate television programming by determining the effect of the program on a series of films representing a pod of commercials. While these decision might not have been shortcomings for their research interests, they would be if the interest is in applying excitation-transfer theory to explaining the contextual effects of television programming.

To assess the hypotheses, a method was employed which capitalized on the research strengths used in the studies by Zillmann, Mody, and Cantor (1974) as well as Mattes and Cantor (1982) while enhancing the external validity of the study in applying excitation-transfer theory to explaining the contextual effects of television programs. Specifically, the method used actual television programs and commercials, with no time delays between the program and commercials or between commercials, and measured emotional response to a series of commercials using viewers of both sexes.

Experimental Design

Two experiments were conducted. The first manipulated arousal (low, high) and program (un)pleasantness (unpleasant, pleasant), measuring emotional response to a series of four emotionally neutral commercials embedded at the end of a program segment. Emotionally neutral commercials were used to avoid confounding the hypothesized effects of program arousal with (un)pleasant commercials. The first experiment was a 2 by 2 factorial, repeated measures design (Figure 11).

Design for Experiment One

PROGRAM (UN) PLEASANTNESS	UNPLEASANT	PLEASANT
PERCEIVED PROGRAM AROUSAL		
HIGH	A	B
LOW	C	D

Figure 11

The second experiment was identical to the first except that it employed four pleasant commercials embedded at the end of a program segment (Figure 12). Advertisements eliciting a positive response were used because advertisers

seek to evoke such feelings toward their advertisements (and brands).

Design for Experiment Two

PROGRAM (UN)PLEASANTNESS	UNPLEASANT	PLEASANT
<u>PERCEIVED PROGRAM AROUSAL</u>		
HIGH	E	F
LOW	G	H

Figure 12

Test Process

Subjects were recruited under the guise of participating in research to help a local TV station decide what programs to rerun during the summer. This ruse provided subjects a plausible explanation for the study and for viewing a program which they might have seen before. Subjects saw a videotape of a program segment and four commercials. The program and commercials were edited professionally to replicate broadcast quality. Commercials were counterbalanced to minimize order effects. Prior to being exposed to any stimuli, subjects were requested to sign a consent form (Appendix A). They were queried on their current mood by answering some initial questions on the

questionnaire (Appendix B). Then subjects viewed the program and commercials. Afterwards, subjects were asked to complete the balance of the questionnaire (Appendix B). The questionnaire asked respondents about the program, to confirm the guise of the study, and about the commercials. Participants, then, were debriefed and thanked for their participation.

Stimuli

The programs were segments of regularly scheduled television series which pre-testing confirmed elicited significantly different levels of arousal and (un)pleasantness. The commercials were 30-second advertisements that pre-testing demonstrated evoked either a neutral or positive emotional reaction, depending on the experiment. The measures used are described in the Development of Measures section of the Method chapter; the programs and commercials selected as well as the process used are described in the Stimuli Selection section of the Method chapter.

Sample

Sawyer and Ball (1981) recommend specifying an expected effect size as the first step in planning research. A "large" effect was expected. For example, Cantor, Bryant, and Zillmann found arousal had a "large" effect in their study ($F = 22.764$, $p < .001$). The magnitude of high program arousal to be used in this study, however, was expected to be less than that used by either Zillmann, Mody, and Cantor (1974) or Mattes and Cantor (1982). The programs in those studies were not typical television programs. The manipulation of less extreme levels of arousal was expected to reduce the anticipated effect. Therefore, it was decided to expect an effect size that would be significant at the conventional criterion of .05.

Following Cohen (1977), such an effect size for the recommended factorial designs using one commercial would require 20 subjects per cell in order to have a 95% probability of detecting a difference at the significance criterion of .05. This guidance was used in determining sample size for the repeated measures designs.

Since the two recommended experiments employed a total of eight cells a sample of 160 was required. Undergraduate students enrolled in introductory Marketing and

Communications classes were the subjects.

Data collected from the two experiments were assessed by repeated measures analysis of covariance (ANCOVA). Evaluating the data via multivariate analysis of covariance (MANOCOVA) was considered and rejected. Although MANOCOVA would accommodate the multiple dependent measures collected, it would require a very large sample. Stevens (1980) showed that statistical power declines as the number of dependent variable indicators increases. He concluded that with 2-5 indicators, at a .05 significance criterion, statistical power was not adequate for large effects unless the sample was 50 subjects per cell. The design in this study included eight cells. Thus, 400 subjects would have been needed. The incremental benefit of multivariate analysis was not considered worth the cost of increasing the sample by 150% from the 160 needed for an ANCOVA.

An alternate solution was to collect multiple measures on the dependent variable and use the mean of the indicators as a single measure of the dependent variable. This approach provided the benefit of enhanced measurement reliability without incurring the cost of increased sample size.

Measures

Three measures were required for this study: perceived program arousal and (un)pleasantness as well as emotional response to the commercials.

A scale was developed for emotional response to commercials. There seemed to be a need for such a scale since current measures either incorporated domains beyond emotion, or, assumed that a single indicator of emotion was sufficient to represent emotion.

Recent years have seen several studies investigating affective responses. For example, Batra and Holbrook (1986) developed a set of scales covering the domains of emotions, moods and drives. Batra and Ray (1986) modified verbal protocol procedures used in measuring cognitive responses to develop three categories of affective responses--surgency, elation, vigor/activation; deactivation feelings; and social affection feelings. Use of these scales in this study would have been inappropriate since constructs other than emotion were included.

Aaker, Stayman, and Hagerty (1986) devised a nonverbal measure of affect, called "warmth" which they used to assess continuous viewer reaction throughout a commercial.

Warmth was defined as a "...positive, mild, volatile emotion involving physiological arousal" (p.366). Warmth was found to accompany physiological arousal, to vary during the commercial and to predict attitude toward the ad, purchase likelihood and ad recall. While such a measure had utility in analyzing viewer reaction to different aspects of the ad, the interest in this study was assessing the viewer's response to the advertisement as a whole, that is, as one stimulus, not a collection of stimuli.

Use could have been made of a single measure of emotional response to a commercial. However, since it could be assumed that emotional response to commercials would be measured with error, a scale consisting of multiple indicators would provide a more accurate assessment of the dependent variable. The resulting increased measurement reliability would improve statistical power (Sawyer and Ball 1981).

Developing such a scale required selecting words to indicate emotional response and selecting a calibrated gauge of the intensity of response. Two sources were used to select words. The first was Averill's (1975) semantic atlas of emotional words. It assessed emotional word's familiarity, emotionality and correlation with the

dimensions of arousal and (un)pleasantness. The second was by Bush (1972). Bush developed a list of adjectives denoting feelings.

RESULTS

Development of Measures

Measures of perceived arousal and (un)pleasantness were developed. These measures were designed to assess program and commercial arousal as well as commercial (un)pleasantness.

Developing self-report measures required selecting words to denote a concept, and, a scale to gauge how much the words described the concept. Words were chosen which scored at least one standard deviation from the mean on the "activation" factor in Averill's (1975) semantic atlas of emotional concepts and were included in measures of perceived arousal by either Edell and Burke (1987); King, Burrows, and Stanley (1983); or Mackay (1980).

Using this criterion, twenty-two words were selected for initial consideration--active, activated, alert, aroused, calm, contented, drowsy, energetic, excited, idle,

keyed-up, lively, passive, peppy, relaxed, restless, sleepy, sluggish, stimulated, stirred, tired, and vigorous. These words were measured on a scale with categories ranging from 0 (not at all) to 6 (extremely).

Osgood, Suci, and Tannenbaum (1957) noted that some level of concept by scale interaction is common in self-report measures. That is, the meaning of a word might vary with the stimuli to which it is applied. For this study, that would mean words denoting perceived arousal might have a different connotation to respondents depending upon the particular program or commercial viewed. In order to minimize selecting words with program or commercial by word interaction, the words were tested using fifteen television programs and sixteen commercials. The programs were selected to evoke perceived arousal ranging from low to high, and, reactions which were either pleasant or unpleasant.

The programs were seen by 24 undergraduates (10 males, 14 females); the commercials were viewed by 19 undergraduates (9 males; 10 females). Consistently high reliability across programs and commercials was demonstrated for five words--activated, active, excited, lively, and stimulated. Cronbach's alpha for this five-item measure ranged from .65 to .98 for the programs and .60 to .98 for the commercials.

Only two programs and one commercial had an alpha below .70 on the 5-item measure. Based on these results, the five-item measure was adopted. The measure used in the research was the mean value of the five items.

The next measure developed was one to assess program and commercial (un)pleasantness. The predominant scale to measure (un)pleasantness has been the semantic differential. Support for this scale came from Bentler (1969) and Russell (1979). Both concluded (un)pleasantness was bipolar. More recent investigators, however, have found that pleasant and unpleasant feelings are independent (Warr, Barter, and Brownbridge 1983; Watson and Tellegen 1983). That is, unpleasantness is not the opposite of pleasantness. Neither measurement approach has been shown to be superior to the other. As a result, it was decided to develop both a bipolar and a monopolar measure of (un)pleasantness.

For the monopolar measure of pleasantness, words were selected from Averill's (1975) semantic atlas which met the following criteria: (1) the words were familiar to at least 95% of his samples; (2) the words represented emotionality by greater than/equal to 70% of his samples; and (3) the words had a factor score on the "evaluation" dimension that was at least one standard deviation from the mean

(Averill's "evaluation" dimension is equivalent to the pleasantness factor). Thirteen words met those criteria: cheerful, delighted, enjoying, glad, happy, joyful, jolly, loving, merry, passionate, pleased, rejoicing, and thrilled. A fourteenth word, joyous, was added from Bush's (1972) list because joyous represented emotionality to at least 70% of that researcher's sample.

The words were tested among 133 undergraduates (54 males, 79 females) to assess how much the words represented (un)pleasantness. The following scale was used (substitute one of the 14 words in place of the X):

For me X describes a:

Unpleasant	Neither	Slightly	Moderately	Quite	Extremely
Feeling	Unpleasant	Pleasant	Pleasant	Pleasant	Pleasant
	Feeling	Feeling	Feeling	Feeling	Feeling
	Nor				
	Pleasant				
	Feeling				

The adverbs, "slightly," "moderately," "quite," and "extremely" were chosen because they have been shown to have consistent meaning across samples and to represent approximately equal appearing intervals of intensity (Myers and Warner 1968).

Reliability of the 14-item measure, using Cronbach's alpha,

was .83 (males, .82; females, .87). The reliability could be improved by deleting a number of words. A Cronbach's alpha of .88 (males, .87; females, .88) was the highest that could be achieved. It was obtained for a 7-item measure: cheerful, delighted, enjoying, glad, jolly, joyous, and pleased. No respondent described the words as unpleasant. Therefore, the measure was tantamount to a monopolar scale with categories used by respondents ranging from "neutral" to "extremely."

This 7-item measure was re-tested among a second sample of 116 undergraduate students (51 males, 65 females).

Cronbach's alpha for this re-test was .75 (males, .84; females, .68). Once again, no respondent described the words as unpleasant. Therefore, the measure was tantamount to a monopolar scale with categories used by respondents ranging from "neutral" to "extremely." The reason for the decrease in reliability among females was not clear.

However, the decline indicated caution in using the measure. In the same study, the 7-item measure was used to evaluate nine commercials using the following scale (substitute one of the seven words in place of the X):

Did the commercial as a whole make you feel:

Not	Slightly	Moderately	Quite	Extremely
X	X	X	X	X
(0)	(1)	(2)	(3)	(4)

Cronbach's alpha for the measure of commercials ranged from .89 to .94 (.87 to .95 for males, .91 to .96 for females). Thus, reliability of the measure in assessing commercials was high across gender.

In summary, then, the re-test of the words to determine how well those words described the concept of pleasantness did not indicate a high level of reliability among females. However, the test of the words to determine how well those words described the pleasantness of commercials indicated the measure was reliable. Because of these inconsistent findings, caution was indicated in adopting the monopolar measure.

For the bipolar measure of (un)pleasantness, word pairs were selected from scales used by researchers examined in Figure 1 of the Literature Review. A semantic differential scale was adopted, since that was the scale all these researchers used. The criterion for word pair selection was that at least two of the researchers used the word pair to measure (un)pleasantness. Four pairs met this

criterion: awful-nice, bad-good, sad-happy, and unpleasant-pleasant. Two other pairs from Holbrook and Batra's (1987) analysis of consumers' emotional responses to advertising were included: negative-positive and cold-warm.

In order to minimize selecting measures with program or commercial by word interaction, the words were tested among 15 television programs and 16 commercials (the same programs and commercials which were used to test the words for the measure of perceived arousal). The programs were selected to evoke reactions ranging from unpleasant to pleasant, and, perceived arousal ranging from low to high. The programs were seen by 24 undergraduates (10 males, 14 females); the commercials were viewed by 19 undergraduates (9 males; 10 females). Five word pairs demonstrated consistently high reliability across the programs and commercials: awful-nice, bad-good, negative-positive, sad-happy, and unpleasant-pleasant. Cronbach's alpha for this 5-item measure ranged from .80 to .96 for the programs (.79 to .97 for males; .78 to .95 for females) and .91 to .97 for the commercials (.91 to .97 for males; .90 to .98 for females).

The bipolar measure of (un)pleasantness was more reliable than the monopolar measure. Based on this superior

reliability, the bipolar measure was chosen. The measure used in the research was the mean value of the five items.

Stimuli Selection

Four television programs were needed to manipulate arousal (low, high) and (un)pleasantness (unpleasant, pleasant).

Fifteen candidates were tested:

5 for the low arousal/unpleasant condition--

A segment of hearings by a U.S. Senate sub-committee on the cable television industry

A segment from a Detroit morning show describing prison conditions

A segment from a network news special on the homeless

A segment from 48 Hours, a network news presentation about hospitals

A segment from a nature show about lemmings

4 for the low arousal/pleasant condition--

A segment from a situation comedy about twin females, Double Trouble

A segment from a game show, Chain Reaction

A segment from a nature show about polar bears

A segment from a Detroit talk show, interviewing Bobby Vinton

3 for the high arousal/unpleasant condition--

A segment from a movie, The Hitcher

A segment from a movie, Friday the 13th

A segment from a show about AIDS

3 for the high arousal/pleasant condition--

A segment from a comedy special starring Buddy Hackett

A segment from a movie, Paradise

A segment from MTV

The programs were screened among 20-24 respondents (depending upon the segment): 8-10 males, 12-14 females. Respondents saw 10-minute segments of the programs and rated the segments using the selected arousal and (un)plesanttness measures. The programs selected are listed in Figure 13.

Program Segments

PROGRAM (UN)PLEASANTNESS PERCEIVED PROGRAM AROUSAL		UNPLEASANT	PLEASANT
HIGH	LOW	THE HITCHER	BUDDY HACKETT
		CABLE HEARINGS	DOUBLE TROUBLE

Figure 13

Double Trouble is a sitcom from the USA Network. It is about young twin adult women. The segment showed one of the twins having a dinner date. "Cable hearing" is an excerpt from a U.S. Senatorial sub-committee hearing concerning cable TV. The program appeared on the C-SPAN channel. The segment was testimony about the monopolistic tendencies of cable TV toward "over-the-air" stations. "Buddy Hackett" is a comedy routine which appeared on HBO. The segment described Hackett's experience skiing. The Hitcher is a movie which appeared on HBO as well. It was

about a hitchhiker and a young adult male. The segment showed the hitchhiker threatening to kill the young man with a knife.

Selection was based on the programs' arousal and (un)pleasantness scores. The high arousal program segments were about twice as arousing as the low arousal program segments (Table 1). The difference in arousal scores within the (un)pleasant program conditions were highly significant (within the pleasant program condition: $t(24) = 10.24$, $p < .001$; within the unpleasant program condition: $t(24) = 5.31$, $p = .001$). The segments had about equal levels of arousal within arousal conditions.

Table 1
Program Arousal Scores*

PROGRAM (UN) PLEASANTNESS PROGRAM AROUSAL	UNPLEASANT	PLEASANT
HIGH	4.4	4.7
LOW	2.2	2.5

DIFFERENCE	2.2	2.2
------------	-----	-----

* Mean score of a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

The selected program segments also had significantly

different (un)pleasantness scores within the program arousal conditions (Table 2). Within the low arousal condition, $t(24) = 3.43$, $p = .001$; within the high arousal condition, $t(24) = 10.96$, $p < .001$. As expected, the high arousal programs showed a greater difference than the low arousal programs. For example, Bryant, Cantor, and Zillmann (1974) found that arousal affected (un)pleasantness--the higher the level of arousal, the more extreme the rating of (un)pleasantness.

Table 2

Program (Un)pleasantness Scores*

PROGRAM AROUSAL PROGRAM (UN) PLEASANTNESS	LOW	HIGH
PLEASANT	+.8	+1.8
UNPLEASANT	-.2	-1.3
DIFFERENCE	1.0	3.1

* Mean score of a 5-item scale with categories ranging -4 (extremely) thru 0 (neutral) to +4 (extremely)

Eight 30-second commercials were needed: four emotionally neutral ones and four emotionally pleasant ones. Sixteen candidate commercials were tested (the commercials are described in Appendix C):

8 emotionally neutral commercials for--

Check-up toothpaste
 Crystal ice cream
 McDonald's restaurants
 WLTI Radio
 Beef Council
 Kentucky Fried Chicken
 Lender's Bagels
 Anacin aspirin

8 emotionally pleasant commercials for--

Kodak Teledisk camera
 Wheaties cereal
 Tofutti
 Beef Council
 Mirage candy bar
 Chevrolet IROC-Z
 Kellogg's Raisin Squares
 Chevrolet Camaro

The candidate emotionally neutral commercials were evaluated by 19 respondents (8 males, 11 females); the candidate emotionally pleasant commercials were evaluated by 23 respondents (10 males, 13 females). As expected from the literature review, all the candidate emotionally neutral commercials were rated as slightly positive. The four commercials scoring closest to 0 (neither unpleasant nor pleasant) were selected for the iteration using emotionally neutral commercials (Table 3). The scores were not significantly different from zero for the Check-up Toothpaste commercial ($t(19) = 1.09$, $p = .29$) or the Crystal Ice Cream commercial ($t(19) = 1.68$, $p = .110$). However, the scores were significantly different from zero for the McDonald's commercial ($t(19) = 2.31$, $p = .033$) and

the WLTI Radio commercial ($t(19) = 2.30$, $p = .033$). Thus, two of the commercials selected to represent emotional neutrality had a bias toward being emotionally pleasant. This outcome was not unexpected. It was similar to that found by Mattes and Cantor (1982). The scores for the "emotionally neutral" commercials, however, were significantly different from the scores for the emotionally pleasant commercials (WLTI Radio vs. Beef Council: $t(42) = 2.03$, $p = .050$). Thus, the "emotionally neutral" commercials were significantly less emotional than the emotionally pleasant commercials.

Table 3

Neutral Commercials (Un)pleasantness Scores

<u>Commercial</u>	<u>Score*</u>
Check-up Toothpaste	+.27
Crystal Ice Cream	+.57
McDonald's	+.65
WLTI Radio	+.80

* Mean score of a 5-item scale with categories ranging -4 (extremely) thru 0 (neutral) to +4 (extremely)

The four commercials scoring most pleasant were selected for the iteration using emotionally pleasant commercials (Table 4). The scores for all four commercials were significantly different from zero: Kodak Teledisk ($t(23) = 8.29$, $p < .000$), Wheaties ($t(23) = 8.61$, $p < .000$), Tofutti ($t(23) = 8.04$, $p < .000$), and Beef Council ($t(23)$

= 6.13, $p < .000$). There was a significant difference between the scores of the emotionally neutral commercials and those of the pleasant commercials (WLTI Radio vs. Kodak Teledisk: $t(42) = 2.03$, $p = .060$).

Table 4

Pleasant Commercials (Un)plesantness Scores

<u>Commercial</u>	<u>Score*</u>
Kodak Teledisk	+2.6
Wheaties	+2.1
Tofutti	+2.1
Beef Council	+1.7

* Mean score of a 5-item scale with categories ranging -4 (extremely) thru 0 (neutral) to +4 (extremely)

The commercials were for products appealing to college age students. It was believed that selecting such products would enhance the external validity of the research. The emotionally neutral commercials were for a toothpaste, ice cream, fast food, and a radio station; the pleasant commercials were for a camera, cold cereal, an ice cream substitute, and beef.

The Kodak teledisk ad was a humorous depiction of little boys playing ice hockey. The Wheaties commercial was about Pete Rose beating Ty Cobb's hit record. The Tofutti ad was a humorous spoof set at a board of directors meeting wherein the directors extolled the virtues of tofutti

compared to ice cream. The Beef Council commercial depicted the fun times people have eating beef. A more complete description of each commercial is provided in Appendix C.

With these pre-tests concluded, stimuli selection for the main experiment was completed. The main experiment was conducted with 267 respondents.

Preliminary Screening

Of the questionnaires completed a total of 57 (21.3%) were eliminated: 26 (9.7%) because the respondents had guessed the purpose of the research, 24 (9.0%) because the respondents could not remember the four commercials they had seen, five (1.9%) because respondents did not provide answers on some measures or provided incomplete answers on some measures, and four (1.5%) because the questionnaire was administered improperly (mood assessment was obtained after respondents viewed the programs and commercials rather than before exposure to the stimuli--due to experimenter lapse of memory in following experiment instructions). Since five questionnaires were eliminated for more than one reason, a total of 210 useable questionnaires remained.

Measures Reliability

Two iterations of research were done for the main experiment. One assessed how programs affected emotionally neutral commercials; the other evaluated how programs affected emotionally pleasant commercials. Separate reliability analyses were performed on measures for each iteration. Within each iteration, reliability analyses were performed on measures for each of the four program conditions.

Nine measures were analyzed for each iteration. The arousal measure was used to assess perceived program arousal; the (un)pleasantness measure was used to assess the (un)pleasantness of the program and of the four commercials. Peterson and Sauber's (1983) mood measure was evaluated for reliability as well. Peterson and Sauber's measure consisted of two dimensions of mood--perceived arousal and (un)pleasantness. Thus, the measures of arousal and (un)pleasantness developed for the present study were alternative measures of mood. Those two measures were used to assess mood in addition to the measure by Peterson and Sauber.

All measures except Peterson and Sauber's were found to be highly reliable. The Peterson and Sauber mood measure used a Likert scale for its four items. The measure was constructed to avoid response bias: e.g., for a respondent to report that s/he was in a "good" mood, s/he would agree with two of the items and disagree with the other two items. Apparently, respondents were confused by the need to agree with two of the items and disagree with the other two items. This confusion seemed to reduce the measure's reliability.

Except for Peterson and Sauber's mood measure, Cronbach's alpha for the nine measures ranged from .87 to .97 on the iteration using emotionally neutral commercials, and, from .86 to .97 for the measures on the iteration using pleasant commercials (Tables 5 and 6). Reliability for each measure was similar for both sexes. In view of the poor reliability of the Peterson and Sauber mood measure, it was decided to use the measures of perceived arousal and (un)pleasantness to assess mood.

Table 5

Neutral Commercial Iteration Scores

Scale	Low arousal/ pleasant condition (n=28)	High arousal/ pleasant condition (n=28)	Low arousal/ unpleasant condition (n=28)	High arousal/ unpleasant condition (n=23)
Program Arousal				
Mean*	3.13	3.96	1.46	3.80
alpha	.96	.94	.97	.92
Program pleasantness				
Mean**	1.46	1.59	-.61	-.90
alpha	.97	.89	.88	.93
1st commercial pleasantness				
Mean**	.96	.75	.95	.19
alpha	.96	.90	.91	.87
2d commercial pleasantness				
Mean**	.50	.89	.82	.55
alpha	.94	.90	.95	.89
3d commercial pleasantness				
Mean**	.37	.64	1.01	.70
alpha	.94	.95	.94	.94
4th commercial pleasantness				
Mean**	.60	.79	1.14	.26
alpha	.95	.97	.94	.92
Mood (arousal)				
Mean*	3.36	3.09	3.49	3.18
alpha	.94	.91	.97	.93
Mood (pleasantness)				
Mean**	1.90	1.76	2.01	1.63
alpha	.95	.91	.97	.96
Peterson & Sauber mood scale				
Mean***	2.80	2.79	2.78	2.76
alpha	-1.15	-.79	-.41	-.73

*mean score on a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

**mean score on a 5-item scale with categories ranging from -4 (extremely) through 0 (neutral) to +4 (extremely)

***mean score on a 4-item scale with categories ranging from -2 (strongly disagree) to +2 (strongly agree)

Table 6

Pleasant Commercial Iteration Scores

<u>Scale</u>	<u>Low arousal/ pleasant condition (n=22)</u>	<u>High arousal/ pleasant condition (n=30)</u>	<u>Low arousal/ unpleasant condition (n=25)</u>	<u>High arousal/ unpleasant condition (n=26)</u>
Program Arousal				
Mean*	3.06	4.38	1.80	4.30
alpha	.92	.95	.96	.90
Program pleasantness				
Mean**	1.29	2.23	-.26	-.76
alpha	.89	.95	.84	.96
1st commercial pleasantness				
Mean**	1.79	1.84	1.82	1.41
alpha	.97	.95	.97	.96
2d commercial pleasantness				
Mean**	1.52	1.41	1.78	1.51
alpha	.97	.96	.97	.95
3d commercial pleasantness				
Mean**	1.74	1.56	2.00	1.68
alpha	.97	.96	.96	.96
4th commercial pleasantness				
Mean**	2.24	1.34	1.69	1.56
alpha	.97	.98	.97	.96
Mood (arousal)				
Mean*	3.24	3.52	3.30	3.62
alpha	.86	.93	.93	.92
Mood (pleasantness)				
Mean**	1.82	1.64	1.87	1.69
alpha	.97	.96	.96	.89
Peterson & Sauber mood scale				
Mean***	2.77	2.79	2.73	2.84
alpha	-1.70	-.59	-.21	-1.06

*mean score on a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

**mean score on a 5-item scale with categories ranging from -4 (extremely) through 0 (neutral) to +4 (extremely)

***mean score on a 4-item scale with categories ranging from -2 (strongly disagree) to +2 (strongly agree)

Completed Questionnaire Selection

Of the 210 usable questionnaires, 160 were randomly selected within the following constraints: 80 questionnaires were needed for the iteration using emotionally neutral commercials and 80 for the iteration using pleasant commercials. Within an iteration, a sample of 20 subjects was needed for each of the four program conditions. The experimental design indicated that, within each condition an equal number of respondents would be included for four counterbalanced commercial orders.* That is, there were to be five subjects per commercial order. Further, an equal number of subjects by sex was needed. Thus, ten questionnaires per gender were required. Cell requirements for a typical condition are depicted in Table 7.

Table 7

Typical Cell Configuration

Commercial Order*: ABCD BCDA CDAB DABC Total					
Sex					
Male	2	3	2	3	10
Female	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>10</u>
Total	5	5	5	5	20

* The rotated orders were: ABCD, BCDA, CDAB, and DABC, where for the neutral commercial iteration A = Check-up Toothpaste, B = Crystal Ice Cream, C = McDonald's, and D = WLTI Radio, for the positive commercial iteration A = Kodak Teledisk, B = Wheaties, C = Tofutti, and D = Beef Council.

Manipulation Checks

In order to determine if the program segments produced the desired manipulations, analyses of variance (ANOVA) were performed on the mean program arousal scores and the mean program (un)pleasantness scores for both iterations. The results for the neutral commercial iteration showed significant main effects for both program arousal and program (un)pleasantness. Additionally, there was a significant two-way interaction of program arousal by program (un)pleasantness (Table 8).

Table 8

ANOVA: Neutral Commercial Iteration

Source of Variation	F	df	p
Main Effects			
Program Arousal	36.171	1	<.001
Program (Un)pleasantness	6.017	1	.017
Sex	.000	1	.986
2-Way Interactions			
Program Arousal by Program (Un)pleasantness	5.840	1	.018
Program Arousal by Sex	.119	1	.731
Program (Un)pleasantness by Sex	.027	1	.871
3-Way Interaction			
Program Arousal by Program (Un)pleasantness by Sex	.056	1	.814

Within the low arousal condition there was a significant

difference between the unpleasant program score and pleasant program score (Table 9)-- $t(40) = 3.31, p = .002$. It appeared there were three levels of program arousal induced. As expected, both high arousal programs induced a high level of arousal. Unexpectedly the low arousal pleasant program induced a medium level of arousal while the low arousal unpleasant program induced a low level of arousal.

Table 9

Neutral Commercial Iteration Arousal Scores*

PROGRAM (UN) PLEASANTNESS PROGRAM AROUSAL	UNPLEASANT	PLEASANT
HIGH	3.86	3.87
LOW	1.54	2.88

* mean score on a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

The three levels of program arousal were not considered detrimental to the study. The interaction was ordinal (Figure 14). That is, the levels of arousal induced by the high arousal programs were consistently greater than the levels of arousal induced by the low arousal programs. Therefore, the main effects of program arousal were independent of the two-way interaction (Keppel, 1973).

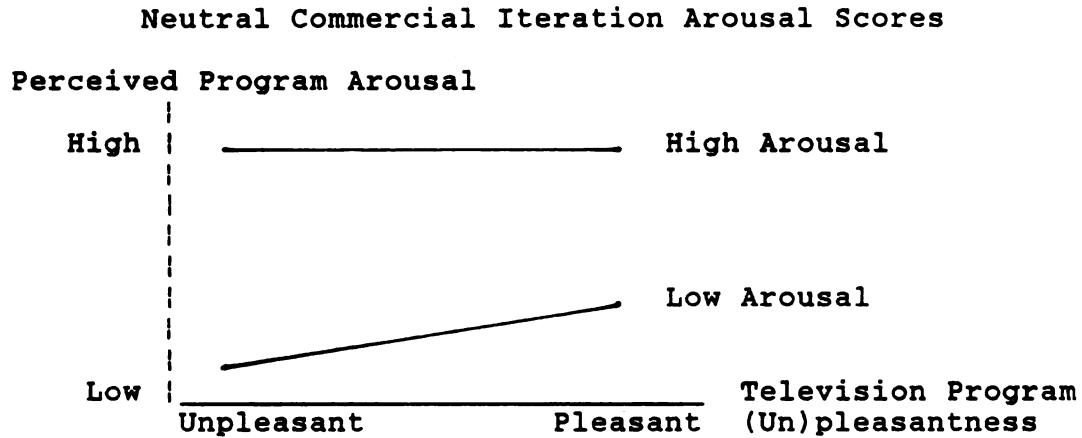


Figure 14

Table 10

Neutral Commercial Iteration (Un)pleasantness Scores*

PROGRAM AROUSAL PROGRAM UN) PLEASANTNESS	LOW	HIGH
PLEASANT	+1.35	+1.73
UNPLEASANT	-.75	-.81

* Mean score on a 5-item scale with categories ranging -4 (extremely) thru 0 (neutral) to +4 (extremely)

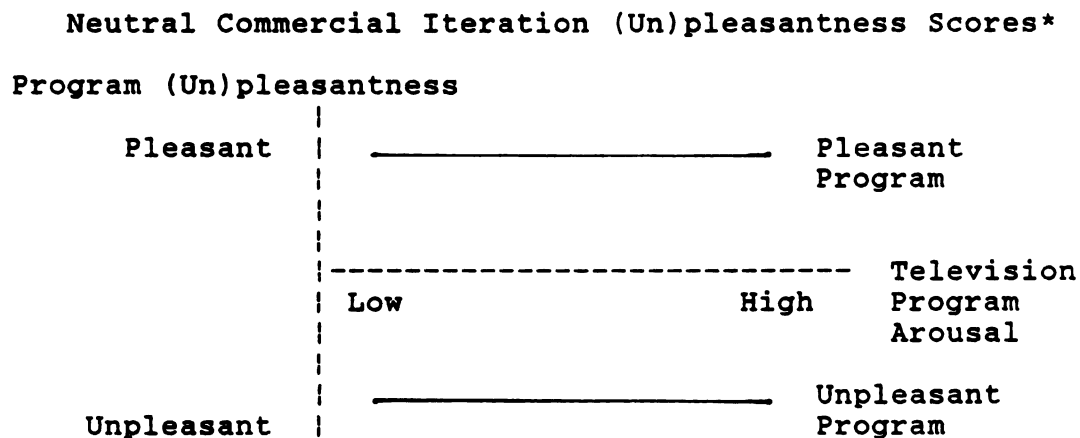


Figure 15

The results of the ANOVA for the pleasant commercial iteration showed significant main effects for both program arousal and program (un)pleasantness. Additionally, there was a significant two-way interaction of program arousal by program (un)pleasantness (Table 11).

Table 11

ANOVA: Pleasant Commercial Iteration

Source of Variation	F	df	p
Main Effects			
Program Arousal	81.662	1	<.001
Program (Un)pleasantness	10.959	1	.001
Sex	.648	1	.423
2-Way Interactions			
Program Arousal by Program (Un)pleasantness	5.412	1	.023
Program Arousal by Sex	.008	1	.929
Program (Un)pleasantness by Sex	.392	1	.533
3-Way Interaction			
Program Arousal by Program (Un)pleasantness by Sex	.801	1	.364

The interaction seemed to be due to two effects. As observed in the neutral commercial iteration, within the low arousal condition there was a significant difference between the unpleasant program score and pleasant program score (Table 12)-- $t(38) = 3.54$, $p = .001$. Once again, it appeared there were three levels of program arousal

induced.

Table 12

Pleasant Commercial Iteration Arousal Scores*

PROGRAM (UN) PLEASANTNESS PROGRAM AROUSAL	UNPLEASANT	PLEASANT
HIGH	4.27	4.49
LOW	1.73	2.99

* mean score on a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

For the same reason cited previously the three levels of arousal were not considered detrimental to the study. The interaction was ordinal (Figure 16). Therefore, the main effects of program arousal were independent of the two-way interaction (Keppel, 1973).

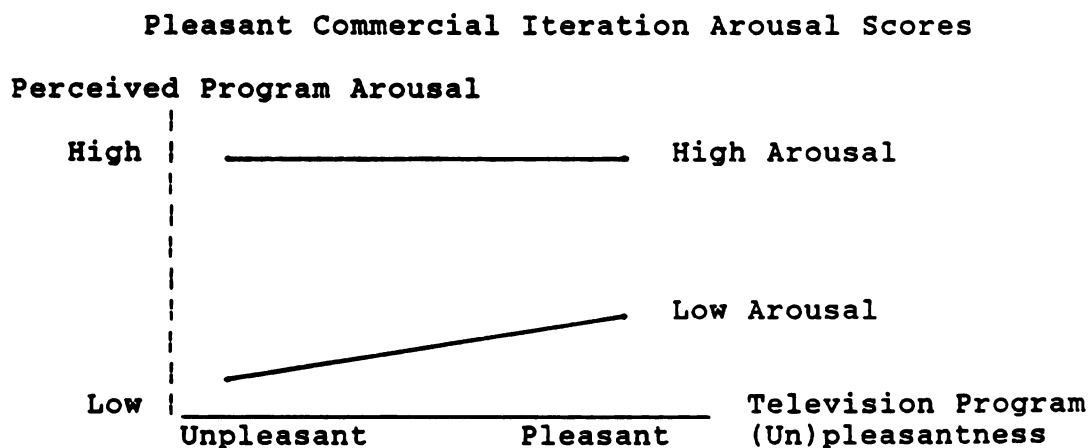


Figure 16

The second effect causing the interaction was a significant difference within the pleasant program condition (Table 13)-- $t(40) = 3.39, p = .002$. The highly arousing program was seen as more pleasant than the low arousal program.

Table 13

Pleasant Commercial Iteration (Un)pleasantness Scores*

PROGRAM AROUSAL PROGRAM UN) PLEASANTNESS	LOW	HIGH
PLEASANT	+1.32	+2.28
UNPLEASANT	-.28	-.71

* Mean score on a 5-item scale with categories ranging from -4 (extremely) through 0 (neutral) to +4 (extremely)

It appeared that the pleasant program induced two levels of pleasantness within the pleasant program condition. Once again the interaction was not considered detrimental to the study. The interaction was ordinal (Figure 17).

Therefore, the main effects of program (un)pleasantness were independent of the two-way interaction (Keppel, 1973).

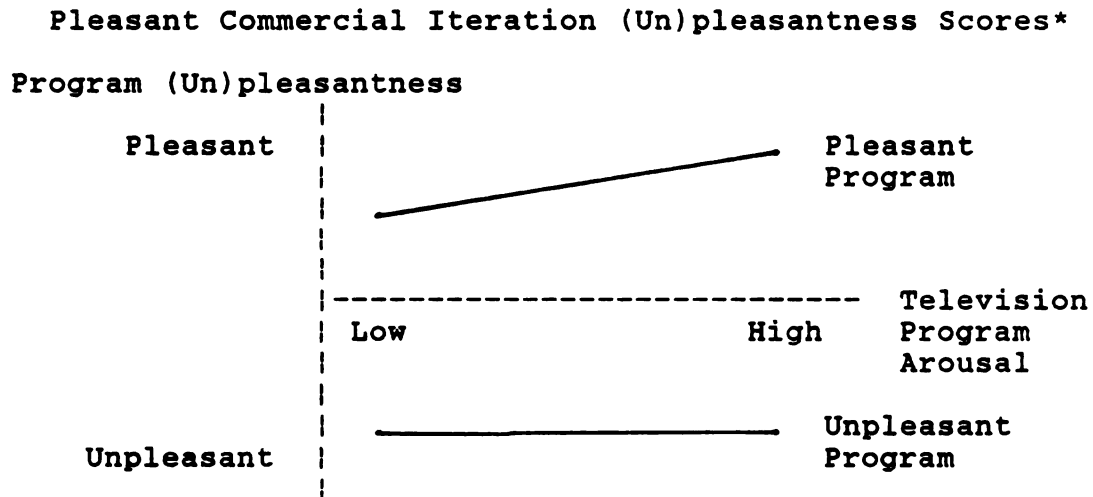


Figure 17

Hypothesis 1a Results

Hypothesis 1a was: the later the commercial appears in a series of four emotionally neutral commercials, the more the residual arousal, induced by a preceding television program, will influence viewers' emotional response toward the commercial. To be confirmed, hypothesis 1a required a main effect for perceived program arousal and a two-way interaction of perceived program arousal by commercial position.

The hypothesis was tested by conducting a repeated measures ANCOVA for the iteration using emotionally neutral commercials. Perceived program arousal, program (un)pleasantness, and sex were the independent factors; the four commercial positions in the pod were the repeated

measures; and the two components of mood were the covariates. There were two parts to the ANCOVA results. The between-subjects ANCOVA results showed the factors' effect across viewers. The within-subjects ANCOVA results showed the factors' effects across commercial position.

The between-subjects ANCOVA showed that the mood covariates had a significant effect (Table 14). The arousal component of mood was the source of that effect: $\text{Beta} = .251$, $t(80) = 1.68$, $p = .097$. Sex was marginally significant. Since gender was forecasted not to have a significant main effect, the sex factor was retained in further analyses. The expected main effect of program arousal was not significant. However, an unexpected two-way interaction of program arousal by program (un)pleasantness was highly significant.

Table 14

ANCOVA: Between-Subjects Effects

Source of Variation	F	df	p
Main Effects			
Mood Covariates	5.89	2	.004
Program Arousal	.75	1	.389
Program (Un)pleasantness	1.15	1	.288
Sex	3.61	1	.062
2-Way Interactions			
Program Arousal by			
Program (Un)pleasantness	12.35	1	.001
Program Arousal by Sex	.13	1	.719
Program (Un)pleasantness			
by Sex	.47	1	.495
3-Way Interaction			
Program Arousal by			
Program (Un)pleasantness			
by Sex	1.78	1	.186

As expected, within the low arousal program condition, viewers' emotional responses to the unpleasant vs. pleasant programs were not significantly different (Table 15: $t(40) = 0.50$, $p = .621$). Unexpectedly, within the highly arousing program condition there was a significant difference between viewers' emotional response to the unpleasant and pleasant programs (Table 15: $t(40) = 3.13$, $p = .003$).

Table 15

Emotional Responses*

PROGRAM (UN) PLEASANTNESS PROGRAM AROUSAL	UNPLEASANT	PLEASANT
HIGH	.12	.92
LOW	.93	1.08

* mean score on a 5-item scale with categories ranging from 0 (not at all) to 6 (extremely)

According to Hypothesis 1a emotionally neutral commercials seen after highly arousing unpleasant and pleasant television programs would be viewed as more positive than those same commercials seen after less arousing segments. However, the results showed that emotionally neutral commercials viewed after the highly arousing unpleasant program were seen as less positive than those same commercials viewed after the low arousing program (Table 15: $t(40) = 3.13$, $p = .003$). That is, the highly arousing unpleasant program had an effect opposite to that predicted by Hypothesis 1a (Figure 18). This result could have been anticipated and will be commented on later.

Further, the findings demonstrated that the pleasant program had no effect. That is, the highly arousing pleasant program did not have the effect predicted by hypothesis 1a. This finding explained why there was no main effect for program arousal (Figure 18).

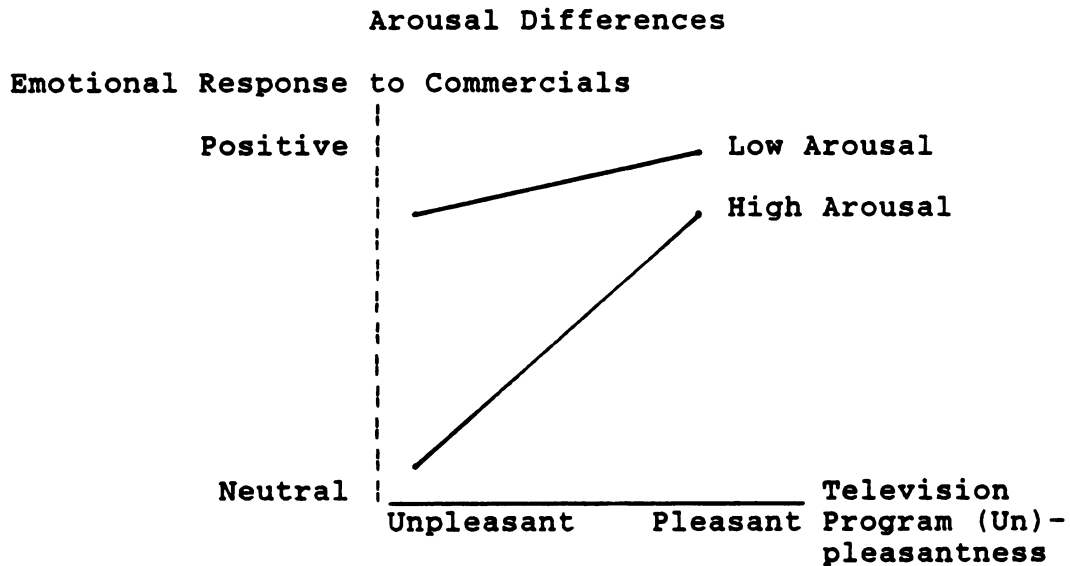


Figure 18

Although there was no gender difference for the effect of the unpleasant program, there was a marginally significant gender difference for the effect of the pleasant program ($t(40) = 1.74, P = .090$). Females found the emotionally neutral commercials more positive, after viewing the pleasant programs than males did (Figure 19). This difference explained the marginally significant main effect of sex.

Gender Differences

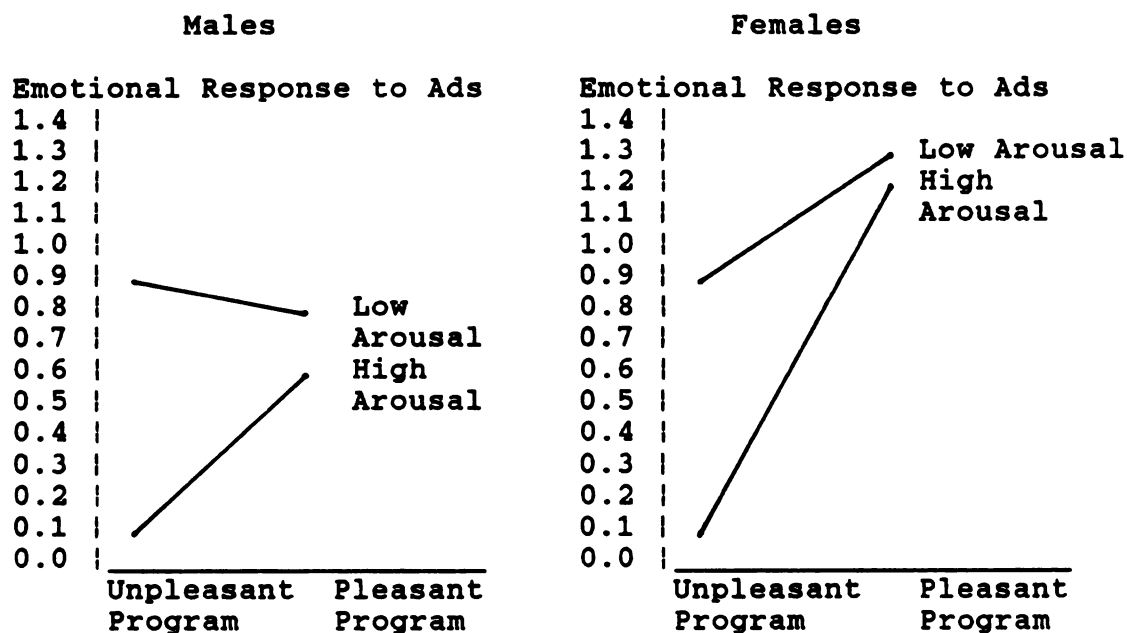


Figure 19

In summary, to be confirmed, hypothesis 1a required that emotionally neutral commercials seen after highly arousing television programs would be viewed as more positive than those same commercials seen after less arousing segments. The results showed that the commercials were seen as less positive in the unpleasant program condition. Within the pleasant program condition, the highly arousing pleasant program had no effect on viewers' emotional response to commercials.

The effects of the highly arousing unpleasant program were not predicted by Hypothesis 1a. However, the effects were

similar to those forecasted by Hypothesis 2a. Hypothesis 2a forecasted that the highly arousing unpleasant program would depress viewers' emotional response to emotionally pleasant commercials. A similar effect could have been predicted for viewers' emotional response to neutral commercials. Thus, the results were consistent with the prediction of Hypothesis 2a when applied to viewers' emotional response to emotionally neutral commercials.

Hypothesis 1a had a second requirement to be confirmed--a two-way interaction of perceived program arousal by commercial position. The interaction would show that viewers' positive response to the emotionally neutral commercials would increase successively by the four commercial positions.

The within-subjects repeated measures ANCOVA showed that program (un)pleasantness interacted with commercial position, however, the interaction was only marginally significant ($p = .106$). There were no other significant effects (Table 16).

Table 16

ANCOVA: Within-Subjects Effects

Source of Variation	F	df	p
Main Effect			
Commercial Position	.405	1	.750
2-Way Interactions			
Program Arousal by Commercial Position	1.775	1	.160
Program (Un)pleasantness by Commercial Position	2.125	1	.105
Sex by Commercial Position	.534	1	.661
3-Way Interactions			
Program Arousal by Program (Un)pleasantness by Commercial Position	.191	1	.902
Program Arousal by Sex by Commercial Position	.360	1	.782
Program (Un)pleasantness by Sex by Commercial Position	1.295	1	.283
4-Way Interaction			
Program Arousal by Program (Un)pleasantness by Sex by Commercial Position	.857	1	.478

Since the two-way interaction of program (un)pleasantness by commercial position was marginally significant, continued evaluation was warranted. Evaluation focused on the unpleasant program condition, since an effect was demonstrated within that condition.

Viewers' mean emotional response to commercials were calculated by commercial position for the highly arousing unpleasant program. Those responses were compared to ones for the low arousal unpleasant program (Table 17). (The

mean emotional response to commercials for the pleasant program condition are presented in Appendix D).

Table 17

Mean Emotional Responses by Time Slot

COMMERCIAL POSITION	FIRST	SECOND	THIRD	FOURTH
<u>PERCEIVED PROGRAM AROUSAL</u>				
HIGH	.12	.40	.58	.31
LOW	.93	.76	.97	.87

Within the highly arousing unpleasant program condition, the mean emotional responses to commercials in the first position was contrasted with the mean emotional responses to commercials in later positions. The pattern of responses was similar to that predicted by hypothesis 1a (Figure 20).

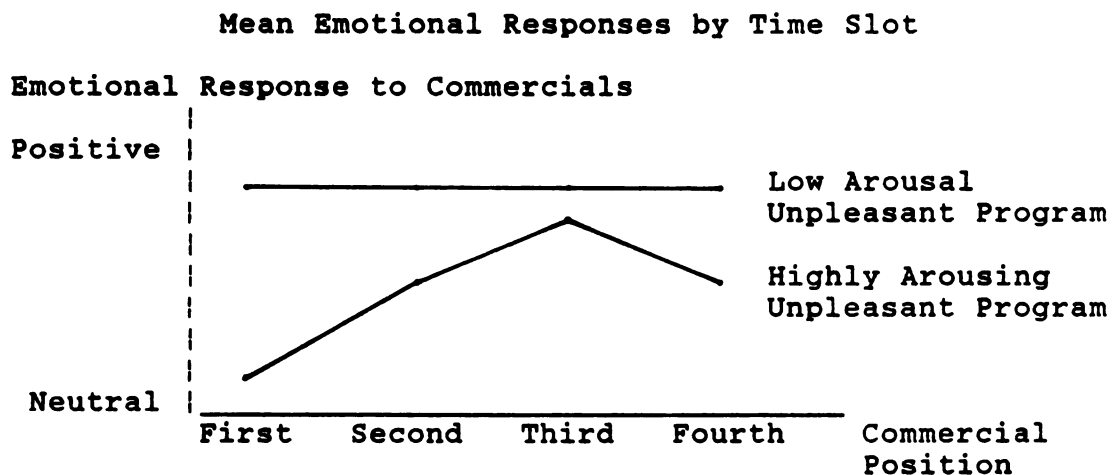


Figure 20

Hypothesis 1a forecasted program arousal would be the cause, but there was a non-significant two-way interaction of program arousal by commercial position ($p = .160$). There was, however, a marginally significant two-way interaction of program (un)pleasantness by commercial position ($p = .105$). Thus, program (un)pleasantness, rather than program arousal, provided an explanation for the pattern of emotional responses for the highly arousing unpleasant program. Therefore, the results were not predicted by Hypothesis 1a.

However, the effects were similar to those predicted by Hypothesis 2b. Hypothesis 2b forecasted that the highly arousing unpleasant program would depress viewers' emotional response to pleasant commercials and that this effect would decay over commercial position. A similar effect could have been predicted for viewers' emotional response to neutral commercials. Thus, the results were consistent with hypothesis 2b when applied to viewers' emotional response to emotionally neutral commercials.

Within the unpleasant program condition, there was a significant difference between the emotional response to commercials appearing in the first position for the highly arousing program and that for the low arousal program

(Table 17: $t(40) = 3.06, p = .004$). Viewers' reaction to the highly arousing unpleasant program depressed their emotional response to the first emotionally neutral commercial.

Within the highly arousing unpleasant program condition, there was a significant difference between the emotional response to commercials appearing in the first position and the third position (Table 17: $t(20) = 2.09, p = .050$). The residual unpleasant reaction to the highly arousing unpleasant program dissipated so that viewers reacted increasingly less negatively to the emotionally neutral commercials. By the time commercials in the third position were viewed, the residual unpleasant reaction to the unpleasant program had decayed so there was no diminution of emotional response. There was no significant difference between viewers' emotional response to commercials appearing in the third position for the highly arousing unpleasant program and that for the low arousal unpleasant program (Table 17: $t(40) = 1.22, p = .230$).

Within the unpleasant program condition, there was a marginally significant difference between the emotional response to commercials appearing in the fourth position for the highly arousing unpleasant program and that for the low arousal unpleasant program (Table 17: $t(40) = 1.98, p$

= .056). However, within the highly arousing unpleasant program condition, the difference between viewers' emotional response to commercials in the first position and the fourth position was not significant-- $t(20) = .84$, $p = .204$). These results could explain the marginally significant two-way interaction of program unpleasantness by commercial position. The marginal significance provided equivocal support for Hypothesis 2b when applied to viewers' emotional response to emotionally neutral commercials.

In summary, program arousal and program unpleasantness acted jointly. While the effects were inconsistent with hypothesis 1a they were consistent with hypotheses 2a and 2b when applied to viewers' emotional response to emotionally neutral commercials. Whereas program arousal had no independent effect, there was a joint effect of program arousal by program unpleasantness on viewers' emotional response to emotionally neutral commercials. Further, while there was no two-way interaction of program arousal by commercial position, there was a marginally significant two-way interaction of program (un)pleasantness by commercial position. Thus, the results of this study supported an assimilation effect rather than the predictions of excitation-transfer theory.

Hypothesis 1b Results

Hypothesis 1b was: the later the commercial appears in a series of four emotionally pleasant commercials, the more the residual arousal, induced by a preceding television program, will influence a viewer's emotional response toward the commercial. Confirmation of this hypothesis would require a main effect for perceived program arousal and a two-way interaction of perceived program arousal by commercial position.

The hypothesis was tested by conducting a repeated measures ANCOVA for the iteration using pleasant commercials. Perceived program arousal, program (un)pleasantness, and sex were the independent factors; the four commercial positions were the repeated measures; and the two components of mood were the covariates. There were two parts to the ANCOVA results. The between-subjects ANCOVA results showed the factors' effect across viewers. The within-subjects ANCOVA results showed the factors' effects across commercial position.

The between-subjects ANCOVA showed that the covariates had a significant effect (Table 18). The (un)pleasantness component of mood was the source of the effect: Beta =

.468, $t = 3.23$, $p = .002$. The expected main effect of perceived program arousal was marginally significant. There were no other significant effects.

Table 18

ANCOVA: Between-Subjects Effects

Source of Variation	F	df	p
Main Effects			
Mood Covariates	9.67	2	<.001
Program Arousal	2.68	1	.106
Program (Un)pleasantness	.02	1	.889
Sex	1.57	1	.215
2-Way Interactions			
Program Arousal by			
Program (Un)pleasantness	.51	1	.478
Program Arousal by Sex	.59	1	.446
Program (Un)pleasantness			
by Sex	.38	1	.538
3-Way Interaction			
Program Arousal by			
Program (Un)pleasantness			
by Sex	.03	1	.872

To be confirmed, hypothesis 1b also required a two-way interaction of perceived program arousal by commercial position. The interaction would show that viewers' positive response to the pleasant commercials would increase successively by the four commercial positions. The within-subjects repeated measures ANCOVA showed no significant effects (Table 19).

Table 19

ANCOVA: Within-Subjects Effects

Source of Variation	F	df	p
Main Effect			
Commercial Position	.407	1	.748
2-Way Interactions			
Program Arousal by Commercial Position	.773	1	.513
Program (Un)pleasantness by Commercial Position	.662	1	.578
Sex by Commercial Position	.558	1	.644
3-Way Interactions			
Program Arousal by Program (Un)pleasantness by Commercial Position	.767	1	.516
Program Arousal by Sex by Commercial Position	.688	1	.563
Program (Un)pleasantness by Sex by Commercial Position	.961	1	.416
4-Way Interaction			
Program Arousal by Program (Un)pleasantness by Sex by Commercial Position	1.873	1	.142

The results did not support hypothesis 1b. That is, program arousal did not affect viewers' emotional response to pleasant commercials. Thus, excitation-transfer theory did not provide an explanation for how television programs affect pleasant commercials. Further, unlike the emotionally neutral commercial iteration, the results were not consistent with hypotheses 2a and 2b.

It may be that more highly arousing programs would have induced the expected effect, since the predicted main

effect was marginally significant. However, it is possible that there was a ceiling effect. The arousal and/or pleasantness induced by the commercials was sufficiently great to override the residual arousal and/or (un)pleasantness induced by the program. The arousal and/or pleasantness evoked by the commercials mitigated the effect of previous stimuli. That is, the arousal and/or pleasantness of the first and subsequent commercials obscured the effect of arousal and/or (un)pleasantness induced by the program.

Hypothesis 2a Results

Hypothesis 2a was: the higher the program arousal, the more program (un)pleasantness will affect the viewer's positive emotional response toward pleasant commercials. Support for the hypothesis would require a two-way interaction of perceived program arousal by program (un)pleasantness. As Table 18 shows, that interaction was not significant.

Although hypothesis 2a was not confirmed when applied to pleasant commercials it was confirmed when applied to emotionally neutral commercials. As Table 14 indicates there was a highly significant two-way interaction of

program arousal by program (un)pleasantness.

The conflict between the presence of effects on emotionally neutral commercials vs. the lack of effects on pleasant commercials buttressed the argument that the pleasant commercials introduced a ceiling effect. The arousal and/or pleasantness evoked by the pleasant commercials was sufficient to override the residual arousal and/or Un)pleasantness induced by the program. However, since there was less arousal and/or pleasantness evoked by the emotionally neutral commercials, the joint effect of residual arousal by unpleasantness induced by the unpleasant program was able to affect viewers' emotional response to commercials.

Hypothesis 2b Results

Hypothesis 2b was: the earlier the pleasant commercial appears in a series of four pleasant commercials, the more program (un)pleasantness will affect the viewer's positive emotional response toward the commercial. Confirmation of this hypothesis would require a two-way interaction of program (un)pleasantness by commercial position. As Table 19 shows, that interaction was not significant.

This hypothesis essentially forecasted that the effect of program (un)pleasantness on emotional response to subsequent commercials would decay over time. The hypothesis presumed the effect predicted by hypothesis 2a would be present. Since that effect did not occur, it could not be expected that this hypothesis would be confirmed.

Although hypothesis 2b was not confirmed when applied to pleasant commercials there was equivocal support for it when applied to emotionally neutral commercials. As Table 16 indicates there was a marginally significant two-way interaction of program (un)pleasantness by commercial position.

It seemed that whatever effects arousing and/or (un)pleasant programs might have on commercials was limited to ads evoking an emotionally neutral response. Apparently, reaction to the pleasant commercials confounded, obscured, or mitigated the perceived arousal and (un)pleasantness generated by the preceding television program.

DISCUSSION

Assimilation Effect

The present study indicated that an assimilation effect rather than excitation-transfer theory explains how television programs affect viewers' emotional response to commercials. That is, a pleasant or unpleasant program activates viewers' memory of past experiences. Those experiences evoke feelings similar to the program. The feelings are available to affect viewers' emotional responses to the program. A residual amount of those feelings are available when viewers see commercials. Thus, the feelings might affect viewers' emotional responses to those commercials.

The results from this study indicated that program arousal and program unpleasantness jointly affected viewers' emotional response to commercials. That joint effect

influenced viewers' emotional response to emotionally neutral commercials but did not influence their emotional response to pleasant commercials.

The findings of the present study did not agree with those from a study by Goldberg and Gorn (1987). In the Goldberg and Gorn study, a happy or sad television program influenced viewers' feelings toward "emotional" commercials but did not influence viewers' feelings toward "informational" ads. To the extent that "informational" commercials are emotionally neutral, the results from the present study contradicted those from the Goldberg and Gorn study.

Whereas the present study indicated programs affected emotionally neutral commercials, Goldberg and Gorn found programs did not affect "informational" commercials. Further, while the present study found programs did not affect pleasant commercials, Goldberg and Gorn demonstrated that programs did influence emotional commercials. That is, the two studies produced diametrically opposite results.

Using an assimilation effect interpretation, Goldberg and Gorn explained their results as follows: "In an informational commercial, the relative absence of stimuli

that evoke personal cues is likely to constrain the number of positive or negative thoughts retrieved that are related to the cues in the commercials, regardless of the motivation to access these cues. With emotional commercials, the greater availability of personal cues in the commercials make it more likely that personal thoughts will be evoked" (1987, p 389).

However, the researchers recognized a reverse hypothesis: "Emotional commercials may be more effective in creating an environment or context of their own, and in so doing could more effectively overcome the mood induced by the program. In contrast, an emotionally neutral, expository, information commercial, with less of an ability to create its own environment or context, might be less able to counteract the mood create by the program context (1987, p. 389).

Both of these explanations appeared equally persuasive. While the Goldberg and Gorn study supported the former explanation, the results from the present study supported the latter.

One possible reason for the discrepant results was that Goldberg and Gorn did not control for viewers' mood prior to seeing the program and commercials. In fact the

researchers conducted a short practice session which included showing respondents a brief program excerpt with two commercials. That session might have induced a mood which could have biased the results obtained. This explanation seemed especially persuasive since, in the present study, the mood covariate was found to significantly affect viewers' emotional response to commercials in both iterations. Thus, what Goldberg and Gorn observed might not have been the effect of the happy and sad program on viewers' emotional response to the commercials but the effect of the viewers' mood, mediated by the programs, on viewers' sad or happy reaction to the commercials. However, the lack of control for mood did not explain the discrepancy in significant findings between the studies.

A more satisfactory explanation was that the two studies might have tested different models. That is, the present study might have transposed Goldberg and Gorn's criterion and predictor variables. The Goldberg and Gorn study might have assessed the effect of program (un)pleasantness on viewers' response to arousing and/or (un)pleasant commercials, whereas the present study assessed the effect of program arousal and program (un)pleasantness on viewers' emotional response to commercials.

Goldberg and Gorn selected informational vs. emotional commercials by pre-testing. In the pre-test, respondents were asked to describe commercials using three measures: "Touches me emotionally (5)" - "Does not touch me emotionally (1)," "Contains product-related information (5)" - "Does not contain product related information (1)," "Deals with feelings (1)" - "Deals with facts (5)." The first and third items seem most relevant in assessing commercial emotionality. Both items might have measured the magnitude of a commercial's emotionality rather than its direction. For example, both a pleasant and an unpleasant commercial could "touch me emotionally." The measure might have prompted respondents to indicate how much the commercials touched them emotionally rather than how pleasant or unpleasant the commercial made them feel.

A similar argument could be made that the third measure also assessed the commercials' magnitude of emotionality rather than their direction. For instance, a happy or a sad commercial "deals with feelings." Respondents might have interpreted the measure as asking how much the commercials dealt with feelings vs. facts rather than how pleasant or unpleasant the commercials made them feel.

The researchers recognized that the commercials might have differed on dimensions other than information and emotion.

They argued, however, "...it would appear that in addition to such 'unique variance' associated with these commercials, there appears to be considerable 'common variance' tapping the information-emotion dimension(s)" (1987, p .392).

In their main study, Goldberg and Gorn did assess respondents' (un)pleasant reaction to the commercials by collecting data on the following dependent measure: "As I watched, this commercial made me feel: sad (1)-happy (5)." Thus, their results indicated how happy and sad programs affected the happiness and sadness of viewers' reactions to commercials. However, because of the pre-testing method, the informational vs. emotional commercials might have varied on arousal as well as (un)pleasantness.

To the extent this interpretation is correct, the two studies might have tested different models. The Goldberg and Gorn study might have assessed the effect of program (un)pleasantness on viewers' response to (un)pleasant and/or arousing commercials, whereas the present study assessed the joint effect of program arousal by program (un)pleasantness on viewers' emotional response to commercials. It is impossible to test this explanation for the conflicting results between the two studies since the present study did not collect measures of commercial

arousal and the Goldberg and Gorn study did not manipulate program arousal.

A considerable body of research (summarized in Figure 1), however, indicates there are at least two dimensions of emotion. Most likely in both studies, programs activated viewers' memories of past experiences. Those experiences elicited feelings similar to those engendered by the programs. Those feelings were available to affect viewers' emotional responses to the program. Those feelings probably were composed of both arousal and (un)pleasantness. A residual amount of both factors were available when viewers saw the commercials. Thus, both factors might have affected viewers' emotional responses to commercials.

It may well be that the difference in results was due to some third variable affecting either or both factors. One possibility is that a variable determining arousal might reconcile the divergent results of the studies. While it was not possible to test such a hypothesis for the Goldberg and Gorn results, it was possible to do so for the results of the present study.

Sources of Program Arousal

Berlyne (1971) argued that three factors determine arousal: psychophysical properties, ecological properties, and collative properties. Martindale (1981) concluded that research testing Berlyne's contention supported the theory.

Psychophysical arousal can be induced by the intensity of the stimulus. Psychophysical arousal could be due to physical characteristics of a stimulus or to a stimulus internal to the individual. Examples of stimuli evoking external psychophysical arousal are loud sounds or bright colors; examples of stimuli eliciting internal psychophysical arousal are drives such as sex or hunger.

Ecological arousal can be evoked by a stimulus having meaning to a person. The meaningfulness of the stimulus could be instinctive or learned. For example, a stimulus which instinctively induced arousal might be one which evokes a startle response; a stimulus which generated learned arousal would be one eliciting fear.

Collative arousal involves comparison to expectations. Such comparisons could yield outcomes which are unknown, unexpected, or, have multiple expectations. A stimulus which produced suspense or novelty is an example of arousal

evoked by an unexpected outcome; a stimulus which generated ambiguity or complexity is an instance of arousal elicited by multiple expectations.

Based on Berlyne's categorization, it could be argued that the highly arousing unpleasant program in the present study generated high perceived arousal due to its psychophysical, ecological, and collative properties. The program was intense in that it depicted a hitchhiker threatening to kill a young man with a knife (a psychophysical property). It was about a person who was the same age as the viewers. Therefore, it might be seen as relevant to the audience (an ecological property). The segment ended before the viewers knew the outcome. Thus, it may have produced suspense (a collative property). Hence, it might be expected that all three properties would explain the viewers' perceived arousal by the program.

The highly arousing pleasant program also seemed to have multiple sources of arousal. The program was a ribald account of Buddy Hackett's experience skiing. The account included ethnic humor. The program might appeal to the sex drive, (a psychophysical property), it might have relied on empathy with skiers (an ecological property), and it used unexpected outcomes to generate comedy (a collative property). Therefore, it might be expected that all three

properties would explain the viewers' perceived arousal by the program.

To test these predictions, analyses compared the two programs for their source(s) of arousal. Measures for all three of Berlyne's determinants of arousal were included in the questionnaire. While the measures were incorporated to enhance credibility of the research ruse among viewers, they also provided additional data on which to evaluate the programs.

The psychophysical property of arousal was operationalized as intensity. The ecological property of arousal was operationalized as involvement. The collative property of arousal was operationalized as suspense.

Two measures were constructed with words selected from Webster's Collegiate Thesaurus (1976). The words were synonyms for intensity and suspense. The selection yielded four words for intensity: drastic, excessive, extreme, and intense; and, four words for suspense: astonishing, astounding, shocking, and startling. Five items from Zaichkowsky's (1985) involvement scale were selected for the involvement factor: appealing, beneficial, desirable, significant, and worthwhile. The entire 20 items from the involvement scale were not included to reduce respondent

fatigue in filling out the study's questionnaire (the questionnaire required 118 responses).

Reliability analyses were conducted on each measure for every program by sex. Cronbach's alpha was calculated (Table 20). The results should be viewed with caution since the sample size by sex for each measure was only ten. An acceptable alpha was obtained for both the 4-item suspense measure and, for a 3-item involvement measure. Mean values of each measure were used in subsequent analyses.

Table 20

Reliability for Determinants of Program Arousal

	<u>Involvement</u> (alpha)	<u>Suspense</u> (alpha)
Highly Arousing Pleasant Program:		
Males	.81	.87
Females	.66	.95
Low Arousal Pleasant Program		
Males	.93	.85
Females	.87	.93
Highly Arousing Unpleasant Program		
Males	.93	.84
Females	.93	.79
Low Arousal Unpleasant Program		
Males	.88	.96
Females	.83	.89

Cronbach's alpha for the 4-item intensity measure ranged from .67 to .77, depending upon the program and sex. Factor analysis of the four items indicated that the lower reliability might have been because there were two dimensions, with two words loading on each dimension. Thus, it was decided to include the four words individually in subsequent analyses.

Within each program condition, t-tests were conducted on every hypothesized source of program arousal, contrasting the mean score for the highly arousing program with the mean score for the low arousal program. Within the unpleasant program condition, viewers saw the highly arousing program as more involving, suspenseful, extreme, intense, drastic, and excessive than the low arousal program (Tables 21, 22, and 23). Within the pleasant program condition, viewers saw the highly arousing program as more suspenseful, extreme, intense, drastic, and excessive than the low arousal program.

Thus, there was only one difference between the two conditions. Viewers saw the highly arousing unpleasant program as more involving than the low arousal unpleasant program but they did not see the highly arousing pleasant as more involving than the low arousal pleasant program. These results seemed to suggest that when a program's

ecological properties (such as its involvement) aroused viewers, those properties affected viewers' emotional response to emotionally neutral commercials.

Table 21

How Involving and Suspenseful Viewers Saw the Programs

	Involvement		Suspense	
	<u>Pleasant Program</u>	<u>Unpleasant Program</u>	<u>Pleasant Program</u>	<u>Unpleasant Program</u>
High*	2.117	2.05	1.512	2.275
Low*	1.550	.75	.612	.775
t (40)	1.82	4.61	3.24	5.55
p	.077	<.001	.003	<.001

*scale categories ranged from 0 (not) to 4 (extremely)

Table 22

How Extreme and Intense Viewers Saw the Programs

	Extreme		Intensity	
	<u>Pleasant Program</u>	<u>Unpleasant Program</u>	<u>Pleasant Program</u>	<u>Unpleasant Program</u>
High*	1.95	2.30	1.35	3.00
Low*	1.10	1.10	.55	1.25
t (40)	2.60	3.79	2.78	5.55
p	.013	.001	.008	<.001

*scale categories ranged from 0 (not) to 4 (extremely)

Table 23

How Drastic and Excessive Viewers Saw the Programs

	Drastic		Excessive	
	<u>Pleasant Program</u>	<u>Unpleasant Program</u>	<u>Pleasant Program</u>	<u>Unpleasant Program</u>
High*	1.50	2.25	1.50	1.55
Low*	.60	.75	.65	.85
t (40)	2.85	5.05	3.16	2.07
p	.007	<.001	.003	.045

*scale categories ranged from 0 (not) to 4 (extremely)

To determine if viewers' involvement in the program differed by gender, the results were calculated by sex (Table 24). Those results indicated that, within both the pleasant and unpleasant program conditions, male viewers were more involved in the highly arousing programs than they were in the low arousal programs. However, only within the unpleasant program condition were female viewers more involved in the highly arousing program than they were in the low arousal program. Thus, viewers' involvement in the programs differed by sex across program conditions.

Table 24

How Involving Viewers Saw the Program by Sex

	Pleasant Program		Unpleasant Program	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
High	2.67	1.57	2.37	1.73
Low	1.30	1.80	1.03	.47
t (20)	3.30	.59	3.36	3.41
p	.005	.564	.004	.005

It appeared that only female viewers' involvement in the program affected emotional response to the emotionally neutral commercials. Thus, it seemed that both the source of program arousal and the sex of the viewer might influence the ability of television programs to affect emotional response to emotionally neutral commercials. This conclusion must be considered quite tentative, however. The hypothesized sources of arousal were not manipulated experimentally. Further, viewer sex was not manipulated independently of arousal sources.

The results did suggest that the sources of program arousal might explain the different effects on viewers' emotional responses to emotionally neutral vs. emotionally positive commercials. At the same time, it might also explain the discrepancy in results between the present study and the study by Goldberg and Gorn. That is, certain sources of

program arousal affect viewers' emotional response to emotionally neutral commercials while other sources of program arousal affect viewers' emotional response to emotionally positive commercials. This line of inquiry seems fruitful for future research.

Diminution of Assimilation Effect

There was equivocal support for a transfer of program (un)pleasantness onto viewers' emotional response to a series of commercials. The highly arousing unpleasant program decreased viewers' emotional response to subsequent commercials. That depressed emotional response dissipated with each succeeding commercial.

This study found two time phases in transferring the effect. The first phase started immediately after termination of the highly arousing unpleasant television program segment. During this phase, viewers experienced an unpleasant reaction to the program due to the combined effects of perceived program arousal and program unpleasantness. So their emotional response to the first emotionally neutral commercial was depressed. The second phase started with commercials in the second position. During the second phase, the unpleasant reaction to the

program dissipated so viewers reacted increasingly more positively to the emotionally neutral commercials in the second and third positions. By the time the third commercials were viewed, the residual unpleasant reaction to the unpleasant program had decayed so there was no diminution of emotional response.

Gender Differences

Viewers' reactions to some programs and commercials appeared to differ by gender in the neutral commercial iteration of the research. Female viewers were more involved in the highly arousing unpleasant program than they were in the low arousal unpleasant program. However, there was no difference in their level of involvement between the highly arousing pleasant program and the low arousal pleasant program. Within the unpleasant program condition, female viewers' higher level of involvement may have helped transfer their emotional reactions from the highly arousing program to the emotionally neutral commercials.

Within the pleasant program condition, after seeing the low arousal program, female viewers had a more positive emotional response to the emotionally neutral commercials

than male viewers did. Yet, female viewers' emotional responses were similar to those of male viewers for the other three program conditions. The cause of this different response by gender would appear to be a fruitful area for future theorizing and research.

Limited Applicability of Excitation-transfer Theory

The results provided no support for excitation-transfer theory and its application to television programming. Although excitation-transfer theory predicts that arousal induced by a television program affects viewers' emotional response to subsequent commercials, the findings from the present study demonstrated that a combination of arousal and unpleasantness evoked by the program affected viewers' emotional response to emotionally neutral commercials. It was not program arousal alone, as forecasted by excitation-transfer theory. Further, excitation-transfer theory predicts that arousal induced by a television program will magnify viewers' emotional response to subsequent commercials. The results from the present study indicated that the highly arousing unpleasant program decreased viewers' emotional response to subsequent commercials. This effect was the opposite of that predicted by excitation-transfer theory.

Excitation-transfer theory stipulates that arousal evoked by a stimulus affects emotional response to subsequent stimuli only after the viewer is no longer aware that the perceived arousal was induced by the previous stimulus. Thus, it was possible that in this study there was insufficient time for perceived program arousal to subside before viewers were exposed to the commercials. This interpretation seemed plausible since, unlike other studies of excitation-transfer theory (e.g., Mattes and Cantor 1982), this study provided no delay between exposing viewers to the program and exposing them to the commercials. However, in the present study television programs were likely to have been less arousing than those used by Mattes and Cantor. The present study used humor rather than erotica to manipulate the highly arousing pleasant program condition. Further, this study used threats of violence rather than bloody murders to manipulate the highly arousing unpleasant program condition. Therefore, it was expected that the highly arousing programs used in this study would be less arousing than those used in previous research. As a result, the anticipated enhanced emotional response to commercials would occur earlier than it had in previous studies.

Even if the anticipated effect did not occur earlier, the

results still did not support excitation-transfer theory. Residual program arousal had no significant effect on viewers' emotional response to emotionally neutral commercials. Program arousal did interact with program unpleasantness to affect viewers' emotional responses. However, the joint effect was opposite to that predicted by the theory. The interaction depressed viewers' emotional responses rather than enhancing those responses.

Even though the results indicated both program arousal and program unpleasantness affected viewers' emotional response to emotionally neutral commercials, the findings did not justify extending the theory to explicate how television programs affect pleasant commercials.

It is possible that more arousing television programs might have produced the expected effect on (un)pleasant commercials. However, it might be that pleasant or unpleasant commercials generate a combination of arousal and (un)pleasantness which offsets or negates the effect of the television programs.

The study indicated, however, the effect on emotionally neutral commercials would be limited to unpleasant programs. The results indicated the pleasant television program did not affect viewers' emotional reaction to

emotionally neutral commercials.

Excitation-transfer Theory Underspecification

The lack of an effect for the highly arousing pleasant program seemed to contradict prior research supporting excitation-transfer theory. One explanation was that excitation-transfer theory is under-specified. That is, arousal, evoked by some sources, affects emotional response to subsequent stimuli as predicted by the theory whereas arousal, elicited by other sources, does not. A determinant of arousal might be needed to explain which type of programs produce the predicted effect. Berlyne's categorization of the properties of arousal might resolve the under-specification.

Classifying previous excitation-transfer research results according to Berlyne's categorization of sources of arousal indicated that only psychophysical properties of arousal might have been manipulated. Mattes and Cantor (1982) employed films of erotica and depictions of bloody afterbirth to manipulate high arousal. Cantor and Zillmann (1973) as well as Zillmann, Mody, and Cantor (1974) used the same erotic film and a film showing a murder in both experiments to induce high arousal. Cantor, Zillmann, and

Bryant (1975) used an erotic film and a film showing torture and mutilation to elicit arousal. Thus, these four studies used films involving erotica and bloody depictions to evoke arousal. Erotica appears to exploit the sex drive and bloody scenes seem to rely upon graphic displays to elicit arousal. Therefore, it appeared that prior studies used psychophysical arousal for their induction.

To the extent that this conclusion is accurate, it appeared excitation-transfer theory has been tested using only one of three sources of arousal. Thus, excitation-transfer theory might be under-specified. Perhaps it is more accurate to hypothesize that psychophysical arousal affects emotional response to subsequent stimuli. Applied to a television programming context, excitation-transfer theory would predict that television programs inducing psychophysical arousal affect viewers' emotional response to subsequent commercials.

Managerial Implications

The results from the present study indicated that viewers transfer a combination of the residual arousal and (un)pleasantness engendered by a television program to their emotional reaction to emotionally neutral

commercials. That joint effect alters their emotional response to those commercials.

Considering the joint effect, advertisers might wish to specify the position for their emotionally neutral commercials in a pod of emotionally neutral commercials as a way to affect emotional response. This research indicated the third position in a pod of four commercials would minimize emotional decrement by an unpleasant television program to the commercial.

Some advertisers avoid placing their commercials in unpleasant television programs (Advertising Age 1980). The findings from this study provided justification to those advertisers. This research indicated that a transfer of the unpleasant reaction from the program to subsequent commercials does occur. This transfer affected commercials not only in the first position but also to a lesser extent those in the second position.

The results of this study showed that the joint effect of program arousal by program unpleasantness did not affect emotional response to pleasant commercials. This finding suggests that advertisers who avoid placing their pleasant commercials in unpleasant programs might be restricting placement unnecessarily. If their goal is to reduce the

unpleasant reaction to those commercials which the programs might generate, this research indicated such a transfer does not occur, or, that viewers' positive emotional response to pleasant commercials is sufficiently strong to overcome any transfer effect that does occur.

Conversely, advertisers who seek out pleasant television programs as a means of enhancing emotional response to their pleasant commercials might not be getting the incremental increase anticipated. The results from this study indicated emotional (in)compatibility between television program and commercials provided neither counteraction nor synergy of emotional response to pleasant commercials.

The results of this study contradicted the findings of Goldberg and Gorn. Those researchers found that program (un)pleasantness did affect viewers' emotional response to emotional commercials but not informational ones. It was suggested that various sources of program arousal might differentially affect viewers' emotional responses to disparate types of commercials. Therefore, until the contradiction is resolved, advertisers might be well advised to test the emotional compatibility of their commercials and programs rather than adopt a policy of avoiding unpleasant programs or seeking out pleasant ones.

The results from the present study, when combined with Berlyne's sources of arousal, tended to suggest several strategies for advertisers in enhancing viewer emotional response to commercials. However, since there is a joint effect of arousal by (un)pleasantness, it would be important for advertisers to determine that any increased arousal evokes positive, rather than negative, emotional responses. Berlyne's sources of arousal suggest advertisers might improve the arousal potential of their commercials through increased intensity, involvement, or suspense. For example, those advertisers who increase the sound level of the audio track on commercials might heighten viewer arousal. However, that magnified arousal might engender a negative rather than a positive emotional response. Viewers might perceive that the higher sound level was intended to increase their attention to or arousal by the commercial. This perception might cause them to react negatively.

Advertisers seem to have intuitively grasped the arousal potential of intensifying their commercials. For instance, music and rapid scene changes seem to be means of magnifying the intensity of a commercial. Advertisers have attempted to increase viewer involvement as a means of improving commercial effectiveness. Attempts to

incorporate relevant product benefits has been one means which might have increased arousal by commercials. One source which advertisers might investigate further is suspense. For example, in the typical problem-solution commercial format there appears to be little arousal created. The product typically is the solution. Viewers' emotional response to such commercials might be heightened if an unexpected solution were offered.

Advertisers might wish to consider how the ad's position in a pod affects measures of commercial effectiveness (Yuspeh 1980). This research did not address how altered emotional response to an emotionally neutral commercial, obtained by positioning the commercial after a highly arousing unpleasant television program, affected (if at all) attitudes toward the commercial, purchase intent, or sales. Thus, guidance to advertisers is lacking. Pending results of research into the effects of altered emotional response on commercial effectiveness, this study suggested that counterbalancing emotionally neutral commercials by the time slot in which the commercials are viewed would be a prudent strategy when evaluating commercials.

Limitation of the Research

Probably the greatest limitation of the research was that only one program manipulated each condition. Thus, it was possible that the relationship between the joint effect of perceived program arousal and program (un)pleasantness with viewers' emotional response to the commercials was spurious. That is, another variable caused the joint effect of program arousal and program (un)pleasantness to covary with the emotional reaction to the commercials. There is some indication of another variable affecting the results as evidenced by the marginally significant main effect of sex. Further, it was shown that within the unpleasant program condition the programs differed on how involving they were to female viewers. It might be useful to manipulate sources of program arousal as well as levels of program arousal to determine the effect on viewers' emotional response to subsequent commercials.

Future Research

As implied by the limitation noted above, the first and most important research needed is replication of the experiment using alternate sources of arousal for the highly arousing television programs. Such research would

help resolve the divergent results between the present study and the Goldberg and Gorn study. For example, employing programs which vary arousal along the dimensions of intensity, involvement, and suspense would attempt to determine what sources of arousal facilitate transferring the effect of a program to viewers' response to commercials. Coincident with this research would be the need to develop reliable scales measuring Berlyne's determinants of arousal.

Contextual effects need not be limited to those of the program on subsequent commercials. For example, it is probable that commercials in a pod affect each other. Further, it is probable that there is a transfer of emotional response from the commercial to viewers' emotional response to the product advertised in the commercial. Varying the sources of commercial arousal along the dimensions of intensity, involvement, and suspense would seem to be a useful line of inquiry.

Another research thrust would be to conduct validation studies on the measures of arousal and (un)pleasantness developed in the present research. These measures would be crucial to the previous suggestion for future research. Further, validation of the measures would be useful for research into other aspects of emotion.

Summary

The present study indicated that an assimilation effect rather than excitation-transfer theory explains how television programs affect viewers' emotional response to commercials. That is, a pleasant or unpleasant program activates viewers' memory of past experiences. Those experiences evoke feelings similar to the program. The feelings affect viewers' emotional responses to the program. A residual amount of those feelings also are available to affect viewers' emotional responses to commercials.

The results from this study indicated that program arousal and program unpleasantness jointly affected viewers' emotional response to commercials. The joint effect influenced viewers' emotional response to emotionally neutral commercials but did not influence their emotional response to pleasant commercials.

The findings of the present study did not agree with those from a study by Goldberg and Gorn (1987). In that study, a happy or sad television program influenced viewers' feelings toward "emotional" commercials but did not

influence viewers' feelings toward "informational" ads. To the extent that "informational" commercials are emotionally neutral, the results from the present study contradicted those from the Goldberg and Gorn study.

The results from the present study suggested that manipulating the sources of program arousal might explain the different effects on viewers' emotional responses to emotionally neutral vs. emotionally positive commercials. At the same time, it might also explain the discrepancy in results between the present study and the study by Goldberg and Gorn. That is, certain sources of program arousal affect viewers' emotional response to emotionally neutral commercials while other sources of program arousal affect viewers' emotional response to emotionally positive commercials.

There was equivocal support for a transfer of program (un)pleasantness onto viewers' emotional response to a series of commercials. The highly arousing unpleasant program decreased viewers' emotional response to subsequent commercials. That depressed emotional response dissipated with each succeeding commercial.

Viewers' reactions to some programs and commercials appeared to differ by gender in the neutral commercial

iteration of the research. The cause(s) of the different responses would appear to be a fruitful area for future theorizing and research.

The results provided no support for excitation-transfer theory and its application to television programming. Although excitation-transfer theory predicts that arousal induced by a television program affects viewers' emotional response to subsequent commercials, the findings from this research did not demonstrate that program arousal alone affected viewers' emotional response to commercials.

Excitation-transfer theory might be under-specified in its application to television commercials. It appeared that prior studies of excitation-transfer theory used only psychophysical sources to induce arousal by a program. Thus, the theory might be limited to explaining how psychophysical sources of program arousal affect viewers' emotional response to commercials.

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APPENDICES

APPENDIX A

DEPARTMENTAL RESEARCH CONSENT FORM

With regard to my participation in research:

1. I understand that when I sign up for a given study I am indicating my sincere intent to participate in that study. I agree to sign up for a study ONLY WHEN I FULLY INTEND TO PARTICIPATE.
2. I understand the procedures by which my participation will count for some form of credit in the class listed below.
3. I understand that any credit I may earn via participation in research is not transferable to another class or another term.
4. I understand that, apart from my participation in a given study, my actual performance in that study will in no way affect my evaluation in a given course.
5. I understand that my participation in a study does not guarantee any beneficial results to me other than credit for participation.
6. I understand some of the television program segments I might see includes scenes which some people might consider obscene or violent. I understand I have the right not to participate in the study, or, withdraw from the study at any time without penalty.
7. I understand that I have the right to have any study in which I participate explained to me to my satisfaction after I have participated.
8. I understand that the results of a given study will be treated in strict confidence with regard to the data on any given participant. Within this restriction, I understand that the results will be made available to me at my request.
9. I understand that the data I provide a researcher as a result of my participation in a given study may be used by other scientists for secondary analysis. Again data will be treated with the strictest confidence.
10. I understand that my volunteering to participate is, in and of itself, part of a larger research project concerning the effects of participation on students.

11. I understand that should I have any questions, problems, complaints, or if I desire further information, I have the right to contact the Research Coordinator.

Given these understandings, I have freely consented to participate in scientific research being conducted during this term.

Signed _____
Date _____
Name (print) _____
Student Number _____
Class _____
Section _____
Time Class meets _____
Teaching Assistant's name _____

APPENDIX B

Questionnaire

TELEVISION PROGRAM EVALUATION STUDY

A local television station is trying to decide which programs to rerun next summer. The purpose of this study is to help the station make its decision. The station would like your reaction to a program it is considering for the summer schedule. You will be shown a segment of the program (including the commercials that were aired when the program was broadcast originally). After seeing the programming you will be asked some questions. Please record your answers on scales. There are three types of scales.

The first type of scale measures how much or how little you had a particular feeling. If the program as a whole gave you a certain feeling extremely strongly, please place a mark on the scale as follows:

Not Active : : : : : : X Extremely Active
 (0) (1) (2) (3) (4) (5) (6)

If the program as a whole gave you a certain feeling but the feeling was not extreme, please place a mark on the scale above the number indicating how strongly you had the feeling:

Not Active : : : : : : Extremely Active
 (0) (1) (2) (3) (4) (5) (6)

If the program as a whole did not give you a particular feeling, please place a mark on the scale as follows:

Not Active X : : : : : : Extremely Active
 (0) (1) (2) (3) (4) (5) (6)

On the second type of scale, if the program as a whole gave you a feeling extremely strongly, please place a mark on the scale as follows:

				<u> X </u>
Not	Slightly	Moderately	Quite	Extremely
Pleased	Pleased	Pleased	Pleased	Pleased
(0)	(1)	(2)	(3)	(4)

If the program as a whole gave you a certain feeling but the feeling was not extreme, please place a mark on the scale above the word indicating how strongly you had that feeling:

Not Pleased (0)	Slightly Pleased (1)	Moderately Pleased (2)	Quite Pleased (3)	Extremely Pleased (4)
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If the program as a whole did not give you a certain feeling, please place a mark on the scale as follows:

<u>X</u>	<u></u>	<u></u>	<u></u>	<u></u>
Not Pleased (0)	Slightly Pleased (1)	Moderately Pleased (2)	Quite Pleased (3)	Extremely Pleased (4)

The third type of scale measures how much the TV program made you feel one way or another. If the program as a whole gave you a certain feeling extremely strongly, please place a mark on the scale as follows:

Extremely **Extremely**
Negative X: : : : : : : : **Positive**
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

OR

Extremely Negative _____:_____:_____:_____:_____:_____:_____:_____ X _____:_____ Positive
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

If the program as a whole gave you a certain feeling but the feeling was not extreme, please place a mark on the scale above the number indicating how much or how little you had that feeling:

Extremely Bad _____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Good
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

If the program as a whole did not give you a certain feeling, please place a mark on the scale as follows:

Extremely Sad

 : : : : X : : : :

(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Extremely Happy

Important:

- . Be sure to mark every scale; do not omit any
- . Put one mark on a scale; do not put more than one mark on a single scale

STOP

Please DO NOT turn the page until requested to do so.

_____ (1-3)
 1 (4)
 _____ (5-6)
 _____ (7)
 _____ (8)

BEFORE STARTING

Before you see the television program please tell us how you feel. Please place a mark on each scale which best indicates how much you agree or disagree with each statement.

Currently, I am in a good mood.

_____ (9)				
Strongly	Disagree	Neutral	Agree	Strongly
Disagree	(-1)	(0)	(+1)	Agree
(-2)				(+2)

As I answer these questions I feel very cheerful.

_____ (10)				
Strongly	Disagree	Neutral	Agree	Strongly
Disagree	(-1)	(0)	(+1)	Agree
(-2)				(+2)

For some reason I am not very comfortable right now.

_____ (11)				
Strongly	Disagree	Neutral	Agree	Strongly
Disagree	(-1)	(0)	(+1)	Agree
(-2)				(+2)

At this moment, I feel "edgy" or irritable.

<u>Strongly</u> Disagree (-2)	<u>Disagree</u> (-1)	<u>Neutral</u> (0)	<u>Agree</u> (+1)	<u>Strongly</u> Agree (+2)	(12)
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Presently, I feel:

Not Active	____:____:____:____:____:____:____	Extremely Active	(13)
	(0) (1) (2) (3) (4) (5) (6)		

Not Excited	____:____:____:____:____:____:____	Extremely Excited	(14)
	(0) (1) (2) (3) (4) (5) (6)		

Not Stimulated	____:____:____:____:____:____:____	Extremely Stimulated	(15)
	(0) (1) (2) (3) (4) (5) (6)		

Not Lively	____:____:____:____:____:____:____	Extremely Lively	(16)
	(0) (1) (2) (3) (4) (5) (6)		

Not Activated	____:____:____:____:____:____:____	Extremely Activated	(17)
	(0) (1) (2) (3) (4) (5) (6)		

At this time I feel:

Extremely Negative	____:____:____:____:____:____:____:____:____	Extremely Positive	(18)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Bad	____:____:____:____:____:____:____:____:____	Extremely Good	(19)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Awful	____:____:____:____:____:____:____:____:____	Extremely Nice	(20)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Sad	____:____:____:____:____:____:____:____:____	Extremely Happy	(21)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Unpleasant	____:____:____:____:____:____:____:____:____	Extremely Pleasant	(22)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Cold _____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Warm (23)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

STOP

Please DO NOT turn the page until requested to do so.

We would like you to tell us how the program made you feel.
We are interested in your reactions to the program, not
how you would describe it.

Did the TV program as a whole make you feel:

Not Active : : : : : : Extremely Active
(0) (1) (2) (3) (4) (5) (6) (24)

Not Excited : : : : : : Extremely Excited
(0) (1) (2) (3) (4) (5) (6) (25)

Not Stimulated : : : : : : Extremely Stimulated
(0) (1) (2) (3) (4) (5) (6) (26)

Not Lively : : : : : : Extremely Lively
(0) (1) (2) (3) (4) (5) (6) (27)

Not Activated : : : : : : Extremely Activated
(0) (1) (2) (3) (4) (5) (6) (28)

Before continuing to ask you questions about the program we
have a few questions about the commercials you saw.
Briefly describe the first commercial. (29)

Have you seen this commercial before?

 No Yes If yes, about how many time have you
(0) seen this commercial? time(s) (30-31)
()

Did the first commercial as a whole make you feel:

Extremely Negative _____:_____:(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) Extremely Positive (32)

Extremely Bad _____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Good
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) (33)

Extremely _____ **Extremely**
Awful (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) **Nice**

Extremely Sad _____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Happy (35)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Extremely Unpleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ **Extremely Pleasant**

(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) (36)

Extremely Cold _____:_____:_____:_____:_____:_____:_____:_____ Warm (37)

Did the first commercial as a whole make you feel:

<u>Not</u> Pleased (0)	<u>Slightly</u> Pleased (1)	<u>Moderately</u> Pleased (2)	<u>Quite</u> Pleased (3)	<u>Extremely</u> Pleased (4)	(38)
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Not Delighted (0)	Slightly Delighted (1)	Moderately Delighted (2)	Quite Delighted (3)	Extremely Delighted (4)

(39)

					(40)
<u>Not</u>	<u>Slightly</u>	<u>Moderately</u>	<u>Quite</u>	<u>Extremely</u>	
Joyous	Joyous	Joyous	Joyous	Joyous	
(0)	(1)	(2)	(3)	(4)	

Not Cheerful (0)	Slightly Cheerful (1)	Moderately Cheerful (2)	Quite Cheerful (3)	Extremely Cheerful (4)

(41)

<u>Not Enjoying (0)</u>	<u>Slightly Enjoying (1)</u>	<u>Moderately Enjoying (2)</u>	<u>Quite Enjoying (3)</u>	<u>Extremely Enjoying (4)</u>	(42)
<u>Not Glad (0)</u>	<u>Slightly Glad (1)</u>	<u>Moderately Glad (2)</u>	<u>Quite Glad (3)</u>	<u>Extremely Glad (4)</u>	(43)
<u>Not Jolly (0)</u>	<u>Slightly Jolly (1)</u>	<u>Moderately Jolly (2)</u>	<u>Quite Jolly (3)</u>	<u>Extremely Jolly (4)</u>	(44)

Briefly describe the second commercial. (45)

Have you seen this commercial before?

[illegible]

Did the second commercial as a whole make you feel:

Extremely Negative _____:_____:(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) _____ Extremely Positive (48)

Extremely Bad _____:_____:(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) _____ Extremely Good (49)

Extremely Awful _____:_____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Nice (50)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Extremely Sad _____:_____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Happy (51)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Extremely Unpleasant _____:_____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Pleasant (52)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Extremely Cold _____:_____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely Warm (53)
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Did the second commercial as a whole make you feel:

 Not Slightly Moderately Quite Extremely
 Pleased Pleased Pleased Pleased Pleased (54)
 (0) (1) (2) (3) (4)

 Not Slightly Moderately Quite Extremely
 Delighted Delighted Delighted Delighted Delighted (55)
 (0) (1) (2) (3) (4)

 Not Slightly Moderately Quite Extremely
 Joyous Joyous Joyous Joyous Joyous (56)
 (0) (1) (2) (3) (4)

 Not Slightly Moderately Quite Extremely
 Cheerful Cheerful Cheerful Cheerful Cheerful (57)
 (0) (1) (2) (3) (4)

 Not Slightly Moderately Quite Extremely
 Enjoying Enjoying Enjoying Enjoying Enjoying (58)
 (0) (1) (2) (3) (4)

 Not Slightly Moderately Quite Extremely
 Glad Glad Glad Glad Glad (59)
 (0) (1) (2) (3) (4)

_____ Not Jolly (0)	_____ Slightly Jolly (1)	_____ Moderately Jolly (2)	_____ Quite Jolly (3)	_____ Extremely Jolly (4)	(60)
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Please describe briefly the third commercial. (61)

Have you seen this commercial before?

_____ (0)	No	_____ (0)	Yes	If yes, about how many time have you seen this commercial?	_____ ()	time(s) (62-63)
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Did the third commercial as a whole make you feel:

Extremely Negative	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Positive	(64)
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Extremely Bad	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Good	(65)
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Extremely Awful	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Nice	(66)
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Extremely Sad	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Happy	(67)
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Extremely Unpleasant	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Pleasant	(68)
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Extremely Cold	____:____:____:____:____:____:____:____:____ (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)	Extremely Warm	(69)
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Did the third commercial as a whole make you feel:

<u>Not</u> Pleased (0)	<u>Slightly</u> Pleased (1)	<u>Moderately</u> Pleased (2)	<u>Quite</u> Pleased (3)	<u>Extremely</u> Pleased (4)	(70)
<u>Not</u> Delighted (0)	<u>Slightly</u> Delighted (1)	<u>Moderately</u> Delighted (2)	<u>Quite</u> Delighted (3)	<u>Extremely</u> Delighted (4)	(71)
<u>Not</u> Joyous (0)	<u>Slightly</u> Joyous (1)	<u>Moderately</u> Joyous (2)	<u>Quite</u> Joyous (3)	<u>Extremely</u> Joyous (4)	(72)
<u>Not</u> Cheerful (0)	<u>Slightly</u> Cheerful (1)	<u>Moderately</u> Cheerful (2)	<u>Quite</u> Cheerful (3)	<u>Extremely</u> Cheerful (4)	(73)
<u>Not</u> Enjoying (0)	<u>Slightly</u> Enjoying (1)	<u>Moderately</u> Enjoying (2)	<u>Quite</u> Enjoying (3)	<u>Extremely</u> Enjoying (4)	(74)
<u>Not</u> Glad (0)	<u>Slightly</u> Glad (1)	<u>Moderately</u> Glad (2)	<u>Quite</u> Glad (3)	<u>Extremely</u> Glad (4)	(75)
<u>Not</u> Jolly (0)	<u>Slightly</u> Jolly (1)	<u>Moderately</u> Jolly (2)	<u>Quite</u> Jolly (3)	<u>Extremely</u> Jolly (4)	(76)

2 (1)

Briefly describe the fourth commercial. (2)

Have you seen this commercial before?

 No Yes If yes, about how many time have you
(0) seen this commercial? time(s) (3-4)
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Did the fourth commercial as a whole make you feel:

Extremely Negative _____:_____:(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) _____Extremely Positive (5)

Extremely Bad _____:_____:_____:_____:_____:(0)_____:(+1)_____:(+2)_____:(+3)_____:(+4) _____Extremely Good (6)

Extremely
Awful _____:_____:_____:_____:_____:_____:_____:_____:_____ Extremely
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) Nice (7)

Extremely Sad _____:_____:_____:_____:_____:(+)_____:(+)_____:(+)_____:(+)_____Extremely Happy (8)

Extremely Unpleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____
 (-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4) **Extremely Pleasant**

Extremely Cold _____:_____:_____:_____:_____:_____:_____:_____:_____ Warm (10)
(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)

Did the fourth commercial as a whole make you feel:

Not Pleased (0)	Slightly Pleased (1)	Moderately Pleased (2)	Quite Pleased (3)	Extremely Pleased (4)

(11)

Not Delighted (0)	Slightly Delighted (1)	Moderately Delighted (2)	Quite Delighted (3)	Extremely Delighted (4)

(12)

<u>Not</u> Joyous (0)	<u>Slightly</u> Joyous (1)	<u>Moderately</u> Joyous (2)	<u>Quite</u> Joyous (3)	<u>Extremely</u> Joyous (4)	(13)
<u>Not</u> Cheerful (0)	<u>Slightly</u> Cheerful (1)	<u>Moderately</u> Cheerful (2)	<u>Quite</u> Cheerful (3)	<u>Extremely</u> Cheerful (4)	(14)
<u>Not</u> Enjoying (0)	<u>Slightly</u> Enjoying (1)	<u>Moderately</u> Enjoying (2)	<u>Quite</u> Enjoying (3)	<u>Extremely</u> Enjoying (4)	(15)
<u>Not</u> Glad (0)	<u>Slightly</u> Glad (1)	<u>Moderately</u> Glad (2)	<u>Quite</u> Glad (3)	<u>Extremely</u> Glad (4)	(16)
<u>Not</u> Jolly (0)	<u>Slightly</u> Jolly (1)	<u>Moderately</u> Jolly (2)	<u>Quite</u> Jolly (3)	<u>Extremely</u> Jolly (4)	(17)

Returning to the program, did the program as a whole make you feel:

Extremely Negative	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	Extremely Positive	(18)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		
Extremely Bad	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	Extremely Good	(19)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		
Extremely Awful	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	Extremely Nice	(20)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		
Extremely Sad	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	Extremely Happy	(21)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		
Extremely Unpleasant	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	Extremely Pleasant	(22)
	(-4) (-3) (-2) (-1) (0) (+1) (+2) (+3) (+4)		

Extremely Cold $\frac{\text{---}}{(-4)} : \frac{\text{---}}{(-3)} : \frac{\text{---}}{(-2)} : \frac{\text{---}}{(-1)} : \frac{\text{---}}{(0)} : \frac{\text{---}}{(+1)} : \frac{\text{---}}{(+2)} : \frac{\text{---}}{(+3)} : \frac{\text{---}}{(+4)}$ Extremely Warm (23)

Did the program as a whole make you feel:

<u>Not Pleased</u> (0)	<u>Slightly Pleased</u> (1)	<u>Moderately Pleased</u> (2)	<u>Quite Pleased</u> (3)	<u>Extremely Pleased</u> (4)	(24)
<u>Not Delighted</u> (0)	<u>Slightly Delighted</u> (1)	<u>Moderately Delighted</u> (2)	<u>Quite Delighted</u> (3)	<u>Extremely Delighted</u> (4)	(25)
<u>Not Joyous</u> (0)	<u>Slightly Joyous</u> (1)	<u>Moderately Joyous</u> (2)	<u>Quite Joyous</u> (3)	<u>Extremely Joyous</u> (4)	(26)
<u>Not Cheerful</u> (0)	<u>Slightly Cheerful</u> (1)	<u>Moderately Cheerful</u> (2)	<u>Quite Cheerful</u> (3)	<u>Extremely Cheerful</u> (4)	(27)
<u>Not Enjoying</u> (0)	<u>Slightly Enjoying</u> (1)	<u>Moderately Enjoying</u> (2)	<u>Quite Enjoying</u> (3)	<u>Extremely Enjoying</u> (4)	(28)
<u>Not Glad</u> (0)	<u>Slightly Glad</u> (1)	<u>Moderately Glad</u> (2)	<u>Quite Glad</u> (3)	<u>Extremely Glad</u> (4)	(29)
<u>Not Jolly</u> (0)	<u>Slightly Jolly</u> (1)	<u>Moderately Jolly</u> (2)	<u>Quite Jolly</u> (3)	<u>Extremely Jolly</u> (4)	(30)

Now we are interested in your description of the program, not how the program made you feel. Please tell us how you would describe the program.

Did the program as a whole make you feel:

_____ Not Astounding (0)	_____ Slightly Astounding (1)	_____ Moderately Astounding (2)	_____ Quite Astounding (3)	_____ Extremely Astounding (4)	(31)
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_____ Not Astonishing (0)	_____ Slightly Astonishing (1)	_____ Moderately Astonishing (2)	_____ Quite Astonishing (3)	_____ Extremely Astonishing (4)	(32)
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_____ Not Startling (0)	_____ Slightly Startling (1)	_____ Moderately Startling (2)	_____ Quite Startling (3)	_____ Extremely Startling (4)	(33)
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_____ Not Shocking (0)	_____ Slightly Shocking (1)	_____ Moderately Shocking (2)	_____ Quite Shocking (3)	_____ Extremely Shocking (4)	(34)
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Would you describe the program as a whole as:

_____ Not Worthwhile to me (0)	_____ Slightly Worthwhile to me (1)	_____ Moderately Worthwhile to me (2)	_____ Quite Worthwhile to me (3)	_____ Extremely Worthwhile to me (4)	(35)
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_____ Not Appealing to me (0)	_____ Slightly Appealing to me (1)	_____ Moderately Appealing to me (2)	_____ Quite Appealing to me (3)	_____ Extremely Appealing to me (4)	(36)
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_____ Not Significant to me (0)	_____ Slightly Significant to me (1)	_____ Moderately Significant to me (2)	_____ Quite Significant to me (3)	_____ Extremely Significant to me (4)	(37)
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_____ Not Desirable to me (0)	_____ Slightly Desirable to me (1)	_____ Moderately Desirable to me (2)	_____ Quite Desirable to me (3)	_____ Extremely Desirable to me (4)	(38)
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_____ Not Beneficial to me (0)	_____ Slightly Beneficial to me (1)	_____ Moderately Beneficial to me (2)	_____ Quite Beneficial to me (3)	_____ Extremely Beneficial to me (4)	(39)
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Would you describe the program as a whole as:

_____ Not Extreme (0)	_____ Slightly Extreme (1)	_____ Moderately Extreme (2)	_____ Quite Extreme (3)	_____ Extremely Extreme (4)	(40)
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_____ Not Intense (0)	_____ Slightly Intense (1)	_____ Moderately Intense (2)	_____ Quite Intense (3)	_____ Extremely Intense (4)	(41)
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_____ Not Drastic (0)	_____ Slightly Drastic (1)	_____ Moderately Drastic (2)	_____ Quite Drastic (3)	_____ Extremely Drastic (4)	(42)
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_____ Not Excessive (0)	_____ Slightly Excessive (1)	_____ Moderately Excessive (2)	_____ Quite Excessive (3)	_____ Extremely Excessive (4)	(43)
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Have you seen this program before

_____ (0)	No	_____ (0)	Yes	If yes, about how many time have you seen this program?	_____ ()	time(s)	(44-45)
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Would you watch this program again?

Extremely								Extremely	
Unlikely	_____	:	_____	:	_____	:	_____	Likely	
	(0)		(1)		(2)		(3)		(46)
			(4)		(5)		(6)		

Extremely								Extremely	
Improbable	_____	:	_____	:	_____	:	_____	Probable	
	(0)		(1)		(2)		(3)		(47)
			(4)		(5)		(6)		

Extremely								Extremely	
Impossible	_____	:	_____	:	_____	:	_____	Possible	
	(0)		(1)		(2)		(3)		(48)
			(4)		(5)		(6)		

What do you think is the purpose of this study? (49)

Are you: (1) _____ Male? (2) _____ Female? (50)

Is English your native language? (1) _____ Yes (2) _____ No (51)

Thank you very much for your cooperation in completing this questionnaire

APPENDIX C

COMMERCIALS

1. A description of the emotionally neutral commercials pretested:

a. Check-up toothpaste. The ad contrasted Check-up to Crest and Colgate for ability to clean and remove plaque. It employed a rational appeal, using a graph to show differential cleaning capacity for the three toothpastes.

b. Crystal Ice Cream. The ad featured Nick Lotta, a factory foreman for Crystal, in an ice cream factory. Lotta discussed how they the assure quality of Crystal.

c. McDonald's. The ad depicted fresh foods such as hamburger, buns, and lettuce. It described how McDonald's buys only fresh ingredients as homemakers do.

d. WLTI Radio. This black and white ad depicted a woman, seen from the neck up, describing the radio station's format. She indicated the radio not only plays easy listening music but also provides weather, sports and traffic news.

e. Beef Council. The ad featured Jim Garner seated at a table describing how beef has both rational appeals and emotional appeals. The ad, however, had no emotional appeal.

f. Kentucky Fried Chicken. The commercial showed Professor Irwin Corey describing how Kentucky Fried Chicken is award winning chicken that is both tender and juicy.

g. Lender's Bagels. The ad showed Murray Lender describing the texture of his bagels--hard on the outside and soft on the inside.

h. Anacin Aspirin. The commercial is shot with a printing press in the background and an actor portraying a newspaper reporter indicating the news that Anacin has a more effective level of headache relief than other aspirin formulas. The ad featured graphs to demonstrate the difference.

2. A description of the emotionally pleasant commercials pretested:

a. Kodak Teledisk camera. The ad depicted proud relatives taking pictures of little boys playing ice hockey. The boys were shown in humorous scenes demonstrating how ineptly they play.

b. Wheaties. The ad showed sports coverage of Pete Rose beating Ty Cobb's hit record. The ad showed Pete, his son and mother as well as the spectators rejoicing in his recording breaking home run.

c. Tofutti. The commercial used an adaptation of Little Richard's rock and roll hit, Tutti Fruity, to tell how rich and tasty tofutti is. The ad employed humor by using what appears to be members of a board of directors to sing the lyrics to the song.

d. Beef Council. The visual employed suspense by featuring people recognizing someone entering a restaurant. The individual is revealed at the end of the commercial as Jim Garner. The audio used rock and roll music to sing the virtues of beef.

e. Mirage Candy bar. This commercial was a spoof on a strip tease, using appropriate music and showing a Mirage candy bar being unwrapped. There a numerous quick cuts revealing people's reactions to the spoof.

f. Chevrolet IROC-Z. This ad used rock and roll music as well as dramatic footage of the car on the road to dramatize how flashy the Chevrolet is and how well it handles.

g. Kellogg's Raisin Squares. The commercial employed rock and roll music as well as four teenage females singers to demonstrate that Raisin Squares is a new taste sensation.

h. Chevrolet Camaro. The ad consisted of scenes of young adults having fun either in a Camaro or with it in the background. The commercial employed rock and roll music as well.

APPENDIX D

Mean Emotional Response by Commercial Position

The mean emotional response to commercials was calculated by commercial position for the highly arousing pleasant program. Those responses were compared to ones for the low arousal unpleasant program (Table 21). Within commercial position, none of the emotional responses were different between the high and low arousal programs:

- .221 . First position (.54 vs. .92)--t (40) = 1.23, p =
- = .232 . Second position (.46 vs. .83)--t (40) = 1.21, p
- .106 . Third position (.33 vs. .84)--t (40) = 1.66, p =
- = .326 . Fourth position (.56 vs. .95)--t (40) = 1.00, p =

Table 25

Mean Emotional Response by Commercial Position

COMMERCIAL POSITION	FIRST	SECOND	THIRD	FOURTH
<u>PERCEIVED PROGRAM AROUSAL</u>				
HIGH	.92	.83	.84	.95
LOW	.54	.46	.33	.56

