THE EFFECTS OF ATTITUDE TOWARD THE AD ON ATTITUDE TOWARD THE BRAND: THE MODERATING ROLE OF DELAY AND REPETITION

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ABSTRACT

THE EFFECTS OF ATTITUDE TOWARD THE AD ON ATTITUDE TOWARD THE BRAND: THE MODERATING ROLE OF DELAY AND REPETITION

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A number of studies in the last two decades have established that consumers' attitude toward the ad (A_{ad}) has a direct effect on their attitude toward the advertised brand (A_b). Most of these studies have measured A_b immediately after exposure to the stimulus ad, and suggest a linear relationship between A_{ad} and A_b. However, the familiarity-based sleeper effect (Moore and Hutchinson 1983) suggests that over time, A_b will be a U-shaped function of A_{ad}, with negatively and positively evaluated ads producing higher levels of A_b compared to neutral ads.

This dissertation tested hypotheses based on the familiarity-based sleeper effect. It also tested the hypothesis that ads producing negative and positive A_{ad} would be better recalled than neutral ads. The study also examined the effect of advertising repetition on the relationship between A_{ad} and A_b. It was hypothesized that liking for all types of ads (including negatively evaluated ones) would increase as a result of moderate levels of repetition.

The hypotheses were tested using a 12 cell factorial design (3 ad types, 2 repetition levels, and 2 delay levels). Experimental subjects were exposed to commercials for real (but unfamiliar) products embedded in a thirty minute television program, along with filler commercials. Subjects were exposed to the target ad either once or thrice. Their A_b was measured either immediately after ad exposure or seven days later.

The results of the study showed that the negative ad produced the greatest recall, and the positive ad the least. The data did not support the existence of a familiarity-based sleeper effect, as A_b was found to be a linear function of A_{ad} for both no-delay and delay groups. Repetition was found to increase liking of all three ad types, although the increment in liking was statistically significant only for the negative ad.

This study also examined the factor structure of A_{ad}. The results indicate that A_{ad} is determined by four factors: entertainment value, irritation, (3) utilitarianism, and distinctiveness.

To my mother, and to the memory of my father,
for all their sacrifices toward my education.

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Chapter 1
INTRODUCTION

Researchers in the field of marketing and advertising have long been concerned with understanding and influencing consumer behavior. One of the most frequently used models of consumer behavior, in both academic research and in marketing decision making, is the hierarchy of effects model of advertising. Hierarchical models of consumer behavior, such as the one proposed by Lavidge and Steiner (1961) stipulated that changes in purchase behavior had to be preceded by changes in consumers' attitudes toward the advertised brand. These attitude changes were in turn held to be preceded by changes in (brand related) cognitions. The Lavidge and Steiner model and other hierarchical models owe their genesis directly to message-learning theories of attitude change, originally pioneered by Hovland and his colleagues in the 1950s (Hovland, Janis and Kelley 1953).

The role of attitudes in explaining behavior has attracted the attention of researchers in social psychology, communication and marketing. McGuire (1976) has noted that the area of attitude change constitutes the largest single body of literature in social psychology. The work of researchers such as Fishbein and Azjen (1974) has provided fresh impetus for researchers investigating the impact of attitudes on behavior (Petty and Cacioppo 1981).

According to Fishbein's Theory of Reasoned Action, consumers' attitudes toward an advertised brand should be mediated exclusively by their brand beliefs, and their evaluations of those beliefs. Thus, advertising can influence consumer behavior primarily through changing beliefs or evaluations about the brand. However, research by Mitchell and Olson (1981) suggested that changes in brand beliefs do not account for all the variations in consumers' attitudes toward an advertised brand. Mitchell and Olson (1981) and Shimp (1981)

hypothesized that consumers' attitudes toward the advertisement has a direct impact on their attitudes toward the brand, which is not completely captured by measures of the changes in their brand beliefs.

Following the work of Mitchell and Olson (1981) and Shimp (1981), the topic of attitude toward the ad (A_{ad}) and its impact on attitude toward the advertised brand (A_b) has received much attention from researchers in the last two decades. A recent review of the research in this area by Muehling and McCann (1993) lists over 95 published works dealing directly or indirectly with the impact of A_{ad}. Yet, Muehling and McCann (1993) feel that several research issues in this area need to be given further attention. One of the topics that has been mentioned as worthy of consideration in future studies is the role that memory plays in moderating the longer term effects of A_{ad} on A_b. This dissertation proposes to extend the research in this specific domain.

There has been surprisingly little research investigating the impact of delay (between ad exposure and A_b measurement) on the relationship between A_{ad} and A_b. Moore and Hutchinson (1983, 1985) are among the few researchers who have investigated this relationship. In their initial research, using real print ads as stimuli, they found that in the short run (2 days after ad exposure), A_b is a linear function of A_{ad}, with positively evaluated ads producing more positive brand attitudes. After a 7-day delay, however, $A_b$was shown to be a U-shaped function of A_{ad}. This suggests that (1) people tend to remember affectively stronger ads (regardless of valence) more than neutral ads, and (2) over time, brand familiarity (working through ad recall) may be playing a greater role in determining A_b than the direct transfer of affect through A_{ad} (Moore and Hutchinson 1983).

In their follow-up research, Moore and Hutchinson (1985) found results similar to their 1983 study. However, the linear/ curvilinear interaction

observed in their data was not as consistent as they had expected. They offered two possible explanations for this: (1) the print ads which were used as stimuli did not produce genuinely extreme affective reactions; (2) an experimental manipulation had made their subjects overly sensitive to brand names in ads (Moore and Hutchinson 1985, p. 76). Since researchers as well as practitioners are of the opinion that television commercials are more effective in producing emotional responses than print ads, one of the objectives of this study is to extend the research of Moore and Hutchinson (1985) by using television commercials as stimuli, instead of print advertising.

The immediate and delayed effects of emotional feelings produced by television commercials were explored by Thorson and Friestad (1989). They found that emotional commercials are more likely to be recalled than commercials unaccompanied by emotion. These findings are consistent with those of Moore and Hutchinson (1983, 1985) reported above. However, Thorson and Friestad (1989) measured ad recall as the dependent variable, while Moore and Hutchinson (1983, 1985) used persuasion measures such as brand affect, change in liking for the brand, and changes in purchase intention (willingness to consider the brand). It would be easy to conclude from this data that there is some collinearity between ad recall and persuasion. However, the use of recall measures, and the relationship between ad recall and persuasion, has been fraught with controversy in the literature on advertising copytesting (Stewart, et al. 1985). The present study will extend the existing research in the domain by using both recall and persuasion measures, and examining the correlation between them.

The effect of delay on A_{ad} and A_b has also been examined in a study by Chattopadhyay and Nedungadi (1992). As stimuli, they used television commercials for an unfamiliar brand of pen, embedded in program material.

The independent variables manipulated were ad type (likable and neutral versions of a single ad for the same product), attention paid to the ad (high and low), and delay (no delay and 7-day delay). The dependent variables were A_{ad}, A_b, number of ad-directed cognitive responses, and number of brand-directed cognitive responses. The results of the research included the findings that (1) the number of ad-directed cognitions declined over time, but the number of brand-directed cognitions was more resilient to decay; (2) while there was a decline over time in A_{ad} for subjects exposed to the likable ad, there was actually an increase over time in A_{ad} for subjects exposed to the neutral ad; (3) low-attention subjects in the 7-day delay group who were exposed to the likable ad rated the brand *lower* than those exposed to the neutral ad (italics added). Chattopadhyay and Nedungadi (1992) suggest that in the absence of strong evidence, the data seem to suggest the existence of a "sleeper effect" arising from a dissociation between the neutral ad and the advertised brand. A similar theory is also offered by Moore and Hutchinson (1983). (A brief discussion of the literature on the sleeper effect is offered in the next chapter.)

While the study by Chattopadhyay and Nedungadi (1992) does not directly address the issue of the impact of delay on the $A_{ad} \rightarrow A_b$ relationship, it does offer support for some of the findings of Moore and Hutchinson (1983, 1985). Chattopadhyay and Nedungadi (1992) used two versions of a single ("target") television commercial as their stimulus, along with several filler ads embedded in a program environment. This is a laudable effort to achieve a more realistic exposure environment within the confines of an experimental setting. However, Chattopadhyay and Nedungadi (1992) acknowledge that using only one exposure to the target commercial might reduce the accessibility of ad cognitions and ad attitude in consumer memory. They suggest that future research should study the impact of ad repetition on decreasing, or at least

postponing, the negative effects of delay. Recent research by Haugtvedt and his associates (Haugtvedt, Leavitt and Scheiner 1993, Haugtvedt, et al. 1994, Haugtvedt and Wegener 1994) has also underlined the need to study the effects of repetition, not just in terms of changing attitudes but also in terms of varying attitude strength. Accordingly, another objective of this study is to augment the knowledge in this area by studying the impact of repetition on immediate and delayed measures of A_{ad}, A_b and recall.

In sum, this study will examine relationships in the following domains, using television commercials as stimuli:

1. The immediate and delayed impact of affective responses to the ad (A_{ad}) on affective responses to the brand (A_b), ad recall and purchase intention.

2. The impact of ad repetition on immediate and delayed measures of A_{ad}, A_b, ad recall and purchase intention.

This study will make contributions to the existing body of knowledge by (1) attempting to replicate and extend the results found by previous researchers, and (2) studying the effects of interactions not studied by previous researchers.

The proposed area of research should be of interest to both academicians and practitioners. Much of the research on the effects of advertising has used measures immediately following ad exposure. However, advertising is expected to work on at least two levels: first, in terms of producing short term sales, and second, in terms of creating and retaining brand image over the longer term. The longer term effects of advertising are especially important in the light of the recent interest in the subject of brand equity (e.g., Aaker and Biel 1993). Therefore, any study of the delayed effects of advertising can help advertisers understand better how advertising works at both these levels.

This dissertation is divided into six chapters. A detailed literature review is presented in Chapter 2. The hypotheses flowing from the literature are presented in Chapter 3. The methodology and experimental design used to test the hypotheses are presented in Chapter 4. The results of the study are reported in Chapter 5. Finally, Chapter 6 contains a discussion of the results reported in Chapter 5. This chapter also contains an extended discussion of some of the issues in the literature concerning the multi-dimensional nature of attitude toward the ad. The academic contributions of this study and its managerial implications are also discussed in Chapter 6, along with limitations and suggestions for future research.

Chapter 2
LITERATURE REVIEW

This chapter provides a review of the literature on advertising effectiveness, with particular emphasis on the effects pertaining to attitude toward the ad (A_{ad}), memory, ad repetition and prior brand familiarity. First, various cognitive theories of advertising effectiveness are reviewed, with emphasis on the hierarchy-of-effects models that have guided advertising planning in recent decades. Second, the literature on attitude toward the ad is reviewed. Emphasis is placed on literature pertaining to the delayed impact of A_{ad} on A_b, and on findings about the connection between A_{ad} and recall. A general discussion is followed by a detailed review of three studies. The final section of this chapter reviews the literature pertaining to the effects of advertising repetition.

2.1. THEORIES OF ADVERTISING EFFECTIVENESS

2.1.1. Hierarchy-of-Effect Models

Ask most people why they think businesses should advertise, and their response is likely to be, "Why, to sell things, of course!" Indeed, a lot of marketers do set advertising objectives in terms of increases in sales or market share. However, both marketing practitioners and academic researchers have recognized at least since the early 1960s, that it is often difficult to establish a strict correlation between advertising and sales for two reasons: (1) advertising is only one of many factors influencing sales, and (2) the contributory role of advertising often occurs primarily over the long run (Aaker and Myers 1987, p. 86). This realization has led advertisers to specify advertising objectives in terms of (1) the ultimate behavior (e.g., trial, brand switching, reinforcement of loyalty, etc.) that advertising is attempting to precipitate in the target audience, and (2) changes in the psychological variables preceding the performance of that

behavior. The notion of defining advertising objectives in terms of communication tasks (such as creating awareness, changing or reinforcing existing attitudes, creating knowledge of brand attributes, etc.) rather than in terms of marketing tasks (such as increasing sales or market share), received much impetus in the early 1960s due to the work of Lavidge and Steiner (1961). In the same year, Colley (1961) wrote a book under the sponsorship of the Association of National Advertisers, which popularized these ideas among practitioners (Aaker and Myers 1987).

Colley (1961) stipulated that the process of setting advertising objectives should be guided by some kind of a hierarchy-of-effects model, such as that formulated by Lavidge and Steiner (1961). According to the Lavidge and Steiner hierarchical model, consumer response to advertising begins with awareness and knowledge, followed by liking and preference for the advertised brand, followed by conviction about the brand, and finally by purchase of the brand. Palda (1966) summarized these steps into the now familiar three stage "Cognition—> Affect —> Conation" model. As noted by Smith and Swinyard (1988), the introduction of the Lavidge and Steiner (1961) model caused marketing researchers to begin a closer examination of the cognitive dimensions of consumer responses to advertising.

2.1.2. Message Learning Approaches

Hierarchical models of advertising effects, such as the one proposed by Lavidge and Steiner (1961), were in many ways directly derived from what Petty and Cacioppo (1981) refer to as "message-learning approaches" to understanding attitude change. The message learning approach, based on the pioneering research of Hovland and his associates (Hovland, Janis and Kelley 1953), emphasized that the learning and memory of persuasive arguments were critical

for the formation of initial attitudes, as well as for the change or reinforcement of existing attitudes.

The message learning approach to understanding attitude was challenged by researchers such as Greenwald (1968) when empirical studies failed to demonstrate that a significant correlation existed between learning and persuasion in all instances. The cognitive response approach, which emphasized the importance of an individual's idiosyncratic cognitive reactions to a persuasive message, was offered as an alternative to the message learning approach (Haugtvedt, Leavitt and Scheiner 1993). An example of this approach is found in the work of Greenwald and Leavitt (1985), who suggest that individuals have control over the amount of attention devoted to the communication and adjust attention levels depending on their involvement with the communication.

2.1.3. Elaboration Likelihood Model

As noted by Alwitt and Mitchell (1985b), the cognitive response approach of Greenwald and Leavitt (1985) has a direct parallel in the elaboration likelihood model (ELM) (Cacioppo and Petty 1985, Petty and Cacioppo 1981). The ELM focuses on the amount of cognitive resources devoted to processing the content of the message, and on the type of verbal responses that an individual makes to a persuasive message (Alwitt and Mitchell 1985b). If individuals put considerable effort into processing the information from the message, and allocate most of their cognitive resources to this task, then persuasion is said to occur by the *central route.* On the other hand, if individuals put little effort into processing the content of the message, and instead use other cues in the message (such as number of message arguments, spokesperson characteristics, visual appeal of the ad, etc.), then persuasion is said to occur by the *peripheral route.* In their initial analysis, Petty and Cacioppo (1981) treated central processing as pertaining to

message content, and peripheral processing as related to the context of the message (Lutz 1985).

2.1.4. The ELM and Conditioning Approaches

One of the major contributions of the ELM is that it provides a means of reconciling high involvement theories of persuasion (such as the message learning approach, and cognitive response approach) with earlier, low involvement theories, such as *classical and operant conditioning*. This contribution is especially important, given the recent spate of database driven customer loyalty programs (such as frequent flyer programs, the Discover Card cash-back program, etc.), which are essentially based on some form of operant conditioning (Peter and Olson 1990, Chapter 9). While the information-processing (or cognitive) approach has largely replaced behaviorism (or stimulus-response reinforcement theory) as the dominant paradigm in persuasion research (McGuire 1976), some researchers have expressed dissatisfaction with the explanatory power of cognitive response models in the case of advertisements for low involvement products (e.g., Krugman 1965). Some recent researchers (e.g., Gorn 1982) have suggested that advertising for low involvement products probably persuades through a classical conditioning process rather than a message learning process.

The failure of cognitive learning models to explain consumer behavior in low involvement situations resulted in research interest in consumers' affective responses to advertising. Under traditional high involvement models, the executional elements of advertisements were viewed only as vehicles for communicating the message. However, empirical research by Mitchell and Olson (1981) and others suggested that individuals' affective reactions to the executional elements in advertisements could also affect persuasion (Alwitt and

Mitchell 1985a). This led to a stream of research on the effects of consumers' attitudes toward the ad (A_{ad}).

2.2. ATTITUDE TOWARD THE AD

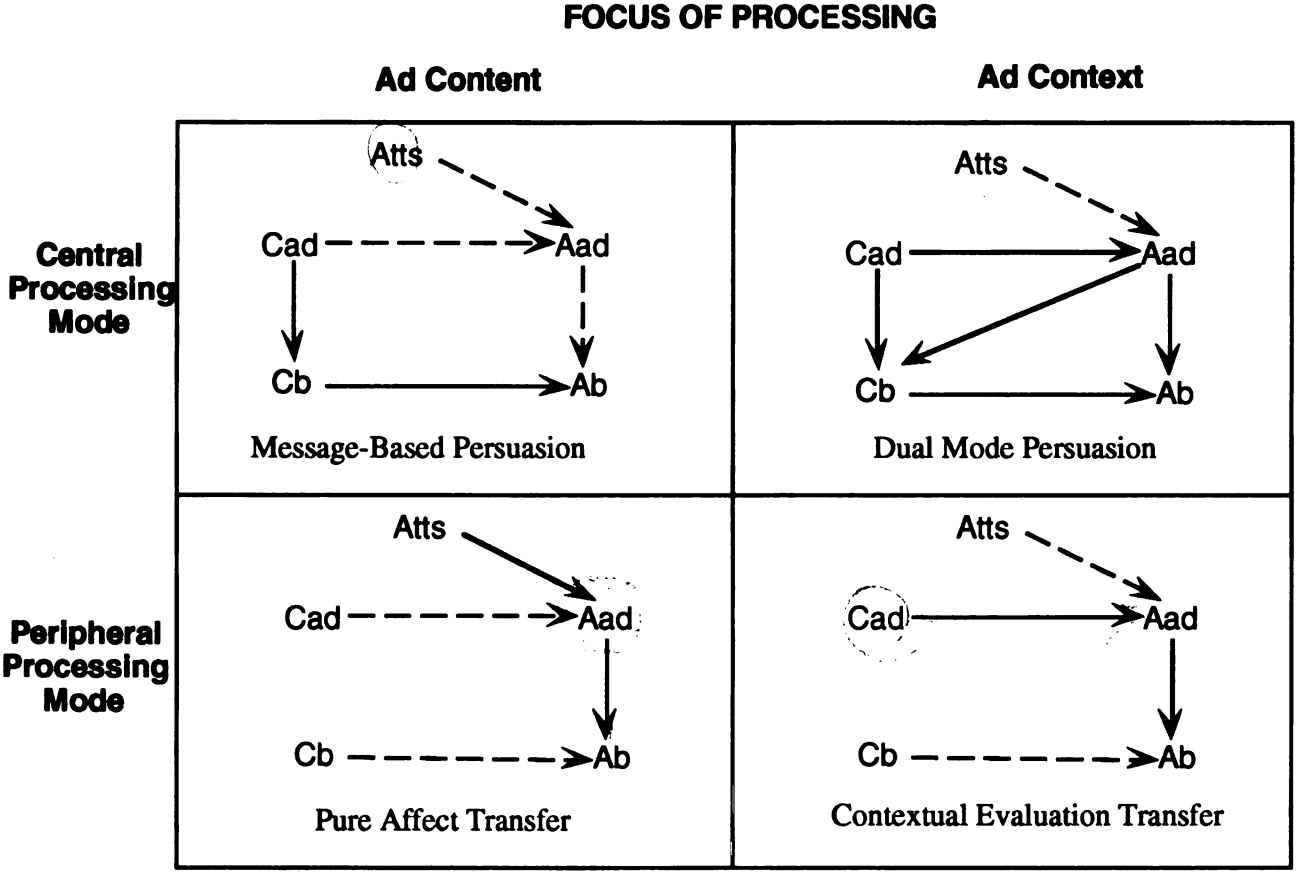
The current stream of research into consumers' attitude toward the ad (A_{ad}) and its impact on attitude toward the advertised brand (A_b) is usually traced to two articles that appeared in 1981. Shimp (1981) and Mitchell and Olson (1981) both suggested that the beliefs of consumers about a brand are not the only mediators of the impact that an ad has on their attitude toward the brand. They found empirical support for the hypothesis that attitude toward the ad mediates consumers' attitudes toward the brand. Mitchell and Olson (1981) speculated that the transference of affect from the ad to the brand could be occurring due to some kind of classical conditioning process.

Using Petty and Cacioppo's (1981) ELM framework, Lutz (1985) has offered a conceptual model of the affective and cognitive antecedents of A_{ad}. He proposed a typology of four alternative ad-based persuasion mechanisms: (1) classic message-based persuasion, (2) dual mode persuasion, (3) pure affect transfer, and (4) contextual evaluation transfer. These models are graphically presented in Figure 1. Lutz (1985) notes that the first three mechanisms (particularly the first two) are based upon the ELM. However, he states that ELM does not deal with the fourth situation (contextual evaluation transfer), where both the context and the content are processed peripherally.

Lutz (1985) has gone on to observe that the typical advertising pretesting situation is best represented by the situation that he labels "Contextual Evaluation Transfer (see Figure 1)." In such situations, consumers are typically exposed to ads for unfamiliar brands, and asked to draw inferences and form attitudes about the brand based exclusively on the sample ad. However, empirical research by MacKenzie and Lutz (1989) and others (Brown and

Stayman 1992) suggests that "Dual Mode Persuasion" (also referred to the as "Dual Mediation Hypothesis") is the most prevalent type of ad-based persuasion.

Figure 1.
A typology of ad-based persuasion mechanisms.[a]



Aad = Attitude toward the ad.
Atts = Attitude toward advertising in general, attitude toward the advertiser, moods.
Cad = Ad cognitions.
Cb = Brand cognitions.

Solid arrows indicate strong positive relationships.
Dashed arrows indicate relationships hypothesized to be zero or near-zero.

[a]Adapted from Lutz, 1985.

Since the early work of Mitchell and Olson (1981) and Shimp (1981), over 90 studies dealing with the effects of A_{ad} have been published in the marketing and advertising literature (Muehling and McCann 1993). These studies have investigated the antecedents of A_{ad}, and its cognitive, affective and behavioral effects. Researchers have also investigated the moderating effects of various factors on the A_{ad} —> A_b relationship. The moderating factors which have been investigated include involvement, processing goal, ad type, retrieval cues, personal relevance, brand familiarity, prior brand attitudes, nature of claims and time. These variables are summarized in Tables 1 through 5 (the tables are grouped together at the end of this chapter for convenient reference). Some of the major findings with respect to these variables are reported below.

2.2.1 Antecedents of A_{ad}

In their review, Muehling and McCann (1993) have subdivided the antecedents of A_{ad} into three categories: (1) personal / individual factors, (2) ad related factors, and (3) "other" factors. This typology will be retained in the following discussion.

a. Personal/ Individual Antecedents

Lutz and his colleagues (Lutz, MacKenzie and Belch 1983; MacKenzie and Lutz 1989; MacKenzie, Lutz and Belch 1986) have suggested that a consumer's A_{ad} may be influenced by one or more factors inherent in the consumer. Some of these individual factors — attitudes toward advertising in general, attitudes toward the advertiser, and the individual's moods — are hinted at in Figure 1, which is adapted from Lutz (1985). MacKenzie and Lutz (1989) tested a more elaborate structural model of A_{ad} formation, which included five specific antecedent variables: (1) ad credibility, defined as the extent to which the consumer perceives claims made about the brand in the ad to be truthful and believable; (2) ad perceptions, defined as a multidimensional array of consumer

perceptions of the advertising stimulus, including executional factors but excluding perceptions of the advertised brand. The underlying determinants of ad perceptions are said to be the actual executional characteristics of the ad stimulus and the individual's attitude toward advertising in general; (3) attitude toward the advertiser, defined as a learned predisposition to respond in a consistently favorable or unfavorable manner toward the organization sponsoring the ad; (4) attitude toward advertising in general; (5) mood, defined as the consumer's affective state at the time of exposure to the ad stimulus. MacKenzie and Lutz (1989) do not define the impact of mood on A_{ad} very clearly, merely stating that "the essential character of the mood determinant of A_{ad} is that it is an affective state that influences A_{ad}." They go on to state that "[due to] the inherently low levels of involvement associated with advertising exposure, mood may become associated directly with a stimulus object [i.e., the ad]" rather than having its impact mediated by cognitive activity wherein the nature of information processing is influenced by mood (MacKenzie and Lutz 1989, p. 54).

In addition to Lutz and his colleagues, other researchers have established that ad cognitions (cognitive responses toward particular aspects of an ad) may directly influence A_{ad} (Muehling and McCann 1993). In the literature, ad cognitions have most commonly been measured through an open-ended thought listing procedure; the number of negative thoughts are subtracted from the number of positive thoughts to yield a net "ad cognitions" score. This ad cognition score was hypothesized to be positively correlated with A_{ad} (MacKenzie and Lutz 1989).

Several researchers have suggested that individual affective, emotional and non-ad-related responses evoked at the time of ad exposure may influence A_{ad} (Muehling and McCann 1993). This conceptualization suggests that an

individual's emotional response(s) to an ad is a distinct construct from A_{ad}, a contention supported by Batra and Ray (1986a), Burke and Edell 1989, and Stout and Leckenby 1986, among others.

Other individual factors that have been posited to affect A_{ad} include individuals' prior brand attitudes and prior A_{ad} (Edell and Burke 1987), utilitarian and non-utilitarian brand beliefs (Mittal 1990), age of respondents (Freiden 1984), and education of respondents (Macklin, Bruvold and Shea 1985).

b. Ad-related antecedents

A number of studies have examined the relationship between various characteristics of the ad, and A_{ad}. The most commonly researched ad characteristics have been the use of humor, use of celebrities, use of music, the context of viewing the ad (number of competitive ads, ad sequence, program environment, program involvement, effect of previous ads), and ad content (number of arguments, imagery, complexity, use of visuals, message quality, message sidedness, claim strength, sexual appeals, number of exposures, distinctiveness and likability).

Researchers have found that the use of humor can enhance consumers' A_{ad}, although the effects of humor may be moderated by prior evaluations of the advertised brand and/ or individuals' processing goals. Likewise, the use of celebrities may also have a positive effect on A_{ad}. Researchers have also found interactions between source credibility and message-sidedness (i.e., the use of one-sided versus two-sided messages) (Muehling and McCann 1993, p. 46). While Kamins (1989) reported that two-sided non-celebrity ads resulted in the most favorable A_{ad}, Hastak and Park (1990) found no direct message-sidedness effect on individuals' A_{ad}.

In addition to the effects of humor and celebrity endorsers, researchers have investigated the impact of many other ad-content related variables on A_{ad}.

Batra and Ray (1986b) found that ads containing few message arguments yielded more favorable A_{ad} than ads containing many arguments. Cox and Cox (1988) and Zinkhan and Martin (1983) found some support for the proposition that complex ads may be more positively evaluated than simple ads. The effect of ad complexity is moderated by the number of exposures and the complexity of the receivers.

The context of viewing the ad has also been found to influence A_{ad}. Ads placed in television programs evoking positive or happy feelings resulted in more favorable attitudes toward the ad (Kamins, Marks and Skinner, 1991; Villareal 1985). Soldow and Principe (1981) found that A_{ad} was enhanced when ads were placed in low involvement programs. Machleit and Wilson (1988) have emphasized that researchers investigating the effects of television commercials should be conscious of the effects of the program context.

c. Other antecedents

Apart from individual and ad related elements, researchers have investigated the effects of delay (which will be discussed in greater detail later in the chapter), involvement and product novelty on A_{ad}. Thorson and Page (1990) found that ads for high involvement products produced more positive A_{ad} than ads for low involvement products. Cox and Locander (1987) found A_{ad} to be more positive for ads featuring novel products, compared to ads for familiar products.

2.2.2 Effects of A_{ad}

In keeping with Muehling and McCann's (1993) typology, the following section will briefly outline the findings in the literature on the cognitive, affective and behavioral effects of A_{ad}.

a. Cognitive Effects

There are several studies documenting the cognitive responses that are influenced by A_{ad}. A_{ad} has a direct impact on brand attribute beliefs (Hastak and Olson 1989), belief strength and belief confidence (Droge and Darmon 1987). A_{ad} influences perceptions of ad credibility and persuasiveness (Gelb and Pickett 1983). It also has an impact on brand cognitions (Homer 1990; Muehling, Laczniak and Stoltman 1991), brand recall, brand recognition and fact recognition (Zinkhan, Locander and Leigh 1984).

b. Affective Effects

The most common criterion variable that has been studied in the A_{ad} literature is attitude toward the brand (A_b). Muehling and McCann (1993) report that at least 37 studies reviewed by them supported the notion that A_{ad} has a direct influence on A_b under a variety of conditions. Other studies have investigated the effects of A_{ad} on attitude toward purchasing the brand. Leigh, Rethans and Whitney (1987) and Muehling (1987) found that there is a positive relationship between A_{ad} and attitudes toward purchasing, but Madden, Debevec and Twible (1985) found no such effect.

c. Behavioral Effects

In the literature on A_{ad}, the most commonly studied behavioral criterion variable has been purchase intention. Muehling and McCann (1993) found at least seven studies that reported that positive A_{ad} tends to produce a stronger intention to buy the advertised brand. Other behavioral effects that have been studied include brand interest, brand consideration, viewing time and repeat purchase.

2.2.3 Moderators of A_{ad}

Researchers on the effects of A_{ad} on various criterion variables have recognized that such effects are moderated by a variety of factors. The most

commonly recognized moderating variable is involvement. As seen in Figure 1, Lutz's (1985) model posits that the effect of A_{ad} is dependent upon two kinds of involvement: (1) the consumer's advertising message involvement, and (2) advertising execution involvement. Among others, Petty, Cacioppo and Schumann (1983) have suggested that the relationship between A_{ad} and A_b is likely to be strong under conditions of high involvement, and weak under conditions of high involvement. This is consistent with the ELM conceptualization that advertising stimuli are primarily aids to peripheral, rather than central, processing of product-related information.

On the other hand, Muehling and Laczniak (1992) have suggested that the effect of A_{ad} on A_b is fairly robust across involvement levels. However, the cognitive and affective responses preceding A_{ad} are likely to have differential effects on A_{ad}, depending upon individuals' level of involvement (Muehling and McCann 1993).

The framework of ELM was also applied by Keller (1991) to investigate the moderating effects of ad processing goals and retrieval cues. When consumers are engaged in a brand-processing task, the effect A_{ad} is highest when accompanied by both ad execution and brand-related cues. When consumers engage in non-brand processing, the effect of A_{ad} is highest when accompanied by ad execution cues.

Another moderating variable that has received some attention from researchers is brand familiarity. Machleit and Wilson (1988) hypothesized that A_{ad} would not have a significant effect on A_b when the effect of prior brand attitude was controlled. Their data supported this model. However, Edell and Burke (1986) found that A_{ad} had a significant effect on A_b, even for familiar brands, although the effect was greater for unfamiliar brands. Phelps and Thorson (1991) also reported that A_{ad} has a statistically significant effect on A_b,

even for familiar brands, although the effect of A_{ad} is indeed attenuated by prior brand attitude.

2.3. MEMORY AND ATTITUDE TOWARD THE AD

Of the 95 published studies listed in the literature review by Muehling and McCann (1993), only three have dealt with the impact of delay (passage of time) as a variable moderating the A_{ad} —> A_b relationship. Toward the conclusion of their review, Muehling and McCann (1993) have suggested that "memory based explanations of A_{ad} effects should be given further consideration in future A_{ad} studies (p. 53)." As has been discussed in Chapter 1, a study of the delayed effects of advertising is especially important in the light of the recent interest in brand equity. This also underlines the need to study the interaction of delay with initial attitudes toward the ad, in producing brand attitudes. Accordingly, this section deals with the studies relating memory and A_{ad}. The important results from the three relevant studies (Moore and Hutchinson 1983, 1985; Chattopadhyay and Nedungadi 1992), and two other related studies (Thorson and Friestad 1989; Thorson, Chi and Leavitt 1992) are first summarized below. A detailed review of the three individual studies is then presented.

2.3.1. Immediate and Delayed Effects

Moore and Hutchinson (1983, 1985) tested the impact of delayed measurement on the relationship between A_{ad} and persuasion variables (purchase intention, measured as "change in brand consideration"). Print ads were used as stimuli. Empirical support was found for the following two hypotheses:

1. Brand awareness and ratings of emotional reactions to ads (A_{ad}) are curvilinearly related such that both negative and positive ads produce greater increments in brand awareness than neutral ads.

2. Attitude toward the brand (A_b) and rated purchase likelihood are linearly related to ratings of emotional reactions to the ad (A_{ad}) immediately following exposure, but curvilinearly related for delayed measures.

Taken together, the two studies by Moore and Hutchinson (1983, 1985) seem to provide limited support for a *familiarity-based sleeper effect* (see detailed discussion below). One somewhat surprising finding was that, if measured after a delay, negatively evaluated ads produced a more positive A_b than neutral ads. This finding appears to fly in the face of a classical-conditioning-based explanation of the effects of A_{ad}. Moore and Hutchinson (1985) suggest that ads producing greater affective responses (either positive or negative) are more likely to be encoded in memory than neutral ads. Over time, the association between the negative ad and the brand weakens, leaving a stronger memory trace (akin to brand familiarity) for the brand with the negative ad, compared to the neutral ad. Moore and Hutchinson (1983, 1985) did not use brand recall as an explicit variable in their study. However, recall clearly plays a key role in their hypotheses about the role of memory in explaining the impact of A_{ad} on A_b and persuasion.

A study by Chattopadhyay and Nedungadi (1992) provides an extension of Moore and Hutchinson's (1983, 1985) work. Chattopadhyay and Nedungadi (1992) contrasted the effect of two types of television commercials (likable and neutral) for the same product, on the number of ad and brand cognitions generated among subjects. Measures were taken immediately after exposure, as well as seven days later. The relevant findings from this study were:

1. The more likable ad resulted in fewer brand cognitions than the neutral ad.

2. The number of brand-directed cognitions was more resilient to decay over time than the number of ad-directed cognitions.

3. Ad type had a significant effect on A_{ad} immediately following exposure, but not after a delay. Specifically, while A_{ad} declined over time for those

exposed to the likable ad, there was an increase in A_{ad} over time for those exposed to the neutral ad.

4. Ad type had a significant effect on A_b immediately after ad exposure, regardless of the level of attention paid to the ad.

5. In the case of the delay group, (a) ad type had no impact on A_b for the high-attention group; (b) the likable ad resulted in a *lower* A_b than the neutral ad for the low-attention group. (The researchers suggest that this is because in the likable-ad, low-attention condition, neither ad attitude nor brand cognitions are accessible.)

2.3.2. Emotional Response and Ad Recall

In a related study, Thorson and Friestad (1989) tested the impact of emotional responses to advertising on ad message recall. It should be noted that Thorson and Friestad make a clear distinction between A_{ad}, and the valence and intensity of emotions experienced by viewers while watching a television commercial. They contend that A_{ad} measures, as found in the literature, are highly cognitive in nature and require the operation of semantic memory, whereas memory for television commercials is encoded in episodic memory. Episodic memory is defined as the mental storage of personal experiences, and their spatial and temporal context. Semantic memory is the mental storage of general knowledge. Thorson and Friestad's (1989) study provided support for the following hypotheses:

1. Emotional commercials are more likely to be recalled than commercials unaccompanied by emotion.

2. The stronger the emotion generated, the greater its effects on memory will be.

3. Strong emotional commercials are more likely to be recalled before weaker emotional commercials, or those failing to engender any emotional response.

4. The kind of strength of an emotional response experienced during a commercial is likely to serve as an organizer of recall, particularly in the

absence of other reasonable organizing principles (such as similarity of products and their attributes).

The criterion variable tested by Thorson and Friestad (1989) was ad message recall. Recall was tested immediately after ad exposure, using a free recall procedure. Of course, this raises the question of whether recall is in fact a valid predictor of any other criterion variable of interest to marketers (such as attitude change or purchase intention). This issue has been widely discussed in the literature on advertising copytesting. In their review of the theoretical foundations of copytesting, Stewart, et al. (1985) make the following comment:

> Recall of a unique aspect of a commercial may or may not indicate whether the viewer will associate the product with the desired usage occasion or emotion. That is, viewers may remember having seen an ad and yet not feel positively about the advertised product, even though the ad itself communicated a positive message. People may not believe the advertisement's claim, or may simply ignore this claim. In fact, an ad may be remembered because it was aversive or ridiculous. *In other words, a high recall score does not necessarily imply that the ad was persuasive or that it even promoted a positive attitude toward the brand.* (Stewart, et al., 1985, p. 20, italics added).

In the view of the controversy surrounding recall measures, it is interesting to see that the findings of Thorson and Friestad (1989), who used recall measures, seem to closely parallel those of Moore and Hutchinson (1985), who used persuasion measures. Further, Stewart (1986) has reported that ads leaving stronger memory traces and having more brand differentiating impact are more likely to produce greater persuasion. Thorson, Chi and Leavitt (1992) have sought to explain Stewart's (1986) finding in terms of the memory "engram" created by emotional ads. They posit that when an ad creates emotion in the viewer, the memory engram for the experience is enhanced over non-emotional conditions. In their empirical study, Thorson, Chi and Leavitt (1992) report that there was a clear linkage between memory (recall) and attitudes for emotional

ads, but found no such linkage for unemotional ads. Page, Thorson and Heide (1990) tested the hypothesis that emotional commercials were more likely to be recalled than neutral commercials. The hypothesis was not supported by their data: the differences in recall scores were in the expected direction, but were not statistically significant.

Like Thorson and Friestad (1989), Edell and Moore (1993) view A_{ad} and ad-induced feelings as distinct constructs. They studied the immediate and delayed effects of ad-induced feelings on A_{ad} and A_b. A_{ad} and A_b were measured as criterion variables, which are determined by ad-induced feelings. Of the four hypotheses tested by Edell and Moore (1993), the following two are relevant to this study:

1. Ad-induced feelings and brand claims can be recalled equally well.
2. There will be no difference in the effects of ad-induced feelings on A_{ad} and A_b, regardless of whether the effects are measured immediately after exposure to the ad, or following a 3-day delay.

The first hypothesis was supported by the data. The second hypothesis was only partially supported. Ads that produced upbeat, uneasy and negative feelings had the same impact on A_{ad} regardless of whether measures were taken immediately following exposure, or after a three day delay. However, the effect was found to decay in the case of ads producing warm feelings (Edell and Moore 1993, p. 205). (Similar results were reported when A_b was used as the criterion variable.)

The foregoing discussion shows that, while there has been research in the past investigating the impact of ad affect on recall and persuasion, there is need for further research to extend and synthesize these findings. In the following section, a detailed summary is provided of the two studies by Moore and Hutchinson (1983, 1985), and the study by Chattopadhyay and Nedungadi (1992)

that provide the impetus for some of the hypotheses proposed for the present study.

2.3.3. Details of three memory-related studies

This subsection provides a detailed review of three studies pertaining to memory and its impact on the A_{ad} —> A_b relationship. The objective of providing this detailed summary is twofold: (1) to illustrate some of the methodological approaches that have been followed in studying the relevant variables, and (2) to focus on some of the limitations of previous research, which can be overcome by replication and extension.

a. Moore and Hutchinson (1983)

Moore and Hutchinson tested five hypotheses concerning the effect of A_{ad} on A_b. The first three hypotheses assume that the immediate and delayed effects of A_{ad} do not differ. The last two hypotheses are alternative formulations, and make totally contradictory predictions. An empirical validation of the hypotheses was sought. In the discussion below, the hypotheses are represented graphically to aid comprehension.

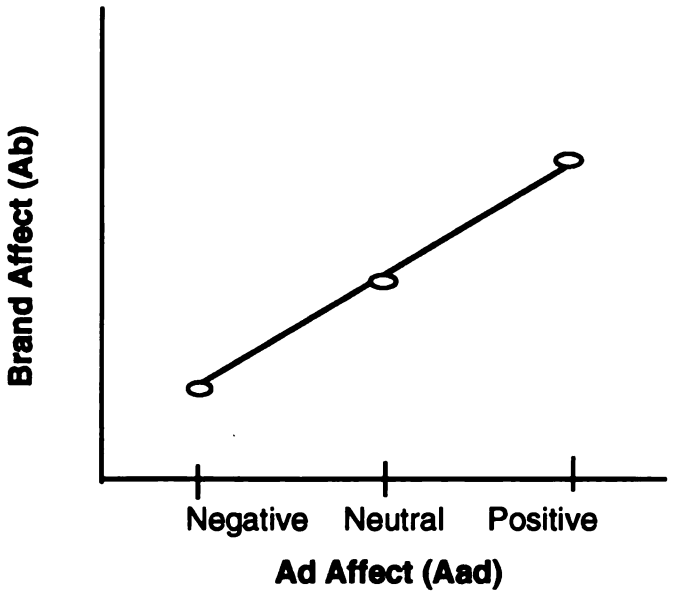
1. *Generalization Hypothesis.* According to this hypothesis, affective reactions to the ad are associated directly with the brand through a conditioning process. A_b should increase linearly with A_{ad} (see Figure 2).

2. *Distraction Hypothesis.* The assumption here is that ads which elicit strong emotional responses will attract so much attention that they will inhibit brand-related cognitive processing (i.e., distract the consumer from the brand). If distraction is the mediator of ad effects, then ads eliciting strong affective reactions, regardless of valence, should impair brand memory and attitude change. This hypothesis suggests that A_b is an inverted-U function of A_{ad} (see Figure 3).

3. *Distinctiveness Hypothesis.* If strong affective reactions to advertising increase memory for advertising, then A_b may be more favorable for brands associated with ads eliciting intense affective reactions, relative to ads eliciting little or no affective reaction. An implicit assumption of this hypothesis is that reactions to the ad and reactions to the brand are separate

in memory. This hypothesis suggests a J-shaped or U-shaped relationship between A_{ad} and A_b (Figure 4).[1]

Figure 2.
Relationships predicted by the Generalization Hypothesis.



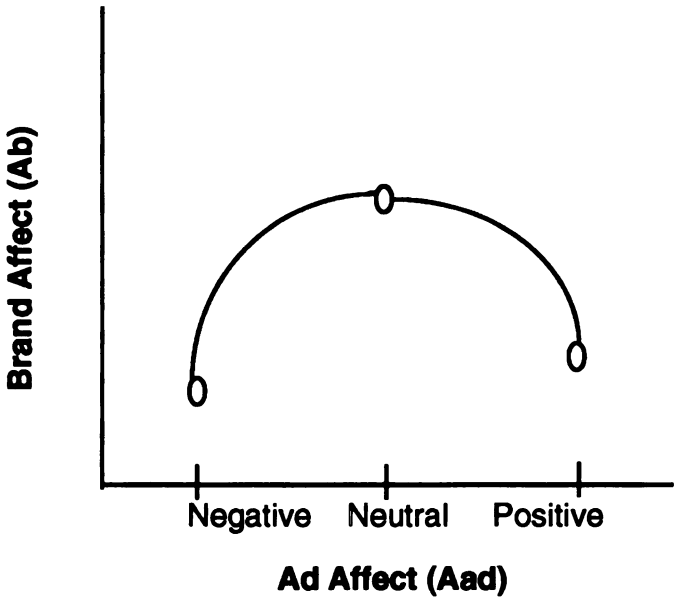
4. *Familiarity-based "Sleeper" Hypothesis.* This hypothesis predicts that immediately after exposure to the ad, there will be a linear relationship between A_{ad} and A_b (i.e., the generalization hypothesis will hold), but after a delay, the direct effect of A_{ad} will decay. Over time, the "indirect" influence of brand familiarity will play a greater role in determining A_b (similar to the distinctiveness hypothesis). Thus, consumers will feel more positively toward brands that they remember, regardless of whether they initially liked the ads or not. An implicit assumption here is that ads producing extreme affective reactions — whether positive or negative — are likely to be better remembered than neutral ads (see Figure 5).

5. *Affect-Based "Sleeper" Hypothesis.* The predictions made by this theory are exactly the reverse of those made by the Familiarity-Based Sleeper Hypothesis. The rationale underlying this hypothesis is that A_{ad} and A_b can initially be separated in memory. Further, it is assumed that A_{ad} has little influence on A_b immediately following exposure. Instead, initial brand evaluations are based upon brand attributes and brand familiarity. Therefore, if ads eliciting a strong affective reaction are attended to more

[1] Moore and Hutchinson do not quite explain why the curve should be J-shaped rather than U-shaped. The implicit thinking seems to be that, while disliked ads will be remembered better than neutral ads, and thus create a more positive brand attitude than neutral ads, ads which are liked will also be remembered, and will create an even more positive brand attitude than disliked ads which are remembered.

than neutral ads, one would expect a J-shaped relationship between A_{ad} and A_b immediately following exposure. After some delay, this theory assumes that A_{ad} and A_b may become confused in memory, and consequently, A_b will be a linear function of A_{ad} (see Figure 6).

Figure 3.
Relationships predicted by the Distraction Hypothesis.



Moore and Hutchinson tested the alternative hypotheses by showing print ads on slides to experimental subjects. Ad affect was measured rather than manipulated. Using "change in brand consideration"[2] as a measure of A_b, the researchers found empirical support for the Familiarity Based Sleeper Hypothesis. However, when they used a measure of brand knowledge ("change in proportion of correct brand-product associations") as the dependent variable, only the seven-day delay group showed the U-or J-shaped curve that was expected.

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[2] The difference in pre-and post-exposure scores to a question regarding subjects' willingness to consider a particular brand if they were in the market for the product category associated with it.

Figure 4.
Relationships predicted by the Distinctiveness Hypothesis.

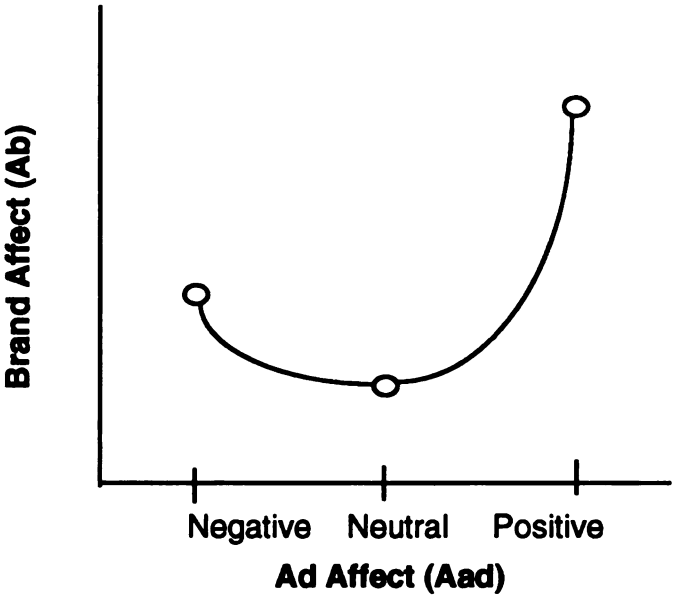


Figure 5.
Relationships predicted by the Familiarity-Based "Sleeper" Hypothesis.

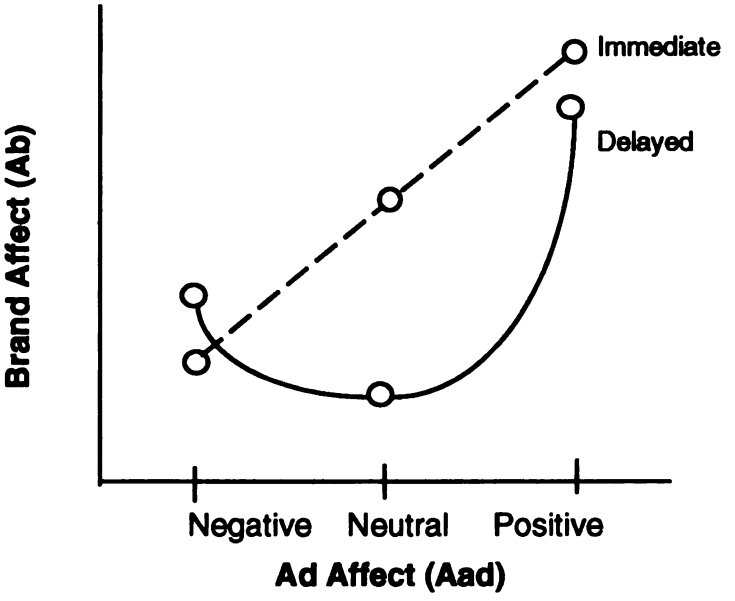
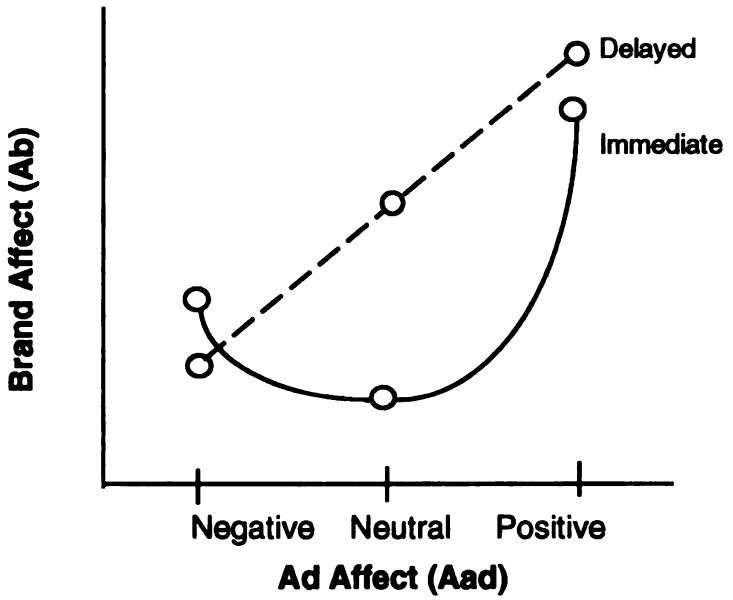


Figure 6.
Relationships predicted by the Affect-Based "Sleeper" Hypothesis.



b. Moore and Hutchinson (1985)

Extending their earlier work, Moore and Hutchinson tested the following hypotheses:

1. Brand awareness and ratings of emotional reactions to ads (A_{ad}) are curvilinearly related such that both negative and positive ads produce greater increments in brand awareness than neutral ads.

2. Attitude toward the brand (A_b) and rated purchase likelihood are linearly related to ratings of emotional reactions to the ad (A_{ad}) immediately following exposure, but curvilinearly related for delayed measures.

3. Prior familiarity or awareness of a brand attenuates the indirect effect of ad affect (A_{ad}) on brand attitude (A_b) by creating equal levels of brand awareness for positive, neutral and negative ads. This hypothesis predicts a main effect for prior exposure to brand names and an interaction between prior exposure and ad affect for brand awareness measures.

4. The amount of variance in brand attitude ratings accounted for by brand awareness increases with delay, while the variance accounted for by emotional reaction to the ad (A_{ad}) decreases with delay. (Variants of this hypothesis were examined to test specific memory models of how the direct and indirect effects of affective reactions change over time.)

Print ads projected on a screen were used as stimuli. The overall design of the study included three independent variables: (1) Training (subjects were trained to memorize twenty brand names, which were either the *same* as for the ads that they would be exposed to, or *different* from the ad they were exposed to; the objective of this "Training" was to induce differential levels of brand familiarity among the two groups); (2) Delay (two- or seven-days); (3) Ad affect (A_{ad}), which was measured rather than manipulated. Dependent measures were taken of (1) affect toward the brand (change in brand liking and change in purchase likelihood), and (2) brand familiarity / knowledge (change in brand familiarity, and change in brand knowledge).

With reference to the A_{ad} —> A_b relationship, the findings of this study were similar to those of Moore and Hutchinson (1983). The data seem to provide limited support for a familiarity-based sleeper effect. However, the researchers noted that the expected interaction (between A_{ad} and delay) was limited to extreme values of A_{ad}. They offer two possible explanations for this: (1) Although the ads were pre-selected to be affectively extreme, the print ads nevertheless failed to produce genuinely extreme affective responses; (2) The experimental manipulation undertaken by the researchers in the form of "Training" (see previous paragraph) possibly sensitized all the subjects to seek out brand names in ads, and did not have its intended effect of selectively maximizing brand familiarity.

However, the relationship between A_{ad} and the two brand familiarity / knowledge variables did not exhibit the patterns anticipated by Moore and

Hutchinson. For subjects highly familiar with the advertised brand names, they had expected A_{ad} to have no impact on brand familiarity, but for unfamiliar subjects, brand familiarity was expected to be a U-shaped function of A_{ad}. Rather than measure prior brand familiarity, Moore and Hutchinson sought to manipulate it through "Training." (Subjects who memorized the *same* brand names for which they later saw ads were expected to be highly familiar with the advertised brands, while subjects who memorized *different* brand names were expected to be unfamiliar.) However, this "Training" resulted sensitized experimental subjects to watch out for brand names. Thus, the empirical findings were that there was no main effect of A_{ad} on brand familiarity/ knowledge. Further, the expected interaction between A_{ad} and "Training" was also not observed (Moore and Hutchinson 1985, p. 77-79).

The third hypothesis, regarding the moderating impact of brand familiarity on the A_{ad} —> A_b relationship, could not be tested satisfactorily owing to the unexpected experimental artifacts resulting from the "Training" manipulation.

The final section of Moore and Hutchinson's paper is concerned with testing three alternative explanations for their fourth hypothesis (see above).[3]

c. Chattopadhyay and Nedungadi (1992)

In a recent study, Chattopadhyay and Nedungadi tested seven memory-based hypotheses regarding the effect of different levels of attention and delay on A_{ad}, and on ad- and brand-directed cognitions. They did not explicitly consider the impact of attention and delay on the A_{ad} —> A_b relationship.

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[3] The three alternative explanations tested were (1) Mutual Exclusion Hypothesis; (2) Affective Components Hypothesis; (3) Ad Information Hypothesis. None of the three alternative explanations was consistent with the data obtained, and the authors suggest that a synthesis of theories should be sought.

The experimental design was a 2 (attention: high versus low) x 2 (delay: immediate versus 7-day) x 2 (ad type: neutral vs. likable) between-subjects factorial design. The stimulus materials consisted of two alternative versions (neutral and likable) of a TV commercial for a real (but unfamiliar) brand of pen, embedded in a 15-minute television program along with other filler ads. The target ad was always shown last. Attention was manipulated by giving subjects different cover stories at the beginning of the experimental session. Dependent variables (A_{ad} , A_b, ad-directed cognitions and brand-directed cognitions) were measured either immediately following exposure, or after a seven-day delay.

The researchers' relevant findings were: (1) The more likable ad resulted in fewer brand cognitions than the neutral ad; (2) The number of brand-directed cognitions was more resilient to decay over time than the number of ad-directed cognitions; (3) Ad type had a significant effect on A_{ad} immediately following exposure, but not after a delay. Specifically, while A_{ad} declined over time for those exposed to the likable ad, there was an increase in A_{ad} over time for those exposed to the neutral ad; (4) Ad type had a significant effect on A_b immediately after ad exposure, regardless of the level of attention paid to the ad; (5) In the case of the delay group, (a) ad type had no impact on A_b for the high-attention group; (b) the likable ad resulted in a *lower* A_b than the neutral ad for the low-attention group. (The researchers suggest that this is because in the likable-ad, low-attention condition, neither ad attitude nor brand cognitions are accessible.)

2.4. THE SLEEPER EFFECT

Both Moore and Hutchinson (1985) and Chattopadhyay and Nedungadi (1992) found support for the existence of a "familiarity based sleeper effect." However, the sleeper effect has had a checkered past, as noted by Alwitt and Mitchell (1985). The label "sleeper effect" is attributed to Hovland, et al. (1953), who came across the phenomenon in the course of their persuasion studies

during World War 2. They found that a persuasive film, designed to induce positive regard for their British allies among American soldiers, produced greater attitude change nine weeks after the message, compared to attitude change measured one week after the message (Petty and Cacioppo 1981, p.89).

Kelman and Hovland (1953) tried to explain the sleeper effect using message-learning theory. According to the message-learning theory, message arguments and message cues are separate. Message cues consist of factors other than message arguments that cause a person to accept or reject an advocacy. Message cues include *augmenting* cues, such as an attractive spokesperson, visually appealing ad, etc., and *discounting* cues, such as an untrustworthy spokesperson. Kelman and Hovland's (1953) *dissociative-cue hypothesis* holds that a sleeper effect occurs because a discounting cue is dissociated from the message conclusion by the passage of time, while the remaining (more slowly decaying) association between message arguments and message conclusion produces what appears to be an "awakening" of attitude change (Petty and Cacioppo 1981, p. 90). The same hypothesis is labeled by Pratkanis and Greenwald (1985) as the *differential decay hypothesis.*

Gillig and Greenwald (1974) were among the many investigators who found that attempts to replicate the sleeper effect did not succeed. Pratkanis and Greenwald (1985) reviewed the history of the sleeper effect, and reiterated the findings of Gruder, Cook, Hennigan, Flay, Alessis and Halamaj (1978), who reasoned that a sleeper effect would occur only under certain restrictive conditions. According to Gruder, et al. (1978), a sleeper effect would occur when (a) a persuasive message has a substantial impact on attitudes; (b) this change is totally inhibited by a discounting cue; (c) the cue and message are dissociated over time; and (d) the cue and the message are dissociated quickly enough so that the message by itself still has some impact when dissociation occurs.

Pratkanis and Greenwald (1985) point out that such conditions (and therefore a reliable sleeper effect) are likely to be relatively rare in natural advertising exposure situations. This study will once again explore if a familiarity-based sleeper effect can be obtained in a somewhat realistic advertising exposure environment.

2.5. EFFECTS OF REPETITION

Both Moore and Hutchinson (1983, 1985) and Chattopadhyay and Nedungadi (1992) have suggested that the impact of repetition should be considered in memory-based explanations of the impact of A_{ad}. Chattopadhyay and Nedungadi (1992) posit that repetition of the ad will result in greater accessibility of ad information, and thus have an impact on the number of ad- and brand-directed cognitions generated over time, as well as on A_{ad} and A_b. Moore and Hutchinson (1983) have suggested that the direct influence of A_{ad} on A_b will increase with repetition. Repetition will also increase the familiarity of the brand, thus enhancing A_b indirectly as well. Accordingly, this section reviews a few of the known findings on the effects of repetition on A_{ad} and A_b.

The "Generalization Hypothesis" tested by Moore and Hutchinson (1983) suggests that the A_{ad} —> A_b relationship works through some kind of classical conditioning mechanism, at least in the short term. Several other researchers have also mentioned classical conditioning as an explanation for the effect of A_{ad} on A_b (e.g., Gardner 1985, Gresham and Shimp 1985, MacKenzie, Lutz and Belch 1986, Mitchell and Olson 1981). If the generalization hypothesis is based upon a conditioning mechanism, then repeated exposures to an ad should strengthen the A_{ad} —> A_b relationship.

Cox and Cox (1988) studied the impact of repetition on A_{ad}. They exposed experimental subjects to a print ad for a fictitious new brand of cola. The independent variables manipulated were ad complexity (low vs. high

complexity), and number of exposures (one vs. two exposures). They found that repetition had a strong positive effect on subjects' evaluations of complex ads, and only a slight (and statistically non-significant) effect on their evaluations of simple ads. The findings also suggested that brand liking improves with greater ad exposure. However, the researchers acknowledge that these effects need to be tested over a wider range of repetitions.

Reviewing earlier literature, Batra and Ray (1986a) predicted that, in general, intermediate levels of message exposure (two or three) should provide higher message effects (measured by A_b and Purchase Intention) than either very low or very high levels. They hypothesized that the effects of advertising repetition would, however, be moderated by consumers' motivation, ability and opportunity to respond. Their study provided limited support for the moderating effects of these variables.

Machleit and Wilson (1988) tested the effect of repetition on the A_{ad}-A_b relationship, using three levels of exposure to four separate target commercials (1, 2 and 3 exposures). They hypothesized that correlations between A_{ad} and A_b should strengthen with repeated exposure to the commercial. However, contrary to their expectation, repetition was found to have an impact on affect transfer for only one of the four TV commercials that were tested. They hypothesize, *post hoc*, that direct transfer of affect may occur only for unfamiliar brands which are also low in involvement.

Other studies have found that increased exposure to ads might actually produce a lower A_{ad}. Burke and Edell (1986) found that consumers who reported having seen specific television commercials many times usually had a negative attitude toward those commercials, but this effect varied substantially from ad to ad. Calder and Sternthal (1980) found that consumers' liking of the ads for one product decreased with exposure, but evaluations of ads for another

product were unchanged with repetition, and actually increased with exposure when execution was varied.

Schumann, Petty and Clemons (1990) extended the research of Calder and Sternthal (1980). They distinguished two alternative types of ad variation strategy — cosmetic variation and substantive variation. Cosmetic variation was defined as changes in endorsers, ad layouts, typefaces, and so forth, with no real changes in message content across different versions of an ad. Substantive variation was defined as changes in message content, with no changes in cosmetic features across different ads. Schumann, et al. (1990) found that cosmetic variation produced more favorable A_{ad} and A_b when the consumers were exposed to the ads under conditions of low personal relevance (peripheral processing in ELM terminology), whereas substantive variation produced more favorable A_{ad} and A_b when the personal relevance of the ads was perceived to be high (central processing in ELM terminology).

Haugtvedt, et al. (1994) found that subjects exposed to a substantive variation strategy would have greater ad feature recall, greater brand attribute recall, and more product related thoughts, compared with subjects exposed to a cosmetic variation strategy. They also found that attitudes formed as the consequence of exposure to three repetitions of an ad displayed less decay than attitudes formed after a single exposure. The substantive and cosmetic variation strategies resulted in slightly more positive attitudes than the same ad repeated thrice. It should be noted that both Schumann, et al. (1990) and Haugtvedt, et al. (1994) used the same set of print advertisements as stimulus materials. Therefore, the generalizability of their results to broadcast ads needs to be investigated.

Based on the above review, one is inclined to agree with Cox and Cox (1988), who observed that the literature on the effects of repetition on ad liking

have produced results that have been mixed and inconclusive. This underlines the need for ongoing research on this topic. The present study will make a contribution to the knowledge about the topic by exploring the impact of repetition on the $A_{ad} \rightarrow A_b$ relationship. The specific research hypotheses flowing from the literature discussed above are presented in Chapter 3.

Table 1.
Personal/ Individual Antecedents of
Attitude Toward the Ad. [a]

Variables	Number of Studies [b]
Emotional Responses	5
Affective Responses	2
Feelings	3
Ad-Related Cognitive Responses	9
Non-ad-related Cognitive Responses	4
Ad perceptions/ credibility	1
Predispositions:	
Prior A_b	2
Attitude toward advertising in general	2
Attitude toward specific ad types	1
Image/ utilitarian beliefs	1
Role orientations	1
Attitude toward advertising	1
Involvement	3
Demographic Characteristics:	
Age	1
Education	1
Perception of Value of Deal	1
Psychological Characteristics:	
Complexity	1
Optimal arousal level	1
Anxiety level	1

[a] Adapted from Muehling and McCann (1993)
[b] Number of studies cited by Muehling and McCann (1993)

Table 2.
Ad-Related Factors/ Antecedents of A_{ad} [a]

Variables	Number of Studies [b]
Humor	5
Endorser/ source	9
Media (TV versus Print)	1
Music	2
Context:	
Number of competitive ads	1
Ad sequence	
"Happy program"	1
Involving program	1
Previous ads	1
Pleasantness	1
Content:	
Number of arguments	3
Imagery	1
Complexity	2
Visuals	2
Message quality	1
Message sidedness	1
Claim strength	1
Sexual appeals	1
Warm/ emotional	2
Pleasantness	1
Number of exposures	1
"Happy ad"	1
Distinctiveness	1
Likable ads	1
Ad focus (blacks/ whites)	1
Ad pacing	1
Role portrayal	1

[a] Adapted from Muehling and McCann (1993)
[b] Number of studies cited by Muehling and McCann (1993)

Table 3.
Other Factors Influencing A_{ad}. [a]

Variables	Number of Studies [b]
Product novelty	1
Product involvement	1
Affective priming	1
Time/ Delay	1
Zipping	1

[a] Adapted from Muehling and McCann (1993).
[b] Number of studies cited by Muehling and McCann (1993).

Table 4.
Consequences/ Effects of A_{ad} [a]

Effects	Number of Studies [b]
A. Cognitive Effects	
Brand Cognitions/ Perceptions	6
Belief Strength/ Confidence	1
Ad Credibility/ Persuasiveness	1
B. Affective Effects	
Attitude toward the Brand	37
Attitude toward the Act of purchasing	2
Attitude toward the deal	1
Attitude toward the issue	1
C. Behavioral Effects	
Interest in buying the brand	3
Viewing time	1
Purchase Intentions	7
Repeat purchase	1

[a] Adapted from Muehling and McCann (1993).
[b] Number of studies cited by Muehling and McCann (1993).

Table 5.
Moderators of A_{ad}. [a]

Variables	Number of Studies [b]
Involvement	7
Processing goal	2
Ad type:	
— Informational/ transformational	1
— Comparative/ non-comparative	1
— Positive/ negative/ neutral	2
— Simple/ complex	2
— One-sided/ two-sided	1
Retrieval cues	1
Personal relevance	1
Brand/ Product Familiarity	3
Time/ Delay	3
Prior Brand Evaluations/Attitudes	1
Nature of claims (abstract/concrete)	1

[a] Adapted from Muehling and McCann (1993).
[b] Number of studies cited by Muehling and McCann (1993).

Chapter 3
RESEARCH HYPOTHESES

This study seeks to examine relationships in the following domains:

1. The immediate and delayed impact of affective responses to the ad (Aad) on affective responses to the brand (Ab), and ad recall.

2. The impact of ad repetition on immediate and delayed measures of A_{ad}, A_b, and ad recall.

In order to study these effects, this study involved manipulation of: (1) delay in measurement level (measures will be taken immediately or seven days after ad exposure); (2) repetition levels (one, or three exposures); and (3) ad type (positive, negative, and neutral). Attitude toward the ad (A_{ad}) was measured rather than manipulated. However, in order to ensure sufficient variance in affective reactions, stimulus materials (ad types) were pre-selected to include commercials intended to induce positive, neutral and negative A_{ad}. A more detailed outline of the methodology is provided in the Chapter 4.

3.1. IMMEDIATE VERSUS DELAYED EFFECTS

The literature review in Chapter 2 leads to the formulation of several hypotheses which can be empirically tested. The first three hypotheses are based on the findings of Moore and Hutchinson (1983, 1985) and Thorson and Friestad (1989). First, the distinctiveness hypothesis suggests that ads which produce a strong affective response are more likely to be recalled, compared to ads producing a more neutral affective response . This is similar to a hypothesis proposed by Page, Thorson and Heide (1990).

H1: Ads which produce a more intensive affective response (regardless of valence) will produce higher ad recall scores than neutral ads, for both no-delay and seven-day groups.

Second, the familiarity-based sleeper effect suggests that, in the short run, A_b is a linear function of A_{ad}. However, after a delay, the relationship between A_b and A_{ad} will be U-shaped (see Chapter 2, Figure 5).

H_2: For the no-delay group, A_b will be a linear function of A_{ad}, with negatively evaluated ads producing the lowest A_b, neutral ads producing intermediate levels of A_b, and positively evaluated ads producing the highest A_b.

H_3: For the seven-day delay group, A_b will be a U-shaped function of A_{ad}, with negatively and positively evaluated ads producing higher levels of A_b compared to neutral ads.

Chattopadhyay and Nedungadi (1992) found that the number of ad-directed cognitions declined more rapidly than the number of brand-directed cognitions. A greater number of cognitions is expected to facilitate the process of retrieval of ad-related information from memory. Accordingly, the following hypothesis is offered:

H_4: Ad recall scores will be lower for the seven-day delay group than for the no-delay group.

The distinctiveness hypothesis would also appear to suggest that the memory trace left by affectively extreme ads is stronger than the trace left by neutral ads. Therefore, the following hypothesis is proposed.

H_5: The decline in ad recall between the immediate and seven-day delay groups will be greater for the neutral ad than the negative or positive ad.

3.2. REPETITION EFFECTS

Cox and Cox (1988) have reported that increased exposure to an ad improves consumers' evaluation of the ad. Other researchers have also predicted that moderate levels of repetition will increase consumers' liking for an ad (Batra and Ray 1988). Apart from increasing consumers' liking for an ad through some form of the "mere exposure" effect (Zajonc 1968), repetition would also be

expected to increase the memory for the ad and the brand in consumers' minds.[1] Accordingly, the following hypotheses are offered:

H_6: Repetition will result in increased consumer evaluation of the ad (i.e., higher A_{ad} scores), regardless of ad type.

H_7: Repetition will result in increased consumer evaluation of the brand (i.e., higher A_b scores), regardless of ad type.

H_8: Increased exposure to the ad will result in higher ad recall, for both no-delay and seven-day delay groups, regardless of ad type.

Chattopadhyay and Nedungadi (1992) have suggested that repetition would help increase the accessibility of ad-related information in consumers' minds. Based on this, one would expect repetition to attenuate the decay in ad and brand recall caused by delay, as stated in the following hypothesis.

H_9: Increased exposure to the ad will attenuate the decline in ad recall scores between the no-delay and seven-day delay. In other words, the *difference* between no-delay and seven-day ad recall scores is expected to decrease with the number of exposures to the ad.

The pattern of interactions predicted by this hypothesis is shown graphically in Figure 7.

Combining the previous findings on the effect of repetition with the "Distinctiveness Hypothesis (H_1)," it is hypothesized that repetition will interact with affective responses to the ad to affect recall, such that:

H_{10}: Increased exposure will produce a greater improvement in ad recall scores for affectively extreme ads than for neutral ads.

The assumption in this hypothesis is that repetition and affective intensity combine to enhance consumer memory for the ad and brand. Further, this hypothesis assumes that there is no "maximum threshold" of awareness beyond which any increase in either affective intensity or number of exposures will be counter-productive. The pattern of interaction predicted by this hypothesis is

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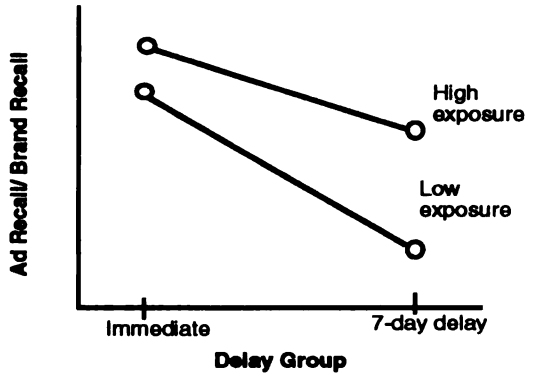
[1] Most researchers appear to be of the opinion that it would take more than three exposures for "wearout" or irritation to set in. Due to experimental constraints, this phenomenon is beyond the scope of this study.

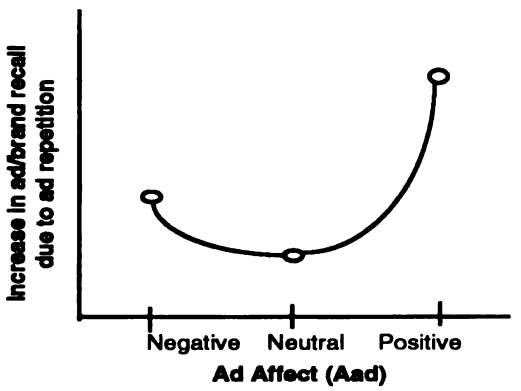
shown graphically in Figure 8. (Note that in Figure 8, the vertical axis measures *change* in recall scores produced by repetition, and not absolute recall scores.)

Figure 7.
Expected interaction between repetition and delay.



An alternative hypothesis, which makes a totally contradictory prediction, is also possible. If one were to assume that there is a "maximum threshold" of ad and brand recall, then it is possible that repetition may not improve recall for ads evoking strong affective feelings. If such a threshold were to exist, neutral ads might benefit more from repeated exposures in terms of greater recall than affectively extreme ads. The methodology used to test these hypotheses is presented in Chapter 4, and the results are presented in Chapter 5.

Figure 8.
Expected interaction between repetition and ad affect.



Chapter 4
METHOD

The hypotheses proposed in Chapter 3 were tested using an experimental design, with television commercials as stimuli. A 12 cell between-subjects factorial design was used. The 12 cells were made up of 3 ad types (positive, negative, neutral), 2 exposure level conditions (one versus three exposures), and 2 measurement delay conditions (immediate measurement vs. one-week delay).

4.1. VARIABLES AND SCALES

The following section describes the independent, dependent and moderating variables that were used in this study.

4.1.1. Independent Variables

The following independent variables were manipulated:

1. Ad type. After reviewing several hundred television commercials, three stimulus ads were selected, such that they would induce positive, neutral and negative affective responses toward the ad (A_{ad}). (The procedure for selection of the stimulus ads is described in greater detail in Section 4.3.) The objective of varying ad type was to overcome the problems encountered by Moore and Hutchinson (1985), who felt that their stimulus print ads possibly did not induce genuinely extreme affective responses. However, pre-selection is still no guarantee that all subjects will experience the same valence and intensity of A_{ad}. Therefore, A_{ad} was treated as a measured variable, not a manipulated one. This is consistent with the conceptualization of Chattopadhyay and Nedungadi (1992), who treated ad type and A_{ad} as separate constructs.

2. *Repetition.* Subjects were exposed to the test commercials either one or three times. The repetition group was given three rather than two exposures, in order to enable a greater variance in ad effects due to greater exposure. This is consistent with Machleit and Wilson's (1988) suggestion that researchers should include enough exposures to a test ad to investigate repetition effects. It should be noted that it is not uncommon for viewers of television programs to be subjected to three (or occasionally even more) repetitions of the same commercial in a half-hour program, especially while viewing sponsored programs.

3. *Measurement delay.* Measures of the dependent variables were taken either immediately after exposure, or after a delay of seven days following exposure. This is consistent with the design used by Chattopadhyay and

Nedungadi (1992). Further, the interaction of repetition and measurement delay (H_{10} and H_{11}) can be studied better when the seven-day delay condition is contrasted with measures taken immediately after exposure, rather than two days after exposure, as done by Moore and Hutchinson (1983, 1985).

The following independent variable was measured, and not manipulated:

4. *Attitude toward the ad* (A_{ad}). Although stimulus ads were pre-selected to ensure a variance in affective responses, these ads could still have induced varying intensities (and even valence) of affective response among subjects. Therefore, A_{ad} were treated as a measured variable. As discussed later, this measure really constitutes a manipulation check for the effectiveness of the "ad type" manipulation.

4.1.2. Dependent Variables

The dependent variables which were measured, either immediately after ad exposure, or after a 7-day delay, are:

1. Attitude toward the brand (A_b).

2. Purchase Intention (PI).

3. Ad recall: Both unaided and aided recall were measured.

4.1.3. Moderating Variables

Many researchers have hypothesized that consumers' level of involvement (with the advertised product class) will moderate the impact of A_{ad} on A_b (see Table 1). The moderating effect of involvement has been explained within the framework of the Elaboration Likelihood Model (Petty and Cacioppo 1981). A_{ad} is seen as a peripheral cue, which will play a much greater role in determining A_b under conditions of low involvement, compared to conditions of high involvement (Lutz 1985). Accordingly, the product class involvement of experimental subjects were measured in order to study its moderating effect on the hypothesized relationships, although no specific hypotheses regarding the effect of involvement were proposed in Chapter 3. Consumers' product class involvement was measured using a scale derived from the Personal Involvement

Inventory (Zaichkowsky 1985). This sub-scale has been previously used and validated by Phelps and Thorson (1991). The scales that were used to measure the constructs described above are summarized in Table 6.

Table 6.
Scales Used to Measure Key Constructs.

A. Prior Brand Familiarity

1. Please indicate if you are familiar with (Target and decoy brands), by circling only one of the following responses: [a]

   a. Have never heard of the brand.
   b. Have heard of the brand name, but don't know anything else about it.
   c. Have heard of the brand name and know what products it relates to.
   d. Know a little bit about the brand and the product class
   e. Am extremely knowledgeable about the brand and product class.

B. Attitude Toward the Ad

1. Please indicated your feelings about the ad for (Target Brand), by marking the most appropriate spot on each of the following scales: [b]

Good	—:	—:	—:	—:	—:	—:	—:	Bad
Unpleasant	—:	—:	—:	—:	—:	—:	—:	Pleasant
Favorable	—:	—:	—:	—:	—:	—:	—:	Unfavorable
Enjoyable	—:	—:	—:	—:	—:	—:	—:	Not enjoyable
Disliked it	—:	—:	—:	—:	—:	—:	—:	Liked it
Irritating	—:	—:	—:	—:	—:	—:	—:	Likable
Informative	—:	—:	—:	—:	—:	—:	—:	Uninformative

C. Attitude Toward the Brand

1. Please indicate your feelings about (Target Brand) by marking the most appropriate spot on each of the following scales:[b]

Good	—:	—:	—:	—:	—:	—:	—:	Bad
Unpleasant	—:	—:	—:	—:	—:	—:	—:	Pleasant
Favorable	—:	—:	—:	—:	—:	—:	—:	Unfavorable
Dislike	—:	—:	—:	—:	—:	—:	—:	Like
Poor quality	—:	—:	—:	—:	—:	—:	—:	High quality

(Table continued on next page)

Table 6 (continued).

D. Purchase Intention

1. If you were in the market for (Product), how likely is it that you would consider buying (Target Brand)? Please mark the appropriate spot in each of the following scales. [b]

Likely	—:	—:	—:	—:	—:	—:	—:	Unlikely
Probable	—:	—:	—:	—:	—:	—:	—:	Improbable
Possible	—:	—:	—:	—:	—:	—:	—:	Impossible

E. Brand Recall

Free Recall

1. Please list all the brands for which you remember seeing commercials during the program you just viewed.

Aided Recall

2. Please indicate if you remember seeing commercials for the following brands during the program you just viewed.

   (Both target and decoy brand names)

   Yes____ No_____

F. Ad Message Recall

1. Please write down as much as you can remember about the ad for (Target Brand) that was shown during the program that you just viewed.

(Table continued on next page)

Table 6 (continued).

G. Product Class Involvement

1. Please indicate your feelings about (target and decoy product categories) along the following dimensions:[c]

Important to me	—:	—:	—:	—:	—:	—:	—:	Unimportant to me
Of no concern to me	—:	—:	—:	—:	—:	—:	—:	Of concern to me
Irrelevant	—:	—:	—:	—:	—:	—:	—:	Relevant
Very meaningful to me	—:	—:	—:	—:	—:	—:	—:	Means nothing to me
Matters to me	—:	—:	—:	—:	—:	—:	—:	Doesn't matter
Interesting	—:	—:	—:	—:	—:	—:	—:	Not interesting
Significant	—:	—:	—:	—:	—:	—:	—:	Insignificant
Boring	—:	—:	—:	—:	—:	—:	—:	Exciting

a Adapted from Moore and Hutchinson (1985).
b Adapted from MacKenzie and Lutz (1989), Machleit and Wilson (1988).
c Adapted from Zaichkowsky (1985).

4.2 SCALE RELIABILITIES

The reliabilities of these scales are reported in Table 7. The value of Cronbach's alpha for all the items was above 0.9, well above the acceptable limits for most published studies in consumer research (Peterson 1994).

Table 7.
Reliability Coefficients for Key Measurement Scales.

Variable	Number of items	Coefficient Alpha (Standardized)
Attitude toward the ad (A_{ad})	6	0.96
Attitude toward the brand (A_b)	5	0.93
Purchase intention (PI)	3	0.94
Product category involvement (potato chips)	8	0.94
Product category involvement (ice cream)	8	0.95
Product category involvement (bread)	8	0.92
Product category involvement (instant meals)	8	0.96

4.3. SUBJECTS

The hypotheses were tested in an experimental setting, using student subjects. The subjects were undergraduate students enrolled in communication and marketing programs at a small state university on the Gulf Coast. The experimental design calls for a total of twelve cells. An attempt was made to obtain 20 subjects per cell, but there was a shortfall in a few cases, due to attrition between sessions (in the case of the delayed measurement condition), or no-shows.

Subjects were recruited in classrooms, through a voluntary sign-up procedure. As an incentive for participating in the study, subjects were told that their names would be enrolled in a sweepstakes, with a color television set as the prize. A total of 211 subjects completed both parts of the study. Of the 211 subjects, 87 (41.2 percent) were male, and 124 (58.8 percent) were female. The age of the participants ranged from a minimum of 17 years to a maximum of 53. The mean age of the subjects was 24 years, and the median age was 22. They were randomly assigned to one of twelve experimental conditions. Details of the experimental procedure are described in Section 4.5.

4.4. STIMULUS MATERIALS

4.4.1. Pretesting

The objective of the pretest was to identify (at least) three commercials that would induce positive, negative and neutral attitudes, respectively, among the target audience.

Step 1. After viewing hundreds of (15 and 30 second) TV commercials, twenty one were shortlisted as candidates for testing. The criteria used for shortlisting were: (1) the commercials should advertise products, rather than services (a stipulation borrowed from Machleit and Wilson 1988; the rationale for this criterion is that it is more valid to expect purchase decisions for products to be

made on the basis of advertising, compared to services); (2) the experimental subjects (i.e., students) should constitute a valid target market for the products advertised; (3) the brands should be unfamiliar, or only moderately familiar, to the target audience, to rule out confounds arising from brand familiarity.

Step 2. The twenty one commercials were pretested among a sample of forty nine undergraduate students. The students were split up into two groups. The first group (n = 23) was shown ten commercials, and the second group (n = 26) was shown the remaining eleven commercials. The purpose of splitting the commercial pool among two groups was to avoid respondent fatigue.

Before viewing the commercials, respondents answered a question indicating their familiarity with 26 brands, including the brands featured in the test commercials. A few well known national brands (such as Folger's, Wrigley and Frito Lay) were included in the list to help "calibrate" their responses. Next, respondents answered a question reporting their purchase likelihood for 22 product categories, comprising the categories represented in the test commercials.

After answering the first two questions, respondents were shown the test commercials one at a time, and asked to immediately record their attitude toward the ad (A_{ad}), attitude toward the brand (A_b) and purchase intention (PI). This procedure was repeated until the respondents had been exposed to all the commercials.

The results of the pretest are presented in Table 8. Attitude toward the Ad and Purchase Intention were measured on multi-item 7-point semantic differential scales, which were then averaged to give the reported score (see Table 6). Brand familiarity was measured on a 5-point scale. In Table 8, the brands are arranged in ascending order of the mean A_{ad} score. Based on the pretest, the following commercials were chosen as stimulus ads for the final

experiment: (1) Krunchers Potato Chips (negative A_{ad}), (2) Arnold Bakery Light Bread (neutral A_{ad}), and (3) Prior Instant Meals (positive A_{ad}).

Table 8. Pretest Results.

Brand	Product Category	Aad Mean	Aad Mode	Brand Familiarity[1]	PI (Product)[2]
Claritin	Allergy Medicine	2.186	1.129	1.584	3.662
Gulden's	Mustard	2.286	2.000	2.288	4.851
Mentos	Mints	2.885	1.000	4.084	5.377
Krunchers	**Potato Chips**	**2.922**	**2.000**	**1.519**	**5.560**
Sasson	Apparel	3.267	3.571	3.703	6.796
Stetston	Cologne	3.659	1.000	3.388	6.323
Payday	Candy	3.962	3.286	4.061	6.861
Arnold Bakery	**Light Bread**	**4.262**	**4.857**	**1.938**	**5.892**
Vanish	Toilet Cleaner	4.422	7.000	3.146	4.904
Almond Delight	Cereal	4.507	4.571	2.490	3.970
Nescafe	Instant Coffee	4.681	4.571	3.967	2.450
Tone	Bath Soap	4.681	2.714	3.233	5.491
Crystal Lite	Soft Drink Mix	4.851	4.000	4.280	4.073
Manager Jeans	Jeans	4.851	5.571	1.099	5.388
Darigold	Ice Cream	4.851	5.286	1.159	5.784
Designer Imposter	Cologne	4.874	6.429	3.174	6.323
Alexander Keith	Alcoholic Beverage	4.968	4.429	1.060	5.288
St. Pauli Girl	Imported Beer	5.011	4.286	3.352	4.383
Sunlight	Dish Detergent	5.198	5.286	3.127	4.181
Prior	**Instant Meal**	**5.609**	**6.143**	**1.145**	**4.808**
Evian	Bottled Water	5.875	7.000	4.239	6.316

Although Claritin produced a more negative A_{ad} than Krunchers, potato chips are more universally purchased by the target audience than allergy medication (see PI scores in Table 8). The Gulden's Mustard commercial also produced a more negative A_{ad} score than Krunchers, but it was a 15-second spot, whereas most of the other spots (including Krunchers) were 30 seconds long.

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[1] The brand familiarity and product purchase intention scores have been averaged out across the two groups (n = 49).

[2] The PI scores reported here indicate respondents' (pre-exposure) likelihood of purchasing the product category itself (e.g., "Allergy Medication") and not the specific brand advertised.

The Mentos commercial was ruled out on the grounds that the target audience was too familiar with the brand. Hence, the Krunchers commercial was selected for the "negative A_{ad}" category.

In the "neutral" A_{ad} category, the possible candidate commercials were Sasson (apparel), Payday (candy) and Arnold Bakery Light (bread). Of these, Payday appeared to have a fairly high brand familiarity among the respondents, which made it less desirable as a stimulus brand. The Sasson commercial also seemed to be well qualified, but it had some executional idiosyncrasies that made it (in the researcher's opinion) a less suitable candidate commercial than the Arnold Bakery Light commercial.

Selection of the candidate commercial for the positive A_{ad} category posed relatively fewer problems. The ad that was evaluated the most positively in the pretest was a spot for Evian bottled water. However, the brand familiarity scores for Evian were extremely high. Therefore, the ad for Prior Instant Chicken was chosen as the stimulus commercial for the positive A_{ad} condition.

The differences in pairwise A_{ad} means were examined using a t-test. The results showed that there was a statistically significant difference between pairwise means at an alpha level of 0.05. This confirms that the stimulus ads were indeed suitable for inducing the desired affective responses among subjects. The scripts for the three stimulus commercials are attached in Appendix 2.

4.4.2. Stimulus program

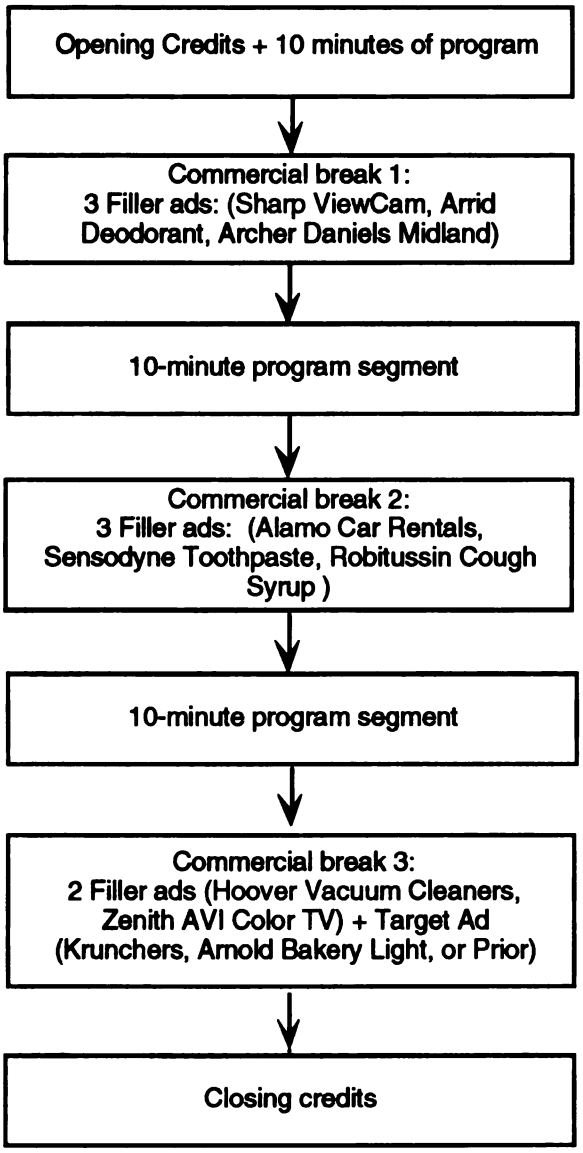
The stimulus ads were embedded in a 30-minute television program, in order to provide for a realistic ad exposure environment. The program was a documentary titled *Southern Voices, Southern Words,* which had been produced for public television by one of the faculty members at the university where the experimental study was conducted. Although the documentary had been screened once or twice on regional PBS networks, it was expected that most of

the target audience would not have seen the program previously. Machleit and Wilson (1988) have suggested that the program used for embedding commercials in a test setting should be relatively neutral in affect, to avoid confounding effects caused by affective reactions to the program itself. The selected documentary satisfied this condition by providing a relatively neutral program environment.

The stimulus materials were developed very carefully, so as to realistically approximate the viewing environment of many network television programs. This was in response to several calls in the literature urging consumer researchers to pay attention to ecological validity (D'Souza and Rao 1995, Pechmann and Stewart 1989). Three commercial breaks were introduced into the program, with three commercials in each pod. The first break was inserted approximately ten minutes into the program, the second twenty minutes into the program, and the final break was inserted just before the final credits. The sequence of programming and commercial breaks is shown visually in Figure 9.

The target (stimulus) commercial was shown either once (single exposure condition) or three times (repetition condition). For the single-exposure condition, the target commercial was placed at the very end of the last commercial break. This placement was consistent with the practice followed by Chattopadhyay and Nedungadi (1992). It should be noted here that the placement of the stimulus commercial in a pod gives rise to questions of sequencing effects. Placing a commercial at the beginning of a pod could give rise to primacy effects, and placing it at the end of a pod could give rise to recency effects. It is beyond the scope of this study to address these issues. However, the impact of sequencing effects should have been the same across all three ad types in the single-exposure condition, as the target commercial was placed at the end of the third pod, regardless of ad type.

Figure 9.
Sequence of commercial breaks.



N.B.: In the 3-exposure (repetition) condition, the Arrid commercial in Break 1, and the Sensodyne commercial in Break 2 were replaced with the target commercial. (In the seond commercial break, the target ad ran first, the Alamo ad second and the Robitussin ad third.)

Along with the target commercial, subjects also saw eight filler commercials. The filler commercials were chosen according to the following criteria: (1) they were relatively neutral commercials; (2) there was a mix of

commercials for familiar and unfamiliar brands. For the three-exposure (repetition) condition, the third exposure was placed in the middle of the first commercial pod, the beginning of the second pod, and at the very end of the third pod (see Figure 9).

4.5. PROCEDURE

After arriving at the experimental venue, subjects were informed that they would be taking part in a research project to learn more about their television viewing and purchasing habits. They were also told that the study would solicit their opinion about a program produced by the documentary institute at their university. Confidentiality of data was guaranteed. However, as an incentive, all subjects who completed both parts of the study were eligible to have their names entered in a sweepstakes, with a color television set as the prize.

First, subjects answered a few decoy questions pertaining to their television viewing habits, and about the subject matter of the documentary. Second, they answered a battery of questions measuring their familiarity with various brand names, including the target brands. Third, they answered questions indicating their purchase intentions — and involvement — with regard to several product categories, including the categories pertaining to the target brands. (A copy of the questionnaire is found in Appendix 1. It should be noted that there were six versions of the questionnaire, with the brand name, category and instructions modified according to the target ad and delay condition.) Most subjects took ten to twelve minutes to complete the first part of the study. After completing these questions, subjects viewed the 30-minute documentary with the commercials embedded in it. They were exposed to the target commercial either once or three times.

After viewing the program, subjects were given a distracter task, where they answered a few questions measuring their responses to (and involvement

with) the documentary they had just seen. Subjects in the 7-day delay condition were then excused, and asked to return one week later. To disguise the purpose of the study, subjects in the 7-day delay condition were told that they might have to view another documentary at that time. In reality, when the subjects returned, they were asked to complete the post-exposure questionnaire. Subjects in the no-delay condition were given the post-exposure questionnaire immediately after they had completed the distracter task.

The post-exposure questionnaire consisted of three parts. The first part measured unaided and aided recall of the target ad. It also measured if the respondent could successfully retrieve the message in the target ad. The second part measured the subjects' attitudes toward the target brand (A_b) and purchase intentions. After completing the second part, subjects were then shown the target ad once again, and asked to complete the third part of the post-exposure questionnaire. The third part of the questionnaire served as a manipulation check, and measured subjects' attitude toward the ad (A_{ad}). Subjects were also asked to respond to 20 Likert items indicating their reactions to the target commercials. These Likert items were adapted from the Viewer Response Profile (VRP) scale (Coulson 1989, Schlinger 1979). The objective of these questions was to get a better understanding of the dimensions of A_{ad}. Questioning during the debriefing session after the study revealed that there had been no hypothesis-guessing. In the debriefing session, students were informed about the true purpose of the study, and given the option to withdraw their questionnaires from the data used for analysis. None of the subjects opted to withdraw their questionnaire. The results of the study with respect to the hypotheses will be discussed in Chapter 5.

Chapter 5
RESULTS

This chapter reports the results of the study. First, the post-hoc measures of attitude toward the ad (A_{ad}) across the three ad types are compared to see if the stimulus ads succeeded in producing the desired affective response. The data are then examined to see if they support the hypotheses proposed in Chapter 3.

5.1 MANIPULATION CHECK

As noted in Chapter 4, the three stimulus commercials were selected in order to induce a positive, neutral or negative A_{ad} among respondents. While the pretest indicated that the three ads would indeed induce the desired affective responses, a post-hoc measure of A_{ad} was also taken after the completion of the main experiment as a manipulation check. Attitude toward the ad was measured on a seven point scale, with 1 representing a very negative attitude, and 7 representing a very positive attitude. The results are reported in Table 9.

Table 9.
Mean Scores for Attitude toward the Ad,
Attitude toward the Brand and Purchase Intentions Across Ad Types.

Ad Type (Intended Affective Response)	Attitude toward the Ad (A_{ad})	Attitude toward the Brand (A_b)	Purchase Intention (PI)
Krunchers (Negative)	3.35*	3.98	3.45
Arnold Bakery (Neutral)	3.90*	4.31	3.43
Prior (Positive)	5.31*	4.33	3.31

* Significantly different from the scores for the other two ads at the $\alpha = 0.05$ level.

Consistent with the results of the pretest, the Krunchers Potato Chips commercial produced the least positive A_{ad}, with a mean score of 3.35. The ad for Arnold Bakery Light Bread was evaluated a little more positively, with a mean score of

3.90, and the ad for Prior Instant Chicken received the highest score of 5.31. A t-test was used to compare the pairwise means across the three conditions. The A_{ad} score for each ad type was significantly different from the other two at the 95 percent level of significance. The t-test results confirm that the three stimulus ads did indeed succeed in inducing the desired affective response among the respondents. The ad type manipulation may therefore be deemed successful.

In terms of the actual scores, the Krunchers ad (negative ad type) was evaluated only mildly negatively (its A_{ad} score of 3.35 on a scale of 1 to 7 is just below the mid-point of the scale). The Arnold Bakery ad (neutral ad type) was evaluated only slightly more positively than the Krunchers ad. The Prior ad (positive ad type) was evaluated much more positively than the other two ads.

5.2 GLOBAL CORRELATIONS

The data in Table 9 indicate that the variation in ad type produced the desired variation in A_{ad} scores. The variation in the A_b scores is in the same direction as the A_{ad} scores, with the negatively evaluated ad producing the least positive A_b, and the positively evaluated ad producing the most positive A_b. However, a t-test showed that the difference in A_b scores across the three ad types was not statistically significant at the 95 percent level of significance.

The direction of the PI scores is not consistent with the direction of the A_{ad} and A_b scores. The most favorably evaluated ad (Prior) produced the lowest PI score (3.31), while the least favorably evaluated ad (Krunchers) produced the highest PI score (3.45) (see Table 9). The mean scores for PI across the three ad types are clustered together very tightly, with a difference of only 0.14 (on a 7-point scale) between the highest and lowest mean scores, suggesting that the differences in mean PI scores across the three ads can be attributed to random differences. This is confirmed by the results of the t-test, indicating that the

purchase intention (PI) scores across the three ad types were not significantly different from each other at the 0.05 alpha level.

Although the hypotheses in Chapter 3 do not specifically include PI as a criterion variable, the relationship between PI and the other variables was examined to see if the data were consistent with previous research on the subject. The data reported in Table 9 seem to indicate an inconsistency in the direction of A_{ad} and PI. On the other hand, most of the previous literature on the topic has suggested a positive, statistically significant correlation between A_{ad}, A_b and PI. In an attempt to investigate this issue further, the correlations between the three constructs were examined, pooling the data from subjects across all the experimental conditions. This data indicates that there is indeed a positive and statistically significant correlation between A_{ad}, A_b and PI (see Table 10).

Table 10.
Correlations between Attitude toward the Ad, Attitude toward the Brand and Purchase Intention
(Data pooled across all experimental conditions, n = 205).

Variable	A_{ad}	A_b
A_b	0.5726**	—
PI	0.3633**	0.6206**

** Significant at the $\alpha = 0.01$ level.

5.2.1. Tercile Split

Taken together, the data from Tables 9 and 10 indicate that, while there is an overall positive correlation between A_{ad}, A_b and PI, the differences in A_b and PI obtained across the three ad types are not large enough to be statistically significant. An explanation that can help resolve these seemingly contradictory results is that, while the ad type manipulation achieved its goal of producing differential levels of A_{ad}, there is a wide variance in the respondents' A_{ad} scores within each ad type. To verify this explanation, the data was split into three

terciles, according to respondents' post-hoc A_{ad} scores. This resulted in three respondent groups: one with low (or "negative") A_{ad} (mean $A_{ad} \leq 3.50$), one with medium A_{ad} (mean A_{ad} between 3.51 and 4.82), and one with positive A_{ad} (mean $A_{ad} \geq 4.83$). When the mean scores for A_b and PI are compared using these post-hoc "ad groups," rather than the predetermined ad types, the results are consistent with the positive correlations found in Table 10. The mean scores for A_b and PI for the three ad groups are reported in Table 11. In contrast with the data in Table 9, it can be seen that the direction of the PI scores is consistent that of the A_b and PI scores. However, the difference in the PI scores between Ad Groups 2 and 3 is not statistically significant. In the analysis that follows, the data will be analyzed according to both ad type and ad group, to examine if the results are consistent across both types of analysis.

Table 11.
Mean Scores for Attitude toward the Ad, Attitude toward the Brand and Purchase Intentions across "Ad Groups."

Ad Group (Tercile Split along A_{ad} scores)	Attitude toward the Ad (A_{ad})	Attitude toward the Brand (A_b)	Purchase Intention (PI)
Ad Group 1 ($A_{ad} \leq 3.50$)	2.03*	3.33*	2.67*
Ad Group 2 (A_{ad} >3.51 and <4.82)	4.15*	4.28*	3.59
Ad Group 3 ($A_{ad} \geq 4.83$)	5.99*	4.92*	3.97

* Significantly different from the scores for the other two ad groups at the $\alpha = 0.01$ level.

5.3 HYPOTHESIS TESTING

5.3.1. Unaided recall across ad types

The study measured both unaided and aided recall of the target ad. To measure unaided recall, subjects were given a free recall task, which asked them to list all the brands for which they remembered seeing commercials. After this, they were given the aided recall task, which asked them to indicate if they had

seen a commercial for the brand(s) listed in the questionnaire. To avoid biasing the respondents, the list included brands from the filler commercials, as well as various "decoy" brands, in addition to the target brand (see Question 30 in the Questionnaire included in Appendix 1).

The open-ended responses to the recall question fell into four categories: (1) recall of both the brand and product category, (2) recall of the product category but not the brand, (3) recall of the product category and the wrong brand, and (4) recall of neither the product category nor the brand. In the analysis below, recall is treated as dichotomous, i.e. recall was either successful or unsuccessful. Thus responses from subjects in Categories 2 and 3 are not reported below.

Based on the distinctiveness hypothesis (Moore and Hutchinson 1983, 1985), H_1 predicted that ads inducing a more intensive affective response (regardless of valence) would produce higher ad recall scores than neutral ads, for both no-delay and 7-day groups. The data for ad recall for the three ad types are presented in Table 12. It can be seen from the table that the three different ad types had substantially different rates of recall, an observation confirmed by a chi-square test, which was significant at an alpha level of 0.02.

Table 12.
Unaided Recall of Different Ad Types.

Ad Type	Recalled Ad	Did Not Recall Ad	Total
Negative (Krunchers)	56 (60.9%)	36 (39.1%)	92
Neutral (Arnold Bakery)	25 (51.0%)	24 (49.0%)	49
Positive (Prior)	18 (35.3%)	33 (64.7%)	51
Total	99 (51.6%)	93 (48.4%)	192

Chi-square (d.f. 2) = 8.60 ($P < 0.02$)
N.B.: Does not include data for respondents who recalled just the brand name or product category.

According to H_1, both the negative (Krunchers) ad and the positive (Prior) ad should have had a higher percentage of recall than the neutral (Arnold Bakery) ad. The data in Table 12 shows that the negative ad did indeed have a higher percentage of recall (60.9%) than the neutral ad (51.0%), but the positive ad had an even lower percentage of recall (35.3%) than the neutral ad. Thus, H_1 is not supported.

The data was re-analyzed using the post hoc "ad groups" (tercile split of post hoc A_{ad} scores) instead of the predetermined ad types (see Table 13). The pattern of results was very similar to that found in Table 12. However, a chi-square test showed that the differences across cells were not statistically significant at the 0.05 alpha level, suggesting that the recall percentages for the neutral and positive ads are very similar.

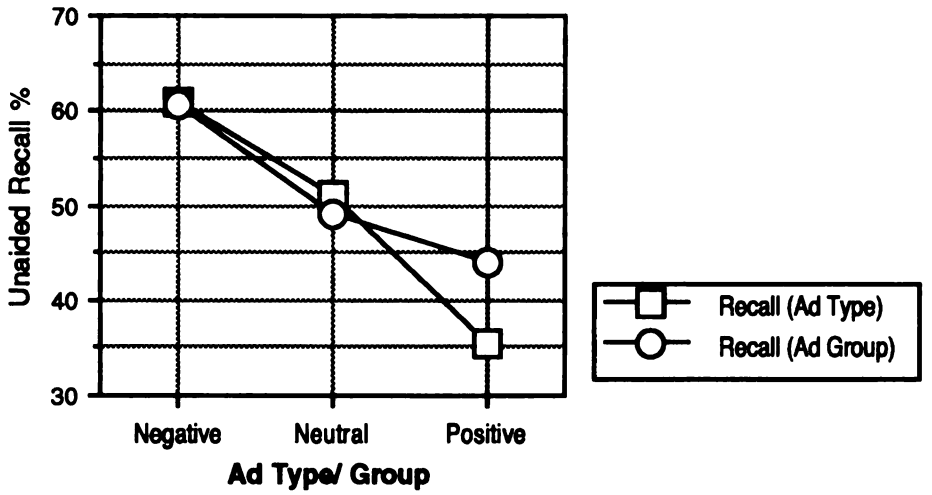
Table 13.
Unaided Recall of Different Ads Classified by Ad Group.

Ad Group (A_{ad} terciles)	Recalled Ad	Did Not Recall Ad	Total
Negative (Tercile 1)	43 (60.6%)	28 (30.1%)	71
Neutral (Tercile 2)	28 (49.1%)	29 (50.1%)	57
Positive (Tercile 3)	28 (43.8%)	36 (56.2%)	64
Total	99 (51.6%)	93 (48.4%)	192

Chi-square (d.f. 2) = 4.00 (P <0.15)
N.B.: Does not include data for respondents who recalled just the brand name or product category.

The pattern of recall scores across the three ad types and ad groups is depicted visually in Figure 10. The figure indicates a negative linear relationship between A_{ad} and recall, whereas H_1 suggested a U-shaped relationship. Thus H_1 is not supported by the recall scores re-analyzed according to ad group.

Figure 10.
Comparison of Unaided Recall by Ad Type and Ad Group.



5.3.2. Aided recall across ad types

The data for aided recall across ad types and ad groups follows the same pattern as the data for unaided recall. As might be expected, the percentage of aided recall is greater than unaided recall across all three ad types and ad groups. The data for aided recall is presented in Tables 14 and 15. Once again, the negatively evaluated ad had the highest aided recall (92.6% for Krunchers, 91.4% for Tercile 1), followed by the neutral ad (80.0% for Arnold Bakery, 79.4% for Tercile 2), followed by the positive ad (56.4% for Prior, 67.2% for Tercile 3).

Table 14.
Aided Recall of Different Ad Types.

Ad Type	Recalled Ad	Did Not Recall Ad	Total
Negative (Krunchers)	88 (92.6%)	7 (7.4%)	95
Neutral (Arnold Bakery)	44 (80.0%)	11 (20.0%)	55
Positive (Prior)	31 (56.4%)	24 (57.1%)	55
Total	163 (79.5%)	42 (20.5%)	205

Chi-square (d.f. 2) = 28.14 ($P < 0.01$)

Table 15.
Aided Recall of Different Ads Classified by Ad Group.

Ad Group (A_{ad} terciles)	Recalled Ad	Did Not Recall Ad	Total
Negative (Tercile 1)	64 (91.4%)	6 (8.6%)	70
Neutral (Tercile 2)	54 (79.4%)	14 (20.6%)	68
Positive (Tercile 3)	45 (67.2%)	22 (32.8%)	67
Total	163 (79.5%)	42 (20.5%)	205

Chi-square (d.f. 2) = 12.37 ($P < 0.01$)

5.3.3. Overall effect of A_{ad} on A_b

It has already been seen that there is a strong (and statistically significant) positive correlation between A_{ad} and A_b for all subjects taken together (see Table 10). To further examine the overall effects of A_{ad} on A_b, a simple linear regression analysis was conducted, with A_b as the dependent variable and A_{ad} as the independent variable. The results are reported in Table 16. The regression analysis confirms that A_{ad} has a positive and statistically significant impact on A_b. The value of the regression coefficient (R^2) is 0.33, indicating that A_{ad} accounts for 33 percent of the variance in A_b.

Table 16.
Regression Analysis Results: Standardized Regression Coefficients
(Data pooled across all conditions).

Dependent Variable	A_{ad}	A_b	F	R^2	n
A_b	0.57	—	97.08*	0.33	200
PI	—	0.62	123.32*	0.38	198

** $P<0.01$

A multiple regression analysis was also conducted with PI as the criterion variable, and A_{ad} and A_b as the predictor variables (see Table 16). Using a stepwise procedure, A_{ad} was eliminated from the model, leaving A_b as the only statistically significant predictor of PI for the global model. The value of R^2 is 0.38, indicating that A_b accounts for 38 percent of the variance in PI.

5.3.4 Immediate and Delayed Effects of A_{ad} on A_b

Based upon the previous literature on the effects of A_{ad} on A_b, H_2 predicted that, for the no-delay group, A_b would be a linear function of A_{ad}, with negatively evaluated ads producing the least positive A_b, and positively evaluated ads producing the most positive A_b. The A_b and PI mean scores for the three ad types split by delay condition are reported in Table 17.

Table 17.
Mean A_b and PI Scores by Ad Type and Delay Condition.

Ad Type	A_b		PI	
	No delay	Delay	No delay	Delay
Krunchers (Negative)	3.85	4.08	3.33	3.55
Arnold Bakery (Neutral)	4.30	4.31	3.15	3.70
Prior (Positive)	4.39	4.27	3.21	3.40

t-values for pairwise differences between ad types are not significant at $\alpha = 0.05$

For the no-delay condition, the data in Table 17 appear to indicate that A_b is a linear function of ad type, while PI is a U-shaped function of ad type. However, a t-test shows that the differences in A_b and PI scores (between pairs of ad types) are not statistically significant. Thus, H_2 is only partially supported by the data.

Based upon the distinctiveness hypothesis, H_3 predicted that, for the delay condition, A_b would be a U-shaped function of ad type. After examining the delay condition data in Table 17, no clear pattern emerges in terms of the functional relationship between ad type and A_b. The mean A_b scores are almost equal across all the three ad types. A t-test shows that the differences in A_b and PI scores (between pairs of ad types) are not statistically significant. Thus, H_3 is not supported.

When the data are re-analyzed along the tercile split ad group, instead of the predetermined "ad type," a slightly clearer pattern emerges. The mean

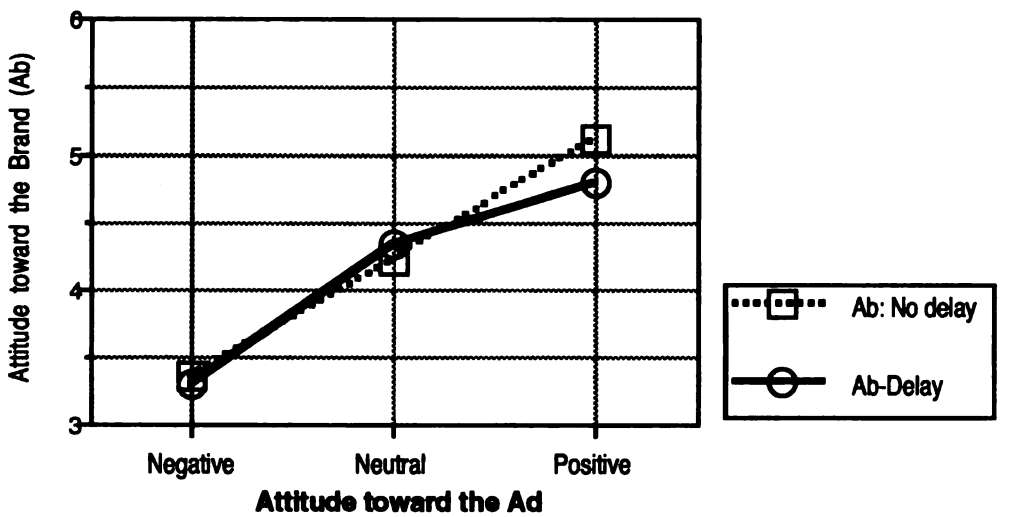
scores for A_b and PI grouped according to ad group and delay condition are reported in Table 18. As can be seen from this table, A_b appears to be a linear function of A_{ad} (ad group) for the non-delay condition. Moreover, the differences in A_b scores across the three A_{ad} terciles are statistically significant.

Table 18.
Mean A_b and PI Scores by Ad Group and Delay Condition.

Ad Group (A_{ad} terciles)	A_b		PI	
	No delay	Delay	No delay	Delay
Negative (Tercile 1)	$3.36^{b,c}$	$3.30^{b,c}$	$2.61^{b,c}$	$2.74^{b,c}$
Neutral (Tercile 2)	$4.22^{a,c}$	4.34^{a}	3.34^{a}	3.85^{a}
Positive (Tercile 3)	$5.12^{a,b}$	4.79^{a}	4.06^{a}	3.92^{a}

[a] Significantly different from Ad Group 1 at $\alpha = 0.01$
[b] Significantly different from Ad Group 2 at $\alpha = 0.01$
[c] Significantly different from Ad Group 3 at $\alpha = 0.01$

Figure 11.
Observed relationship between A_{ad} (Ad Group) and A_b, for no-delay and delay conditions.



It may be noted that purchase intention also appears to be a linear function of A_{ad}, for both the non-delay and delay conditions. However, a t-test indicates that the difference between the PI scores for the neutral and positive

conditions is not statistically significant (see Table 18). The data from Table 18 are presented visually in Figure 11, to facilitate a visual comparison of the results with the trends predicted by H_2 and H_3 (shown in Figure 5). It is clear that A_b appears to be a linear function of A_{ad} for both the no-delay and delay conditions. Thus, H_2 is supported, but H_3 is not supported by the data.

To further explore if delay moderated the A_{ad} —> A_b relationship significantly, an analysis of variance (ANOVA) was conducted, with A_b as the criterion variable, and Ad Type and Delay as predictor variables. The main effect for ad type ($F=1.612$; $P>0.20$) and delay ($F=0.166$; $P>0.68$), and the two-way interaction effects between ad type and delay ($F=0.296$; $P>0.74$) were all not statistically significant. However, an ANOVA using Ad Group (A_{ad} terciles) instead of ad type, yielded slightly different results. The results of the ANOVA are reported in Table 19. The data in the table indicate that A_{ad} had a statistically significant effect on A_b, but that the main effect of delay, and of the interaction of delay and A_{ad} were not statistically significant. Therefore, the data in Table 19 further confirm the trend seen visually in Figure 11, namely, that delay seems to have had no moderating effect on the linear relationship between A_{ad} and A_b.

Table 19.
Effects of A_{ad} and Delay on A_b.

Source	F Statistic	Degrees of Freedom	Significance of F
Main Effects			
Ad Group (A_{ad} terciles)	30.47	2	<0.01
Delay	0.26	1	0.61
2-way interactions			
Ad Group x Delay	0.57	2	0.57

The effects of A_{ad} and delay on A_b were also examined using a multiple regression analysis. In the regression model, delay was represented by a dummy variable, which was assigned a value of 1 for the 7-day delay condition, and 0 for the no-delay condition. The regression confirmed the results of the ANOVA, namely, that only A_{ad} had a statistically significant impact on A_b. Neither delay, nor the interaction term had a statistically significant beta values. As noted earlier in Table 16, A_{ad} alone accounts for 33 percent of the variation in A_b.

5.3.5. Effect of delay on ad recall

Based upon the findings of Chattopadhyay and Nedungadi (1992), H_4 predicted that ad recall would be lower for the 7-day delay condition, compared to the no-delay condition. The data for unaided ad recall analyzed by no-delay and 7-day delay conditions is presented in Table 20.

Table 20.
Unaided Recall of Ads by Delay Condition.
(Data pooled across all ad types)

Delay Condition	Recalled Ad	Did Not Recall Ad	Total
No-delay	57 (64.0%)	32 (36.0%)	89
Seven-day delay	40 (41.2%)	57 (58.8%)	97
Total	97 (52.2%)	89 (47.8%)	186

Chi-square (d.f. 1) = 9.68 ($P < 0.01$)

A majority (64 percent) of the subjects in the no-delay condition were able to recall the target ads, whereas only a minority (41.2 percent) of the subjects in the seven-day delay condition recalled the ads. A chi-square test shows that these differences are statistically significant at an alpha level of 0.01. Thus, H_4 is supported by the data. As might be expected, recall of all three types of target ad was lower after a seven-day delay than immediately after exposure. This leads to the question of whether there is a difference in recall levels across the three different ad types, as predicted by H_5.

The data on immediate and delayed recall levels of the three different ad types is presented in Table 21. In the no-delay condition, all the three types of target ad had high levels of recall, with the neutral ad (Arnold Bakery Light bread) having substantially higher recall (72%) than either the negative ad (61%) or the positive ad (61.4%). A chi-square test for the no-delay condition was not significant at an alpha level of 0.05, indicating that the observed differences in recall across the ad types was probably due to random variances.

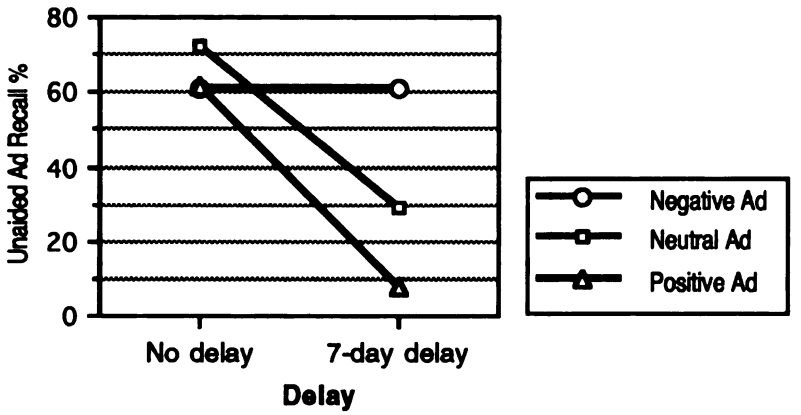
Table 21.
Unaided Recall of Ad Types by Delay Condition.

Ad Type	No-delay			Seven-day delay		
	Recalled Ad	Did Not Recall Ad	Total	Recalled Ad	Did Not Recall Ad	Total
Krunchers (Negative)	25 (61.0%)	16 (39.0%)	41	31 (60.8%)	20 (39.2%)	51
Arnold Bakery (Neutral)	18 (72.0%)	7 (28.0%)	25	7 (29.2%)	17 (70.8%)	24
Prior (Positive)	16 (61.5%)	10 (38.5%)	26	2 (8.0%)	23 (92.0%)	25
Total	59 (64.1%)	33 (35.9%)	92 (100%)	40 (40.0%)	60 (60.0%)	100 (100%)

For the no-delay group, Chi-square (d.f. 2) = 0.93 (n.s.)
For the delay group, Chi-square (d.f. 2) = 21. 02 ($P < 0.001$)

In the seven-day delay condition, there was a substantial difference in the recall rates across the three ad types. The negative ad had the highest recall (60.8%), the neutral ad had a substantially lower recall (29.2%), and the positive ad had extremely low recall (8.0%) after a week's delay. A chi-square test for the seven-day delay condition shows that these differences were statistically significant at an alpha level of 0.01. The data from Table 21 are presented visually in Figure 13. The data appear to suggest that there is slower forgetting of the negative ad, compared to the neutral and positive ads.

Figure 12.
Unaided recall of different ad types by no-delay and seven-day delay groups.



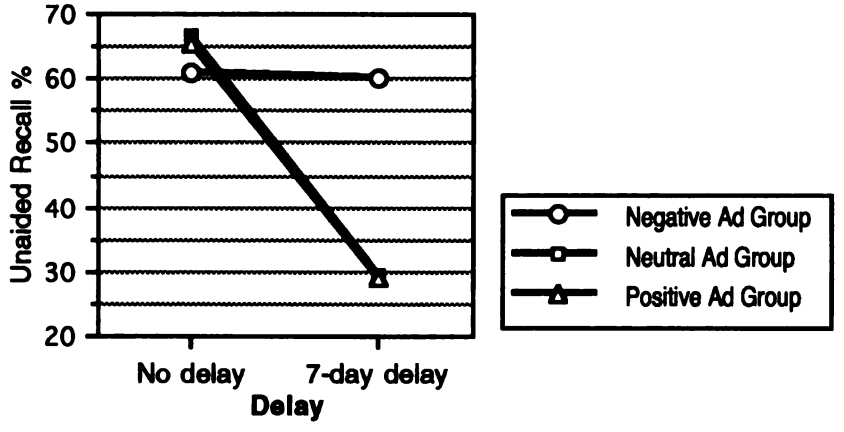
When the data in Table 21 are re-analyzed using ad group (A_{ad} terciles), rather than ad types, the trend is similar in direction, but less dramatic. Recall data for the no-delay and seven-day delay group are presented in Table 22. Here again, the recall levels for all three ad groups are very close together, with the neutral ad being recalled by slightly more subjects (66.7%) compared with the positive ad (65.4%) and the negative ad (61.1%). A chi-square test shows that any observed differences are not significant at the 0.05 alpha level, indicating that any observed variations in recall level in the no-delay group could be due to random variations in the data. In the seven-day delay group, however, the negative ad has substantially higher recall (60.0%), compared with the neutral ad (29.6%) and the positive ad (28.9%). Thus, the analysis by ad group confirms the pattern found in the analysis by ad type, namely, forgetting of the negative ad is slower than for the neutral and positive ads. However, the decay in recall seems to be approximately equal for the neutral and positive ad groups. This is illustrated visually in Figure13.

Table 22.
Unaided Recall of Ad Groups by Delay Condition.

Ad Group (A_{ad} terciles)	No-delay group			Seven-day delay group		
	Recalled Ad	Did Not Recall Ad	Total	Recalled Ad	Did Not Recall Ad	Total
Negative (Tercile 1)	22 (61.1%)	14 (38.9%)	36	21 (60.0%)	14 (40.0%)	35
Neutral (Tercile 2)	20 (66.7%)	10 (33.3%)	30	8 (29.6%)	19 (70.4%)	27
Positive (Tercile 3)	17 (65.4%)	9 (34.6%)	33	11 (28.9%)	27 (71.1%)	38
Total	59 (64.1%)	33 (35.9%)	92 (100%)	40 (40.0%)	60 (60.0%)	100 (100%)

For the no-delay group, Chi-square (d.f. 2) = 0.24 (n.s.)
For the delay group, Chi-square (d.f. 2) = 8.98 ($P < 0.02$)

Figure 13.
Unaided recall of different ad groups
by no-delay and seven-day delay groups.



It had been hypothesized (in H_5) that the recall of affectively extreme ads would decay slower than the recall of neutral ads. This hypothesis is supported only partially by the data in Tables 20 and 21, and Figures 12 and 13. The decay in recall of the negative ad is indeed far less than the decay in recall of the neutral ad. However, unaided recall of the positive ad has decayed at approximately the same rate as recall of the neutral ad. This result could be the effect of the executional characteristics of the stimulus ads. The Krunchers potato chips ad, which was intended to induce the negative A_{ad} condition, had a high noise level

and constant repetition of the brand name. While the neutral ad (Arnold Bakery Light Bread) also involved frequent mention of the brand name, it was not done in such a highly intrusive fashion. In the positive ad (Prior Instant Chicken), the noise level was relatively low, and the brand name was mentioned only visually. The constant and noisy repetition of the brand name in the negative (Krunchers) ad may have contributed to a stronger memory trace for this ad, compared with the other two types of ad.

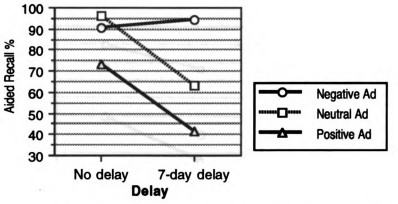
The data for the effect of delay on aided recall mirror the trends observed with the data on unaided recall. The data on immediate and delayed aided recall levels of the three different ad types is presented in Table 23. In the no-delay group, aided recall is highest for the neutral ad (96.4%), followed by slightly lower recall for the negative ad (90.5%), and considerably lower recall for the positive ad (73.1%). In the seven-day delay group, however, recall is highest for the negative ad (94.3%), followed by lower recall for the neutral ad (63.0%), and even lower recall for the positive ad (41.4%). These trends are presented visually in Figure 14.

Table 23.
Aided Recall of Ad Types by Delay Condition.

Ad Type	No-delay			Seven-day delay		
	Recalled Ad	Did Not Recall Ad	Total	Recalled Ad	Did Not Recall Ad	Total
Krunchers (Negative)	38 (90.5%)	4 (9.5%)	42	50 (94.3%)	3 (5.7%)	53
Arnold Bakery (Neutral)	27 (96.4%)	1 (3.6%)	28	17 (63.0%)	10 (37.0%)	27
Prior (Positive)	19 (73.1%)	7 (26.9%)	26	12 (41.4%)	17 (58.6%)	29
Total	84 (87.5%)	12 (12.5%)	96 (100%)	79 (72.5%)	30 (27.5%)	109 (100%)

For the no-delay group, Chi-square (d.f. 2) = 7.32 ($P<0.03$)
For the delay group, Chi-square (d.f. 2) = 27.98 ($P < 0.001$)

Figure 14.
Aided recall of different ad types
by no-delay and seven-day delay groups.



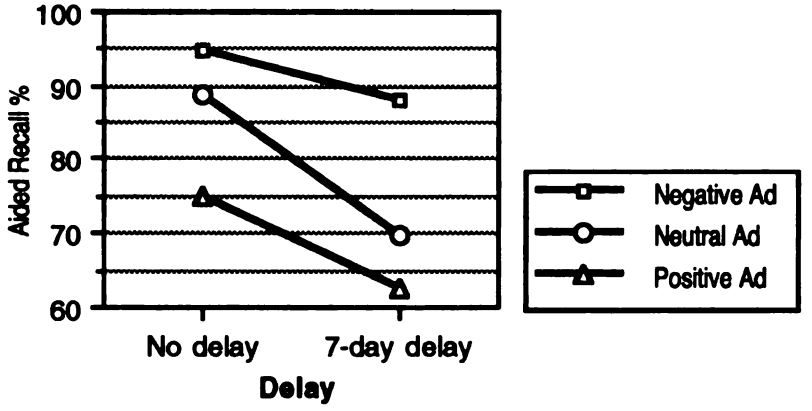
The data for aided recall analyzed by ad group (A_{ad} terciles) follow a trend similar to the data analyzed by ad type (see Table 24). In the no-delay group, the negative ad group had the highest recall (94.6%), followed by the neutral ad group (88.6%), followed by the positive ad group (75.0%). In the seven-day delay group, the three ad groups retain the same rank ordering in terms of aided recall. However, it is evident that aided recall for the negative ad group has decayed much less due to delay, than aided recall for the neutral or positive ads (see Table 24 and Figure 15).

Table 24.
Aided Recall of Ad Groups by Delay Condition.

	No-delay group			Seven-day delay group		
Ad Group (A_{ad} terciles)	**Recalled Ad**	**Did Not Recall Ad**	**Total**	**Recalled Ad**	**Did Not Recall Ad**	**Total**
Negative (Tercile 1)	35 (94.6%)	2 (5.4%)	37	29 (87.9%)	4 (12.1%)	33
Neutral (Tercile 2)	31 (88.6%)	4 (11.4%)	35	23 (69.7%)	10 (30.3%)	
Positive (Tercile 3)	18 (75.0%)	6 (25.0%)	24	27 (62.8%)	16 (37.2%)	43
Total	84 (87.5%)	12 (25.5%)	96 (100%)	79 (72.5%)	30 (27.5%)	109

For the no-delay group, Chi-square (d.f. 2) = 5.168 (P>0.07)
For the delay group, Chi-square (d.f. 2) = 6.07 (P < 0.05)

Figure 15.
Aided recall of different ad groups
by no-delay and seven-day delay groups.



5.3.6. Effects of repetition on A_{ad} and A_b

Based on the mere exposure effect, and the findings of previous researchers such as Cox and Cox (1988), H_6 predicted that repetition would result in an increase in A_{ad} scores, regardless of ad type. Similarly, H_7 predicted that repetition would result in an increase in A_b scores, regardless of ad type. To test these hypotheses, t-tests were conducted to examine the differences in the mean A_{ad} and A_b scores, for the subjects that were exposed to the target ad once, compared with those who were exposed to the ad three times. The results are reported in Table 25. First, the data for all three ads were pooled together and the effects of repetition were examined. The mean A_{ad} score for the single-exposure group was 3.60 (on a 7-point scale), whereas for the three-exposure group, it was 4.40. The mean A_b score for the single-exposure group was 3.89, whereas for the three-exposure group, it was 4.34. The t-test results indicate that these differences are statistically significant at an alpha level of 0.05. Thus, H_6 and H_7 are supported when the data are pooled across all ad types.

Table 25.
Mean A_{ad} and A_b Scores by Repetition Condition.

Ad Type	A_{ad}		A_b	
	Single Exposure	Three Exposures	Single Exposure	Three Exposures
All ads pooled together	3.60	4.40[a]	3.89	4.34[b]
Krunchers (Negative)	2.83	3.83[a]	3.55	4.36[a]
Arnold Bakery (Neutral)	3.36	4.23[b]	4.18	4.35
Prior (Positive)	4.99	5.65	4.22	4.28

[a] Significantly different between repetition groups at $\alpha = 0.01$
[b] Significantly different between repetition groups at $\alpha = 0.05$

When the data for the effect of repetition are analyzed using the mean A_{ad} and A_b scores for the individual ad types, a slightly different picture emerges (see Table 25, and Figures 16 and 17). Repetition seems to have resulted in increased A_{ad} and A_b scores for all three ad types. However, the magnitude of increase in A_{ad} and A_b is the greatest for the negative ad, and the least for the positive ad. The results of the t-test show that, while the increase in A_{ad} and A_b scores is statistically significant for the negative ad, only the difference in A_{ad} scores is statistically significant for the neutral ad at the alpha level of 0.05. The increase in the scores for the positive ad is not statistically significant at the alpha level of 0.05.

Figure 16.
Effect of repetition on A_{ad} for each ad type.

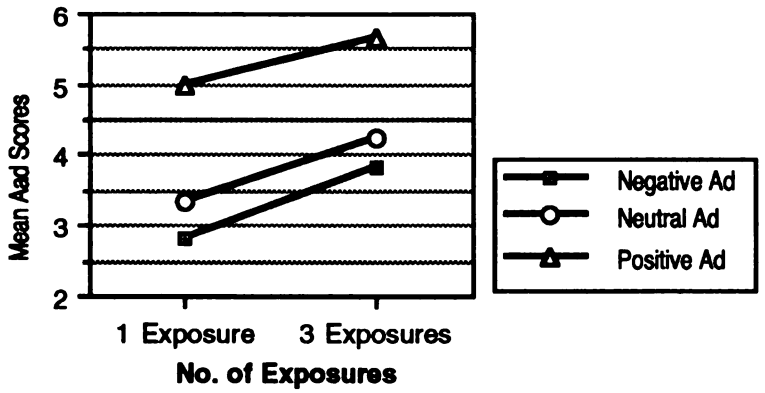
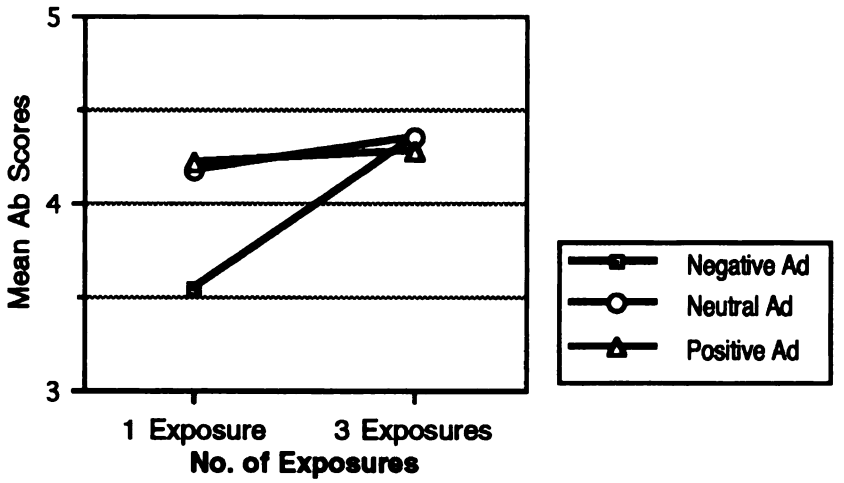


Figure 17.
Effect of repetition on A_b scores for each ad type.



In sum, the data from Table 25, and Figures 16 and 17, appear to suggest that ads that are seen as annoying during the first exposure, become more tolerable after three exposures. However, repeated exposure does not seem to improve people's liking for ads that are neutrally or positively evaluated. In evaluating these results, one must bear in mind the limitation voiced in Chapter 3 (Section 3.2, footnote 1) that the phenomenon of wearout of bad (and even good) advertising cannot be ruled out on the basis of a repetition condition involving just three exposures. It probably needs more than three exposures for wearout to set in. Nevertheless, the data provide limited support for H_6 and H_7, even though the increment in A_{ad} and A_b is not substantial (or statistically significant) for the neutral and positive ads.

To further explore if repetition moderated the A_{ad} —> A_b relationship in a statistically significant manner, an analysis of variance (ANOVA) was conducted, with A_b as the criterion variable, and Ad Type and Repetition as predictor variables. The main effect for ad type was not statistically significant ($F=1.63$; $P>0.19$). The main effect for repetition was statistically significant ($F=4.87$; $P<0.03$). The interaction effects between ad type and repetition did not have a

statistically significant effect on A_b (F=2.13; P>0.12). An ANOVA using Ad Group (A_{ad} terciles) instead of ad type, yielded slightly different results. The results of the ANOVA are reported in Table 24. The data in the table indicate that A_{ad} had a statistically significant effect on A_b, but that the main effect of repetition, and of the interaction of repetition and A_{ad} were not statistically significant. Therefore, the data in Table 26 further confirm that repetition seems to have had no moderating effect on the linear relationship between A_{ad} and A_b.

Table 26.
Effects of A_{ad} and Repetition on A_b.

Source	F Statistic	Degrees of Freedom	Significance of F
Main Effects			
Ad Group (A_{ad} terciles)	20.49	3	<0.01
Repetition	0.807	2	>0.36
2-way interactions			
Ad Group x Repetition	0.151	2	>0.85

As in the case of delay, the effects of A_{ad} and repetition on A_b were also examined using a multiple regression analysis. In the regression model, repetition was represented by a dummy variable, which was assigned a value of 1 for the three-exposure (repetition) condition, and 0 for the single-exposure condition. The regression confirmed the results of the ANOVA reported in Table 26, namely, that only A_{ad} had a statistically significant impact on A_b. Neither repetition, nor the interaction term had a statistically significant beta values. It has already been seen in Table 16 that A_{ad} alone accounts for 33 percent of the variation in A_b.

5.3.7. Effect of repetition on overall ad recall

Based on the expectation that increased exposure to the same ad would create a stronger trace for the ad in the viewer's memory, H_8 predicted that greater exposure would result in greater recall for the ad. The data for unaided

recall of the target ad (pooled across all ad types) by repetition condition is presented in Table 27. The data shows that the proportion of successful unaided recall of the target ad was 69.0% among subjects who saw the ad three times, compared with 38.2% among those who saw the ad once. A chi-square test showed that these differences are statistically significant at an alpha level of 0.01. Thus, H_8 is supported by the data, if unaided recall is used as the criterion.

Table 27.
Unaided Recall of Target Ad by Repetition.

Repetition Condition	Recalled Ad	Did Not Recall Ad	Total
One Exposure	39 (38.2%)	63 (61.8%)	102
Three Exposures	58 (69.0%)	26 (31.0%)	84
Total	97 (52.2%)	89 (47.8%)	186

Chi-square (d.f. 1) = 17.53 (P <0.01)
N.B.: Does not include data for respondents who recalled just the brand name or product category.

When the data are analyzed for aided recall, the improvement in the recall levels is in the direction predicted by H_8. However, the value of chi-square is not significant at an alpha level of 0.05, indicating that the observed differences in aided recall across exposure conditions could be attributed to random variations (see Table 28).

The data on the effect of repetition on ad recall was also analyzed to see if there were any observable differences across the different ad types. The results of this analysis are presented in Table 29. The data once again provide support for H_8. Repetition has resulted in improved unaided recall for all three ad types, although in the case of the positive ad, the difference in recall scores is statistically significant only at an alpha level of 0.08.

Table 28.
Aided Recall of Target Ad by Repetition.

Repetition Condition	Recalled Ad	Did Not Recall Ad	Total
One Exposure	41 (83.7%)	8 (66.7%)	49
Three Exposures	43 (91.5%)	4 (8.5%)	47
Total	84 (87.5%)	12 (12.5%)	96

Chi-square (d.f. 1) = 1.34 ($P > 0.24$)
N.B.: Does not include data from subjects who responded "not sure."

Table 29.
Unaided Recall of Ad Types by Repetition Condition.

Ad Type	Single Exposure			Three exposures		
	Recalled Ad	Did Not Recall Ad	Total	Recalled Ad	Did Not Recall Ad	Total
Krunchers (Negative)	24 (51.1%)	23 (48.9%)	47	32 (72.7%)	12 (27.3%)	44
Arnold Bakery (Neutral)	9 (31.0%)	20 (69.0%)	29	16 (84.2%)	3 (15.8%)	19
Prior (Positive)	6 (23.1%)	20 (76.9%)	26	10 (47.6%)	11 (52.4%)	21
Total	39 (38.2%)	63 (61.8%)	102	58 (69.0%)	26 (31.0%)	84

For the negative ad, Chi-square (d.f. 1) = 4.51 ($P < 0.05$)
For the neutral ad, Chi-square (d.f. 1) = 13.01 ($P < 0.001$)
For the positive ad, Chi-square (d.f. 1) = 3.11 ($P < 0.08$)

5.3.8. Effect of repetition on immediate versus delayed recall

It was hypothesized that repetition would help increase the accessibility of ad-related information in consumers' minds. Based on this, H_9 predicted that the decline in recall between the immediate and 7-day delay groups would be attenuated by repetition. The data to test this hypothesis are presented in Table 30. For respondents who were exposed to the target ad(s) once, recall levels have declined from 60.0% for the no-delay condition, to 21.1% for the seven-day delay condition. For respondents who were exposed to the ad three times, however, the recall level for the 7-day delay group is 70.0%, which is marginally *greater*

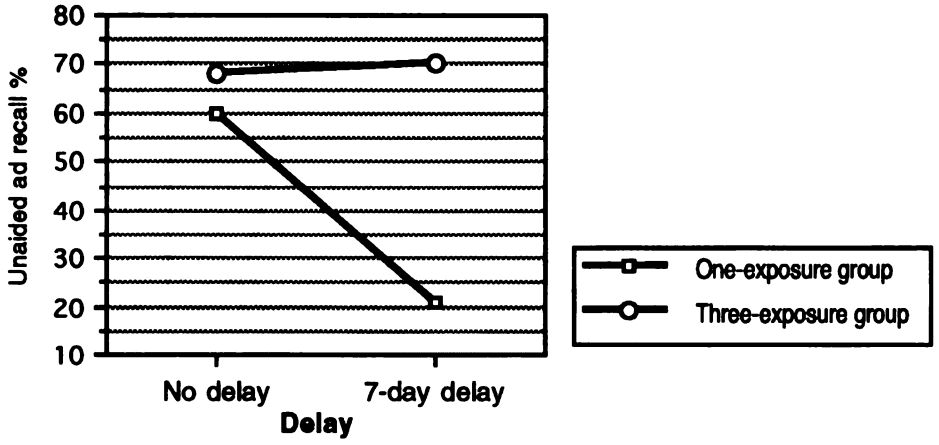
than the recall level for the no-delay group, which is 68.2%. A one-way chi-square analysis shows that this difference in recall levels is not statistically significant. Therefore, one may infer that there is no substantial difference between the levels of immediate and delayed recall for subjects in the three-exposure condition. Therefore, the data in Table 30 does provide at least partial support for H_9.

Table 30.
Unaided Recall of Ads by Delay and Repetition.

Repetition Condition	No-delay			Seven-day delay		
	Recalled Ad	Did Not Recall Ad	Total	Recalled Ad	Did Not Recall Ad	Total
One exposure	27 (60.0%)	18 (40.0%)	45	12 (21.1%)	45 (78.9%)	57
3 exposures	30 (68.2%)	14 (31.8%)	44	28 (70.0%)	12 (30.0%)	40
Total	57 (64.0%)	32 (36.0%)	89	40 (41.2%)	57 (58.8%)	97

For the no-delay group, Chi-square (d.f. 1) = 0.65 ($P > 0.42$)
For the delay group, Chi-square (d.f. 1) = 23.24 ($P < 0.001$)

Figure 18.
Unaided Recall of Ads by Delay and Repetition.

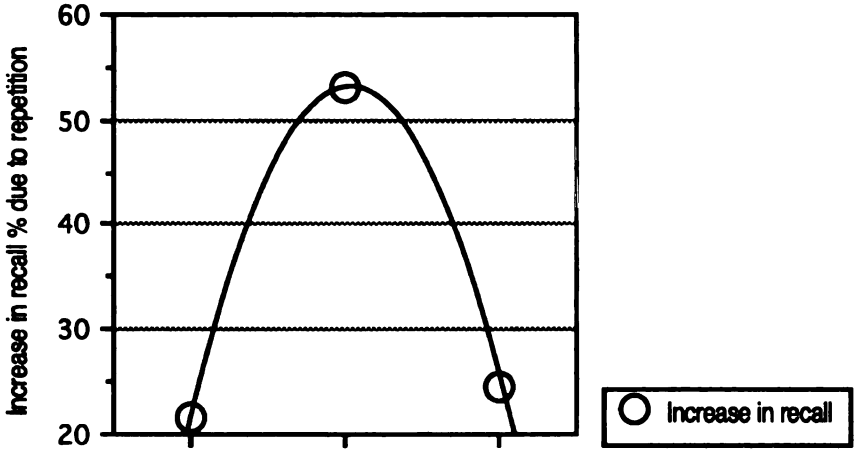


The data from Table 30 are presented visually in Figure 18. This figure can be compared with Figure 7, which provided a visual presentation of the interaction pattern predicted by H_9. The pattern of interaction is in the expected direction, although in Figure 7, both the lines had a downward slope.

5.3.9. Effect of repetition on recall across ad types

Using the distinctiveness hypothesis combined with H_8 and H_9, H_{10} had predicted that the improvement in recall scores produced by repetition would be greater for affectively extreme (positive and negative) ads, compared to neutral ads. The assumption in this hypothesis was that repetition and affective intensity would combine to enhance consumer memory for the ad and brand. The expected pattern of interactions was presented visually in Figure 8. The data pertaining to this hypothesis are presented in Table 29. The observed pattern of interactions is presented visually in Figure 19. It is obvious that the data do not support H_{10}. The observed interactions are precisely the inverse of what was predicted in Figure 8: the interaction curve was expected to be U-shaped (or J-shaped); instead, the data follows an inverted-U shape.

Figure 19.
Observed improvement in recall across ad types.



The pattern in Figure 19 does support the alternative hypothesis speculated upon in Chapter 3 (Section 3.2). That hypothesis was based on the assumption that there could be a "maximum threshold" of ad recall. Recall of the affectively extreme ads is already high due to their distinctiveness, and close to the maximum threshold. Therefore, repetition cannot increase the recall level very

greatly. On the other hand, recall of the neutral ad is relatively low after one exposure, therefore repetition might result in a substantially increased recall. However, the notion of a "maximum threshold" level of recall is not supported by the absolute levels of recall for the positive ad (23.1% for single exposure; 47.6% for three exposures), which is the lowest among the three ad types (see Table 29).

5.4 EFFECT OF INVOLVEMENT

As noted in Chapter 2, several researchers have hypothesized that product category involvement would moderate the A_{ad} —> A_b relationship (Muehling and McCann 1993). Typically, A_{ad} is expected to have a stronger influence on A_b for low involvement products, and a relatively weaker influence for high involvement products. Although no hypotheses were proposed in Chapter 3 regarding the effects of involvement on the relationship between A_{ad} and A_b, product category involvement was measured during the study, to see if variations in involvement could explain any of the observed results. The scales for measuring involvement have already been described in Chapter 4 (see Table 6).

The effect of involvement was examined using a multiple regression model. The criterion variable was A_b, and the predictor variables were A_{ad}, product category involvement, and a multiplicative term representing interaction between A_{ad} and involvement. The results of the regression are presented in Table 31. It is clear from the table that the inclusion of involvement and the interaction term did not improve the predictive power of the original model using just A_{ad}. Therefore, one may conclude that product category involvement did not have a moderating effect on the relationship between A_{ad} and A_b.

Table 31.
Regression results for the effect of involvement and A_{ad} on A_b.

Variables in Equation	R^2	F	Significance of F
A_{ad}	0.329	97.22	<0.01
A_{ad}, Involvement	0.334	49.44	<0.01
A_{ad}, Involvement, A_{ad}xInvolvement	0.335	32.94	<0.01

5.5 SUMMARY

The results of the study lend further support to the contention that A_{ad} has a direct, linear influence on A_b. Of the hypotheses proposed in Chapter 3, only H_4 and H_8 were fully supported by the data. Partial support was found for H_2, H_5, H_6 and H_7. The remaining hypotheses, H_1, H_3, H_9 and H_{10}, were not supported by the data. The implications of these results are discussed in Chapter 6.

Chapter 6
DISCUSSION AND CONCLUSIONS

This chapter includes a discussion of the findings reported in the previous chapter. The managerial implications of some of the findings are discussed in each section. The chapter concludes with a discussion of the limitations of the study and directions for future research.

6.1 EFFECT OF A_{ad} ON A_b

The findings of this study lend support to the findings in the literature that A_{ad} has a direct effect on A_b. The correlation coefficients reported in Table 10 show that there is a strong positive correlation between A_{ad} and A_b scores. Further, A_b is seen to have a strong positive correlation with purchase intention (PI). The step-wise regression results reported in Table 16 show that A_{ad} does not have a direct effect on PI; instead this effect is mediated by A_b.

The relationship between A_{ad} and A_b appears to be linear, regardless of whether A_b is measured immediately after exposure, or after a 7-day delay (see Figure 10). Moore and Hutchinson (1985) reported that A_b and "change in purchase likelihood" were both linear functions of A_{ad} in the short run, but were U-shaped functions of A_{ad} when measured after a 7-day delay. However, they also reported that the expected linear-curvilinear interaction was not statistically significant in their study (Moore and Hutchinson 1985, p. 76). They hypothesized that the interaction they obtained was not as "robust" as expected because the print ads that they used as stimuli did not produce genuinely extreme affective reactions. One of the objectives of the present study was to extend the research in this domain by using broadcast ads instead of print ads, to see if a stronger contrast emerged between the immediate and delayed effect of A_{ad} on A_b and PI. Judging from the results in Table 18 and Figure 11, the television commercials used as stimuli in this study have not produced the

predicted interaction between A_{ad} and delay. This leads us to the question of whether the stimulus commercials were indeed suitable for producing the desired effects.

As discussed in Chapter 4, the stimulus commercials were pretested to determine their suitability. As discussed in Chapter 5, a manipulation check was also employed in order to determine if the three commercials did indeed produce differing levels of A_{ad} (see Table 9). The mean scores for each ad were compared with the tercile ranges for all A_{ad} scores taken together. If all A_{ad} scores are arranged from the least to the greatest, the first tercile consists of A_{ad} scores less than 3.50. The mean A_{ad} score for the Krunchers (negative) ad was 3.35. The second tercile consists of ads with an A_{ad} score between 3.51 and 4.82. The mean score for the Arnold Bakery Light (neutral) ad was 3.90. The third tercile consists of A_{ad} scores above 4.83. The Prior (positive) commercial had a mean A_{ad} score of 5.31. Thus, the stimulus ads were well within their expected tercile ranges. However, as noted in Chapter 5 (see Section 5.1), the Krunchers ad, which was intended to produce a negative affective response, was rated only mildly negatively, with a mean score of 3.35 on a scale ranging from 1 to 7. Moore and Hutchinson (1985) have noted that the use of real ads in experimental situations presents a problem, to the extent that ads generating a significant negative affect seldom get beyond the copy testing phase of production. Thus, there appears to be a trade-off between ecological validity and the strength of experimental manipulation.

Another limitation of using real ads is that executional equivalence could not be ensured across all stimulus commercials. Other researchers have managed to overcome this limitation through the use of specially prepared stimuli, where all executional elements save one or two remained unaltered (see, for example, Chattopadhyay and Nedungadi 1992, Gorn 1982, Haugtvedt, et al.

1994). In the present study, real — rather than manipulated — commercials were used in order to ensure greater ecological validity. The three commercials used in this study varied in terms of the use of music, the number of times the brand name was displayed and repeated, and the "intrusiveness" of the message. As noted in Chapter 5, one of factors that made the Krunchers potato chips (negative ad type) annoying was its repetitive and loud chanting of the brand name. In contrast, the Prior instant chicken (positive) commercial had a very restrained execution, and the brand name was not mentioned on the audio track: it was superimposed visually in the last frame. These executional differences could explain some of the differences found in the results when the data was analyzed using ad type, instead of using post hoc A_{ad} scores. In order to explore this issue further, the stimulus commercials were analyzed according to the different dimensions of A_{ad}, as discussed in the next section.

6.2 DIMENSIONS OF A_{ad}

The question of whether attitude toward the ad is a unidimensional or multi-dimensional construct has been a subject of some debate in the literature. Lutz (1985) has defined A_{ad} as "a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion." Burton and Lichtenstein (1988) stated that A_{ad} should be treated as a multi-dimensional construct. Their factor analysis indicated that a two-factor (cognitive and affective) model was a better representation of A_{ad} than a unidimensional model. On the other hand, Machleit and Wilson (1988) have reported that they did not find any evidence to support discriminant validity between the affective and cognitive dimensions of A_{ad}. Miniard, Bhatla and Rose (1990) have suggested that A_{ad} should be decomposed into two components: attitude toward the actual (message) claims in the ad, and attitude

toward the non-claim elements (i.e., execution), and the two should be measured separately. This contention was supported by Yoon (1991).

The factor structure of A_{ad} was also studied by Olney, Batra and Holbrook (1990). They suggested that A_{ad} consists of three dimensions: a "hedonic" aspect (e.g., pleasant-unpleasant), a "utilitarian" aspect (e.g., useful-useless), and an "interestingness" (sic) aspect. Olney, et al. (1990) used a 16-item semantic differential scale to measure these three dimensions. A global measure of A_{ad} was also made. The three dimensions of A_{ad} were found to account for 90 percent of the variance in A_{ad}, leading the researchers to conclude that there was strong support for a three-component model of A_{ad}. The 16-item scale semantic differential scale used by Olney, et al. (1990) was very similar to the Likert items used in the viewer response profile (VRP) scales tested earlier by Schlinger (1979) and Coulson (1989). Although the present study did not offer any hypotheses regarding the dimensions of A_{ad}, an attempt was made to further explore the structure of A_{ad}, using a variation of the VRP scales used previously in the literature.

6.2.1. Factor analysis

In the present study, a global measure of A_{ad} was taken at the conclusion of the main experiment. Respondents were shown the target commercial once again, and asked to respond to a battery of 6 semantic differential items about their global A_{ad} (see Table 6). The primary purpose of this measure was to provide a manipulation check for the ad type variation (see Chapter 5, Section 5.1). However, in order to enable further analysis of the dimensionality issue, subjects also responded to a battery of 20 VRP items adapted from Coulson (1989) (see Appendix 1, Q. 37 through 56). A principal components factor analysis was performed using the varimax procedure on SPSS-X. (An exploratory factor analysis procedure was used, as opposed to a confirmatory

analysis, as this was an attempt to investigate the structure of consumers' responses to ads). The scale items and their factor loadings are shown in Table 32.

Table 32.
Loadings on varimax rotated principal components.

Scale item	Factor 1 (Entertain-ment value/ Hedonism)	Factor 2 (Negative Evaluations of ad)	Factor 3 (Cognitive value/ Relevant news/ Utilitarianism)	Factor 4 (Distinctive-ness)
The commercial was lots of fun to watch and listen to.	**0.79**	0.25	0.006	0.13
The commercial was entertaining.	**0.77**	0.35	0.03	0.16
I was involved in the commercial.	**0.70**	0.19	0.08	0.14
I like the mood of the commercial.	**0.67**	0.40	0.095	0.22
I felt the commercial was acting out what I feel like at times.	**0.67**	-0.18	0.07	0.05
I would be interested in more information about the brand.	**0.63**	0.15	0.23	-0.07
This was a pushy commercial.	0.11	**0.75**	-0.16	-0.04
The commercial insults my intelligence.	0.28	**0.69**	0.13	0.06
The commercial described characteristics undesirable to me.	0.11	**0.65**	0.199	0.003
The commercial was annoying.	0.55	**0.62**	0.004	0.17
As I watched, I thought, "Who cares?"	0.48	**0.62**	0.21	0.095
The commercial made exaggerated claims.	-0.08	**0.51**	0.24	-0.27
The commercial showed me the product had certain advantages.	0.06	0.20	**0.79**	-0.02
I learned something from the commercial that I did not know before.	-0.02	0.05	**0.72**	0.11
I think the advertised brand is a good brand	0.34	0.30	**0.54**	0.005
The ad showed me a real difference between the brand and competition.	0.41	-0.26	**0.53**	-0.08
This commercial is different from the commercials of its competitors.	0.07	-0.01	0.009	**0.87**
This commercial stands out from other commercials.	0.22	0.00	0.07	**0.85**
Eigen Value	**5.89**	**1.98**	**1.69**	**1.26**
Percent of variance accounted for	**32.8%**	**11.0%**	**9.4%**	**7.0%**

The analysis yielded a five-factor model. As only one item loaded on the fifth factor (which contributed 5.1 percent of the total variance), this factor was eliminated, yielding a four-factor model of A_{ad}. Taken together, the four factors account for 60.2% of the total variance.

The first factor consists of six items, and accounts for 32.8% of total variance. Upon examination of Table 32, it is evident that all the items loading on Factor 1 pertain to the entertainment value or enjoyment of the commercial. This factor can be labeled "entertainment value." Olney, Batra and Holbrook (1990) labeled this factor "hedonism." In their study, the semantic differential items used to measure this dimension were pleasant/ unpleasant, enjoyable/ not enjoyable, fun to watch/ not fun to watch, and entertaining/ not entertaining. The first two scale items ("The commercial was lots of fun...," and "The commercial was entertaining...") were labeled by Coulson (1989) as measuring "stimulation." He labeled the next three items as measuring "empathy/ identification" with the ad. However, in the present study, these three items loaded very strongly on the same factor as the items measuring stimulation/ hedonism. This suggests that consumers are likely to be more involved with commercials that they find entertaining. This is consistent with the conceptualization of Ducoffe (1989) that the "consumer utility" of an advertisement is a (summative) function of its entertainment value and its information content. Finally, the item "I would be interested in more information..." also loaded quite unambiguously on the first factor (factor loading = 0.63), although Coulson (1989) and Schlinger (1979) formulated the item as being indicative of the "relevance of news (i.e., information contained in the ad)."

The second factor consists of six items, and accounts for 11.0 percent of the total variance. All six items in Factor 2 reflect negative evaluations of the ad (the items were reverse coded for consistency of direction with the others). Coulson (1989) labeled the items "commercial was annoying," and "insults my intelligence" as being measures of what he labeled "negative commercial evaluation." The other four items loading on this factor are labeled differently by him. Olney, Batra and Holbrook (1990) did not have any corresponding factor. At first glance, negative evaluations of the ad would appear to be a dimension of Factor 1, that is, the flip-side of entertainment value, reflecting the not-so-enjoyable aspects of the ad. Indeed, two items with relatively weak loadings on this factor ("The commercial was annoying," and "Who cares?") also cross-load somewhat strongly on Factor 1, indicating that the two constructs may be correlated. (Interestingly, the "annoying" item pertains to negative entertainment value, while "who cares" pertains to lack of involvement, which is consistent with the observation in the previous paragraph that entertainment value and ad involvement seem to be closely inter-related.) However, the items that load more strongly on this factor seem to reflect a slightly different dimension of negative evaluation, and relate more directly to consumers' resistance to be persuaded by a pushy message that insults their intelligence or describes characteristics that are undesirable to them.

The third factor consists of four items, and accounts for 9.4% of the total variance. It is notable that all the items that load on this factor are cognitive. Hence this factor may be labeled "cognitive value." Two of the items loading on this factor ("product had certain advantages," and "learned something") fall under Coulson's labels of "relevant news" and "relevance of news." The remaining two items fall under his labels of brand acceptance ("the advertised brand is good") and brand differentiation ("ad showed me a real difference

between brand and competition") respectively. As noted above, the common characteristic of all the items loading on Factor 3 is that they all pertain to cognitive, rather than affective, responses to the ad. This "cognitive value" factor corresponds quite closely to the factor labeled "utilitarianism" by Olney, Batra and Holbrook (1990). The semantic differential items used by them to measure utilitarianism were helpful/ not helpful, useful/ not useful, informative/ not informative, and important/ not important.

The fourth factor, consists of two items and accounts for 7 percent of the total variance. Both the items loading on this factor pertain to the dimension that Coulson (1989) refers to as "distinctiveness." The Likert-scale items pertain to the distinctiveness of the advertisement itself, and not to the novelty or news value of the brand.

6.2.2. Regression analysis

Following the procedure used by Olney, Batra and Holbrook (1990), a regression analysis was conducted in order to test the contribution of the different VRP dimensions to the global measure of A_{ad} (see Table 6 for the scale used to measure global A_{ad}). The results of the regression are reported in Table 33. The adjusted value of R^2 was 0.68, suggesting that the four factors together account for 68 percent of the total variance in global A_{ad}. While high, this figure is substantially lower than the extremely high R^2 of 0.90 reported by Olney, Batra and Holbrook (1990, p. 277).

It is evident from Table 33 that only Factor 1 (entertainment value/ hedonism) and Factor 2 (negative evaluations) contribute in a statistically significant manner toward predicting A_{ad}. A stepwise regression resulted in the elimination of Factor 3 (cognitive value/ utilitarianism) and Factor 4 (distinctiveness) from the equation. The final model, incorporating only entertainment value/ hedonism, and negative evaluation, had an R^2 of 0.69, indicating that

entertainment value/ hedonism, coupled with negative evaluations, account for 69 percent of the variation in global A_{ad}. It is notable that the cognitive value of the ad seems to make the least contribution toward predicting overall A_{ad}.

Table 33.
Standardized Regression Coefficients: Effect of Factors on Global A_{ad}.

Independent Variables	Beta	Significance of T
Entertainment value/ hedonism	0.47	<0.01
Negative evaluation	0.45	<0.01
Cognitive value/ news	0.002	>0.94
Distinctiveness	0.05	>0.24

Adjusted $R^2 = 0.68$
$F(4, 202) = 112.70$ ($P < 0.01$)

While Olney, Batra and Holbrook (1990) found that all three of their components (hedonism, utilitarianism and interestingness) had statistically significant regression coefficients, the utilitarianism factor (cognitive value) had a lower standardized regression coefficient (0.28), compared to hedonism (0.74) and interestingness (0.53).

In sum, the data provide some support for a four-factor model of A_{ad}, consisting of entertainment value/ hedonism, negative evaluations, cognitive value/ utilitarianism, and distinctiveness. Although two of these factors parallel the three-factor structure suggested by Olney, Batra and Holbrook (1990), the data does not appear to offer support for "interestingness" of the ad as a factor distinct from entertainment value/ hedonism. Olney and his colleagues state that the use of "interesting" as a scale dimension suggests the existence of a third ("collative") aspect of A_{ad}, which is conceptually different from simple evaluative or affective responses. It must be borne in mind that the scales used in this study are not identical to those used by Olney, et al.. There is need for

further exploration of the issue using two complete sets of alternative scales. Likewise, the distinct dimension of "negative evaluations," which was reported by Coulson (1989), but not by Olney, et al. (1990), requires further exploration. It is surprising that "irritation," which is not a distinct conceptual construct, should emerge as a factor in itself, with some correlation to the "entertainment value/ hedonism" factor. This still raises some questions about the face validity of the two dimensions, and needs to be explored in future research.

Recent researchers (Muehling and McCann 1993, Percy and Rossiter 1992) have stressed the need to obtain a better understanding of the dimensions of A_{ad} in order to make the whole construct more meaningful for research on advertising response. While it was not directly related to the hypotheses in this dissertation, the exploration of the dimensions of consumer responses to advertising serves two purposes. It provides partial support for some of the findings in the literature, to the extent that it closely parallels the findings on Olney, et al. (1990). It also provides new directions for further exploration, which should help resolve some of the doubts that people have about the utility of this stream of academic research.

6.3 RECALL OF DIFFERENT AD TYPES

Based on the distinctiveness hypothesis (Moore and Hutchinson 1983, 1985; Page, Thorson and Heide 1990), H_1 had predicted that the affectively extreme (negative and positive) ads would have a higher recall than the neutral ad. This hypothesis was not supported by the data. The negative ad had the highest overall recall, followed by the neutral ad, followed by the positive ad. This could be due to the relatively greater intrusiveness of the commercial used to induce the negative A_{ad} response. The data leads to the rather disturbing conclusion that disliked ads are more likely to be remembered than positive or neutral ones. This conclusion is supported by the data on delayed recall. After a

seven-day delay, recall of the neutral and positive ad had declined substantially, whereas recall of the negative ad declined at a much slower rate (see Figures 12, 13 and 14). The practical application of this finding could result in a further proliferation of loud, intrusive ads. However, such a strategy would be beneficial to advertisers only if there was evidence for a familiarity-based sleeper effect, as was hypothesized in H_3. This hypothesis was based on the critical assumption articulated by Moore and Hutchinson (1983) that "ad affect is forgotten more readily than brand familiarity. In short, immediately following exposure to an ad, brand attitudes may be directly linked to ad affect but, after some delay brand attitudes may be more a function of brand familiarity than the initial affective reaction to the ad (p. 530)." It has already been noted that the data in the present study do not support H_3. An examination of Figure 11 indicates that even after a seven-day delay, A_b is still a linear function of A_{ad}. Therefore, better recall of an ad does not necessarily translate to improved liking for the advertised brand. This means that the interests of advertisers would not be well served by creating intrusive ads merely in order to induce recall.

6.4 FAMILIARITY BASED SLEEPER EFFECT

The data in this study did not offer support for the pattern of interaction between A_{ad} and delay in influencing A_b, that was predicted by H_3. This hypothesis was based on what Moore and Hutchinson (1983) referred to as a familiarity-based sleeper effect. It has been noted in Chapter 2 that the sleeper effect has had a checkered past. Citing the findings of Gruder and his colleagues (1978), Pratkanis and Greenwald (1985) stated that a sleeper effect would occur only under certain restrictive conditions that are unlikely to be representative of actual advertising viewing conditions (see Chapter 2, Section 2.4). Although Chattopadhyay and Nedungadi (1992) and Moore and Hutchinson (1983, 1985) found some support for a familiarity based sleeper effect, the data in the present

study failed to support the existence of such an effect under ad exposure conditions that had a fairly high degree of ecological validity. In managerial terms, this finding reinforces the need for advertisers to create ads that are at least somewhat likable. They cannot hope to get away with creating irritating or intrusive ads, in the hope that consumers will remember just the brand, while forgetting their negative affect toward the ad that made them aware of the brand. If the ad evoked a negative emotional response, some amount of residual negative affect toward the brand is likely to remain even over time.

6.5 REPETITION: WEARIN AND WEAROUT

It had been predicted by H_6 and H_7 that repeated exposures to an ad would result in increased liking of the ad and brand, regardless of whether the ad was initially evaluated to be negative, neutral or positive. As seen in Figures 16 and 17, the data provide limited support for these hypotheses. Repetition resulted in increased liking for both the ad and the brand, for all three ad types. However, the increment in liking was not statistically significant for the neutral and positive ad types. This appears to indicate that consumers become more tolerant of a negative ad due to moderate levels of repetition. Such a result is consistent with the findings of Batra and Ray (1988), and Cox and Cox (1988). It is also consistent with the mere exposure effect (Zajonc 1968).

It was also found that repetition has the effect of attenuating the decline in recall caused by delay (see Figure 18). This finding indicates that repetition can make the impact of an ad last longer, possibly by reinforcing the trace of an ad in memory. Thus, advertisers may receive some benefit by sponsoring programs, as sponsorship allows them to repeat commercials several times during the program, at a price that is relatively economical compared with the up front cost of equivalent spots.

The findings regarding the beneficial effects of repetition should not be treated by advertisers as carte blanche for bombarding viewers with massive levels of advertising. A repetition level consisting of three exposures to an ad in a single half-hour program may seem rather high at first sight. However, this was the first time the subjects had seen the target ads. In a widely cited study of effective frequency, Naples (1979) concluded that the optimal level of advertising repetition is three exposures within a purchase cycle. Even after three exposures, advertising becomes more effective as frequency is increased, but at a decreasing rate. Naples also stated that wearout of an advertising campaign is not caused by too much frequency per se; it is caused by copy and content problems. On the other hand, Blair (1987) conducted a longitudinal study and reported that highly persuasive ads declined in their effectiveness as an exponential function of GRP levels (low-persuasion ads did not get better or worse over time, or with repetition). In the current study, a three-exposure level of repetition is probably too low to permit any conclusions about the onset (or lack thereof) of wearout.

6.6 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

6.6.1. Stimulus materials

This study has several limitations. First, in spite of the care taken in choosing the stimulus materials, there were noticeable executional differences in the three ads. This limitation can be overcome in a purely experimental setting by creating different versions of a custom-made commercial with variations in specific, carefully chosen elements. Such a procedure has been followed by several consumer researchers (e.g., Chattopadhyay and Nedungadi 1992, Gorn 1982). The use of such a procedure might compromise ecological validity somewhat, but it would result in greater experimental rigor.

Apart from ensuring executional equivalence, control of specific ad elements would also permit the use of more extreme negative and positive ad

affect. As noted earlier in this chapter, the use of actual ads in this study places some limits on the extremity of negative affect that can be induced.

6.6.2. Subjects

Second, despite the attempts to achieve a high degree of ecological validity through the embedding of commercials within a half-hour program, any advertising response experiment under forced-exposure conditions suffers from somewhat limited external validity. The use of student subjects further limits the external validity of the results, although this limitation is mitigated somewhat by two considerations: (1) the advertised products were chosen such that they were indeed likely to be purchased by the student audience (see Table 8); (2) the students who participated in the study were enrolled in a regional university with a fairly large commuter population, therefore, they represented a more diverse mix of ages than might be found in a traditional university campus. (The ages of students ranged from 17 to 53; the mean age was 24, and the median age was 22.) Future research in this area should try to use non-student subjects — a task rendered somewhat difficult by the fact that subjects in the delay condition would be required to participate in two half-hour long sessions exactly one week apart.

6.6.3. Brand familiarity effects

Third, this study did not take into account the effect of prior brand familiarity in the $A_{ad} \rightarrow A_b$ relationship. Like many other studies in the field, the present study made use of commercials for unfamiliar brands. MacKenzie and Lutz (1989) note that this parallels copytesting situations, where consumers are given little or no information about a product other than the ad, and subjects process ads more attentively than they normally would. There are valid experimental reasons for using fictitious or unfamiliar brands. The use of such brands ensures tight control over the attributes that subjects can consider as

decision inputs. As noted by Alba, Hutchinson and Lynch (1991), "if real and familiar brands were used, subjects might use idiosyncratic inputs that create error variance in decision outcomes... However, these controls also exact a cost (p.2)."

One of the costs that such an experimental control can exact is in terms of overlooking the role that prior brand attitude plays in moderating the A_{ad} —> A_b relationship. Several researchers have attempted to overcome this shortcoming by using familiar as well as unfamiliar brands (Edell and Burke 1986, Kent and Allen 1994, Machleit and Wilson 1988, Phelps and Thorson 1991).

Machleit and Wilson (1988) hypothesized that A_{ad} would not have a significant effect on A_b when the effect of prior brand attitude was controlled. Their model was found to fit the data. However, Edell and Burke (1986) found that A_{ad} had a significant effect on A_b even for familiar brands, although the effect was greater for unfamiliar brands. Phelps and Thorson (1991) also reported that A_{ad} had a statistically significant effect on A_b, even for familiar brands, although the effect of A_{ad} is indeed attenuated by prior brand attitude. Thus, the results obtained by Phelps and Thorson (1991) are more in line with those of Edell and Burke (1986), and do not validate the findings of Machleit and Wilson (1988).

In a recent study, Machleit and Sahni (1992) argued that measurement context has an impact on the A_{ad} —> A_b relationship for familiar brands. They hypothesized that for familiar brands, A_{ad} will have a significant impact on A_b only when A_{ad} and A_b are measured contiguously. For unfamiliar brands, they theorized that A_{ad} would have an effect on A_b regardless of measurement context. Their hypotheses were supported only in part by experimental data.

The relatively limited number of studies on the moderating impact of brand familiarity, as well as the mixed findings reported in the literature, suggest

that there is need for more investigation in this area. Even when previous studies on the impact of delay on the A_{ad} —> A_b relationship have used a mix of ads for familiar and unfamiliar brands (Moore and Hutchinson 1985), the interaction of prior brand familiarity has not been explicitly reported. Moore and Hutchinson (1985) exposed experimental subjects to projected print ads for 20 real brands. However, in reporting their results, they note that "the critical hypothesized effects were more evident when initial familiarity with the brand was low... Therefore in all of the analyses that follow, data were included for a given respondent only for [those] brands [for which the respondent was initially not aware of its product category] (Moore and Hutchinson 1985, p.75)."

6.6.4. Variation in delay

In the present study, measures were taken from subjects in the delay condition seven days after their exposure to the ad. This was done in order to ensure comparability of the results with earlier studies that have used a 7-day delay period (Chattopadhyay and Nedungadi 1992, Moore and Hutchinson 1985). It would be informative in future studies to see the longitudinal impact of varying the delay between exposure and measurement.

6.6.5. Ad and Brand Cognitions

Several models of the A_{ad}-A_b relationship have posited an important role for ad cognitions and brand cognitions in the determination of ad and brand affect (e.g., Lutz 1985, Miniard, Bhatla and Rose 1990, Yoon 1991). Ad and brand cognitions were not measured during this study. Nevertheless, their role is germane to the subject of the sleeper effect. Chattopadhyay and Nedungadi (1992) found that ad-related thoughts decayed at a faster rate than brand-related thoughts, thus providing partial support for a familiarity-based sleeper effect. The differing rates of decay of ad cognitions and brand cognitions should be investigated in future research.

6.7 CONCLUSION

This study makes several contributions to our knowledge about the impact of consumers' attitude toward the ad on their brand attitudes and purchase intentions. First, it reaffirms the important role that A_{ad} plays in determining A_b and PI. Second, it explores the impact of delay and repetition on ad recall, and on the relationship between A_{ad} and A_b. This interaction is a relatively less-studied area in the academic literature. The results appear to reaffirm that a familiarity-based sleeper effect probably does not occur under realistic advertising exposure conditions. Third, the study confirms that increased recall of an ad does not necessarily result in increased liking for the ad or brand. This result casts further doubts on the efficacy of recall based copy-testing measures, and suggests that alternative copytesting measures, based on affective responses, might be more appropriate. Fourth, the study expands the literature on wearin and wearout of advertising. The results offer some support for the contention that repetition enhances liking for an ad. Finally, the study enhances our understanding of the different dimensions of A_{ad}, an area that recent researchers have considered worthy of further attention. While no single study can resolve the issue of the dimensionality of A_{ad}, the finding of some commonalty with that of previous researchers (Olney, Batra and Holbrook 1990) is encouraging. It indicates that we are in a better position to define the components in an ad that will result in favorable responses from consumers. It is this last aspect that is probably of greatest managerial interest.

APPENDICES

APPENDIX 1

APPENDIX 1

TELEVISION PROGRAM STUDY QUESTIONNAIRE — v. 1.N.S

To allow us to match the two parts of your questionnaire, please enter the last four digits of your social security number below:

__ __ __ __

The purpose of this study is to learn more about your television viewing habits, and to get your reactions to some of the television programming being produced at the University of West Florida. You will also be asked a few questions that pertain to your usage of products that are commonly advertised on television.

Your participation in this study is purely voluntary. If for any reason, you are unwilling or unable to complete the questionnaire, there will be no penalty. ***The information in this questionnaire will be kept completely confidential.***

Please answer all questions carefully and COMPLETELY, and do not leave any line blank. Please answer honestly. There are no "right" or "wrong" answers.

For example, if there is a question containing three items, then please mark *each* of the three items (as shown in the sample below), even if several items appear to be repetitive.

Ex. I. Please indicate below your feelings about the TV program, *Sesame Street*:

	1	2	3	4	5	6	7	
Good	__:	X	__:	__:	__:	__:	__:	Bad
Unpleasant	__:	__:	__:	__:	__:	__:	X	Pleasant
Poor quality	__:	__:	__:	__:	X	__:	__:	High quality

1. In an average week, how many hours do you spend watching television?

   ____ hours

2. Please indicate below the names of the three channels (or networks) that you view most often:

   a. View most often ___
   b. View second most often ___
   c. View third most often ___

3. Do you ever watch the following channels/ networks (check all that apply)?

   PBS ___
   Arts & Entertainment (A&E) ___
   The Discovery Channel ___
   The Learning Channel ___
   UWF Closed Circuit Channel ___

4. Have you ever heard of author Terry Kay?

   Yes ___ No ___

5. Have you read any of the works of author Terry Kay?

   Yes ___ No ___

6. Do you believe that Public Broadcasting System (PBS) stations should start accepting advertising to supplement their income?

   Yes ___ No ___ No Opinion ___

7. What do you think of television advertising *in general?* Please respond using the following scales.

	1	2	3	4	5	6	7	
Good	—:	—:	—:	—:	—:	—:	—:	Bad
Pleasant	—:	—:	—:	—:	—:	—:	—:	Unpleasant
Truthful	—:	—:	—:	—:	—:	—:	—:	Deceptive
Informative	—:	—:	—:	—:	—:	—:	—:	Not informative

8. Given below is a list of some brands that are advertised on television. (Some of them may not be advertised in your area.) Please indicate if you are familiar with the following brands by checking only ONE of the boxes for EACH brand.

Brand	1. I have never heard of the brand.	2. I have heard the name but don't know anything about the product category.	3. I have heard of the brand name and know what products it relates to.	4. I know a little bit about the brand and the product category.	5. I am extremely familiar with the brand and its product category.
Folger's					
Krunchers					
Listerine					
Prior					
Claritin					
Wrigley's					
Gulden's					
Arnold Bakery					
Tone					
Sasson					
Payday					
Mentos					
Darigold					

9. How likely is it that you will purchase (for yourself, or someone you know) the following types of products *within the next six months?*

Product	1= Extremely likely						7= Extremely unlikely
	1	2	3	4	5	6	7
Beer (domestic)	___:	___:	___:	___:	___:	___:	___:
Allergy medicine	___:	___:	___:	___:	___:	___:	___:
Jeans	___:	___:	___:	___:	___:	___:	___:
Potato chips	___:	___:	___:	___:	___:	___:	___:
Ice cream	___:	___:	___:	___:	___:	___:	___:
Instant coffee	___:	___:	___:	___:	___:	___:	___:
Breakfast cereal	___:	___:	___:	___:	___:	___:	___:
Mustard (packaged)	___:	___:	___:	___:	___:	___:	___:
Dishwashing liquid	___:	___:	___:	___:	___:	___:	___:
Bread	___:	___:	___:	___:	___:	___:	___:
Candy bars	___:	___:	___:	___:	___:	___:	___:
Heat-and-eat meals	___:	___:	___:	___:	___:	___:	___:
Bath soap	___:	___:	___:	___:	___:	___:	___:
Apparel/ clothing	___:	___:	___:	___:	___:	___:	___:

10. Please indicate your feelings about *potato chips* along the following dimensions:

	1	2	3	4	5	6	7	
Important to me	—:	—:	—:	—:	—:	—:	—:	Unimportant to me
Of no concern to me	—:	—:	—:	—:	—:	—:	—:	Of concern to me
Irrelevant	—:	—:	—:	—:	—:	—:	—:	Relevant
Very meaningful to me	—:	—:	—:	—:	—:	—:	—:	Means nothing to me
Matters to me	—:	—:	—:	—:	—:	—:	—:	Doesn't matter
Interesting	—:	—:	—:	—:	—:	—:	—:	Not interesting
Significant	—:	—:	—:	—:	—:	—:	—:	Insignificant
Boring	—:	—:	—:	—:	—:	—:	—:	Exciting

11. Please indicate your feelings about *ice cream* along the following dimensions:

	1	2	3	4	5	6	7	
Interesting	—:	—:	—:	—:	—:	—:	—:	Not interesting
Of no concern to me	—:	—:	—:	—:	—:	—:	—:	Of concern to me
Irrelevant	—:	—:	—:	—:	—:	—:	—:	Relevant
Matters to me	—:	—:	—:	—:	—:	—:	—:	Doesn't matter
Significant	—:	—:	—:	—:	—:	—:	—:	Insignificant
Boring	—:	—:	—:	—:	—:	—:	—:	Exciting
Important to me	—:	—:	—:	—:	—:	—:	—:	Unimportant to me
Very meaningful to me	—:	—:	—:	—:	—:	—:	—:	Means nothing to me

12. Please indicate your feelings about *bread* along the following dimensions:

	1	2	3	4	5	6	7	
Important to me	—:	—:	—:	—:	—:	—:	—:	Unimportant to me
Of no concern to me	—:	—:	—:	—:	—:	—:	—:	Of concern to me
Irrelevant	—:	—:	—:	—:	—:	—:	—:	Relevant
Very meaningful to me	—:	—:	—:	—:	—:	—:	—:	Means nothing to me
Matters to me	—:	—:	—:	—:	—:	—:	—:	Doesn't matter
Interesting	—:	—:	—:	—:	—:	—:	—:	Not interesting
Significant	—:	—:	—:	—:	—:	—:	—:	Insignificant
Boring	—:	—:	—:	—:	—:	—:	—:	Exciting

13. Please indicate your feelings about *heat-and-eat meals* along the following dimensions:

	1	2	3	4	5	6	7	
Interesting	—:	—:	—:	—:	—:	—:	—:	Not interesting
Of no concern to me	—:	—:	—:	—:	—:	—:	—:	Of concern to me
Irrelevant	—:	—:	—:	—:	—:	—:	—:	Relevant
Matters to me	—:	—:	—:	—:	—:	—:	—:	Doesn't matter
Significant	—:	—:	—:	—:	—:	—:	—:	Insignificant
Boring	—:	—:	—:	—:	—:	—:	—:	Exciting
Important to me	—:	—:	—:	—:	—:	—:	—:	Unimportant to me
Very meaningful to me	—:	—:	—:	—:	—:	—:	—:	Means nothing to me

Please indicate how strongly you agree or disagree with the following statements, by circling the number that best represents your feelings.

14. There is no substantial difference between different brands of potato chips.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

15. I pay little or no attention to the brand of potato chips that I buy.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

16. Some brands of potato chips are definitely superior to other brands.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

17. There is no substantial difference between different brands of bread.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

18. I pay little or no attention to the brand of bread that I buy.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

19. Some brands of bread are definitely superior to other brands.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

20. There is no substantial difference between different brands of ready-to-eat/ microwave meals.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

21. I pay little or no attention to the brand of ready-to-eat/ microwave meals that I buy.

Strongly								Strongly
agree	1	2	3	4	5	6	7	disagree

22. Some brands of ready-to-eat/microwave meals are definitely superior to other brands.

Strongly								Strongly
agree	1	2	3	4	5	6	7	disagree

This concludes the first part of this study.

You will now view a 30-minute television program, titled *Southern Voices, Southern Words.*

This documentary was produced by faculty and students at The University of West Florida for airing on PBS Stations. It is now being adapted for airing on commercial cable stations, therefore the version you will see may have some commercial breaks.

PLEASE DO NOT LEAVE THE ROOM AFTER THE PROGRAM.
YOUR FEEDBACK ABOUT THE PROGRAM IS IMPORTANT.

Please do not turn the page until the program has ended.

We would like to ask you about your opinions regarding the program you just saw. Please answer honestly. There are no "right" or "wrong" answers. Please answer carefully and COMPLETELY; do not leave any line blank.

23. The program, *Southern Voices, Southern Words,* is:

	1	2	3	4	5	6	7	
Interesting	—:	—:	—:	—:	—:	—:	—:	Boring
Informative	—:	—:	—:	—:	—:	—:	—:	Uninformative
Well made	—:	—:	—:	—:	—:	—:	—:	Poorly made
Unappealing	—:	—:	—:	—:	—:	—:	—:	Appealing
Fascinating	—:	—:	—:	—:	—:	—:	—:	Mundane
Likable	—:	—:	—:	—:	—:	—:	—:	Not likable
Emotional	—:	—:	—:	—:	—:	—:	—:	Neutral
Involving	—:	—:	—:	—:	—:	—:	—:	Not involving
Held my attention	—:	—:	—:	—:	—:	—:	—:	Did not hold my attention

24. After viewing the program, are you more motivated than before, to read the works of the featured author, Terry Kay?

Yes ___ No ___

25. Did the interruptions in the program due to the commercial breaks bother you?

	1	2	3	4	5	6	7	
Bothered me	—:	—:	—:	—:	—:	—:	—:	Did not bother me

26. Before viewing this program, were you aware that the University of West Florida makes programs (other than *Nautilus News*) for airing on public television stations?

Yes ___ No ___

27. Do you think that the University of West Florida should make more such documentaries?

Yes ___ No ___

28. Would you be interested in viewing some of the other documentaries produced at UWF?

Yes ___ No ___

Now, please open the envelope that you have been given, and answer the questionnaire in the envelope. Thank you.

TELEVISION PROGRAM STUDY PART 2
QUESTIONNAIRE — v. 1.N.S

For identification purposes only, please enter the last four digits of your social security number below:

— — — —

We would now like to ask you some questions about the *commercials* that you saw just now along with the program, *Southern Voices, Southern Words.* Please answer honestly. There are no "right" or "wrong" answers. Please answer carefully and COMPLETELY, and do not leave any line blank.

29. Please list all the brands and products for which you remember seeing commercials along with the program, *Southern Voices, Southern Words.* Please list only the brands and products; do not describe the commercials.

Do not turn to the next question until you have completed your response to this question.

30. Did you see commercials for the following brands along with the program *Southern Voices, Southern Words?*
(Please respond without referring to the previous page!)

Brand	Yes	No
Panasonic Camcorders	____	____
Arrid Deodorant	____	____
Archer Daniels Midland (ADM)	____	____
Avis Car Rentals	____	____
Robitussin Cold Medicine	____	____
Alamo Car Rentals	____	____
Sensodyne Toothpaste	____	____
Hoover Vacuum Cleaners	____	____
Zenith Color TV	____	____
Sharp Camcorders	____	____
Krunchers Potato Chips	____	____
Arnold Bakery Light Bread	____	____
Prior Chicken American	____	____

31. Can you remember seeing a commercial for *Krunchers* potato chips?

Yes ___ No ___ Not sure ___

(If you answered NO, please go to Question 33.)

32. Please describe, in as much detail as you can, the commercial that you have seen for *Krunchers* potato chips:

33. Please indicate your impressions about *Krunchers* brand potato chips by marking the most appropriate spot on each of the following scales:

	1	2	3	4	5	6	7	
Good	—:	—:	—:	—:	—:	—:	—:	Bad
Unpleasant	—:	—:	—:	—:	—:	—:	—:	Pleasant
Favorable	—:	—:	—:	—:	—:	—:	—:	Unfavorable
Dislike	—:	—:	—:	—:	—:	—:	—:	Like
Poor quality	—:	—:	—:	—:	—:	—:	—:	High quality
Well known	—:	—:	—:	—:	—:	—:	—:	Unknown

34. If you were in the market for potato chips, how likely is it that you would consider buying *Krunchers?* Please mark the appropriate spot in each of the following scales.

	1	2	3	4	5	6	7	
Likely	—:	—:	—:	—:	—:	—:	—:	Unlikely
Probable	—:	—:	—:	—:	—:	—:	—:	Improbable
Possible	—:	—:	—:	—:	—:	—:	—:	Impossible

This concludes the second part of this study.
PLEASE REMAIN SEATED, AND DO NOT LEAVE THE ROOM.

In a few minutes, we will once again show you one of the commercials that you saw with the program, and request your reactions. Please wait for the commercial to be screened again before turning the page.

The study is almost over. Thank you for your patience!

We will now show you once again one of the commercials that you saw with the program. Please give us your responses below with respect to the commercial that you will be shown.

35. What is the brand that is being advertised? _____

36. Please let us know your feelings about the *commercial* that you just saw, along the following scales:

	1	2	3	4	5	6	7	
Good	—:	—:	—:	—:	—:	—:	—:	Bad
Unpleasant	—:	—:	—:	—:	—:	—:	—:	Pleasant
Favorable	—:	—:	—:	—:	—:	—:	—:	Unfavorable
Enjoyable	—:	—:	—:	—:	—:	—:	—:	Not enjoyable
Disliked it	—:	—:	—:	—:	—:	—:	—:	Liked it
Irritating	—:	—:	—:	—:	—:	—:	—:	Likable
Informative	—:	—:	—:	—:	—:	—:	—:	Uninformative

Please respond to Questions 37-56, using the following scale.

1 I strongly disagree with the statement
2 I disagree with the statement
3 I somewhat disagree with the statement
4 I neither agree nor disagree with the statement
5 I somewhat agree with the statement
6 I agree with the statement
7 I strongly agree with the statement

For each statement, please circle the number that most closely represents your feelings.

37. I learned something from the commercial for *Krunchers* that I did not know before.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

38. The commercial showed me the product had certain advantages.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

39. As I watched, I thought, "Who cares?"

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

40. I would be interested in more information about the advertised brand.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

41. I think the advertised brand is a good brand.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

42. The commercial described characteristics undesirable to me.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

43. The ad showed me a real difference between the brand and competition.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

44. The commercial made exaggerated claims.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

45. The commercial insults my intelligence.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

46. The commercial was annoying.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

47. It was difficult to understand the commercial.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

48. The commercial was lots of fun to watch and listen to.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

49. The commercial was entertaining.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

50. This was a pushy commercial.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

51. This commercial is different from the commercials of its competitors.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

52. This commercial stands out from other commercials.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

53. I felt the commercial was acting out what I feel like at times.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

54. I was involved in the commercial.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

55. I like the mood of the commercial.

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

56. The commercial made me "feel" rather than "think."

Strongly agree	1	2	3	4	5	6	7	Strongly disagree

YOU'RE ALMOST DONE! We just need a little more information about yourself, so please turn the page and finish the questionnaire.

57. Your gender: Male __ Female __

58. What was your age last birthday? ____ years

59. On average, how many times a month do you shop for groceries?

____ times.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

As a reward for your efforts, you have been entered in a sweepstakes, with a chance of winning a free color TV.
Results will be declared in six to eight weeks.

APPENDIX 2

APPENDIX 2

SCRIPTS OF THE STIMULUS COMMERCIALS

KRUNCHERS POTATO CHIPS
30-second TV Spot

VIDEO	AUDIO
1. Open on close up of man beating a drum that has the printed slogan, "No more wimpy chips." Camera zooms out slowly.	MAN (chants): No more wimpy chips! No more wimpy chips!...
2. A few people gather around drum-beating man.	ANNOUNCER (VO): It started as a one-man crusade...
3. Cut to long shot of the mall around the Washington memorial, crowded with thousands of demonstrators.	... and became a national obsession.
4. Cut to CU of demonstrators wearing T-shirts and holding placards with the slogan, "No more wimpy chips."	CROWD (chants): No more wimpy chips! No more wimpy chips!...
5. Cut to CU of a child on demonstrator's shoulder looking up at the sky and pointing.	CHILD: Look!
6. Cut to long shot of airplane dropping packets from the sky. As one packet rushes toward camera, it is shown to be a bag of Krunchers.	ANNOUNCER (VO): And the nation's cries were answered...
7. Cut to CU of young woman biting into a potato chip	SFX: Crunch (crunching of chip) ANNOUNCER (VO): ... with a resounding crrrunch!
8. Dissolve to CU of Kruncher's Potato Chips bag.	ANNOUNCER (VO): Krunchers Potato Chips. Cooked in peanut oil for a taste that's outrageously bold...
9. Cut to long shot of large crowd of demonstrators	SFX: Crunch. CROWD (exultantly): Yayyy! ANNOUNCER (VO): A chip that's incredibly crunchy.
10. Cut to MS of man biting into a potato chip.	SFX: Crunch. CROWD (exultantly): Yayyy!
11. Quick cut to medium shot of demonstrators exultantly enjoying chips.	
12. Dissolve to pack shot of three bags of Krunchers.	ANNOUNCER (VO): Krunchers mesquite barbecue, alfredo and jalapeno flavors.

13. Dissolve to CU of several demonstrators joyously beating drum with the printed slogan, "No more wimpy chips."	ANNOUNCER (VO): So say good bye to wimpy chips. DEMONSTRATORS (chanting): Krunchers, Krunchers, Krunchers...
14. Super on video of demonstrators: "Join the Krunchers Crusade."	ANNOUNCER (VO): Join the Krunchers crusade.

APPENDIX 2 (contd.)

SCRIPTS OF THE STIMULUS COMMERCIALS

ARNOLD BAKERY LIGHT BREAD
30-second TV Spot

VIDEO	AUDIO
1. Open with close-up of Woman-1 with a sandwich in her hand. One mouthful has been bitten off.	WOMAN -1 (high-pitched, arrogant voice): This is light bread?! No way! Unh, unh!
2. Text (in strong, heavy, reverse typeface): You're wrong	JINGLE: You're wrong!
3. Text (in light, reverse typeface): We're light	JINGLE: We're light!
4. Cut to close-up of loaf of bread.	JINGLE: Arnold Bakery Light!
5. Cut to medium-shot of Man-1 with sandwich in hand. One mouthful has been bitten off.	MAN-1: I don't believe ya. This is... that's ridiculous!
6. Cut to medium shot of brick oven in background, with silhouette of loaves of bread in foreground.	VO: At Arnold's Bakery, we don't bake light bread like everybody else.
7. Dissolve to product shots of bread, with and without wrapper.	Our five bakery flavors are so delicious, you won't believe they're light.
8. Cut to close-up of Woman-1	WOMAN-1: I know it doesn't taste like light bread, so forget it!
9. Cut to CU of slices of bread.	VO: Packed with fresh bakery taste, each full slice is just forty calories light.
10. Cut to CU of Woman-2 shaking her head and smiling as she chews on bread.	WOMAN-2 (with mouth full): No!
11. Cut to CU of Woman-3 shaking her head and smiling.	WOMAN-3: You're kidding me! Get outta here!
12. Cut to CU of Man-2 with bread in hand.	MAN-2: It's not light bread.
13. Text (in strong, heavy, reverse typeface): You're wrong	JINGLE: You're wrong!
14. Text (in light, reverse typeface): We're light	JINGLE: We're light!
15. Pack shot of five loaves of bread	JINGLE: Arnold Bakery Light!
16. Super: Arnold Bakery Light	VO: From Arnold's Bakery.

APPENDIX 2 (contd.)

SCRIPTS OF THE STIMULUS COMMERCIALS

PRIOR INSTANT CHICKEN DINNERS
30-second TV Spot

VIDEO	AUDIO
1. Open with medium shot of balding, middle-aged man sitting at kitchen table with a bored expression.	SFX: Striking of clock.
2. Man removes glasses as his middle-aged, grey-haired wife walks in with two plates loaded with food.	SFX: Ticking of clock.
3. Wife lays plates on table.	SFX: Ticking of clock.
4. Cut to CU of plate with chicken dinner on it.	SFX: Ticking of clock.
5. Cut back to CU of man. Man looks sideways at wife, with bored expression.	SFX: Ticking of clock.
6. Cut to CU of wife. She looks anxiously at man, as if awaiting approval.	SFX: Ticking of clock.
7. CU of man as he cuts into chicken, takes a mouthful and chews.	SFX: Knife clattering against plate.
8. Cut to CU of wife looking anxiously at man.	
9. Cut back to MS of man eating. As he chews food, a smile slowly spreads across his face.	MUSIC (comes up slowly): "Night Fever" disco track from the movie *Saturday Night Fever.*
10. Man rises from chair, rolling arms in rhythm with the music.	MUSIC: "Night Fever" track.
11. Man starts dancing. Woman also rises from chair, casts her apron aside and joins in dance.	Music continues.
12. Couple dance together (comical but cute).	Music continues.
13. Cut to pack shot of instant dinner with super: "Saturday Night Fever in less than an hour."	Music continues.
The descriptive name, "American Weekend Chicken" is visible on the pack, but the place for the brand name is blank.	
14. The brand name, "Prior" dissolves onto the pack shot.	Music continues.

LIST OF REFERENCES

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Aaker, David A., and John G. Myers (1987). *Advertising Management*, Third Edition. Englewood Cliffs, NJ: Prentice-Hall.

Aaker, David A. and Alexander L. Biel (eds.) (1993). *Brand Equity and Advertising.* Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Alba, Joseph W., J. Wesley Hutchinson, and John G. Lynch (1991). "Memory and Decision Making," in *Handbook of Consumer Behavior*, Thomas S. Robertson and Harold H. Kassarjian, eds. Englewood Cliffs, NJ: Prentice-Hall Inc., 1-49.

Alwitt, Linda F., and Andrew A. Mitchell (1985a). "Introduction," in *Psychological Processes and Advertising Effects*, Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 1-10.

Alwitt, Linda F., and Andrew A. Mitchell (1985b). "Concluding Remarks," in *Psychological Processes and Advertising Effects*, Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 272-293.

Batra, Rajeev and Michael L. Ray (1986a). "Situational Effects of Advertising Repetition: The Moderating Influence of Motivation, Ability and Opportunity to Respond," *Journal of Consumer Research*, 12 (March), 432-445.

Batra, Rajeev and Michael L. Ray (1986b). "Affective Responses Mediating Consumer Acceptance of Advertising," *Journal of Consumer Research*, 13 (September), 234-249.

Blair, Margaret Henderson (1987). "An Empirical Investigation of Wearin and Wearout," *Journal of Advertising Research*, (December 1987/ January 1988), 45-50.

Brown, Steven P. and Douglas M. Stayman (1992). "Antecedents and Consequences of Attitude toward the Ad: A Meta-Analysis," *Journal of Consumer Research*, 19 (June), 34-51.

Burke, Marian C. and Julie A. Edell (1986). "Ad Reactions Over Time: Capturing Changes in the Real World," *Journal of Consumer Research*, 13 (June), 114-118.

Burton, Scott and Donald R. Lichtenstein (1988). "The Effect of Ad Claims and Ad Context on Attitude toward the Advertisement," *Journal of Advertising*, 17, 1, 3-11.

Cacioppo, John T. and Richard E. Petty (1985). "Central and Peripheral Routes to Persuasion: The Role of Repetition," in *Psychological Processes and Advertising Effects*, Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 91-112.

Calder, Bobby J. and Brian Sternthal (1980). "Television Commercial Wearout: An Information Processing View," *Journal of Marketing Research*, 17 (May), 173-186.

Chattopadhyay, Amitava and Prakash Nedungadi (1992). "Does Attitude Toward the Ad Endure? The Moderating Effects of Attention and Delay," *Journal of Consumer Research*, 19, 1 (June), 26-33.

Colley, Russell H. (1961). *Defining Advertising Goals for Measured Advertising Results*. New York, NY: Association of National Advertisers.

Coulson, John S. (1989). "An Investigation of Mood Commercials," in *Cognitive and Affective Responses to Advertising*, editors, Patricia Cafferata and Alice M. Tybout. Lexington MA: D.C. Heath and Company, 21-30.

Cox, Dena Saliagas and Anthony D. Cox (1988). "What Does Familiarity Breed? Complexity as a Moderator of Repetition Effects in Advertisement Evaluation," *Journal of Consumer Research*, 15 (June), 111-116.

Cox, Dena Saliagas and William B. Locander (1987). "Product Novelty: Does it Moderate Relationship between Ad Attitudes and Brand Attitudes?" *Journal of Advertising*, 16 (3), 39-44.

Droge, Cornelia and Rene Y. Darmon (1987). "Associative Positioning Strategies Through Comparative Advertising: Attribute versus Overall Similarity Approaches," *Journal of Marketing Research*, 24 (November), 377-388.

D'Souza, Giles and Ram C. Rao (1995). "Can Repeating an Advertisement More Frequently Than the Competition Affect Brand Preference in a Mature Market?" *Journal of Marketing*, 59, 2 (April), 32-42.

Ducoffe, Robert Hal (1989). "Evaluating the Utility of Advertising: Theory and Measurement," Unpublished doctoral dissertation. East Lansing, MI: Michigan State University.

Edell, Julie A. and Marian C. Burke (1986). "The Relative Impact of Prior Brand Attitude and Attitude Toward the Ad on Brand Attitude After Ad Exposure," in *Advertising and Consumer Psychology*, 3, Jerry Olson and Keith Sentis, editors. New York, NY: Praeger Publishers, 93-107.

Edell, Julie A. and Marian C. Burke (1987). "The Power of Feelings in Understanding Advertising Effects," *Journal of Consumer Research,* 14 (December), 421-33.

Edell, Julie A. and Marian C. Moore (1993). "The Impact and Memorability of Ad-Induced Feelings: Implications for Brand Equity," in *Brand Equity and Advertising,* David A. Aaker and Alexander L. Biel, editors. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Fishbein, Martin and Icek Ajzen (1974). "Attitudes toward objects as predictors of single and multiple behavioral criteria," *Psychological Review,* 81, 59-74.

Freiden, Jon B. (1984). "Advertising Spokesperson Effects: An Examination of Endorser Type and Gender on Two Audiences," *Journal of Advertising Research,* 24 (5), 33-41.

Gardner, Meryl Paula (1985). "Does Attitude toward the Ad Affect Brand Attitude Under a Brand Evaluation Set?" *Journal of Marketing Research,* 22 (May), 192-198.

Gillig, P. M., and Anthony G. Greenwald (1974). "Is it time to lay the sleeper effect to rest?" *Journal of Personality and Social Psychology,* 29, 132-139.

Gorn, Gerald J. (1982). "The Effects of Music in Advertising on Choice Behavior: A Classical Conditioning Approach," *Journal of Marketing,* 46 (Winter 1982), 94-101.

Greenwald, Anthony G. (1968). "Cognitive learning, cognitive response in persuasion, and attitude change," in *Psychological Foundations of Attitudes,* A.G. Greenwald, T.C. Brock and T.M. Ostrom, editors. New York, NY: Academic Press.

Gresham, Larry G. and Terence A. Shimp (1985). "Attitude toward the Advertisement and Brand Attitudes: A Classical Conditioning Perspective," *Journal of Advertising,* 14, 1, 10-17, 49.

Gruder, C.L., T.D. Cook, K.M Hennigan, B.R. Flay, C. Alessis and J. Halamaj (1978). "Empirical tests of the absolute sleeper effect predicted from the discounting cue hypothesis," *Journal of Personality and Social Psychology,* 36, 1061-1074.

Hastak, Manoj and Jong-Won Park (1990). "Mediators of Message Sidedness Effects on Cognitive Structure for Involved and Uninvolved Audiences," *Advances in Consumer Research,* 17, Marvin E. Goldberg, Gerald Gorn and Richard W. Pollay, eds. Provo, UT: Association of Consumer Research, 329-336.

Haugtvedt, Curtis P., Clark Leavitt and Wendy L. Scheiner (1993). "Cognitive Strength and Established Brands: Memory, Attitudinal and Structural Approaches," in *Brand Equity and Advertising*, David A. Aaker and Alexander L. Biel, editors. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Haugtvedt, Curtis P., David W. Schumann, Wendy L. Scheiner and Wendy L. Warren (1994). "Advertising Repetition and Variation Strategies: Implications for Understanding Attitude Strength," *Journal of Consumer Research*, 21, 1, 176-189.

Haugtvedt, Curtis P. and Duane T. Wegener (1994). "Message Order Effects in Persuasion: An Attitude Strength Perspective," *Journal of Consumer Research*, 21, 1, 205-218.

Homer, Pamela M. (1990). "The Mediating Role of Attitude toward the Ad: Some Additional Evidence," *Journal of Marketing Research*, 27 (February), 78-86.

Hovland, C.I., Janis, I.L. and Kelley, J.J. (1953). *Communications and Persuasion.* New Haven, CT: Yale University Press.

Kamins, Michael A. (1989). "Celebrity and Non-celebrity Advertising in a Two-Sided Context," *Journal of Advertising Research*, 15 (3), 34-42.

Kamins, Michael A., Lawrence J. Marks and Deborah Skinner (1991). "Television Commercial Evaluation in the Context of Program Induced Mood: Congruency versus Consistency Effects," *Journal of Advertising*, 20 (2), 1-14.

Keller, Kevin Lane (1991). "Cue Compatibility and Framing in Advertising," *Journal of Marketing Research*, 28 (February), 42-57.

Kent, Robert J. and Chris T. Allen (1994). "Competitive Interference Effects in Consumer Memory for Advertising: The Role of Brand Familiarity," *Journal of Marketing*, 58 (July 1994), 97-105.

Krugman, Herbert E. (1965). "The Impact of Television Advertising: Learning Without Involvement," *Public Opinion Quarterly*, 29, 349-356.

Lavidge, Robert J. and Gary A. Steiner (1961). "A Model for Predictive Measurements of Advertising Effectiveness," *Journal of Marketing*, 25 (October 1961), 59-62.

Leigh, Thomas W., Arno J. Rethans and Tamatha R. Whitney (1987). "Role Portrayals of Women in Advertising: Cognitive Responses and Advertising Effectiveness," *Journal of Advertising Research*, 27 (5), 54-63.

Lutz, Richard J. (1985). "Affective and Cognitive Antecedents of Attitude Toward the Ad: A Conceptual Framework," in *Psychological Processes and Advertising Effects*, Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 45-63.

Machleit, Karen A. and R. Dale Wilson (1988). "Emotional Feelings and Attitude Toward the Advertisement: The Roles of Brand Familiarity and Repetition," *Journal of Advertising*, 17, 3, 27-35.

Machleit, Karen A. and Arti Sahni (1992). "The Impact of Measurement Context on the Relationship Between Attitude Toward the Ad and Brand Attitude for Familiar Brands," *Advances in Consumer Research*, 19, John F. Sherry and Brian Sternthal, eds. Provo, UT: Association for Consumer Research, 279-283.

MacKenzie, Scott B. and Richard J. Lutz (1989). "An Empirical Examination of the Structural Antecedents of Attitude toward the Ad in an Advertising Pretesting Context," *Journal of Marketing*, 53 (April), 48-65.

MacKenzie, Scott B., Richard J. Lutz and George E. Belch (1986). "The Role of Attitude Toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations," *Journal of Marketing Research*, 23 (May), 130-143.

Macklin, M. Carole, Norman T. Bruvold and Carol Lynn Shea (1985). "Is it always as simple as , 'Keep It Simple!'?" *Journal of Advertising*, 14 (4), 28-35.

Madden, Thomas J., Kathleen Debevec and Jacquelyn L. Twible (1988). "Assessing the Effects of Attitude toward the Ad on Brand Attitudes: A Multitrait-Multimethod Design," in *Marketing Communications: Theory and Research*, Michael J. Houston and Richard J. Lutz, editors. Chicago: AMA, 109-13.

McGuire, William J. (1976). "Some Internal Psychological Factors Influencing Consumer Choice," *Journal of Consumer Research*, 2 (March), 302-319.

Miniard, Paul W., Sunil Bhatla and Randall L. Rose (1990). "On the formation and relationship of ad and brand attitudes: an experimental and causal analysis," *Journal of Marketing Research*, 27, 290-303.

Mitchell, Andrew A. and Jerry C. Olson (1981). "Are Product Attribute Beliefs the Only Mediators of Advertising Effects on Brand Attitude?" *Journal of Marketing Research*, 18 (August), 318-32.

Mittal, Banwari (1990). "The Relative Roles of Brand Beliefs and Attitude Toward th eAd as a Mediator of Brand Attitudes," *Journal of Marketing Research,* 27 (May), 209-219.

Moore, Danny L. and J. Wesley Hutchinson (1983). "The Effects of Ad Affect on Advertising Effectiveness," *Advances in Consumer Research,* 10, R.P. Bagozzi and Alice Tybout, eds.. Ann Arbor, MI: Association for Consumer Research.

Moore, Danny L. and J. Wesley Hutchinson (1985). "The Influence of Affective Reactions to Advertising: Direct and Indirect Mechanisms of Attitude Change," in *Psychological Processes and Advertising Effects,* Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 65-87.

Muehling, Darrel D. (1987). "Comparative Advertising: The Influence of Attitude toward the Ad on Brand Evaluation," *Journal of Advertising,* 16 (4), 43-49.

Muehling, Darrel D. (1987) and Russell N. Laczniak (1992). "An Examination of Factors Mediating and Moderating Advertising's Effect on Brand Attitude Formation," *Journal of Current Issues and Research in Advertising,* 14 (1), 23-34.

Muehling, Darrel D., Russell N. Laczniak and Jeffrey J. Stoltman (1991). "The Moderating Effects of Ad Message Involvement: A Reassessment," *Journal of Advertising,* 20 (2), 29-38.

Muehling, Darrel D. and Michelle McCann (1993). "Attitude toward the Ad: A Review," *Journal of Current Issues and Research in Advertising,* 15, 2 (Fall 1993), 25-58.

Naples, Michael (1979). *Effective Frequency: The Relationship between Frequency and Advertising Effectiveness.* New York, NY: Association of National Advertisers, 63-82.

Olney, T. J., Rajeev Batra and Morris B. Holbrook (1990). "A Three-Component Model of Attitude Toward the Ad: Effects of the Zipping and Zapping of Television Commercials," in *Emotion in Advertising: Theoretical and Practical Explorations,* Stuart J. Agres, Julie A. Edell and Tony M. Dubitsky, editors. New York NY: Quorum Books, 269-281.

Page, Thomas J., Esther Thorson and Maria Papas Heide (1990). "The Memory Impact of Commercials Varying in Emotional Appeal and Product Involvement," in *Emotion in Advertising: Theoretical and Practical Explorations,* Stuart J. Agres, Julie A. Edell and Tony M. Dubitsky, editors. New York NY: Quorum Books, 255-268.

Palda, Kristian S. (1966). "The hypothesis of a hierarchy of effects: a partial evaluation," *Journal of Marketing Research*, 3 (February), 13-24.

Pechmann, Cornelia and David W. Stewart (1989). "Advertising Repetition: A Critical Review of Wearin and Wearout," *Current Issues and Research in Advertising 1988*, James H. Leigh and Claude R. Martin, Jr., editors. Ann Arbor, MI: University of Michigan, 285-329.

Percy, Larry and John R. Rossiter (1992). "Advertising Stimulus Effects: A Review," *Journal of Current Issues and Research in Advertising*, 14, 1, 75-92.

Peter, J. Paul and Jerry Olson (1990). *Consumer Behavior and Marketing Strategy*, Second Edition. Homewood, IL: Richard D. Irwin.

Peterson, Robert A. (1994). "A Meta-analysis of Cronbach's Coefficient Alpha," *Journal of Consumer Research*, 21, 2, 381-391.

Petty, Richard E. and John T. Cacioppo (1981). *Attitudes and Persuasion: Classic and Contemporary Approaches*. Dubuque IA: William C. Brown.

Petty, Richard E., John T. Cacioppo and David Schumann (1983). "Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement," *Journal of Consumer Research*, 10 (September), 135-146.

Phelps, Joseph and Esther Thorson (1991). "Brand Familiarity and Product Involvement Effects on the Attitude Toward the Ad-Brand Attitude Relationship," *Advances in Consumer Research*, 18, Rebecca H. Holman and Michael R. Solomon, eds.. Provo UT: Association for Consumer Research, 202-209.

Pratkanis, Anthony R. and Anthony G. Greenwald (1985). "A Reliable Sleeper Effect in Persuasion: Implications for Opinion Change Theory and Research," in *Psychological Processes and Advertising Effects*, Linda Alwitt and Andrew A. Mitchell, editors. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., 157-173.

Schlinger, Mary Jane (1979). "A Profile of Responses to Commercials," *Journal of Advertising Research*, 19, 2, 37-46.

Schumann, David W., Richard E. Petty and D. Scott Clemons (1990). "Predicting the Effectiveness of Different Strategies of Advertising Variation: A Test of the Repetition-Variation Hypotheses," *Journal of Consumer Research*, 17, 2 (September), 192-202.

Shimp, Terence A. (1981). "Attitude Toward the Ad as a Mediator of Consumer Brand Choice," *Journal of Advertising*, 10, 2, 9-15.

Soldow, Gary F. and Victor Principe (1981). "Response to Commercials as a Function of Program Context," *Journal of Advertising Research*, 21 (2), 59-65.

Stewart, David W., Connie Pechmann, Srinivasan Ratneshwar, Jon Stroud and Beverly Bryant (1985). "Methodological and Theoretical Foundations of Advertising Copytesting: A Review," *Current Issues and Research in Advertising*.

Stewart, David W. (1986). "The moderating role of recall, comprehension and brand differentiation on the persuasiveness of television advertising," *Journal of Advertising Research*, (April/ May), 43-47.

Stout, Patricia and John D. Leckenby (1986). "Measuring Emotional Response to Advertising," *Journal of Advertising*, 15 (4), 35-42.

Thorson, Esther and Marian Friestad (1989). "The Effects of Emotion on Episodic Memory for Television Commercials," in *Cognitive and Affective Responses to Advertising*, editors, Patricia Cafferata and Alice M. Tybout. Lexington MA: D.C. Heath and Company, 305-326.

Thorson, Esther, Annie Chi and Clark Leavitt (1992). "Attention, Memory, Attitude and Conation: A Test of the Advertising Hierarchy," *Advances in Consumer Research*, 19, John F. Sherry and Brian Sternthal, eds. Provo, UT: Association for Consumer Research, 366-379.

Thorson, Esther, and Thomas J. Page, Jr. (1988). "Effects of Product Involvement and Emotional Commercials on Consumers' Recall and Attitudes," in *Nonverbal Communication in Advertising*, Sidney Hecker and David W. Stewart, eds., Lexington, MA: Lexington Books, 111-126.

Villareal, Angelina (1985). "Message Context and Content as Meidators of Advertising Evaluation: The Influence of Feeling States," *AMA Educators' Conference Proceedings*, Michael J. Houston and Richard J. Lutz, eds., 167-171.

Yoon, Kak (1991). "A Pretesting Model of Advertising Effectiveness: The Mediating Effects of Involvement, Picture and Message," Unpublished doctoral dissertation. East Lansing MI: Michigan State University.

Zaichkowsky, Judith Lynne (1985). "Measuring the Involvement Construct," *Journal of Consumer Research*, 3 (December), 341-352.

Zajonc, Robert B. (1968). "Attitudinal Effects of Mere Exposure," *Journal of Personality and Social Psychology*, 9 (2, Part 2), 1-28.

Zinkhan, George M., William B. Locander and James H. Leigh (1986). "Dimensional Relationships of Aided Recall and Recognition," *Journal of Advertising*, 15(1), 38-46.

Zinkhan, George M., and Claude R. Martin, Jr. (1983). "Message Characteristics and Audience Characteristics: Predictors of Advertising Response," *Advances in Consumer Research*, 10, Richard P. Bagozzi and Alice M. Tybout, eds. Ann Arbor, MI: Association for Consumer Research, 27-31.