This is to certify that the

dissertation entitled

Advertising Clutter and Its Impact on Brand Equity

presented by

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has been accepted towards fulfillment
of the requirements for

Ph. D. degree in Mass Media

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Date 6/30/94

ADVERTISING CLUTTER AND ITS IMPACT ON BRAND EQUITY -

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY IN MASS MEDIA

College of Communication Arts and Sciences

1994

ABSTRACT

ADVERTISING CLUTTER AND ITS IMPACT ON BRAND EQUITY

By

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Advertising clutter is a pertinent issue in the advertising industry; advertisers worry their efforts will be diluted by clutter while audiences feel irritated by clutter. In an attempt to shed light on the controversy about whether or not clutter affects advertising effectiveness, this dissertation examined the nature of clutter and its impact on several factors including brand equity in consumer magazines. In this study, clutter is defined as the density of advertisements in a media vehicle and is proposed here to consist of three dimensions: quantity, competitiveness, and intrusiveness.

One-way independent group experiments were conducted in order to identify the effects of the three dimensions of clutter on six advertising effects measures: 1) attitudes toward advertising in a media vehicle, 2) advertising message involvement, 3) attitudes toward the ad, 4) memory of the ad, 5) resistance to competitive ads, and 6) brand equity. This study also examined the role of 1) attitudes toward advertising in general, 2) ad-editorial compatibility, 3) product category involvement, 4) ad execution quality, 5) familiarity with the brand, and 6) exposure to other media, in countervailing the effects of clutter.

The subjects of this study were recruited from students in two major

universities. The stimulus material was a 70-page dummy magazine. The direct and indirect effects among the variables and the validity of the model were examined via structural equations models. The scales were tested by confirmatory factor analysis.

Results of this study indicate the critical impact of individual differences on the perception of clutter level among subjects. T-test comparisons suggest that both the quantity and intrusiveness dimensions of clutter have a moderate direct negative effect on attitudes toward advertising in a media vehicle. There was also a weak negative direct effect of clutter on memory of the ad. However, clutter did not affect advertising message involvement, which is largely determined by advertising execution quality.

Clutter exhibited only indirect effects on brand equity. Brand equity itself was found to be directly affected by a consumer's familiarity with the brand, memory of the ad, product category involvement, and attitudes toward advertising in a given media vehicle. With the exception of "exposure to other media", all the proposed countervailing factors appeared to offset the negative effect of clutter on brand equity.

Dedicated to my parents and my husband

ACKNOWLEDGMENTS

This dissertation is the third major project in my life. Just like my past undergraduate and master's theses, it took an enormous amount of my blood and tears to complete. The biggest difference this time was the company of my husband, Kit, who supported me when I was most frustrated in the process, and helped me coordinate the data collection.

I am indebted to my dissertation advisor, Dr. E. Lincoln James, who encouraged me and lit up the path in the course of writing my dissertation. My guidance committee members, Drs. Thomas Baldwin, Cornelius B. Pratt, and Bonnie Reece, deserve my deepest gratitude for their patience with my work and their invaluable comments. I have to thank Dr. Baldwin especially for introducing me to the Mass Media Ph.D. Program. The advice from Drs. Stephen Lacy, Gina Garramone, and Frank Boster helped me find the right track for the study.

I would like to thank Mirijana Jovovic, Hengli Qiao, Yingjie Zhang, Xulin Zhou, Xiaodi Wang, Lin Xu, Brian Kleiner, and the Mathematics Department of Bowling Green State University for allowing me to conduct the experiments in their classes. I also have to thank Freya Katkowsky for her proof-reading of the dissertation, and my friends Hiromi Manaeka, Kartik Pashupati, Pei-ling Chu, Cinty Li, and Veronica Tan, for their support. Last but not least, I would like to acknowledge Melinda, Melissa, and Raphael Chiu's feedback on the very first test of

the research instruments from a college student's perspective.

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INTRODUCTION

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A pertinent issue in the advertising industry is the problem of advertising clutter. Advertising clutter may be defined as an advertising message-intensive environment that may make advertising ineffective (Webb and Ray 1979; Ray and Webb 1986; Pillai 1990; Brown and Rothschild 1993; Pratkanis and Greenwald 1993). The public is believed to be irritated by advertising clutter. Its abhorrence of advertising clutter has resulted in the popularity of non-advertising supported media such as public media and pay media (Owen and Wildman 1992). Advertising clutter poses a problem to advertisers because they worry that the overwhelming amount of advertising may turn their audiences away. Indeed, according to Wicks (1989), "advertisers like to be associated with a quality environment, and viewers resent it when time is taken away from programs and given to advertising."

Advertising clutter in television has received attention from researchers and practitioners since the late 1970s when shorter units of commercials were introduced (Ray and Webb 1986). Today, concern with clutter is so severe that the National Association of Broadcasters' Code has limited both the number of interruptions permissible within programs and the number of commercials allowed during a commercial break (Surmanek 1989; Wicks 1991). For example, prime-time network

stations cannot broadcast more than nine and a half minutes of commercials, nor can they have more than four commercial breaks, within a 60-minute program.

The trade press regularly reports on the change in the clutter level in television (e.g., Otter 1984; Mandese 1992; Jensen 1993). In contrast, the problem of clutter in print media such as magazines has generally been overlooked. In a survey of marketing professionals conducted by *Advertising Age* and the Roper Organization, 96% believed that magazine readers had no problem with the volume of ads (Fawcett 1993). Instead of being condemned as clutter, magazine advertising page leaders are hailed as business successes by the trade press (e.g., Donaton 1994).

Such diverse attitudes held by the advertising and media industry toward clutter in TV and print media may be attributed to different assumptions about the nature of the audiences of the two media, as well as practitioners' concerns for the well-being of consumers. In television, the concern is mainly about the "captivity" of consumers. Consumers are thought to be unable to escape exposure to commercials. On the other hand, in self-paced media such as magazines, consumers can skip advertisements easily, and clutter is believed to have no effect. Advertisers therefore are left to doubt the readership of their advertisements when they are in magazines with high advertising clutter (Scissors and Bumba 1993).

The magazine industry has a stake in preserving a high level of clutter. Advertising provides about 50% of the revenue of consumer magazines, according to industry estimates (Lawhorn 1992). A single magazine has an average about 1000 pages of ads in a year (Magazine Publishers' Association 1990, cf. Battaglia 1991).

Since it is generally true that the more advertising pages a magazine sells, the more profit it can make, the business goal is to maximize the number of advertising pages whenever possible. In the magazine industry, very few magazines impose an advertising-to-editorial ratio policy that sets an upper limit on the number of advertisements in each issue (Ha and Litman 1993). This profit-maximization orientation of the magazine industry can help explain why the magazine industry downplays clutter as an issue of concern.

In an attempt to offset the negative effects of clutter, many magazines try to increase advertising readership by placing advertisements within an article. Advertisers also use different formats to catch readers' attention; inserts and different paper textures, for example, are used to disrupt the natural reading flow of an editorial article. This infiltration of ads into the editorial domain is a common practice of many advertising-supported consumer magazines. Although a few magazines, such as the *New Yorker* and *National Geographic*, have tried to reduce the intrusiveness of clutter by putting ads only before and after the editorial content, inserting advertisements into editorial matter is still the dominant mode of practice in the magazine industry.

Another strategy frequently employed by advertisers is to increase the number of ad insertions in order to compensate for the possible loss of exposure due to clutter. Such an increase in advertising frequency, however, may only worsen the clutter problem, since it creates more clutter (Banks 1987; Sibley 1983; Krugman 1986). On the subject of the increasing usage of shorter TV commercials to increase advertising

frequency, Banks (1987) remarks: "we have been decrying clutter, yet at the same time we contribute to it" (p. 51).

The Clutter Controversy

Whether or not clutter will reduce the effectiveness of an advertisement is controversial among researchers. Most research focuses on whether or not TV advertising clutter adversely affects an individual's memory of commercials. Empirical studies on clutter have yielded inconsistent results. Two schools of thought have offered competing explanations as to how clutter works against advertising memory. One school of thought, which employs the overload perspective, perceives clutter as a threat to advertising effectiveness because excessive amounts of advertising overload consumers with large quantity of information (Ray and Webb 1986; Mord and Gilson 1985; Schneider, Dumais and Shiffrin 1984; Malhotra, Jain and Lagakos 1982; Scammon 1977; Jacoby, Speller and Kohn 1974a & b). Generally, researchers have found that in a low clutter environment, viewers have the highest recall of TV commercials, and that the effect of advertising is specific to the position of the commercial in the pod. Webb and Ray (1979) observed TV viewers' viewing behavior under high and low clutter conditions and found that attention to commercials decreased from 56% in the least cluttered condition to 48% in the most cluttered condition. Commercials in the middle of the pod had the lowest scores of recall in high cluttered conditions. Cobb (1985) added the advertising message involvement factor and obtained similar results. Mord and Gilson's (1985) national study of 5000 adults found that the increase in the number of commercials with shorter units evokes

negative consumer reactions and decreases the effectiveness of those commercials.

The other school of thought postulates that competitiveness in a cluttered advertising environment may create an interference effect and inhibit brand name recall among consumers (Kent 1990; Burke and Srull 1988; Keller 1987). Burke and Srull's (1988) study of print advertising analyzed consumers' memories of the ads in competitive ad situations. Interference was found to occur when consumers were given competitive ads. Nevertheless, in delayed recall conditions, interference reduced only negatively affected the memory of ad content, not the evaluation of the ad. In his study of competitive TV commercials, Kent (1990) also found that competitive interference reduces only the recall, not the recognition of brand name and ad claims.

On the other hand, there are those who contend that clutter has no negative effect on advertising effectiveness and is not a problem at all. The concept of clutter is even criticized as one of the "verbal narcotics" of media planners (Priemer 1989) and is only "confined to the minds of the beholders" (*Advertising Age* 1993, p.16). The contention is that audiences will not be affected by an increasing number of messages because their memory capacity is fixed. Indeed, research findings on selective exposure and attention have shown that audiences may selectively expose themselves to ads (Soley and Kurzbard 1984; Kaplan 1985), and that they tend to behave the same way in both high and low clutter environments. Nevertheless, there are studies that advocate the flexibility of human memory in difficult environments (Battig 1972, 1979). Battig's (1979) series of experiments demonstrate that the memory of tasks learned in difficult environments lasts much longer than those learned in easy

environments. Another researcher, Andrews (1988), has proposed that memory capacity depends upon the motivation of the individual to learn the message; involvement is the source of that motivation. A recent study (Brown and Rothchild 1993) found that the greater the level of clutter, the more commercials a consumer can recall and recognize.

Such controversy bewilders advertisers, especially magazine advertisers. They do not know how much weight should be put on advertising clutter as a factor in evaluating media vehicles. Despite the advantage of national coverage and a strong target focus, magazines continue to lose the confidence of advertisers who advocate target marketing. The share of magazine advertising in total advertising expenditure has been declining since the 1980s (McCann Erickson Inc., cf. Rukeyser et al. 1991). Media planning texts such as Scissors and Bumba (1993) do not give definite guidelines because the effect of clutter seems to be contingent upon different conditions, such as the strength of the brand and the type of publications. For a strong brand, clutter may even be desirable, because the brand can capitalize on its superiority to competitive brands. In business publications, readers may desire more ads because they read the publication for product information.

Indeed, the controversy over the effect of clutter, together with conflicting research results, could probably be attributed to the poor conceptualization of clutter and advertising effects. Researchers and practitioners have also suggested that other factors such as an ad's execution quality, positioning, compatibility with the editorial content, and consumers' product involvement may counter the effect of clutter during

the processing of the ads (Ray and Webb 1986; Cobb 1985; Kaatz 1987b; Upshaw 1990; Pillai 1990). Of these factors, only the countervailing factors of positioning and product category involvement have been studied empirically. A countervailing factor may be defined as an independent variable which has an opposite effect from initial independent variable on the same dependent variable, thereby suppressing the effect of the initial independent variable on the dependent variable. For example, the first and the last commercial's imperviousness to the effect of clutter have been demonstrated by the studies of Webb and Ray (1979) and Cobb (1985). In Pillai's (1990) study, when the factor of product involvement is controlled, the effect of clutter became insignificant. The remaining suggested factors still await empirical verification. All of these countervailing factors ought to be taken into consideration when examining the phenomenon of clutter. A model is needed to help identify and describe the direct and indirect effects of clutter on advertising effects.

The proposed study is an attempt to explain, incorporating cognitive and affective approaches, how clutter could diminish advertising effects. The cognitive information processing approach has been the tradition in clutter research. This approach tends to examine how clutter affects memory of ads. It overlooks affective responses, such as attitudes, that can be elicited by clutter. It has been shown that attitudes can serve as important heuristics for an individual in making his decision to process information (Fazio 1989). "Heuristics" is a term used in psychometrics to describe the simplistic, limited effort rules that an individual use to make decisions or judgments in daily lives. The inclusion of affective responses could provide a more

complete account of the effect of clutter on advertising effects. This study will also assess the magnitude of countervailing factors in mediating the negative impact of advertising clutter on advertising effects.

Advertising Effects and Clutter

How Advertising Works

In order to have an impact on consumers, an advertisement must take the individual through the six stages of the communication process (McGuire 1985; Advertising Research Foundation 1961): 1) exposure to the advertising vehicle, 2) exposure to the advertisements in the vehicle, 3) selective attention to some or none of the advertisements, 4) processing of the selected messages which includes comprehension and storage in memory, 5) evaluation of the message, and 6) response. Advertising clutter may play a significant role during stages two and three. In cluttered conditions, individuals are confronted with many advertisements which compete for their attention.

Advertising Effects

Advertising effects are the influences that advertising can have on consumers. There have been numerous ways to measure advertising effects, based upon the different stages of the communication process. The most common measures of advertising effects are recall and recognition of the advertised brand (Leckenby and Plummer 1983; Stewart et al. 1985). In this study, six measures of advertising effects have been identified.

At the exposure stage, advertising effects can be measured by attitudes toward

advertising in a media vehicle. The attitude toward advertising in a media vehicle may be defined as *the evaluation of advertisements in the context of a media vehicle.* At the attention stage, advertising effects can be measured by the degree of advertising message involvement (AMI). Advertising message involvement may be defined as *the motivational state inducing ad message processing* (Laczniak and Muehling 1993).

At the evaluation stage, advertising effects can be measured both by the attitude toward the ad (Aad) and memory of the ad. The attitude toward the ad is defined as *the evaluation of a specific ad by the individual.* Memory of the ad may be defined as *any indication of remembered exposure to the advertisement of interest in recognition and aided recall tasks.*

The advertising effects in terms of response to the advertising can be measured by the resistance to competitive ads and brand equity. Resistance to competitive ads is defined as *the degree to which an individual is uninfluenced by competitive ads to which he/she has been exposed.* Such resistance can be inferred from McGuire's (1964) inoculation theory, which is analogous to medical inoculation treatment, such as a vaccine. Individuals can be immunized against competitive persuasion by being given either counter-attack messages to or supportive arguments for the original position. Burgoon, Hall and Pfau's (1991) experiment on Mobil's advertorials demonstrated the effect of inoculation in inducing individuals' resistance to subsequent attack messages on the company.

The effect of resistance to competitive ads could also be explained by the inhibition hypothesis. This hypothesis posits that the presence of a target brand's

advertising inhibits the recall of competitive brands. Keller (1987), for example, found that if a target brand is advertised at the same time with competitive brands, the presence of the target brand will impede the reader's retrieval process of competitive information. The rate of correct recall of claims of the target brand will greatly improve.

In this study, brand equity is the bottom-line measure of advertising effects, because advertising is the major source to build a brand's equity (Aaker 1991). Brand equity is defined as *the added value with which a brand name and its image endow a product* (Farquhar 1991; Aaker 1991). Brand equity is an advertising effect that represents the interest of advertisers who employ advertising to boost the short- and long-term sales performance of a product.

The preceding stages of advertising effects can be critical to the acquisition of brand equity. For example, attitudes toward advertising in a media vehicle (Aav) can serve as heuristics for consumers to screen advertisements (Fazio 1989; Eagly and Chaiken 1993). A positive Aav can facilitate the consumer's advertising message involvement by creating an expectation of the positive consequence of the advertising exposure. Advertising message involvement has been found to be positively correlated to Aad (Laczniak and Muehling 1993). The expanded cognitive efforts lead to better appreciation of the positive aspects of an ad and increase the likelihood of forming a positive attitude toward the ad. A positive Aad will facilitate the memory of the ad because positive attitudes are more accessible than negative attitudes (Pratkanis and Greenwald 1993). A positive Aad can inoculate consumers against the lure of

competitive ads and build the equity of a brand by the transfer of the positive evaluation of the ad to the brand (Biehal, Stephens and Curlo 1992; Machleit and Wilson 1988). If the ad is well-remembered, then it is also more likely to inhibit the memory of the competitive ads (Keller 1987) and adds to the value of the target brand by enhancing its top-of-mind awareness (Moran 1990).

Advertisers, advertising message creators such as copywriters, and advertising media owners are the key players in the manipulation of the advertising process. They all try to persuade consumers through advertising. Each performs a unique role in the advertising process, and therefore has different interests in advertising effects. Figure 1 summarizes the different interests in advertising effects by different players.

Advertisers provide funding for advertising. They are most interested in the increase in sales through their advertising efforts. Only those ad effect measures that closely relate to sales, such as brand equity and resistance to competitive ads, will be of interest to them. Advertising creators, such as copywriters, are interested in the success of their communication with consumers. They would like to know whether or not consumers have positive evaluations of their ads, and whether their ads can both attract attention and be remembered by consumers. Attitudes toward the ad (Aad), memory measures, such as recall and recognition, and advertising message involvement (AMI) can be critical in addressing creative concerns.

Media are carriers of advertising messages. Media owners are responsible only for creating a favorable environment for consumers to process advertising messages. Since they cannot control the content and quality of the ads, their interest in

advertising effects is mainly in how clutter may affect readers' receptiveness to their advertisements. If the advertising is not received positively, the media will lose their attractiveness to advertisers because the environment would not be favorable to advertising (Wicks 1991). As a measure of the consumer's evaluation of the advertising in a media vehicle, Aav can be viewed as a measure of the media's performance as an advertising vehicle.

	Media Owners	Ad Creators	Advertisers
GOAL	Receptiveness to ads in the vehicle	Communication	Increase in sales
AD EFFECT OF INTEREST	Attitude toward advertising in a media vehicle	Advertising Message Involvement	Resistance to competitive ads
		Attitude toward the Ad	Brand equity
		Memory	

Figure 1: Different Interests in Ad Effects

Advertising Processing Behavior

Unlike other learning situations in which an individual is obliged to process the information, the learning of advertising messages is mostly incidental (Thorson 1989; Kent 1990). Consumers seldom are self-motivated to watch or read advertisements (Batra and Ray 1983). Advertisements are arrayed in the same pod without any meaningful connections between them. In most cases, consumers will learn through

repeated passive exposures to advertising messages.

The basis of this incidental learning perspective on the processing of advertising is the low involvement learning theory suggested by Krugman (1965). Television is viewed as a passive medium; consumers pay minimal attention to its commercials. After repeated exposures, an individual may retain the advertising message without being aware of it. Magazines are considered a high involvement medium because the audience can easily control the pace of usage. Therefore, the low involvement theory has not been applied to magazine advertising.

The contrast of high involvement (intentional) and low involvement (incidental) learning is formalized by the elaboration likelihood model of Petty, Cacciopo and Schumann (1983). The model posits that the amount of effort to process a message is dependent upon the message's relevance to the individual. If the message is considered relevant, then the individual will follow a central route of processing in which he/she will make an extensive effort to process the information. If the message is considered irrelevant, then he/she will follow a peripheral route in which he/she makes a minimal effort to comprehend the message. Information is only randomly stored in the memory.

Screening and Selective Attention

Selective attention has been a well-recognized component in the human information processing phenomenon. All incoming messages are screened before an individual determines which messages to process; this is an innate protective mechanism allowing an individual to allocate his/her limited attentional resources

(Warshaw 1978; Seamon 1980). Warshaw's (1978) study of multiple versus single channel presentation in television advertising demonstrates the problem of paying attention to both audio and visual information at the same time. Although multiple channel presentation may attract attention, the higher demand of attentional resources offset this advantage and hampers the absorption of the messages.

A new ad processing framework, which emphasizes the opportunity and motivation to process an ad, has been proposed by MacInnis and Jaworski (1989). In their framework, an individual's selective attention to advertisements can be explained by the utility and the expressive needs that the ads can fulfil. If an advertisement 1) provides useful information about a product that interests a consumer (Telser 1978; Atkin 1985; Thorson 1989), 2) complements the editorial content (Compaigne 1982; Yi 1990), or 3) contains an aesthetic value which appeals to any of the five senses of a consumer (Walston and Moriarty 1992), then it can pass through the screening process and be selectively attended to by the consumer.

Telser (1978), in his economic theory of advertising, argues that the legitimacy or economic value of advertising lies in its information value . Advertisers have to compensate for the non-utility of their ads to consumers in an advertising medium by sponsoring the cost of media production. Atkin (1985) also contends that an individual's attention to messages is goal-directed and is based on the information that is needed at the time of media consumption. Thorson (1989) also notes that consumers pay attention only to advertising that interests them.

Compaigne's (1982) analysis of the magazine industry found that the

proliferation of special interest magazines is accompanied by the growth in advertising volume in these magazines. An inference can be drawn about the acceptance of readers of such advertising-heavy special interest magazines. The positive effect of the compatibility between advertising and advertising effectiveness has been termed "contextual priming" (Schumann and Thorson 1989; Yi 1990, 1993). When the advertisements complement the editorial content, they will be perceived as more relevant to the individuals, and the advertised product attributes will be more accessible (Yi 1990, 1993).

Walston and Moriarty (1992) proposed that a high aesthetic value in advertisements could break through clutter by attracting audience attention. They developed a marketplace aesthetic matrix which predicted the effect of an advertisements's aesthetic value on a brand's market performance. Their findings show that all the 12 brands best-rated in aesthetic value are also successful in sales performance.

Apart from these factors, the opportunity to selectively expose and attend to messages has been found to determine the screening process (MacInnis and Jaworski 1989). If the effort to select or skip TV advertising is high, such as without a remote control device, an individual is less likely to exhibit commercial avoidance behavior. This has been supported by the studies on commercial avoidance behavior in television (e.g., Moriarty 1991b; Abernethy 1991).

In the present study, clutter is proposed to affect information processing in two ways. First, clutter could stimulate the screening process of advertisements by eliciting

a negative attitude toward advertising in a media vehicle. Second, clutter may possibly reduce the advertising message involvement of an individual through the perceived threat of overload, interference, and violation of the freedom of his media content consumption.

Three Dimensions of Clutter

There are three possible dimensions of clutter that can account for its negative effects on information processing. Advertising clutter is the *density of advertisements in a media vehicle.* The overload perspective posits that the quantity of advertisements affects the processing of advertisements. This explanation suggests a quantity dimension to clutter. Quantity is both defined as *the number of advertisements and the proportion of ad space in a media vehicle.*

The interference viewpoint explains the effect of clutter in terms of the competitiveness of the advertisements. Competitiveness may be defined as *the degree of similarity of the advertised products and the distance between the advertisements of competitive brands in the same product category in a media vehicle.* The similarity of the advertised products in a media vehicle is one of the two factors that could cause the interference. When products are similar, consumers could easily confuse one product with the other. For example, Keller's (1987, 1991) studies of competitive ads show that individuals mistake competitive brands as the target brand when the target brand is placed together with the competitive brands. Another factor that may cause interference is the proximity between competitive advertisements. This view is based on theories of perceptual grouping. Pomerantz's (1981) study of perceptual

organization found that individuals tend to group stimuli by their proximity to one another. Such grouping can help an individual to comprehend the stimuli quickly. His experiment shows that there is a lower interference effect when the stimuli are set far apart than when they are closely adjacent because the distance facilitates an individual to differentiate the stimuli.

On top of these two dimensions, it is proposed in this study that the interruption during the audience's consumption of editorial content caused by the infiltration of advertisements constitutes a third dimension of clutter -- *intrusiveness.* Intrusiveness is defined as *the degree to which advertisements in a media vehicle interrupt the flow of an editorial unit.* Reactance theory posits that individuals like to preserve their freedom to evaluate an object. When this freedom is threatened, they will resist persuasion. In a study on reactance by Brehm (1966), it was found that when subjects were given coercive statements to conform with the arguments of the message, they were less persuaded than subjects without coercive statements. The ego-defensive theory of Freud (1946) also suggests that an individual's tendency is to defend against any threats to self-esteem (ego). Nonetheless, this ego-defense theory lacks empirical support (Eagly and Chaiken 1993). Applying these theories in advertising contexts, the psychological discomfort caused by the infiltration of ads into the editorial domain could make the clutter intrusive to readers. When a reactance effect occurs, readers could try to establish their freedom (control) by skipping the ads.

Past studies on consumers' response to clutter (Webb and Ray 1979; Cobb 1985; Mord and Gilson 1985; Pillai 1990; Brown and Rothschild 1993; Pratkanis and

Greenwald 1993) have employed a cognitive approach to explaining the effects of clutter. Webb and Ray's (1979) study found that the increase in clutter level led to a significant decline in the recall of those commercials located in the middle of an ad capsule. Cobb (1985) found similar results, but she observed that there were interaction effects between message involvement and clutter level in the recall of the ads. These studies implied the lowering of attention and the elicitation of negative affective responses from consumers in a highly cluttered condition, but none of them addressed how negative affective responses affect the processing of advertising messages.

It is apparent that neither the overload nor the interference perspectives provide a satisfactory defense to the challenge of the selective attention of messages. The conclusions of past clutter research were all based on forced exposure experiments. The selective attention mechanism was overlooked. By considering the selective attention behavior of consumers, this study proposes that an individual can expect the negative consequences of overload and interference in cluttered situations. The individual will avoid these threats of overload and interference in high clutter situations by reducing advertising message involvement instead of becoming their victim. In other words, the effect of clutter may occur before the ads are processed.

Besides the inherent weakness in the captive audience assumption, past research on clutter has several limitations and assumptions that need to be addressed: 1) the unidimensionality of clutter, 2) the relationship between clutter and memory, 3) the equality in the amount of cognitive effort on ad processing, 4) the equality of

attractiveness of advertisements, 5) information as the only value of advertisements, and 6) equality in both information needs and reactions toward all advertisements.

Definitions of clutter in past clutter studies reveal that researchers assumed the phenomenon to be unidimensional. Clutter has usually either been defined on the quantity dimension as the number of ads or non-programming materials (Webb and Ray 1979; Cobb 1985; Pillai 1990; Mandese 1992; Brown and Rothschild 1993); on the competitiveness dimension as the number of competitive product advertisement (Kent 1993), or on the intrusiveness dimension as the number of commercial breaks (Mord and Gilson 1985; Wicks 1991). While each dimension is distinct in itself, such unidimensional views held by the researchers show that there is no consensus of what clutter is. Comparison of results across studies is difficult with such varied dimensions.

The examination of the relationship between clutter and memory is the theme of past clutter research. Memory has been treated as the only measure of the effect of clutter and clutter is assumed to create a direct effect on memory. However, the memory of advertising is regarded as the penultimate stage in the advertising process. With the understanding of the selective attention theory, it is hard to accept that memory is the best measure of the effect of clutter. Findings about the decrease in memory (output) may be spuriously caused by non-exposure (no input), and not by the interference or overload effect that researchers have suggested. Measures on clutter effects should involve variables that represent other stages of advertising information processing such as advertising message involvement and should include affective

responses, such as attitudes toward advertising in a media vehicle.

In the same vein of selective attention, some ads require more cognitive effort than others because the messages vary greatly and an individual's interests in each ad may be different. However, past clutter studies have assumed the cognitive effort is spent equally across the board, so that the inability to recall can be attributed to the variation of clutter level and not to the differential cognitive effort paid to different advertisements. Without measuring the differential cognitive effort allocated to each ad, the effect of clutter on memory may be a misattribution.

One major factor in explaining the individual's attention to advertisements is the execution quality of the ad such as beautiful visuals. If the ad's execution is unconventional in that product category, it may also attract the attention of the individual (Goodstein 1993). Some advertisements score much better in terms of attractiveness than other advertisements. This factor of inequality in attractiveness in different advertisements has not been either controlled or compared in clutter research. The attractiveness of the advertising stimuli selected can greatly influence the results of a clutter study. If all the advertisements are not attractive at all, recall may be low. If advertising stimuli are attractive, then recall may be high.

The screening process of advertisements which was discussed earlier has highlighted the multiple values of advertisements to a consumer. Information is only one of the values, and mainly applies to the consumers who are looking for information to make a decision. In most cases, consumers read an ad because of its entertainment value and are not interested in the information on product features. Yet

previous clutter research only measured memory of the ad in terms of product knowledge such as advertising claims. Other non-information elements of an ad, such as execution quality and attitudes toward the ad, have been neglected completely. Such bias on information need will limit the assessment of the impact of clutter in the product knowledge arena because the other non-information needs are excluded from the advertising communication process.

Even if product information acquisition is the only interest, clutter studies still have the weakness of ignoring individual differences in both information need from and reactions to an ad. In these studies, consumers were asked only to report their memory of the brand or brand claim. If they do not have the same information interest as the researcher, their exposure to the ad is not tapped. A consumer who is going to buy the advertised product may look into the price and distribution of the product in the ad. On the other hand, someone who just browses the ad for fun may be more interested in the provoking headline and design of the ad. Moreover, interpretation of advertising messages vary by individual. It is not realistic to limit the scope of consumers' reactions to advertising clutter to cognitive memory only.

Advertising Clutter and Brand Equity

Brand equity is a summarized judgment about a brand as a result of knowledge of a brand from a wide variety of sources (Fortini-Campbell 1993; Keller 1993). Among these sources, advertising plays an important role in building equity for a brand. Heavy spending on advertising has created powerful brands such as Coca-Cola, IBM, and McDonald's which dominate the world market and can

withstand the pressure of price-cuts (Biel 1992; de Chernatony and McDonald 1992; Farquhar 1991; Jones 1986). As Biel (1992) contends, brand equity is the "premium a consumer would pay for a branded product or service compared to an identical unbranded version of the same product." Jones (1986) also suggests that brand equity be measured in terms of the price difference between the brand and the average of its competitors, and by blind tests of products. Established strong brands have the competitive advantage of achieving advertising effects with one exposure only, but new brands need multiple exposures to achieve similar effects (Jones 1986). Farquhar (1991) identifies positive brand evaluations, accessible brand attitudes, and consistent brand image as the three determinants for building a strong brands. In the present study, only customer-based brand equity will be addressed. Brand equity consists of four dimensions: 1) positive association with the brand, 2) loyalty, 3) perceived quality, and 4) top-of-mind awareness (Aaker 1991).

Positive association with the brand is the creation of a favorable image of a brand to the consumer; an example is the positioning of Rolex Watch as a symbol of success. The consumer can expect pleasant consequence from the ownership of the product. *Loyalty* is the consistent commitment to a brand. Brand loyalty is characterized by no or low brand-switching behavior in purchase and by the willingness to pay a premium price for the brand. *Perceived quality* is the perceived superiority of the performance of a brand over other brands. This perception can either be based on past product usage experience, or indirect experience such as advertising. *Top-of-mind awareness* is the readiness to retrieve a brand from memory

under probing situations.

These four dimensions contribute to the maintenance and increase of a product's market share. Brand equity is of utmost concern to advertisers who expect that their advertising investment will ultimately lead to more sales for the advertised brand. The choice of brand equity as the bottom-line measure of advertising effect in this study is a recognition of the importance of brand equity to advertisers. Advertisers' support to advertising vehicles is determined by their judgment of the effectiveness of the advertising vehicle in building their brand equity.

The effect of clutter on brand equity is indirect. It is mediated by memory, attitude toward the ad, and resistance to competitive ads. Advertising clutter is hypothesized to indirectly inhibit the memory of the advertised brand because little or no attentional resources are allocated to process advertising messages. Wickens's (1984) multiple resource theory posits that attentional resources can be differentiated by mode of presentation. If two tasks demand the same type of attentional resource from an individual, each task will receive less attentional resource than tasks demanding different type of resources. Smith and Buchholz (1991) extend this theory by adding the factor of involvement as a determinant of attentional resource allocation.

Clutter may also indirectly create a negative attitude toward specific ad. This is based upon the findings of Laczniak and Muehling (1993) that advertising message involvement is positively correlated to Aad. An individual ad embedded in a cluttered environment may fail to achieve its goals of immunizing the individual from the lure of competitive ads (Stewart 1992) and building equity for the brand (Aaker

1991; Jones 1986).

Role of Countervailing Factors

Ad-editorial Compatibility

In addition to the negative effects that clutter may pose on the consumer's response to individual advertisements, many external factors may countervail the effect of clutter on advertising. One strong countervailing factor would be the compatibility of the clutter to the editorial content. This is particularly important for magazines, since most of them have both special editorial interests and a distinct group of readers. *Ad-editorial compatibility* is defined as *the degree to which the ads are perceived by readers as part of the editorial content or complement it.* For example, the many computer ads in *PC Magazine* may be viewed as part of the content of the magazine and as compatible with the editorial content. If the clutter is viewed as highly compatible with the editorial content, negative feelings may be diminished even though the level of clutter may be high.

Such compatibility between the advertised product and the editorial content has been suggested as a favorable media context factor in facilitating advertising message involvement and in priming consumers for processing advertisements (Compaigne 1982; Burkrant and Sawyer 1983; Kamins, Marks and Skinner 1991; Celuch and Slama 1993; Schumman and Thorson 1989; Yi 1993). For example, Burkrant and Sawyer (1983) propose that meaningfulness of the message increases the processing intensity of that message. The compatibility of the advertising message with the vehicle can enhance the meaningfulness of the advertising message. Schumman and

Thorson's (1989) selection processing model posits that consistent affect induction and polar affect induction are the two effects on commercial effectiveness of viewing contexts. Consistent affect induction occurs when the commercial's mood is consistent with the program. If the program is liked by the person, the person will also like its commercials. However, if there is a disjunction between the mood of the program and the commercials, then a polar induction effect occurs. Either the commercials will be much better liked by the individual than the program, or vice versa. Yi's (1993) experiment also demonstrated a significant effect of media context in print advertisements among moderately knowledgeable consumers. The compatibility of the editorial content with the advertisements can prime readers by making the advertised product's attributes more accessible to the prior knowledge structure of the consumer. However, the media contexts effect may diminish sharply among both lowly and highly knowledgeable consumers. The lowly knowledgeable consumer cannot relate the content and the message at all, while the highly knowledgeable consumer has an established knowledge of the product and does not need to use the context as reference.

Attitudes toward Advertising in General

Advertising has become an important social institution in modern society (Sandage and Leckenby 1980). The public forms an attitude toward advertising in general, and it has opinions on it. *Attitudes toward advertising in general* (Aag) is defined as *the evaluation of advertising as an institution and an instrument without reference to specific media or specific ads.* Researchers have generally assumed the

effect of attitude toward advertising in general on consumers' processing of advertising. For example, Muehling (1987); Abernethy and Rotfeld (1991); Andrews, Lysonski and Durvasula (1991); and Mittal (1993) all justify their studies on attitudes toward advertising by the potential effects of these attitudes on the evaluation of advertisements. Such presumed effect has not been empirically tested.

The attitude transfer hypothesis held by researchers on Aad and brand attitude (Mitchell and Olson 1981; Madden, Dillon and Twible 1986; MacKenzie, Lutz and Belch 1986) laid down a foundation for the transfer of attitudes from one object to a related object. Attitude transfer typically occurs in low involvement processing situations. In such situations, consumers do not spend any cognitive effort to analyze the brand, and attitudes toward the ad become a convenient heuristics for individuals to evaluate a brand (Mackenzie, Lutz and Belch 1986). The extent to which attitude is transferred from the general to the specific depends on the accessibility of such an attitude in the evaluation process (Wilson and Hodges 1992; Woodside and Trappey III 1992; Fazio 1989). For example, Woodside and Trappey III (1992) found that only those attributes of a store that are accessible to consumers can affect consumers' choice. The inference is that when Aag is highly accessible, it can affect Aav because the negative Aag will be transferred to the evaluation of advertising in a media vehicle.

The association system theory also posits that individuals who associate one object with another related object will tend to hold similar attitudes toward both objects (Carlston 1992; Shaw and Wright 1967). A consumer holding a negative

attitude toward advertising in general is believed to be cynical also about the advertising in a media vehicle. That person is less likely to be persuaded if he/she associates the ad with his/her attitude toward advertising in general.

Contrary to the conventional wisdom, the experiment conducted by James and Kover (1992) did not support the negative effect of a negative attitude toward advertising in general on advertising processing. Their experiment examined individuals' advertising message involvement in 15 print ads projected on a screen and found that negative attitudes can facilitate the advertising message involvement of an individual. However such results should be interpreted with care because the measure of involvement was only a single measure of the time spent in reading the advertisements. Moreover, their results were obtained in a group viewing situation. Motivational factors such as product category involvement or execution factors, such as ad execution quality, also have not been controlled.

Product category involvement

Product category involvement is another important countervailing factor which stresses the motivation of the audience member. *Product category involvement* may be defined as *the degree of relevance of the advertised product to the individual* (Ratchford 1987; Zaichowsky 1985). Many studies have found that because of consumers' need for product information, higher product involvement facilitates the attention and learning of advertising messages (Andrews 1988; Laczniak, Muehling and Carlson 1991; Page, Thorson and Heide 1990; Celsi and Olson 1988; Craig 1988; Burnkrant and Sawyer 1983). In print media, the role of product class involvement in

the learning of advertisements may be more pronounced than in electronic media because individuals are free from the time constraint of advertising exposure (Andrews 1988).

Ad Execution Quality

Apart from the information value of ads, as posited by the theory of involvement, execution quality of an advertisement provides entertainment and aesthetic satisfaction to consumers (Lannon 1993; Wells 1993; Walston and Moriarty 1992; Olney, Holbrook and Batra 1991). For example, Olney, Holbrook and Batra (1991) measure the Aad of consumers by asking whether the ads are "entertaining" or "interesting." *Ad execution quality* is defined as *the rating of an advertisement's craftsmanship and the skillful use of attention-getting devices.* Ad execution quality serves as an attention-getting device in facilitating advertising message involvement and forms the basis of consumers' attitude toward the advertisement (Lannon 1993).

"Advertising that has aesthetic impact touches people's feelings and minds with artistic expressions that are personally moving and highly memorable...This is the quality...that is central to the aesthetic response of pleasingness or liking" (Walston and Moriarty (1992, p. 215). Although many researchers and practitioners alike realize the importance of this factor in predicting the recall of an ad and Aad (e.g., Weir 1993; Kent 1990; Stewart and Koslow 1989; Gelb and Pickett 1983; Starch 1966; Advertising Research Foundation 1962; Ruldoph 1947), few have provided empirical evidence on the degree of importance execution quality has in determining the effectiveness of an advertisement. Stewart and Koslow's (1989) study on the effect on

recall and comprehension of 160 execution factors on 1,017 TV commercials is perhaps one of the most recent largest scale studies in this area. Their study found that brand differentiating technique is the most effective execution factor in increasing the recall and comprehension of advertising messages. Biehal, Stephens and Curlo's (1992) study on brand choice showed the direct effects of ad picture quality on both Aad and brand attitudes.

Familiarity with the Brand

Advertising is not the single source of information about a product. There are many occasions on which a consumer may encounter a product: through product usage experience, or through word-of-mouth recommendation, for example. All these direct or indirect experiences may constitute an individual's familiarity with the brand. *Familiarity with the brand* is defined as *the number of brand-related experiences that has been accumulated by the consumer* (Alba and Hutchinson 1987). Researchers on Aad and brand attitudes have found that prior knowledge or familiarity with an advertised brand or product will lessen the effect of an advertisement in building equity for the brand (Yi 1993; Baker et al. 1986; Cox and Locander 1987; Edell and Burke 1986; Gill, Grossbart and Laczniak 1988; Machleit and Wilson 1988; Moore and Hutchinson 1983; Alba and Hutchinson 1987). For example, Machleit and Wilson (1988) compared the effect of Aad on brand attitudes between two unfamiliar brands and two familiar brands. The effect of Aad was found to be significant on brand attitudes only when the brands were unfamiliar to the respondents. Familiarity served as an alternative cue for consumers to determine the value of a brand. It also

reinforced memory of the advertised brand as a repetition (Unnava and Burkrant 1991).

Exposure to Other Media

It is important to note that in a natural environment, consumers will be exposed to many advertising messages through exposure to multiple media. Relative to the media vehicle of interest, *exposure to other media* is defined as *the exposure to any editorial media which contain both editorial content and advertising.* Such exposure, according to the theory of interference, could impair the recall of the advertised brand in one media vehicle by the addition of new information from exposure to another media vehicle. Consumers may confuse one message with another after exposure to different messages at different points in time. The situation may be worsened if an individual encounters similar product messages in these different media (Kent 1990; Postman 1975). In a sense, such exposure to other media may be viewed as adding more clutter to the minds of consumers.

Purpose of the study

This study is a field experiment that examines the construct of advertising clutter and its impact on brand equity. The distinction between quantity, competitiveness, and intrusiveness as the three dimensions of clutter could help clarify the impact of clutter on advertising effectiveness. Moreover, the role of countervailing factors in suppressing the effect of clutter in the advertising communication process will be assessed. Unlike past studies on clutter which attributed clutter to be the only cause of decreased advertising memory, this study will examine the interactions among

media factors (e.g. clutter and ad-editorial compatibility), creative factors (execution quality), and audience factors (product involvement). It will provide a comprehensive explanation of the advertising process.

This study postulates that the three dimensions of advertising clutter stimulate the screening out of ads by consumers because clutter could directly affect a consumer's attitude toward advertising in a media vehicle (Aav) and his/her advertising message involvement (AMI). Indirectly, advertising clutter could adversely affect Aad and memory of the ad through the mediation of an attitude transfer process and through advertising message involvement respectively. The indirect negative impact of clutter on memory of the ad and on Aad could make an ad fail to achieve its goal of building brand equity.

Significance of the Study

This study represents a novel approach toward resolving the controversy over the impact of advertising clutter. Past efforts have adopted a cognitive approach to show the direct effect of advertising clutter on the memory of advertised brands. This study is a departure from this approach because it incorporates both cognitive variables (memory and involvement) and affective variables (attitudes) to explain the process of how clutter affects the different stages of advertising effects. The inclusion of countervailing factors in the research model can reconcile the conflicting views between selective attention and captive audience in explaining the effect of clutter.

By linking the issue of clutter with brand equity, this study could shed light on the three major questions of advertising researchers in the 1990s that have been

discussed by Bell (1988) and Stewart (1992): 1) What are the effects of an advertising campaign in an environment of multiple, competing messages? 2) How is brand equity built, and how should it be measured? 3) How can an ad's quality be measured? The question of clutter directly addresses the problem of competing messages. The study also investigates the process of how advertising can build a brand's equity and the impact of clutter in this process. By incorporating execution quality as a variable in the study, this study offers a measure of "ad quality" as perceived by the consumer.

The choice of magazines as the subject of this study is a digression from the assumption of a captive audience in past clutter research. Different answers on the impact of clutter thus may be obtained from this study. Moreover, magazines are also a specialized interest medium. Their specialized electronic media counterparts, such as cable TV channels and the new interactive media, may also benefit from the results of this study because their distinct program emphasis and special interest audience base are very similar to the situation of magazines. For example, Cable News Network can be viewed as the cable TV version of *Newsweek*. The learning from the effect of clutter in magazines may be applied to these specialized electronic media.

Another theoretical contribution that this study may have is that it could clarify the attitude transfer hypothesis, from general to specific, which has been assumed by researchers about attitudes toward advertising. Both the extent to which the attitude toward advertising in general (Aag) is transferred to attitude toward advertising in a media vehicle (Aav), and how much this Aav will be transferred to specific advertisement (Aad) could probably be identified through the results of this study. The

relationships between Aag, Aav, and Aad are not treated simply as transfers from one attitude to another, but also are treated as heuristics for consumers to make judgments (Fazio 1989; Goodstein 1993). This study examines both how these attitudes will affect consumers' decisions on whether to read the advertisements and whether to use their evaluations of the ad to determine their rating of a brand's equity.

Methodologically, this study is a field experiment which simulates the real reading environment of magazine advertising by allowing subjects to read the stimulus material at their leisure time. It may generate more generalizable results than past studies on clutter which were conducted in laboratory setting. The stimulus materials are a reconstructed full version of a magazine with a complete set of editorial contents and ads from three popular consumer magazines. The results of this study could be much closer to reality and more generalizable than most studies on magazine advertising, which only used advertisements without editorial content as the stimuli.

This study employed a one-way independent group design. The three dimensions of clutter were manipulated in three treatments. Subjects of this study were recruited from college students enrolled in general education classes to represent the college population. The subjects were assigned randomly to experimental and control groups. The experiment was disguised as a survey of potential subscribers for a newly launched magazine for college students.

The application of the technique of structural equations modeling in explaining the direct and indirect relationships among the variables in this study is also a new method of statistical analysis employed in clutter research. The structural equations

model is a technique much superior to traditional statistical analyses, such as ANOVA, in explaining the relationships among multiple dependent variables and in examining the measurement model used in experimental designs (Bagozzi and Yi 1989; Hunter and Schmidt 1990).

Moreover, the composite indices on clutter, the scales of brand equity, ad-editorial compatibility, attitude toward advertising in a media vehicle, and ad execution quality developed in this study could be used in future studies on these topics. Their validity and reliability were examined closely by confirmatory factor analysis. This study also adapts scales such as advertising message involvement used by other studies. The success of the adaptation can refine these scales.

Practitioners will also benefit from the practical values of the results of this study to improve their advertising practice. The understanding of the role of the factors countervailing the effects of clutter which are examined in this study could enable advertisers to use these countervailing factors as clutterbusters in their advertising placement. The identification of the quantity, competitiveness, and intrusiveness dimensions of clutter and their impacts on advertising effectiveness can serve as a guideline for media owners to optimize the arrangement of advertisements. Media owners may be able to use the results of the multi-dimensionality of clutter and its impact on brand equity to create a favorable environment for advertisers to get their message across, while not intimidating their readers. Finally, the three dimensions of advertising clutter, ad-editorial compatibility, and attitude toward advertising in a media vehicle employed in this study could offer advertisers new measures to evaluate

media vehicles.

Organization of the Dissertation

This dissertation consists of six chapters. The research problem and its significance are introduced in Chapter 1. Chapter 2 reviews past research literature on clutter and the processing of advertisements, advertising effects, ad processing behavior, selective attention, and the screening of advertisements. Based on this literature review, a research model with a series of hypotheses is presented in Chapter 3. Chapter 4 explains the methodology employed in this study. The results of the study are reported in Chapter 5. Chapter 6 discusses the impact of advertising clutter on brand equity, the direct and indirect effects of clutter, and the role of countervailing factors in mediating the effect of clutter on brand equity. The three dimensions of clutter as evaluative measures of media vehicles, the attitude transfer process from general to specific, and the reliability and validity of the scales employed in this study are also examined. The dissertation concludes with a discussion on the implications of the results of this study and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

Clutter and the Processing of Advertisements

The advertising clutter level of a media vehicle provides the context wherein advertisements are processed by consumers. Clutter is considered a difficult media environment in which consumers have to process the advertisements because multiple messages are competing for their limited information processing resources (Pratkanis and Greenwald 1993; Kent 1993; Cobb 1985; Batra and Ray 1983; Webb 1979). The shift from 30-second to 15-second commercials, which increases the number of commercials (the clutter level) in television, stimulated research on clutter in the late 1970s (Ray and Webb 1986). Most of these studies on clutter have shown that the higher the clutter level, the poorer is the subsequent memory of advertisements. These studies were either based on the theory of overload or the theory of interference.

Overload Theory

The application of overload theory to marketing and advertising research was initiated by researchers on brand choice. This theory of overload, which stresses the limited capacity of individuals to process information, is based upon the psychological literature on cognitive information processing (Miller 1956; Malhotra, Jain and Lagakos 1982). When an individual is overloaded with information, such as too many advertisements, the absorption of one piece of information will be at the expense of

another piece of information (Schneider, Dumais and Shiffrin 1984). The result is that individuals will not be able to make the ideal choice for themselves. This theory has a "best choice" paradigm that assumes the existence of objective criteria to determine the best brand for every consumer. In advertising contexts, consumers will make poor decisions when information overload distracts consumers from the objective criteria for the "best" brand (Jacoby, Speller, and Kohn 1974a and b; Scammon 1977). The overload theory has been criticized for its confusion of the number of brands with the number of messages in its definition of overload. The validity of its measurement of best choice is also questionable (Summers 1974; Wilkie 1974).

Pillai's (1990) experiment in India conceptualized the effect of clutter as stimulating the perceptual defense of consumers. Consumers avoid commercials when they perceive a threat of overload. His first experiment was a field experiment of face-to-face interviews with viewers after they had watched a TV program at home. He found that advertising clutter affected older viewers only, and that its effect was contingent upon the positioning of the commercials. Such results may be confounded by the method that the study employed. Recall measures could be unfair to older respondents who learn new messages slower than younger respondents. The use of a checklist of advertisements as the recall measure may have led to the over-reporting of exposure. The presence of experimenters when subjects were viewing the program also might have affected the results. Clutter was also found to affect the viewership of advertising in his study. Average viewership of advertising dropped from 45% for low clutter level to 36% for high clutter ad capsule. In his second experiment, using

forced exposure, the target ad was an ad of a new brand placed among some other ads of established brands. Recall of the test ad declined significantly in high clutter conditions. The overload effect was more apparent with the passage of time. The motivational factor of involvement was found to moderate the effect of overload on information processing (Malhotra, Jain and Lagakos 1982). High product involvement was found to enhance the sustaining of brand memory under a highly cluttered environment (Pratkanis and Greenwald 1993; Cobb 1985; Ray and Webb 1986).

An alternative perspective has been offered by the recent experiment of Brown and Rothschild (1993) which found no significant difference between high and low clutter in unaided recall. In their study, clutter was differentiated into three levels: low, moderate, and high. Their study simulated the advertising clutter level in a normal television program setting. A significant positive effect was even found between clutter and recognition of brands. This made the issue of overload more intriguing. It may imply that the threshold of overload may differ across individuals. Their study, however, had not used controls for other mediating factors such as product involvement and the execution quality of the advertising stimuli.

Interference Theory

The theory of interference posits that when an individual encounters multiple message processing tasks, the messages interfere with one another and confuse the individual. The interference may be caused by the quantity of messages or the similarity of messages (Seamon 1980). The theory of overload is similar to the theory of interference in that both are cognitive-based and both postulate that additional

message stimuli will inhibit the efficiency of processing information. They differ from each other in that the theory of interference stresses the similarity of the messages and the confusion of multiple messages, while the theory of overload stresses the detrimental effect of the amount of information on an individual's ability to make "good" decisions.

The origin of the interference theory in explaining human information processing is Stroop's (1935) classic experiment of distinguishing different color names in non-matching color inks or color chips (O'Leary and Barber 1993). In Stroop's (1935) interference experiment, subjects confused the ink color with the color names in the identification of a color name. The concurrent tasks in processing created distraction and required more attentional resources from the subjects (Seamon 1980). Because of the limited resources available to process incoming information (Wickens 1984), the consumer was confused by the multiple advertising messages. The memory of the new ones take over, inhibit, and distort the memory of the old ones (Postman 1975; Srull and Burke 1988; Alba and Chattopadhyay 1985; Kent 1990; Keller 1991). Such interference may occur when either the target ad is read before the other ads (proactive interference) or the ad is read after the other ads (retroactive interference). Both types of interference exert similar negative effects on memory measures (Postman 1975; Kent 1990). The source of interference may come from a mere increase either in the number of messages or in the number of similar messages (competitive ads).

Early studies on clutter explored only the effect of the increase in the number

of messages on the memory of the advertised brand. Webb and Ray (1979) found that television advertising clutter reduced the attention to, recall of, and cognitive responses toward the advertisements. They recruited 200 subjects to view two half-hour programs in four clutter level treatements ranging from standard clutter to very heavy clutter. The attention level of subjects was observed through a one-way mirror. Their results showed that the effect of clutter was specific to the position of the advertisements and to the attractiveness of the advertisements. The first commercial shown was affected least by clutter. It is not clear whether the lower recall that they found was due to the lower attention (non-exposure) or due to message interference in the processing of advertisements. A follow-up study by Cobb (1985) also found that positioning affected the recall of a commercial in high clutter situations. Predetermined involvement in the commercial mediated the effect of positioning in high advertising clutter situations on commercial recall in only three out of the four tested commercials. Cobb (1985) suggested that product involvement was a better construct than involvement in the commercial in mediating the effects of positioning in high clutter condition. Her study showed that the greater the number of commercials in a commercial break, the greater the negative feelings towards the advertisements. However, the effect of such affective responses on the attention of advertisements was not addressed. The study also did not report how familiarity with the advertised brands might affect the recall of the advertisements.

Mord and Gilson (1985) extended the study of clutter to a national sample of 5000 adults aged 18-34. Even with the same duration of 90 seconds, the increase in

the number of commercials from three 30-second commercials to six 15-second commercials still evoked negative responses from the consumers because they thought that more time was taken away from programming. Longer commercials were warmer and less confusing to viewers. Equipped with control devices such as video-cassette recorders and remote-control, consumers were found to be more sensitive to advertising clutter.

Recent attempts to study the interference effect of clutter has shifted attention from the quantity of advertisements to the similarity of messages in advertising clutter. Burke and Srull (1988) found that subsequent exposure to competitive advertisements reduces the salience of the advertisement. They distinguished two types of brand processing objectives. If a consumer processes an ad for the attributes of one brand only, then the consumer is said to have "within-brand processing." If a consumer processes an ad for choice between different brands, then the consumer is said to have "between-brand" processing. When the consumer has a within-brand processing objective, he/she is less subject to competitive interference. Competitive interference exerts its effect only on the memory of the content of the ad, not on the evaluation of the ad. Kent (1990) extended the study to the television medium and obtained similar results. Competitive interference was found to reduce recall and recognition of brand names. "Within brand processing" facilitated the recall of ad claims because this goal required a deeper understanding of an advertisement for one brand only. "Between brand" processing facilitated the recall of brand names because the task is to broaden the range of brands when making a choice among brands of the same product

category.

The competitiveness of the advertising environment recently has been advocated as the problem of current television advertising clutter (Kent 1993). Competitive clutter was defined as a multitude of ads for brands which may be considered to be substitutes for one another and which are physically similar. Over 30% of prime-time network TV commercials within the same hour were found to be competitive with one another (Kent 1993). It also does not consider the factor of spatial distance between competitive ads in constituting the interference. In perceptual organization literature, individuals tend to group objects in adjacency (Pomerantz 1981). The effects of competitive interference should be more pronounced when the competitive ads are clustered together in adjacency than when they are farther apart. Kahneman and Treisman (1984) also found that interference was inversely related to the spatial distance among the stimuli. The practice of product exclusivity in television commercials that competitive products will not be shown in the same commercial break is a recognition of this idea of spatial interference. However in print media, there is no such restriction.

All these studies on clutter have assumed that consumers read or watch all the advertisements and that all the ads are of equal attractiveness to consumers. Indeed, most of the researchers recognize the possible effect of advertising execution quality in affecting their study results (Kent 1990; Machleit and Wilson 1988; Cobb 1985). Notably, all of these studies were conducted under forced exposure environments, and all employed independent groups design with post-tests only. No subject by treatment

interaction has so far been examined. The effect being accounted for may be the result of individual differences among the subjects rather than the variation of clutter. The immediate recall results obtained with only one exposure in laboratory settings can hardly be generalizable to real-life settings. Moreover, the sole reliance on recall measures as the effect of clutter are vulnerable especially to the problem of individual differences in memory capacity (Bransford et al. 1979; Leckenby and Plummer 1983; Alba, Hutchinson and Lynch 1991). Ceiling effects and floor effects can contaminate the results easily. For instance, Brown and Rothschild's (1993) study exhibits the problem of a floor effect in their tapping of subjects' recognition of brands.

Another problem faced by researchers on clutter is the lack of consensus about the operationalization of clutter level. The clutter level being operationalized is somewhat arbitrary in each study, making results difficult to compare across studies. For example, low clutter can consist of 10 commercials (two in each break) within a 30-minute program segment (Brown and Rothschild 1993); 12 commercials in within three breaks and one between-program break (two to four in each break) in two 30-minute program (Webb and Ray 1979), 12 commercials in a row between two programs (Pillai 1990), or four commercials in one break (Cobb 1985).

Intrusiveness and Resistance to Clutter

With a strong focus on the cognitive processing of advertising in clutter research, researchers overlook the intrusiveness that advertising clutter may pose to the audience. Intrusiveness is the *degree to which the advertisements in a media vehicle interrupt the flow of an editorial unit.* Although a few clutter studies have

conceptualized clutter as the number of interruptions (Wicks 1991; Mord and Gilson 1985), they have not examined this intrusive dimension of clutter. They have continued to employ the traditional overload approach to explain the effect of clutter. The negative responses of consumers towards increasing interruptions have been mentioned only very briefly.

A new approach to examining the effects of clutter can be to examine it from its intrusiveness dimension. The self-defensive mechanisms of individuals suggested by reactance theory (Brehm 1966, 1981) and by ego-defensive theory of Freud (1946) can shed light on the effect intrusiveness of clutter on individuals. Reactance theory posits that individuals like to preserve their freedom to evaluate objects. When this freedom is perceived to be threatened by persuasive messages, they will resist such messages.

Freud's ego-defensive theory also addresses the perceived threat from any other forces that may assault an individual's ego (self-esteem). When an individual perceives his ego to be threatened by internal or external forces, he will resist and will react negatively to those forces. Applying such theoretical thinking of defensiveness toward threats in the context of media consumption, the freedom or ego of an individual is his/her autonomy in his/her editorial content consumption. The interruption to the consumption caused by intrusive clutter could be viewed as a threat to his/her freedom or ego, and he is likely to resist the clutter and develop a negative response, such as the skipping of the advertisements.

Advertising Effects

A crucial task in the research of clutter is to identify what the possible effects of clutter are and to delineate the phenomenon's direct and indirect effects. As shown in past studies, recall and recognition effects yield different results. It is important to distinguish the difference between the two measures and to explore other measures of the effect of clutter. The linkage between the memory of an ad and the presence of advertising clutter involves many steps in the communication process from encoding to rehearsal to retrieval (Seamon 1980). A direct effect proposition in past studies is likely to generate inconsistent results with the omission of mediating variables. McGuire (1985) has termed this distant linkage of effects and omission of mediating variables as the "distal step fallacy."

Given the ample evidence of affective responses to advertising clutter, a review of the literature of attitude theories will enable our understanding of the preceding stages of advertising effects before memory occurs.

Functions and Accessibility of Attitudes

Attitudes have dominated social psychological research as a construct to explain the information processing of individuals (McGuire 1985; Greenwald 1989). Attitudes are significant in advertising research because they serve as heuristics for consumers to save cognitive efforts in screening information and in making decisions (Goodstein 1993; Chaiken, Liberman and Eagly 1989; Greenwald 1968). Although there are different propositions on the functions of attitudes to an individual, the four most common ones are (Snyder and DeBono 1989):

1) Ego-defensive -- protect an individual from undesirable stimuli,

2) Knowledge/object appraisal -- help an individual to organize information efficiently by giving meaning to object,

3) Value-expressive -- allow the person to express his or her values, likes and dislikes,

4) Social-adjustive -- facilitate an individual's gaining of acceptance by peers and fitting into a social situation.

There are over 500 operational definitions of attitude, which confuse more than clarify the construct (McGuire 1985). The general consensus that has been reached is the evaluative nature of the attitude, such as "the affect associated with a mental object" (Greenwald 1989) and "a person's evaluation of an object of thought" (Pratkanis 1989; Zanna and Rempel 1989; Shaw and Wright 1967). Attitudes are affective constructs which play an important role in cognitive processing (Sherman 1987). In the past, many functional attributes have been added to the definitions of attitude which postulate how attitudes determine behavior. Unlike the previous firm conviction about the direct linkage between attitudes and behavior, researchers now realize the effect of attitudes on behavior is highly conditional. Attitudes affect behavior only when the attitude is accessible to the individual or can be automatically activated (Fazio 1989; Bargh 1989). Attitudes also have great impact when an individual resorts to heuristic rules for making a judgment rather than going through systematic cognitive processing (Chaiken, Liberman and Eagly 1989).

Accessibility of an attitude is determined by several factors: 1) The strength of

the attitude (Fazio 1989), 2) prior knowledge of the attitude object (Pratkanis 1989), 3) congruence between the function of the attitude and the goal of the individual (Fazio 1989; Snyder and DeBono 1989), and 4) persistence of the attitude in the memory (Pratkanis 1989). Before utilizing attitude theories to explain any advertising phenomena, it is necessary to discern the attitude objects. In advertising, there are four types of attitudes based on the attitude objects: 1) attitudes toward advertising in general (Aag), 2) attitudes toward advertising in a media vehicle (Aav), 3) attitudes toward the specific ad of interest (Aad), and 4) attitudes toward the advertised brand (Ab). They are related to one another: the latter ones are the subsets of the former ones. According to the associated systems theory (Carlston 1992), the attitude towards one representation is affected by the attitude toward another presentation in associated systems.

Attitudes developed from direct experience will be permanent in conceptual memory and are more likely to affect behavior (Carlston 1992; Bargh 1989). Advertisements are a form of mediated communication and an indirect experience in the formation of attitudes. The resultant attitude's effect on behavior is usually weak and requires both the reinforcement by repetition (Berger 1993), and the presence of other factors favorable to the purchase of a product, such as easy availability.

Attitudes toward Advertising in a Vehicle (Aav)

Although attitudes toward advertising in general have been a flourishing research area, the extent to which a negative attitude toward advertising in a media vehicle may negatively affect attention to the ads and the subsequent processing of the

advertising messages has not been studied. Abernethy and Rotfeld (1991) suggested this negative consequence and made an attempt to specify the attitude toward radio advertising (ATRA). However, their study on attitudes toward radio advertising is still too general for consumers to show their attitude to advertising in specific media contexts because it refers to radio in general, not to specific stations which differ widely in terms of programming. For example, a listener may be more receptive to advertising in a news station than a rock music station.

Attitudes toward advertising in a vehicle (Aav) are temporary constructions. Their direction may change when the clutter level changes in the advertising vehicle because different clutter levels are different contextual stimuli to the consumer. Advertising media generally believe that the attitude toward the advertising in a media vehicle is a lowly accessible attitude. The accessibility of that attitude is highly dependent on the context that the attitude will be activated. A high level of advertising clutter may activate the consumer's attitude toward the advertising in a media vehicle and become highly accessible in his/her screening of advertisements.

Attitudes toward the Ad (Aad)

Attitudes toward the advertisement (Aad) have become a factor commonly used to explain the persuasive power of an advertisement to consumers (Shimp 1981; Gelb and Pickett 1984; Cox and Locander 1987; Burton and Lichtenstein 1988; Gill, Grossbart and Laczniak 1988; Machleit and Wilson 1988; Yi 1990; Muehling, Laczniak and Stoltman 1991). Apparently, the attitude object in Aad is the advertisement itself, nothing else. This assumption is far from correct because

researchers have applied the concept to two different aspects of an ad: the content of the advertising message (MacKenzie, Lutz and Belch 1986; Cox and Locander 1987), and the presentation of the advertising message (Biehal, Stephens and Curlo 1992). A favorable attitude toward the ad cannot indicate which aspect of the advertisement forms such attitude toward the advertisement.

Olney, Holbrook and Batra (1991) propose a three-component model of Aad which includes the hedonism, utilitarianism, and interestingness of an ad in forming a global Aad. Execution quality of an ad creates hedonistic value and interest in an ad. It has been found to be an important antecedent of Aad (Biehal, Stephens and Curlo 1992; Walston and Moriarty 1992).

The distinctions between these different aspects of Aad are crucial to advertisers who make advertising strategy decisions. If a positive attitude toward the advertisement consists of only the positive attitude toward the presentation of the advertisement, then advertisers can focus on improving only the execution techniques while presenting the same message and adding variation to it. In fact, this view is widely held among the advertising industry. The likability of the advertisement has become the sole criterion used in predicting the effectiveness of an advertisement. These disciples of likability of the advertisement also use it to explain why some consumers are hostile to advertising in general: it is the execution of the advertisements they do not like, not the nature of advertising as a persuasive instrument or social institution.

The bulk of the literature focuses on the effect of Aad on Ab, but Aad and Ab

are not qualified as two distinct constructs because they lack discriminant validity against the test of multi-trait multi-method (Madden, Dillon and Twible 1986). Recent studies of Aad are moving away from the simple direct relationship between Aad and Ab. The effect of Aad on Ab is not merely an attitude transfer, Aad also provides the information input for the cognition of a product which also affects Ab (MacKenzie, Lutz and Belch 1986). Researchers also have discovered that product familiarity (prior knowledge) is a major factor mediating the effect of Aad on Ab. The role of brand familiarity in the processing of ads will be discussed under the rubric of the countervailing factors to clutter.

Advertising Message Involvement (AMI)

Advertising message involvement is the consumers' involvement in the content of the advertisements, a motivational state for a deeper level of information processing (Laczniak and Muehling 1993). Involvement in an ad may be due to its message or its execution (Lutz 1985; MacKenzie and Lutz 1982). There are quite a number of measurement problems in AMI. Some researchers employed product involvement measures to measure AMI because product involvement is thought to be the antecedent of advertising message involvement (Muehling, Laczniak and Stoltman 1991). Others used task assignment to manipulate the variable indirectly (Gardner, Mitchell and Russo 1985; Park and Young 1986; Pratkanis and Greenwald 1993). Recently, researchers began to study AMI as a concept in its own right. It is conceptualized as the motivational state inducing message processing (Laczniak and Muehling 1993) or the level of attention (James and Kover 1992). As a moderating

variable, AMI is found to have a positive direct effect on Aad but an insignificant effect on brand beliefs (Laczniak and Muehling 1993). It also moderates the direct effect of Aad on Ab (Muehling, Laczniak and Stoltman 1991), providing further support to the dual mediation hypothesis of MacKenzie, Lutz and Belch (1986), which argues that Aad affects both the knowledge of and attitudes toward the brand.

Memory

Memory of the advertised brand or of the ad has been an important measure of advertising effects since the inception of advertising research (Stewart et al. 1985; Leckenby and Plummer 1983). It is the basis for consumer decision making (Alba, Hutchinson and Lynch 1991; Bettman 1979). The importance of memory of the brand in the decision-making process of consumers has received rich empirical support. In situations where consumers have no clues to determine which brand to choose, the brand that is most readily retrievable from memory will be chosen (Alba, Hutchinson and Lynch 1991; Haugtvedt, Leavitt and Schneier 1993). This is called a memory-based decision. Choosing a store for shopping is an example of such decision.

There are other situations, such as shopping in a grocery store, in which abundant information or product cues are available. Decisions may be based upon the stimuli such as the product package, a price discount, or point of purchase display. Even in such situations, the memory of a brand and its advertisements will increase the chances of that brand to be among the choices of the consumer (Wells 1993). Usually, consumers possess in their memory a evoked set that consists of multiple brands in a product category. They choose from a set of brands for consideration

depending on their needs and the situation (Alsop 1989; Assael 1992; Krishnan and Chakravarti 1993).

Recall and recognition are the two most common tests of memory (Brown 1975; Singh, Rothschild and Churchill 1988). Since the basic requirement of a successful brand is brand identity, recall and recognition of the advertised brand have been the most common measures of advertising effectiveness (Krugman 1986; Leckenby and Plummer 1983). A more elaborate test is one of recall and recognition of both the claims of the advertisements (Kent 1990) and feelings toward the advertisements (Edell and Moore 1993; Srull 1990). According to the two-factor theory (Tulving 1975) or generation-discrimination theory (Brown 1975), recall is the retrieval of the memory target without the presence of the target; recognition is the discrimination of the target from a list of choices where the target is present. The general belief is that the task of recognition is easier than recall because recognition does not require the respondent to organize their memory of the brand. Moreover, the presence of the target facilitates the memory retrieval process. There are researchers (e.g., Singh, Rothschild, and Churchhill 1988; Kent 1990) who argue that recognition can be as difficult as recall tasks if all the choices given to the subjects are plausible answers.

The choice between recall and recognition as measures of memory should be determined by the type of purchase decision (Leckenby and Plummer 1983; Alba, Hutchinson and Lynch 1991). In memory-based decision conditions, recall is a better measure of brand memory. In stimulus-based decision conditions, recognition is a

better measure. The inference is that recognition may be a better measure for fast-moving consumer goods, while recall is a better measure for services and durable goods. Unless a study is limited to only one type of products, both measures should be used to examine the memory of the brand or ad.

Resistance to Competitive Ads

Resistance to competitive ads is another important measure of the advertising effects of a brand. As Stewart (1992) points out, advertising research has generally overlooked the fierce competitive pressure in the real world of advertising. The advertising effort of one brand may be diluted by the advertising of another brand. To have an impact on consumers, an ad not only has to sell its own product, but also should be able to withstand the lure of competitive ads (Stewart 1992).

One approach to explain the resistance to competitive ads is the inoculation theory proposed by McGuire (1964), which uses a medical inoculation analogy. The basic premise of this theory is that if an individual has been exposed previously to the refutation message of the opposing argument, he will not be affected by the opposing argument that he would later encounter. This theory has received considerable support in research on negative political advertising (Pfau 1990) and corporate advertising (Burgoon, Hall and Pfau 1991). However, there is also conflicting evidence that reveals the limitation of the inoculation theory in advertising research. Goldstein (1982) found that the theory does not work in advertising contexts in which the advertising message of one brand is not in direct conflict with that of another brand. The theory seems to be confined to comparative advertising, and is unable to explain

why the majority of non-comparative ads in advertising can help one brand to resist competitive ads in the consumer's mind.

Reinforcement through repetition of the same message is another explanation for the resistance of competitive challenge (Berger 1993; Burgoon and Miller 1990). For example, Berger (1993) found that both attitude and behavior can become consistent when the message is repeated. Repetition both increases the size and changes the content and structure of a brand in an individual's memory.

The inhibition hypothesis also may shed light on this resistance phenomenon. It posits that when cues are given, the number of brands that an individual can recall will greatly diminish (Alba, Hutchinson and Lynch 1991). The presence of cues of a particular brand confines or inhibits the recall of other competitive brands (Alba and Chattopadhyay 1985). Advertising can exert this inhibition effect by building a regular presence in the mind of the consumer so that the competitor is less likely to be recalled or given attention. Studies of first-mover advantage (e.g., Carpenter and Nakamoto 1989) also supported this hypothesis. Established brands can define the criteria of product evaluation for the consumer. Later brands either have to develop a whole new set of criteria or have to invest in much heavier advertising in order to overcome this disadvantage.

Brand Equity

Brand equity has become one of the hottest topics in marketing and advertising research (Aaker and Biel 1993; Cook 1992; Marketing Research Institute 1991; Bell 1988). The construct has been proposed to revive advertisers' declining confidence in

advertising's effect on sales amid the growth of other promotion efforts (Aaker 1993; Keller 1993). Brand equity is an intangible resource that maintains the competitive advantage of the firm (Chatterjee and Wernfelt 1991; Mahoney and Pandian 1991; Grant 1985). It safeguards the profitability of the product and protects the manufacturer from the growing power of intermediaries and retailers (de Chernatony and McDonald 1992). It also serves as a justification for brand extension because the cost of establishing a new brand is much higher and riskier than that of extending the product line of an established brand (Baldinger 1990; Biel 1992; Tauber 1993; Wansink and Ray 1993; de Chernatony and McDonald 1992).

The strong accounting flavor in the construct of brand equity differentiates it from its predecessors, such as brand attitude, brand loyalty, brand awareness, brand image, and brand knowledge. As the added value with which a brand and its image endow a product (Farquhar 1991), brand equity can be appreciated or depreciated by advertising and promotion efforts. A monetary value can be calculated for the equity of a brand as an asset for a company. The most successful cases of brand equity can be found in international contexts where brands such as Xerox, McDonald's, and Coca-Cola have become the common language across nations (Macrae 1991; de Chernatony and McDonald 1992).

From a consumer's perspective, Aaker (1991) has proposed four dimensions of brand equity which include: 1) positive association, 2) loyalty, 3) perceived quality, and 4) top-of-mind awareness. *Positive association* is the expectation of a pleasant consequence from the image of owning a brand. *Brand loyalty* is the commitment to a

brand. *Perceived quality* is the perceived superiority of the performance of an advertised brand over that of other brands. *Top-of-mind awareness* is the readiness and promptness to retrieve an advertised brand under a probing situation. A brand that scores high in all these dimensions can be considered to have a high brand equity.

Many empirical studies on brand equity to-date concentrated mainly on the positioning of the product on the consumers' perceptual map. Researchers use open-ended questions to encourage consumers to generate thoughts on the brand (Aaker 1991). Another common approach to demonstrate the effect of brand equity on sales is to use case studies (e.g., Aaker 1991,1993; Macrae 1991; Jones 1986). Other studies simply equate brand equity with brand attitude (Edell and Moore 1993) or brand personality (Lannon 1993). Despite the strong claims of researchers about the close relationship between advertising and brand equity, the measures that have been used to measure brand equity measured only one of the four dimensions of brand equity. If the four dimensions are complimentary to one another, a composite index should be available to give a complete measurement of brand equity. Despite the accounting origin of the construct, only Martin and Brown (1991), Park and Srinivasan (1994) have attempted to measure brand equity quantitatively from the consumer's perspective. Martin and Brown (1991) conceived perceived quality, perceived value, image, trustworthiness, and commitment to be the five dimensions of brand impression. Products that are extensions of an established brand in the same product category have a higher impression score than products with a new brand name. Park and Srinivasan (1994) measured brand equity by comparing the difference between an

individual's consumer's overall brand preference and his/her subjective attribute and non-attributed based preference of the brand based on objectively measured attribute levels.

Advertising has long been recognized as an investment to generate more consumer demand of a product. The various advertising response functions proposed by researchers (e.g., Dittus and Kopp 1991; Jones 1986; Zufryden 1986) and the positive correlations between advertising expenditure and market share suggest that advertising will invariably lead to the success of a product. This is an oversimplistic view that warrants scrutiny. It assumes that advertising will generate only positive evaluation of a product and that all advertising campaigns are successful. In reality, many advertising campaigns have been failures, such as Nissan's Infiniti advertising campaign or Oldsmobile Achiever's comparative advertising with Honda Accord. Most of the failures have not been reported, because the public focuses on the glamour of the successful ones. Although advertising agencies put the blame for the failures on the product or other elements in the marketing mix, the problems also may be due to poor execution of advertising or wrong strategy for the products.

The basic aim of advertising is to create a favorable presence and a sense of familiarity in the minds of consumers (Moran 1990; Bogart and Lehman 1973). Such presence is best expressed in terms of brand equity building (Kirmani and Zeithaml 1993). Only good advertising will build brand equity, inducing consumers to think positively about the brand, to be loyal to the brand, to feel that the product is of higher quality, and to retrieve the brand right away from top of their mind. However,

good advertising must be able to reach its desired audience in order to be effective. Advertising clutter may pose as a cognitive and affective barrier to convey the advertising message, because an ad may get overlooked or lost in the dense advertising environment.

Directly, advertising clutter may discourage consumers from reading the many advertisements, thereby reducing their advertising message involvement. Such non-exposure implies the loss of both readership and communication opportunity with the consumers. The advertisement will fail to achieve its goal of building brand equity. By reducing advertising message involvement, clutter may indirectly affect negatively the attitude toward the ad, and the subsequent memory of the brand, as well as the resistance to competitive ads, which may be the antecedents of brand equity.

Ad Processing Behavior

The basis of learning or information processing in advertising can be traced to Krugman's (1965) proposition of low-involvement learning of television commercials. Under the low-involvement learning proposition, the effects of advertisements are caused by repetition. Repetition increases an individual's awareness of the advertisement and induces purchase, without changing the consumer's attitude significantly. The conception of involvement was the conscious "bridging experience": connections or personal reference that the audience makes between their own lives and the stimulus (Krugman 1965).

The elaboration likelihood model developed by Petty, Cacioppo, and Schumann (1983) is a formalized model based on the hemispheral lateralization (the division of

labor between the right and the left brain) to explain high- and low-involvement learning. According to this model, high-involvement learning follows a central route of persuasion in which consumers comprehend, learn, and evaluate the attributes about a product in the left brain. The advertisements processed in a high-involvement learning mode will have a high chance of elaboration in the consumer's mind. In other words, consumers exert more cognitive effort to process the arguments in the message. Advertisements processed in a low-involvement learning mode follow a peripheral route of persuasion. Consumers are affected by the non-product message characteristics of the advertisements, such as the context or creative execution of the advertisement. Such processing of images and sensation arousal are in the right brain of the audience (Schiffman and Kanuk 1991).

Selective Attention and the Screening of Advertisements

While the mainstream of research on clutter argues for the negative impact of clutter on information processing, some critics challenge the captive audience assumption of such research with the selective attention mechanism in human information processing. Selective attention to objects by an individual is a protective mechanism of which human beings use to allocate their limited attentional resources according to their needs (Wickens 1978; Seamon 1980; Wheeless and Cook 1985; Smith and Buchholz 1991). Literature on audience's uses of and gratifications from advertising can shed light on the values which advertising can offer to an individual. These values are incentives for attention that may moderate the impact of clutter on advertising effects. MacInnis and Jaworski (1989) suggest a framework of ad

processing based on the need, motivation, and opportunity to process advertisements. Under the following three conditions, advertising will not be considered a negative externality but a desirable content because it provides uses and gratifications for the consumer:

1. **Advertising as product information** -- advertising provides useful information about the product that a consumer is interested in (Telser 1978; Atkin 1985; Thorson 1989). Telser's (1978) economic theory of advertising argues that the legitimacy or economic value of advertising lies in its information value. Advertisers have to compensate the audience for their advertising's non-utility in an advertising medium by sponsoring the cost of media production. Atkin (1985) also contends that an individual's attention to messages is goal-directed and is based on the information that is needed at the time of media consumption. Thorson (1990) also believes that consumers pay attention only to advertising that interests them. The theory of involvement posits that product category involvement is the motivating force with which consumers use advertisements as a product information source.
2. **Advertising as media content** -- advertising is viewed as part of the content of a media vehicle. For example, in a gourmet magazine, restaurant ads contain information that complement the editorial content of the magazine. The ads may be perceived by the readers as part of the editorial content. The effect of clutter has been suggested as contingent upon the compatibility perceived by the readers between advertisements and editorial content (Scissors and Bumba 1993;

Compaigne 1982). Compaigne's (1982) analysis of the magazine industry found that the proliferation of special interest magazines is accompanied by the growth in advertising volume in these magazines. Inference can be made on the acceptance of readers of such advertising-heavy special interest magazines. The positive effect of the compatibility between advertising on advertising effectiveness has been termed as "contextual priming" (Schumann and Thorson 1989; Yi 1990, 1993). When the advertisements complement the editorial content, they will be perceived as more relevant to the individuals, and the advertised product attributes will be more accessible (Yi 1990; 1993).

3. **Advertising as art and entertainment** - advertising contains aesthetic value that appeals to the five senses of the consumer. This aesthetic value is created by the craftsmanship of a well-executed advertisement. The aesthetic value and entertainment function of advertising can be a major factor that can explain why non-customers of a product read its advertisement (Wells 1993; Lannon 1993). This inference is also consistent with the peripheral route to the information processing model of Petty, Cacciopo, and Schumann (1983) that non-product related cues in an ad are better remembered by low involvement consumers. Even for customers, the entertainment value of an ad enhances their interest in processing the product information (Goodstein 1993).

Walston and Moriarty (1992) propose that the high aesthetic value in advertisements can break through clutter by attracting audience's attention. They develop a marketplace aesthetic matrix which predicts the effect of an advertisements's

aesthetic value on a brand's market performance. Their findings show that all the 12 brands best-rated in aesthetic value have also been successful in sales performance.

Apart from these factors, the opportunity to have selective exposure and attention can determine the screening process (MacInnis and Jaworski 1989). If the effort to skip an advertisement and the risk of missing the editorial content is high, the consumer is less likely to exhibit avoidance behavior. For example, when tuning in to a new cable TV channel, a consumer will not know when the commercial break will start and end. He may pay high attention to the commercials in order not to miss the program. In print, if the advertisements are intrusive -- embedded inside the editorial content rather than in the cover positions -- the opportunity to skip the advertisements is lower because readers find it more time-consuming to skip an advertisement than to browse it.

In comparison to television clutter, clutter in print media is more likely to stimulate avoidance behavior because of the relative ease to skip advertisements in print. The reading pace is set by the readers, not the medium. Although consumers may find it difficult to control the pace of television broadcasting, TV commercials are more predictable than print advertisements because there is a somewhat fixed pattern of commercial breaks and the commercials are shown consecutively.

Indeed, these reasons to read an ad are the countervailing factors that have generally been overlooked by researchers on advertising clutter. The effect of clutter has been linked directly to the memory of target advertisements without controlling these important factors. It is not surprising that research results on the impact of

clutter on recall are inconclusive.

Without the presence of the conditions listed above, advertising will become a negative externality to consumers. Many surveys found that the public's attitude toward advertising in general has been quite negative (Haller, 1974; Sandage and Leckenby 1980; Fawcett 1993; Mittal 1993). Advertising has a notorious reputation of puffery, vulgar contentiousness, and hustlerism, as well as taking away editorial space and influencing the integrity of the media editorial content (Packard 1957; McGuire 1985; Soley and Craig 1992). Advertisers have to compensate for the time of non-customers to read their advertisements by subsidizing the price for consumers to use the media (Telser 1979). Steiner's (1966) pioneering study on consumer behavior towards advertisements showed that people often avoid TV commercials by doing other things during commercial breaks. Increase in advertising clutter may increase this negative attitude toward advertising and discourage consumers from reading the advertisements in a media vehicle.

The annoyance created by clutter has been best recognized in the television industry (*Advertising Age* 1993). The code of practice developed by the National Association of Broadcasters imposes a limit on the duration of commercials within a break. Most TV network affiliates have followed this rule even after the deregulation. They have maintained an average of 13 minutes of commercials per hour and 4 to 8 commercials per break (Wicks 1991). In contrast, print media do not impose any self-restriction on the amount of advertising and very few adopt a fixed advertising-to-editorial ratio policy (Ha and Litman 1993). While there are numerous studies on the

television commercial avoidance behavior such as the zipping and zapping of television commercials (e.g., Heeter and Greenberg 1985; Kaplan 1985; Kitchen 1986; Kaatz 1987a; Lamond 1987; Stout and Benedicta 1989; Cronin and Menelly 1992; Zufryden, Pedrick and Sankaralingam 1993), advertising avoidance behavior in print media has been an area neglected by researchers. This study on clutter in print media can fill the void in this area and examine how clutter may stimulate the avoidance of advertisements.

To explain the process of how clutter may or may not create a negative impact on brand equity and other effect measures, six major factors that countervail the effect of clutter during the processing of advertisements have been identified in the scattered literature: 1) ad-editorial compatibility, 2) attitudes toward advertising in general, 3) product class involvement, 4) ad execution quality, 5) familiarity with the brand, and 6) exposure to other media. The inclusion of these factors can accommodate the selective attention perspective in the study of the effect of clutter.

Ad-Editorial Compatibility

The concept of ad-editorial compatibility has been studied by researchers as contextual involvement or mood congruency (Lord and Burkrant 1988; Srull 1990; Norris and Colman 1992; Celuch and Slama 1993) -- the effect of interest in the editorial content environment on advertising messages that are embedded in it. Studies on contextual involvement such as involvement in television programs found that viewers' involvement in television programs has a spillover or distraction effect on the commercials shown during breaks within programs. Lord and Burnkrant (1988)

explain how the role of involvement in programs affects the processing of commercials by program elaboration effects. They have found that consumers who are highly involved in the television programs they watched reduce their processing ability and efficiency in television commercials, but increase their advertising recognition level. Incorporating different findings on the effects of contextual effect, Schumann and Thorson (1989) propose that context magnifies the positive or negative evaluation of advertisements. Empirical findings supported this notion of the magnifying effect when the mood between the viewing context and the commercials is congruent (Kamins, Marks and Skinner 1991).

The importance of ad-editorial compatibility in magazines to create a favorable advertising environment for readers has been suggested by Compaigne (1982). Yi (1990, 1993) found a priming effect of compatible magazine editorial articles on the evaluation of the advertised brand. A compatible article makes the advertised product attributes more accessible to the reader. Such a priming effect is more pronounced among moderately knowledgeable consumers.

Attitudes toward Advertising in General (Aag)

Research on attitude toward advertising in general stems from the interest in the public perception of the social effects of advertising (Haller 1974; Mittal 1993). Advertising is viewed as a social institution and an instrument to promote products (Sandage and Leckenby 1980; Muehling 1987). Consumers' attitudes toward advertising in general is now a regular item in surveys sponsored by the trade press such as *Advertising Age*.

Early studies on attitudes toward advertising only measure and describe the attitude without any theoretical inference. Recently, researchers have been attempting to examine the effect of such attitude on advertising message involvement (James and Kover 1992) and have found an inconsistency between attitude and behavior: negative attitudes toward advertising is correlated with high advertising message involvement. Their explanation is that individuals holding negative attitudes toward advertising are more interested in exploring an ad for the purpose of identifying the "bad" things that advertisements carry. Yet their results should be interpreted with caution because their measure of involvement is only a single measure of the time spent on reading the advertisements and the items in their attitude measure have mixed attitudes toward advertising in a vehicle with attitudes toward advertising in general. Neither product involvement nor motivational factor has been included in their measures. Overall, these studies on attitude toward advertising in general view attitudes as a relatively stable construction with cultural differences (Andrews, Lysonski and Durvasula 1991; Parks 1993; Wentz 1993). For example, Americans hold a more positive attitude toward advertising than Europeans. Moreover, the attitudes of consumers toward advertising vary by media (Fawcett) and product type (Mittal 1993).

Involvement Theory

Unlike other learning situations in which an audience member is prepared to process information, the learning of advertising messages is mostly incidental (Thorson 1989; Kent 1990). Different advertisements are arrayed in the same pod to form a cluster where there is no meaningful connection among them. Seldom are consumers

self-motivated to watch or read the advertisements (Batra & Ray 1983). Involvement theory can be an explanation of how consumers learn from advertisements under these unfavorable conditions.

Involvement is the interest and perceived personal relevance of the involvement object to an individual (Gill, Grossbart and Laczniak 1988; Vaughn 1987; Leigh and Menon 1987; Zaichkowsky 1985; Lastovika and Gardner 1979). Involvement is viewed as an important motivational factor that facilitates the attention toward and comprehension of information (Celsi & Olson 1988; Andrews 1988; Greenwald and Levitt 1984; Andrews, Durvasula and Akhter 1990; Laczniak, Muehling, and Carlson 1991; Pratkanis and Greenwald 1993). As the theory of involvement develops, the construct of involvement becomes more sophisticated and different perspectives have been offered to use this construct. The first controversy is whether involvement should be measured as a dichotomous construct of high and low involvement or as a continuum (Muehling, Laczniak and Stoltman 1991). Until now, most of the involvement studies contrasted high and low involvement only. Even when moderate involvement is taken into consideration (e.g., Zaichkowsky 1985), the classification of involvement level is arbitrarily assigned by a certain percentage of involvement scores of respondents rather than based on theory (Muehling, Laczniak, and Stoltman 1991). The inability to contrast moderate involvement with high and low involvement led to the abandonment of efforts to further investigate the appropriate measurement of involvement as a continuum or dichotomy. The dichotomy of high versus low involvement continues to dominate involvement studies.

However, this problem must be tackled before the construct can be adopted for theoretical explanation of advertising information processing. The dichotomous conception of involvement is based on left and right brain processing. Yet the essence of the involvement construct should be the intensity of motivation or degree of personal relevance (Andrews, Durvasula and Akhter 1990; Ratchford 1987; Vaughn 1986; Zaichkowsky 1985), if the construct is to be employed as an intervening variable for information processing research. If we adopt the viewpoint of involvement as a matter of intensity, then the appropriate measure of involvement should be seen as a continuum.

Audience members undergoing different levels of involvement are subject to different learning processes. Several studies have found that individuals learn information involving their interests much faster and deeper than those who are not involved (e.g., Burnkrant & Sawyer 1983; Gardner, Mitchell and Russo 1985; Ha 1986). When individuals are not involved, they learn passively through repetition (Krugman 1986). Identifying the involvement level of audience to the message and the medium will also enable us to understand how consumers' involvement can moderate the negative effect of advertising clutter.

Product class involvement theory posits that different types of product classes engender consumers' different involvement levels. Products that are perceived as high-risk or high-cost, and require consumers to exert much effort in gathering information are usually considered to be high involvement products to consumers. Products that are perceived as low-risk or low-cost of which consumers do not exert

any effort to gather information are classified as low involvement products (Assael 1992). When consumers hold a strong belief on a product, no matter whether it is positive or negative, their involvement in the product class is high. In advertising research, product class involvement is often identified by the audience's attention to the product attribute information in the advertisements. The problem of such measure is that product class involvement is a predispositional factor before exposure to advertisements, attention to product attributes may be a result of interest in the product caused by the advertising execution.

Ad Execution Quality

Previously discussed in the selection and screening of advertising, ad execution quality can be an important criterion for the ad to be selected for attention (Moriarty 1991a). This is especially so for the non-customer general readers because they are not looking for shopping information when consuming the media. They browse the ads in a magazine and those ads that provide entertainment or aesthetic value with high execution quality will capture their attention (Wells 1993). From a marketer's viewpoint, non-customers may not be their target for persuasion, however, no one can predict whether non-customers will be converted to customers at a later point in time. A surplus of expected readership is always welcome.

Studies on ad execution quality are plagued by the lack of theoretical guidance. Many of them were fragmented pieces examining the impact of various execution factors on increasing attention and readership (Ruldoph 1947; Advertising Research Foundation 1962; Starch 1966; Shimp and Yokum 1981; Houston and Scott 1984;

Reid et al. 1984; Stewart and Furse 1986; Gelb and Pickett 1983; Stewart and Koslow 1989; Biehal, Stephens and Curlo 1992). Rudolph's (1947) pioneering attempt at this type of research investigated the advertising effectiveness in terms of coupon replies and recognition ratings of over 20 execution factors of 2,500 magazine ads. The presence of the execution factors such as narrative copy and humor are found to be positively correlated to advertising effectiveness.

The recent largest scale research of this kind is Stewart and Furse's (1986) study and its replication (Stewart and Koslow 1989) on the effect of 160 execution factors on recall and comprehension of brand name and ad claim. Both studies found that brand differentiation is the technique that facilitates the most recall and comprehension of the advertising message. They found only weak or no correlation between most of the factors and effectiveness measure. The reason for this low correlation may be caused by the wrong assumption that the execution factors in all the commercials have been well-executed to represent the factors. Such assumption may not be valid in most cases because the execution of that factor may vary greatly in each commercial. One commercial may try to use the humor appeal, but the audience may not find it humorous if it is not executed skillfully. Relying on expert judgment, these studies of execution quality generally lack an audience perspective and presuppose the quality.

Familiarity with the Brand

Familiarity with the brand has been found to be an important moderator between Aad and Ab (Madden, Dillon and Twible 1986; Cox and Locander 1987; Gill,

Grossbart and Laczniak 1988; Machleit and Wilson 1988). It weakens the association between Aad and Ab. For example, Aad has the strongest effect on Ab in unfamiliar brands but its effect greatly diminishes when the brand under study is a familiar brand. Some of the research on familiarity, in fact, is a comparison between the persuasion effect of the direct experience of product usage and the persuasion effect of the indirect experience of advertising exposure (e.g., Edell and Burke 1986; Machleit and Wilson 1988; Cox and Locander 1987; Yi 1993). Brand familiarity facilitates the memory of a brand. A familiar brand is much more likely to be in the evoked set of a consumer than unfamiliar brands (Baker et al. 1986).

Exposure to Other Media

Exposure to other media is an area relatively undermined by advertising researchers who use forced exposure settings in the laboratory to generate their results. In real-life settings or field experiments, this is an important contaminating factor that may jeopardize the results. The increase in message input to the individual can be expected by his/her exposure to other media. Unfortunately, in most studies which have measured delayed recall or advertising effects over time (e.g., Burke and Edell 1986; Pratkanis and Greenwald 1993), this factor of exposure to other media has not been controlled or measured. Inference about the effect of exposure to other media may be made from the literature on forgetting and interference.

The literature on forgetting is primarily based on the limited capacity of human memory (Miller 1956; Seamon 1980). New messages will replace the old messages unless these message have been stored in the long-term memory. A message

important to the individual is stored in the long-term memory and is less likely to be subject to the forgetting effect (Battig 1979). Interference theory explains the deleterious effect of exposure to other media by the interference between new and old messages coming from several sources (Postman 1975). An individual will become confused with the messages in the retrieval process. This confusion will worsen if the messages are highly similar to one another (Keller 1991).

In short, a review of the literature indicates the inherent weaknesses in past clutter research are its captive audience assumption and the narrow unidimensional view of clutter. The selective attention to ads may be facilitated by factors such as ad-editorial compatibility, attitudes toward advertising in general, product class involvement, ad execution quality and brand familiarity. The negative effect of clutter may be magnified by exposure to other media. How powerful these factors are in countervailing the effect of clutter in magazines is a key question to be explored in this study.

CHAPTER 3

RESEARCH MODEL AND HYPOTHESES

Three Dimensions of Clutter

The literature review section points out that the problem of past conceptualization of clutter is its failure to incorporate the selective attention behavior of audiences. The effect of clutter can be countervailed by factors that affect selective attention. These factors include ad-editorial compatibility, attitude toward advertising in general, product category involvement, ad execution quality, familiarity with the brand, and exposure to other media. To explain the effect of clutter in its entirety, it is proposed in this study that clutter should be viewed as having three dimensions -- quantity, competitiveness, and intrusiveness.

Advertising clutter is *the density of advertisements in a media vehicle.* It is the context for consumers to evaluate the overall advertising environment in a media vehicle. As many researchers (e.g., Webb 1979; Houston and Scott 1984; Ray and Webb 1986; Pratkanis and Greenwald 1993) have pointed out, high clutter level creates a difficult media environment in which consumers process advertising messages. Due to the preoccupation with TV clutter in research on clutter, clutter has been defined as "mass of commercials...which compete for listeners' or viewers' attention and the combination of which lessens the impact of any commercial single message" (Imber and Toffler 1987). This definition is a manifestation of overload

theory in explaining how advertising clutter impairs the processing of advertisements. A weakness of such overload theory is that the psychological threat of overload may occur even before the messages are processed. This threat may stimulate audience members to become more selective to the advertisements in high clutter conditions than in low clutter situations. Moreover, the theory cannot explain why, under cluttered conditions, some of the advertisements are still able to be remembered and recognized (Brown and Rothschild 1993).

Traditionally, clutter has been viewed as a unidimensional concept that refers to either the amount of non-editorial content or number of advertisements in a media vehicle. It is synonymous with the degree of commercialization or advertising intensity in a media vehicle. This is the way clutter was treated in studies conducted by the industry and by many academic researchers (Mandese 1992; Otto 1984; Ray and Webb 1979; Cobb 1985; Pillai 1990; Brown and Rothschild 1993). However, this quantitative conception of clutter does not distinguish the difference between the number of advertisements and the proportion of advertisements in the media vehicle. In magazines, this distinction is important because some magazines try to compensate the editorial space taken up by advertising clutter by increasing the number of editorial pages to maintain the ad-editorial ratio.

While the quantitative dimension of clutter may explain the consumers' overload in processing the advertising messages, the interference caused by clutter is explained by the competition of similar messages (Kent 1990, 1993; Srull and Burke 1988; Keller 1987). The similarity of messages is conceptualized as the similarity of

the advertised products. This interference theory posits that consumers will group the advertisements into different product categories during their processing of the advertisements. Those that are in the same category will cause more interference than those that are not. Similarity of stimuli will increase the likelihood of the forgetting of messages because it demands high attentional resources from an individual (Seamon 1980). If advertising clutter actually affects the processing of advertisements because of the similarity of the products, then a competitive dimension has to be added to the quantitative dimension in the conceptualization of clutter.

The competitive dimension of clutter addresses the process during which advertisements are being processed by the consumers. It can constitute a second dimension of clutter. The impact of this competitive dimension of clutter has not been tested empirically in advertising contexts. It is necessary to examine this competitive dimension to see whether it complements the quantitative dimension of clutter in causing the negative effect of clutter on ad processing. For the interference theory to be valid, the competitive ads must be in the same pod or within close distance to create that interference effect. This spatial dimension of competitiveness is based on the perceptual organization of human beings (Pomerantz 1981; Kahneman and Treisman 1984). Human beings tend to group things in close proximity as a unit. The degree of competitiveness is unit-based. The spatial distance between the competitive ads can enrich our understanding of the intensity of the competitiveness of the clutter. In television, for example, the practice of product exclusivity within the same commercial break presupposes that interference only occurs within the same break. In

print media, there are no such guidelines. The competitive ads may be next to each other and at a few pages' distance. It is reasonable to suspect that the closer the two competitive ads are, the more interference will occur between the ads. Intrusiveness is the third dimension of clutter that has been occasionally employed by researchers. The degree of intrusiveness of advertising clutter is the extent to which clutter interrupts the natural reading flow of the editorial content by cutting across the articles with ads. Such intrusiveness in clutter has been observed by some researchers on TV clutter who have defined clutter as the number of commercial breaks or interruptions (Wicks 1991; Mord and Gilson 1985). This is similar to the distraction argument in interference theory (Seamon 1980). A reader's primary task in reading a magazine is to read its editorial content. If an advertisement blocks the flow of an article, then the article-reading task of an individual will be disrupted. An individual has to determine whether to accept such interruption or avoid the interruption by not paying attention to the ad. Applying the reactance theory to intrusive clutter situations, individuals will resist the interruptions of their media consumption by intrusive clutter if the intrusiveness is high enough to create that threat.

In this study, clutter will include all of these three dimensions to clarify its impact on brand equity. It is posited that clutter exerts its effects on ad processing before the ads are actually processed by stimulating the avoidance and screening of advertisements. A combination of cognitive and affective approaches are employed to explain the effect of clutter. Clutter affects first the affective component in advertising processing -- attitudes toward advertising in a media vehicle -- then it lowers an

individual's motivation to process the advertisements. The three dimensions of clutter that have been identified in this study are used to explain the three properties of clutter that create such effects. It should be noted that such modifications of the overload and interference theory do not preclude situations where actual processing of multiple ads do occur. For instance, an individual who reads all the ads or most of the ads with full attention in a magazine may directly apply the original overload and interference theory in explaining ad processing.

The Research Model

The basic framework of this study is that advertising clutter affects brand equity indirectly through affecting the attitude toward advertising in a media vehicle and advertising message involvement. Attitudes toward the ad, memory of the ad, and resistance to competitive ads, which are affected by the attitude toward advertising in a media vehicle and advertising message involvement, affect a brand's equity. However, with the presence of the countervailing factors, the effect of clutter on an advertised brand's equity can be greatly reduced. The magnitude of the effects of such countervailing factors will be assessed in the study.

The research model in this study consists of three sets of factors: 1) the three dimensions of clutter, 2) countervailing factors and other exogenous factors, and 3) measures of advertising effects. In total, seven exogenous variables and six endogenous variables are studied in the model. The exogenous variables are 1) clutter level in three dimensions, 2) ad-editorial compatibility, 3) attitudes toward advertising in general (Aag), 4) product category involvement, 5) advertising execution quality,

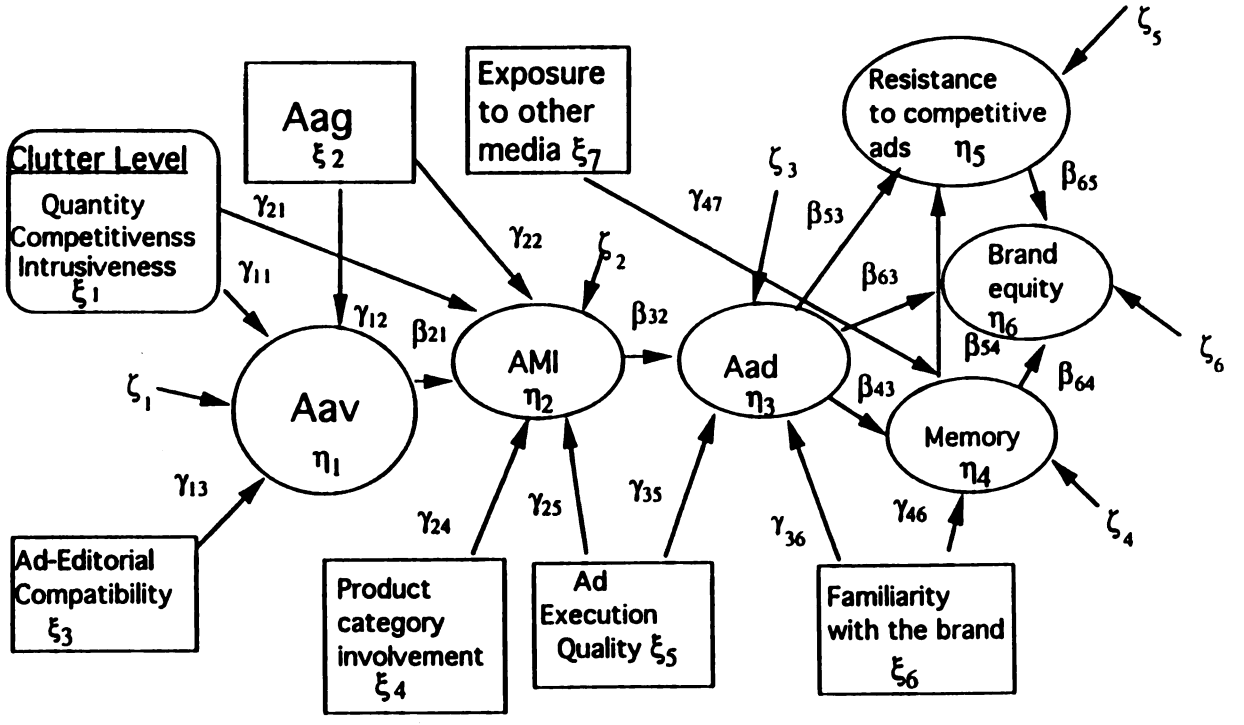
6) familiarity with the brand, and 7) exposure to other media. The six endogenous variables (advertising effect measures) are 1) attitudes toward advertising in a vehicle (Aav), 2) advertising message involvement (AMI), 3) attitudes toward the Ad (Aad), 4) memory of the ad, 5) resistance to competitive ads, and 6) brand equity. Figure 2 is an illustration of the research model for this study.

Hypotheses for Direct effects of Advertising Clutter

Clutter provides the context for consumers to evaluate the advertising environment. The three dimensions of clutter explain the different mechanisms of how clutter exerts its effects. Despite the different explanations, it is proposed that the three dimensions yield the same negative impact on attitudes toward advertising in a media vehicle and advertising message involvement.

Attitudes toward advertising in a media vehicle (Aav) is a situation-specific attitude which is formed when consumers are presented with a specific advertising environment of a media vehicle. It is not as enduring as attitudes toward advertising in general which are much broader in scope. This unstable nature of Aav can account for change of attitudes over time when the individual introspects his/her attitude or encounters new experiences (Carlston 1992; Wilson and Hodges 1992). Advertising message involvement is the motivational state for a deeper processing of advertising messages.

The quantity dimension of clutter is based on the overload theory that too many messages impair the processing of advertisements (Pillai 1990; Jacoby, Speller



Dimensions of Clutter (Exogenous Variables)

Countervailing factors (Exogenous Variables)

Measures of advertising effects (Endogenous Variables)

Aag Attitudes toward advertising in general

Aav Attitudes toward advertising in a media vehicle

AMI Advertising message involvement

Aad Attitudes toward the ad

Figure 2

RESEARCH MODEL

and Kohn 1974a and b; Ray and Webb 1986). Rather than restricted to an actual overload, the notion of overload should be extended to the psychological threat of possible overload to explain the effect of clutter. The high quantity of advertisements heightens the alertness of an individual to the consequence of overload. Such expected negative consequences of overload will foster that person to develop a negative attitude toward the clutter and also demotivate him/her from involving in the advertising messages. This conforms to the notion of selective exposure in information processing. However, in low quantity clutter condition, there is no threat of overload and consumers will have a more positive attitude toward the advertisements in the vehicle. Consumers will be more likely to become involved in an advertisement that interests them.

The competitive dimension of clutter is based on interference theory. The theory also needs to be extended to an individual's judgment of the competitiveness of the advertisements before the actual processing of the ads. Research on competitive interference has shown that there are differential interference effects by processing goals. A between brand processing goal will facilitate the processing of competitive advertisements because consumers have to compare brand information. By the same token, consumers with a within brand processing goal will not welcome competitive advertisements because their attentional resources on the brand of interest are taken away from competitive ads. They will not be receptive to competitive ads. Kent (1990) and Goodstein (1993) both demonstrate that the emphasis of one processing goal can determine the depth of the processing of advertising messages. Similarity of

the messages can cause confusion. Such expected confusion may also divert the interest in the ads and may generate a negative attitude toward advertising in a media vehicle.

Intrusiveness of clutter is created by the need of the advertising industry to increase the captivity of the audience. The intrusiveness of clutter makes it more difficult for audience members to skip the ads. As discussed in Chapter 2 regarding the conditions that consumers will read an advertisement, the perceived high efforts to skip the advertisements can deter the advertising avoidance behavior. The effect of the intrusiveness of advertising clutter is based on the individual's psychological discomfort and reluctance to submit to the interruption of ads when he/she is reading editorial content. Inferred from reactance theory (Brehm 1966) and ego-defensive theory (Freud 1946), such discomfort can create a negative attitude toward advertising in a media vehicle because one of the functions of attitudes is ego-defensive (Fazio 1989).

Consumers' perception of the intrusiveness of the clutter can occur before or after the individual ads are being processed. Even though audience members may reluctantly notice the ad because of inconvenience in intrusive clutter, they may not process the ad deeply. The reason is that intrusiveness may foster a negative attitude towards the clutter in the vehicle and lower the advertising message involvement of the consumers. Such distinction between noted readership and high attention readership has been well-recognized in Starch's (1966) ad readership tests.

In short, the hypotheses on the effects of the three dimensions of clutter is a

modification of the cognitive-based theories of overload and interference. The psychological-affective perspective of reactance and ego-defense are added to explain the effects of intrusiveness of clutter. The general hypothesis is that the problem created by clutter is not the difficulty in the actual processing or retrieval of information, but the creation of a psychological barrier to process the advertisements.

H1. The higher the clutter level, the more negative the attitude toward the advertising in a media vehicle.

H2. The higher the clutter level, the lower the advertising message involvement.

Hypotheses for Indirect Effects of Clutter

Brand equity is the bottom-line measure of advertising effects. It is hypothesized that advertising builds a brand's equity by inducing resistance to competitive ads, creating a positive Aad, and making a presence in the memory of the consumer. The indirect effects of clutter on brand equity is built upon the relationships among different stages of advertising effects which include Aad, memory of the ad, and resistance to competitive ads. These antecedents to brand equity are affected by advertising message involvement. Advertising message involvement is also affected by attitudes toward advertising in media vehicle. By affecting Aav and AMI, advertising clutter affects a brand's equity indirectly.

Attitudes serve a heuristic function in the screening of advertisements by reducing efforts to process an individual ad through a evaluation of the general advertising environment (Bargh 1989; Snyder and DeBono 1989; Fazio 1989; Goodstein 1993). A positive Aav creates a pleasing environment for deeper processing

of advertising messages. It is predicted that the more positive the attitude toward advertising in a vehicle is, the higher the advertising message involvement is.

H3a. The more positive the attitude toward advertising in a vehicle, the higher the advertising message involvement.

Advertising message involvement is a motivational state for deeper ad processing. Laczniak and Muehling (1993) found that individuals with higher advertising message involvement have greater certainty regarding their judgments on ads and have a more positive attitude toward the ad because of the deeper processing. Deeper processing allows an individual to have an informed evaluation on a brand via the central processing route. It is predicted in this study that similar results will be obtained: higher message involvement will lead to a more positive Aad.

H3b. The higher the AMI, the more positive the Aad.

The impact of Aad on brand choice has been well articulated by the attitude transfer hypothesis that a positive attitude toward the ad transfers to a positive attitude toward the brand (e.g., Biehal, Stephens and Curlo 1992). A further extension of this proposition is that this positive attitude facilitates the memory of an ad because a positive memory is easier to be retrieved in memory tasks. In delayed recall situations such as this study, memory of the ad is affected by the evaluation of the ad because a positive evaluation increases the accessibility of the ad in memory retrieval. This has been demonstrated in recent studies on the positive effect of Aad on memory (Pratkanis and Greenwald 1993). It is predicted that the more positive the attitude toward the ad is, the better the memory of the ad is.

H3c. The more positive the attitude toward the ad, the better the memory of the ad.

The basic function of advertising is to distinguish a brand from another and immunize consumers from competitive influence (Stewart 1992; Aaker 1991). Inoculation theory has been offered as an explanation of how exposure to an ad can fend off competitive ads: prior exposure to two-sided arguments induces resistance to accept another competitive message (Pfau and Burgoon 1990; McGuire 1964).

Such a theory has not been supported by empirical evidence in product advertising. In an attempt to apply the inoculation theory in general advertising contexts, Goldstein (1982) shows that the theory is not appropriate for advertising in general. Many ads are not direct comparisons between products and many consumers do not pay much attention to the arguments in the ad. Moreover, many ads are not information-based, making it difficult to apply the inoculation argument. It has also been shown that both comparative and monadic advertising can achieve similar effect in attitude change (McCollum Spielman Worldwide 1993). In fact, most ads offer their own distinct perspective on the product to the consumers rather than compare brands.

An alternative explanation of resistance to competitive ads by exposure to the ad is the strength of the positiveness toward the ad. If a consumer buys into an ad, he will have a strong positive Aad and this Aad will reduce the acceptance of another ad. It is predicted that the more positive the attitude toward the ad is, the stronger the resistance to the competitive ads in the same vehicle is.

H3d. The more positive the attitude toward the ad, the stronger the resistance to the competitive ads in the same media vehicle.

The proposed research model will also test the inhibition hypothesis of the effect of recall on the evoked set of consumers (Alba, Hutchinson and Lynch 1991). According to this hypothesis, in a task calling for the retrieval of brand memory, the presence of cues of one brand will inhibit the memory of the other brands although the consumers may be familiar with all the brands. This inhibition will create a barrier in the recall of competitive ads to the target ad to which the subject has been previously exposed. It is predicted that the better the memory of the ad is, the stronger the resistance to competitive ads is.

H3e. The better the memory of the ad, the stronger the resistance to competitive ads.

Literature on Aad and brand attitude has established the positive association between the two through the attitude transfer hypothesis (Shimp 1981; Aaker 1991; Farquhar 1991; Machleit and Wilson 1988; Madden, Dillon and Twible 1986; MacKenzie, Lutz and Belch 1986) and the dual mediation of both Aad and cognition of the brand (MacKenzie, Lutz and Belch 1986). Aad also serves as an effort-saving heuristic to make brand judgment (Biehal, Stephens and Curlo 1992; Fazio 1989) because consumers can use an overall evaluation instead of assembling pieces of product information to make decisions. It is predicted that the more positive the attitude is toward the ad is, the higher the brand equity the advertised brand is.

H3f. The more positive the attitude toward the ad, the higher the brand equity of the advertised brand.

The ability of a brand to stand against competitive messages is a prerequisite to a high brand equity (Stewart 1992). When consumers can resist competitive messages, it means that the persuasion of the advertised brand is successful. The degree to which the consumer can resist competitive ads can indicate the strength of an ad. This strength serves as the input in building a brand's equity. It is predicted that the stronger an individual's resistance to competitive ads is, the higher the brand's equity to the individual is.

H3g. The stronger the resistance to competitive ads, the higher the brand equity.

Research on consumer choice has emphasized the importance of memory in the consumer decision-making process. Many decisions are memory-based and brand information is readily retrievable when consumers need to make a purchase decision (Alba, Hutchinson and Lynch 1991; Bettman 1979). The brand's presence (Moran 1990) and the accessibility of the brand (Woodside and Trappey III 1992) determine whether the brand will be in the consumer's evoked set in making decisions. Since brand equity is the rating of the value of a brand to an individual, it is predicted that the better the target brand's ad is remembered by the individual, the higher the brand equity.

H3h. The better the memory of the ad, the higher the brand equity.

Hypotheses for Effects of Countervailing Factors

Selective attention plays an important role in the processing of advertisements. When consumers are confronted with multiple messages, they can select messages based on whether the ads are compatible with the content, their attitudes toward

advertising in general, their product category involvement, the execution quality of the ads, and their familiarity with the brand.

A. Ad-editorial Compatibility

Ad-editorial compatibility is defined as *the degree to which the ads are perceived by readers as part of the editorial content or complement the editorial content.* It is a contextual factor that affects the evaluation of advertisements in a media vehicle. Compaigne (1982) compares the difference between ads that are compatible with the editorial those that are not compatible. He concludes that ads that are compatible with the editorial content of a magazine will be more effective because readers are receptive to advertising in this situation. Such a view is shared by other researchers on the impact of editorial environment on advertising effectiveness. The congruity hypothesis states that editorial content can prime the audiences' processing of the advertisement if the editorial contents and advertisements are congruent to each other (Celuch and Slama 1993; Kamins, Marks and Skinner 1991; Schumann and Thorson 1989; Yi 1993). Based on such a hypothesis, it is predicted that the more compatible with the editorial content the clutter is, the more positive the attitude toward advertising in a media vehicle is.

H4. The more compatible the clutter with the editorial content, the more positive the attitude toward advertising in a media vehicle.

B. Attitudes toward Advertising in General

Attitudes toward advertising in general (Aag) is defined as *the overall evaluation of advertising as an institution and instrument in the society without*

reference to a particular vehicle or specific ad. Attitude researchers have drawn inference on the linkage of one attitude to another related attitude by the attitude transfer hypotheses (MacKenzie, Lutz and Belch 1986; Abernethy and Rotfeld 1991) and the associated system theory (Carlston 1992). In the absence of alternative explanations, such attitude transfer hypotheses will be tested in this study. It is predicted that the more positive the attitude toward advertising in general, the more positive the attitude toward advertising in a media vehicle.

H5a. The more positive the attitude toward advertising in general, the more positive the attitude toward advertising in a media vehicle.

It has been assumed by researchers on advertising attitudes that a favorable attitude toward advertising in general should facilitate the processing of advertisements. Empirical evidence has been contradictory to this conventional wisdom. In their study, James and Kover (1992) found that a negative attitude toward advertising arouses curiosity and efforts to critically examine the advertisements rather than a positive attitude. It may be measurement problems that have caused this result because only one measure of advertising message involvement is used in terms of time spent on reading the ad. Nevertheless, this research model will follow their results and predicts that the more positive the attitude toward advertising in general, the lower the advertising message involvement.

H5b. The more positive the attitude toward advertising in general, the lower the advertising message involvement.

C. Product Category Involvement

Product category involvement is defined as *the degree of relevance of the advertised product category to the readers of a media vehicle.* A product category is a group of products that serves the same function to a consumer, with similar shapes, formats, or textures and can be substituted for one another in use. For example, though coffee and liquor are beverages, they are of different product categories because they have different textures. The motivational function of product category involvement has been stressed in information processing literature (Andrews 1988; Batra and Ray 1983; Burnkrant and Sawyer 1983; Celsi and Olson 1988; Craig 1988). Product involvement motivates people to search for product information and facilitates their learning process. It is predicted that product category involvement countervails the effect of clutter by increasing the advertising message involvement of the audience of the involved product category.

H6. The higher the product category involvement, the higher the advertising message involvement.

D. Advertising Execution Quality

Advertising execution quality is *the rating of an advertisement's craftsmanship and skillful use of attention-getting devices.* The importance of execution factors to an ad's success has been recognized by many researchers (Walston and Moriarty 1992; Stewart and Koslow 1989; Advertising Research Foundation 1962; Starch 1966; Rudolph 1947). Their conception of execution quality, however, is the choice of a wide variety of execution strategies such as brand-differentiating messages and product foci, not the craftsmanship that practitioners strive for. This approach is rather

fragmented because the presence of the execution factors does not mean that the factors are well executed. The low explanatory power of ad execution devices on recall and comprehension of the ad in Stewart and Koslow's (1989) study shows the weakness of such a approach in examining execution quality.

From another perspective, Unnava and Burnkrant (1992) illustrate that varying execution can arouse and sustain interest in repeated advertising messages, countering the wear-out of commercials. To assess the aesthetic value and attention-getting devices of advertisements, a consumer's rating is more relevant because he/she is the target audience of the advertisements. Applying the uses and gratifications explanation of media usage (Atkin 1985), high execution quality provides the sensory-satisfaction, utility, and hedonic value of reading the ad (Olney, Holbrook and Batra 1991). It is predicted that the better the perceived execution quality of the ad, the higher the advertising message involvement. The aesthetic value of the ad arouses the consumer's interest in the ad and motivates him/her to process the ad more deeply. It is also predicted that the satisfaction from the execution quality of the ad is caused by its aesthetic and entertaining value. An individual will have a positive evaluation of the ad if it is well-executed.

H7a. The better the rating of the execution quality of the ad, the higher the advertising message involvement.

H7b. The better the rating of the execution quality of the ad, the more positive the attitude toward the ad.

E. Familiarity with the Brand

Familiarity with the brand is defined as *the number of brand-related experiences that has been accumulated by the consumer* (Alba and Hutchinson 1987). Based on the mediation hypothesis of brand familiarity on attitude towards the ad and brand equity (Madden, Dillon and Twible 1986; Cox and Locander 1987; Gill, Grossbart and Laczniak 1988; Machleit and Wilson 1988), familiarity with a brand will lessen the positive effect of Aad on brand attitude. Since a positive brand attitude is an essential component of brand equity, it is expected that if a respondent is familiar with the focal brand, the effect of the Aad on brand equity will be decreased.

H8a. The higher the familiarity with the advertised brand, the lower the correlation between attitude toward the ad and brand equity.

Studies on memory have confirmed the importance of familiarity in facilitating the retrieval of memory. Familiar objects are recalled much better than unfamiliar objects (Postman 1975; Brown 1975). Moreover, theories on reinforcement also suggest that brand familiarity provides extra clues for the consumer to retrieve the brand from memory as a result of repeated exposure to the brand (Berger 1993; Alba, Hutchinson and Lynch 1991; Scissors and Bumba 1993). It is predicted that higher familiarity with the brand leads to a better memory of the ad.

H8b. The higher the familiarity with the advertised brand, the better the memory of its ad.

F. Exposure to other media

Exposure to other media is defined as *the reported exposure to other editorial media during the period of treatment.* It serves as an exogenous moderating factor

rather than a countervailing factor because it magnifies the impact of advertising clutter on brand equity. The exposure to other media means exposure to additional advertising messages from other media. This factor has not been included in other studies on clutter because they are conducted in laboratory settings with forced exposure. However, in field experiments, this distracting factor can greatly affect the amount of advertising message input. It is also a common problem that advertisers face when they place their ads. Their ads have to survive not only within a vehicle, but also have to compete with other advertising messages in many vehicles that their consumers are exposed to during the period. This negative effect of exposure to other media on the memory of the ad can be explained by both the interference theory and the overload theory. Interference theory will predict that exposure to other media means new messages. These messages cause a retroactive interference effect by weakening the recallability of old messages. Information overload theory predicts an increase in information load after exposure to other media. Such an increase in message load may overload the consumers. The expected result will be a loss of memory of the ad because sufficient memory resource is not given to the focal ad.

H9. The more the exposure to other media, the poorer the memory of the focal ad.

Assumptions of the research model

The research model proposed in this study has made the following assumptions based on past advertising literature:

1. The primary reason for a consumer to consume a media vehicle is to read its editorial content. Very few readers seek only advertisements in editorial

media (Batra and Ray 1983; Thorson 1990).

2. Editorial content and advertisements are two distinct domains in a reader's mind. Otherwise, the notion of intrusiveness of advertising clutter would not be valid.
3. Consumers are able to identify similar product categories in their processing of advertisements. This list identification ability of the consumers is the foundation of competitiveness (Postman 1975).
4. Non-customers of an advertised product will only be interested in the entertainment value of the ad while customers will be interested in both the entertainment and information value of the ad (Wells 1993; Lannon 1993).
5. Under a leisure environment, most individuals will browse the pages before deciding what to read. They will form a general impression of the advertising clutter level in a media vehicle before reading specific ads.
6. Attitudes toward advertising in general are a more stable and enduring construct. Attitudes toward advertising in a vehicle are situation specific, and attitudes toward the ad is ad-specific and change with different ads.
7. If an attitude does not exert any effect, the inference will be that the attitude is not strong enough to be accessible to affect decision or behavior. The effect of an attitude depends on its strength and accessibility at the time of decision-making (Fazio 1989; Snyder and DeBono 1991).

Chapter 4

METHODOLOGY

Research Design

Experimental designs allow a researcher to make a causal inference by observing different outcomes from the manipulation of the treatment variables and control for other variables (Cook and Campbell 1979). To test the proposed research model on the effect of clutter, a field experiment with three different treatments was conducted on consumer magazines. Each treatment manipulated one of the three dimensions of advertising clutter -- quantity, competitiveness, and intrusiveness, while controlling for the other two dimensions. Brand equity and other measures of advertising effects of a focal brand in a magazine were compared between high and low clutter levels. If the focal brand could not be recalled, then the best-remembered brand was used as a substitute.

Initially, the experiment was a three-wave pretest-posttest within-subjects design. Such a design can detect any ceiling and floor effect of the subjects and measure the subjects by treatment interaction. Moreover, it has a much higher statistical power than a between-subjects design because complete data are available accounting for a change after the treatment (Hunter and Schmidt 1990). It is particularly appropriate in advertising research because repeated exposure to an advertising stimulus is a common experience among consumers. To avoid the problem

of history and other threats to internal validity of the measurement in pretest-posttest design, equivalent but not identical stimulus materials were employed in each stage (Campbell and Stanley 1966).

The stimulus materials for the experiment were two issues of a dummy 70-page weekly magazine created by the author which was tailored to the taste of college students (The contents of the magazine are listed in Appendix B). Each issue was a mix of articles and advertisements excerpted from different issues of three popular magazines read by college students: *Details, Self, and Mademoiselle.* Except for the necessary deletion of two editorial articles in high quantity clutter manipulation, and the preservation of the natural pagination of the ads, the editorial contents of the dummy magazines were basically identical in all treatments in each issue.

The ads chosen for this study were comprised of 41 ads of 32 product categories which actually appeared in the real magazines. The products encompassed the top ten advertising product categories in magazines and represented magazine advertisers in the US. The choice of real magazine articles and ads ensured the professional quality of the stimulus materials and added realism to the experiment.

Sampling and Procedures

The sample for the experiment were recruited from students enrolled in university general education classes, such as College Algebra and The Role of Language in Human Society. This could ensure that subjects constituted a representative sample of the college population. Subjects voluntarily participated in the study. As an incentive to encourage participation, each respondent receive a small

gift of a retractable ball point pen after completing the experiment. The expected total sample size was 150, 50 for each clutter dimension treatment.

The focal brand in this study was Spiegel, a catalog clothing brand. It was selected because it was the highest rated advertisement in product involvement and execution quality, but relatively low in brand familiarity in a screening session. In the screening session, a group of 10 college students rated 19 ads with competitive ads available to the author and rated 10 proposed titles of the dummy magazine. *College Voice* was chosen as the title because it was the best rated title in that session. Before the actual study, a pre-test was conducted on another group of 18 students in a midwestern university. Subjects reported no difficulty in understanding and answering the questions in a feedback questionnaire. A few of the subjects did not skip after the screening questions as instructed and their answers in inappropriate questions were dropped. To avoid this problem in screening questions, clearer instructions with examples were given in the questionnaires in the actual experiment. For example, all skip instructions were in bold type. All these students did not participate in the actual experiment.

Before the experiment, subjects filled out a questionnaire on information of predispositional variables such as their general attitudes toward advertising, demographic variables such as sex and family income, psychographic variables such as introvert/extrovert, and their general magazine reading habits. The study was conducted under the guise of a preview of a new magazine for college students. Subjects were told to evaluate the magazine as potential subscribers and were given

the dummy weekly magazine for a weekend to examine. They were asked to read the magazine as much as they wanted during their own leisure time. The reasons for asking students to read the magazine during weekends were to approximate the reality of magazine reading as a leisure activity and to avoid the confounding effect of students' busy schedule during weekdays. After the weekend, information about their responses to the magazine and advertisements was collected in a questionnaire. They were then given another issue of the magazine for examination and answered an almost identical questionnaire again in the following week referring to the second issue that they read. The difference between the second and the third questionnaire was that the third questionnaire contained manipulation check questions. The third questionnaire also asked about any sensitization effect of the second questionnaire on their magazine reading and answering to the third questionnaire. Altogether, each subject was given two issues for two consecutive weeks with a high level and a low level in either dimension of clutter, respectively, and had to answer three questionnaires.

To control for the possible sensitization to the repeated exposure of the research instruments, high and low clutter conditions were randomly assigned to half of the subjects in each experimental session. The treatment was also randomly assigned to the subjects. The ads used in the low clutter level would be used again in the high clutter level while different or more ads would be inserted in the high clutter level as appropriate. The position of the focal ad was to be rotated among different copies to control for the positioning effect of the advertisements. All the

advertisements used in the experiment were full-page four color ads which are the most common form of magazine advertising unit. The potential confounding effect of ad size could thus be avoided. Moreover, none of the ads used in this study were comparative advertising, so that the resistance to competitive ads would not be caused from the creative approach of the ad. The effect of repeated exposure to the ads and the amount of time spent on reading the magazine would be controlled statistically.

The questionnaires employed in the study contained measures of both the variables in the research model and several filler questions about the content quality of the magazine, to distract the subjects from the real purpose of the study. This could avert a heightened alertness to the ads during the experiments. To avoid the effect of prior exposure to the content of the magazine on subjects' responses, data from subjects who reported reading more than three articles in the dummy magazine previously were excluded from the analysis.

Operationalization of Exogenous Variables

Advertising clutter

Advertising clutter is defined as *the density of advertisements in a media vehicle.* Such density is constituted by three dimensions: quantity, competitiveness, and intrusiveness. Most of the past studies only operationalized clutter as the number of commercials within the commercial break of a short TV program segment (Brown and Rothschild 1993; Pillai 1990; Cobb 1985; Webb and Ray 1979). The number of advertisements counted as high or low clutter was arbitrarily determined. This study attempts to correct this arbitrariness by using composite indices. The indices include

and Kohn 1974a and b; Ray and Webb 1986). Rather than restricted to an actual overload, the notion of overload should be extended to the psychological threat of possible overload to explain the effect of clutter. The high quantity of advertisements heightens the alertness of an individual to the consequence of overload. Such expected negative consequences of overload will foster that person to develop a negative attitude toward the clutter and also demotivate him/her from involving in the advertising messages. This conforms to the notion of selective exposure in information processing. However, in low quantity clutter condition, there is no threat of overload and consumers will have a more positive attitude toward the advertisements in the vehicle. Consumers will be more likely to become involved in an advertisement that interests them.

The competitive dimension of clutter is based on interference theory. The theory also needs to be extended to an individual's judgment of the competitiveness of the advertisements before the actual processing of the ads. Research on competitive interference has shown that there are differential interference effects by processing goals. A between brand processing goal will facilitate the processing of competitive advertisements because consumers have to compare brand information. By the same token, consumers with a within brand processing goal will not welcome competitive advertisements because their attentional resources on the brand of interest are taken away from competitive ads. They will not be receptive to competitive ads. Kent (1990) and Goodstein (1993) both demonstrate that the emphasis of one processing goal can determine the depth of the processing of advertising messages. Similarity of

the messages can cause confusion. Such expected confusion may also divert the interest in the ads and may generate a negative attitude toward advertising in a media vehicle.

Intrusiveness of clutter is created by the need of the advertising industry to increase the captivity of the audience. The intrusiveness of clutter makes it more difficult for audience members to skip the ads. As discussed in Chapter 2 regarding the conditions that consumers will read an advertisement, the perceived high efforts to skip the advertisements can deter the advertising avoidance behavior. The effect of the intrusiveness of advertising clutter is based on the individual's psychological discomfort and reluctance to submit to the interruption of ads when he/she is reading editorial content. Inferred from reactance theory (Brehm 1966) and ego-defensive theory (Freud 1946), such discomfort can create a negative attitude toward advertising in a media vehicle because one of the functions of attitudes is ego-defensive (Fazio 1989).

Consumers' perception of the intrusiveness of the clutter can occur before or after the individual ads are being processed. Even though audience members may reluctantly notice the ad because of inconvenience in intrusive clutter, they may not process the ad deeply. The reason is that intrusiveness may foster a negative attitude towards the clutter in the vehicle and lower the advertising message involvement of the consumers. Such distinction between noted readership and high attention readership has been well-recognized in Starch's (1966) ad readership tests.

In short, the hypotheses on the effects of the three dimensions of clutter is a

modification of the cognitive-based theories of overload and interference. The psychological-affective perspective of reactance and ego-defense are added to explain the effects of intrusiveness of clutter. The general hypothesis is that the problem created by clutter is not the difficulty in the actual processing or retrieval of information, but the creation of a psychological barrier to process the advertisements.

H1. The higher the clutter level, the more negative the attitude toward the advertising in a media vehicle.

H2. The higher the clutter level, the lower the advertising message involvement.

Hypotheses for Indirect Effects of Clutter

Brand equity is the bottom-line measure of advertising effects. It is hypothesized that advertising builds a brand's equity by inducing resistance to competitive ads, creating a positive Aad, and making a presence in the memory of the consumer. The indirect effects of clutter on brand equity is built upon the relationships among different stages of advertising effects which include Aad, memory of the ad, and resistance to competitive ads. These antecedents to brand equity are affected by advertising message involvement. Advertising message involvement is also affected by attitudes toward advertising in media vehicle. By affecting Aav and AMI, advertising clutter affects a brand's equity indirectly.

Attitudes serve a heuristic function in the screening of advertisements by reducing efforts to process an individual ad through a evaluation of the general advertising environment (Bargh 1989; Snyder and DeBono 1989; Fazio 1989; Goodstein 1993). A positive Aav creates a pleasing environment for deeper processing

of advertising messages. It is predicted that the more positive the attitude toward advertising in a vehicle is, the higher the advertising message involvement is.

H3a. The more positive the attitude toward advertising in a vehicle, the higher the advertising message involvement.

Advertising message involvement is a motivational state for deeper ad processing. Laczniak and Muehling (1993) found that individuals with higher advertising message involvement have greater certainty regarding their judgments on ads and have a more positive attitude toward the ad because of the deeper processing. Deeper processing allows an individual to have an informed evaluation on a brand via the central processing route. It is predicted in this study that similar results will be obtained: higher message involvement will lead to a more positive Aad.

H3b. The higher the AMI, the more positive the Aad.

The impact of Aad on brand choice has been well articulated by the attitude transfer hypothesis that a positive attitude toward the ad transfers to a positive attitude toward the brand (e.g., Biehal, Stephens and Curlo 1992). A further extension of this proposition is that this positive attitude facilitates the memory of an ad because a positive memory is easier to be retrieved in memory tasks. In delayed recall situations such as this study, memory of the ad is affected by the evaluation of the ad because a positive evaluation increases the accessibility of the ad in memory retrieval. This has been demonstrated in recent studies on the positive effect of Aad on memory (Pratkanis and Greenwald 1993). It is predicted that the more positive the attitude toward the ad is, the better the memory of the ad is.

H3c. The more positive the attitude toward the ad, the better the memory of the ad.

The basic function of advertising is to distinguish a brand from another and immunize consumers from competitive influence (Stewart 1992; Aaker 1991). Inoculation theory has been offered as an explanation of how exposure to an ad can fend off competitive ads: prior exposure to two-sided arguments induces resistance to accept another competitive message (Pfau and Burgoon 1990; McGuire 1964).

Such a theory has not been supported by empirical evidence in product advertising. In an attempt to apply the inoculation theory in general advertising contexts, Goldstein (1982) shows that the theory is not appropriate for advertising in general. Many ads are not direct comparisons between products and many consumers do not pay much attention to the arguments in the ad. Moreover, many ads are not information-based, making it difficult to apply the inoculation argument. It has also been shown that both comparative and monadic advertising can achieve similar effect in attitude change (McCollum Spielman Worldwide 1993). In fact, most ads offer their own distinct perspective on the product to the consumers rather than compare brands.

An alternative explanation of resistance to competitive ads by exposure to the ad is the strength of the positiveness toward the ad. If a consumer buys into an ad, he will have a strong positive Aad and this Aad will reduce the acceptance of another ad. It is predicted that the more positive the attitude toward the ad is, the stronger the resistance to the competitive ads in the same vehicle is.

H3d. The more positive the attitude toward the ad, the stronger the resistance to the competitive ads in the same media vehicle.

The proposed research model will also test the inhibition hypothesis of the effect of recall on the evoked set of consumers (Alba, Hutchinson and Lynch 1991). According to this hypothesis, in a task calling for the retrieval of brand memory, the presence of cues of one brand will inhibit the memory of the other brands although the consumers may be familiar with all the brands. This inhibition will create a barrier in the recall of competitive ads to the target ad to which the subject has been previously exposed. It is predicted that the better the memory of the ad is, the stronger the resistance to competitive ads is.

H3e. The better the memory of the ad, the stronger the resistance to competitive ads.

Literature on Aad and brand attitude has established the positive association between the two through the attitude transfer hypothesis (Shimp 1981; Aaker 1991; Farquhar 1991; Machleit and Wilson 1988; Madden, Dillon and Twible 1986; MacKenzie, Lutz and Belch 1986) and the dual mediation of both Aad and cognition of the brand (MacKenzie, Lutz and Belch 1986). Aad also serves as an effort-saving heuristic to make brand judgment (Biehal, Stephens and Curlo 1992; Fazio 1989) because consumers can use an overall evaluation instead of assembling pieces of product information to make decisions. It is predicted that the more positive the attitude is toward the ad is, the higher the brand equity the advertised brand is.

H3f. The more positive the attitude toward the ad, the higher the brand equity of the advertised brand.

The ability of a brand to stand against competitive messages is a prerequisite to a high brand equity (Stewart 1992). When consumers can resist competitive messages, it means that the persuasion of the advertised brand is successful. The degree to which the consumer can resist competitive ads can indicate the strength of an ad. This strength serves as the input in building a brand's equity. It is predicted that the stronger an individual's resistance to competitive ads is, the higher the brand's equity to the individual is.

H3g. The stronger the resistance to competitive ads, the higher the brand equity.

Research on consumer choice has emphasized the importance of memory in the consumer decision-making process. Many decisions are memory-based and brand information is readily retrievable when consumers need to make a purchase decision (Alba, Hutchinson and Lynch 1991; Bettman 1979). The brand's presence (Moran 1990) and the accessibility of the brand (Woodside and Trappey III 1992) determine whether the brand will be in the consumer's evoked set in making decisions. Since brand equity is the rating of the value of a brand to an individual, it is predicted that the better the target brand's ad is remembered by the individual, the higher the brand equity.

H3h. The better the memory of the ad, the higher the brand equity.

Hypotheses for Effects of Countervailing Factors

Selective attention plays an important role in the processing of advertisements. When consumers are confronted with multiple messages, they can select messages based on whether the ads are compatible with the content, their attitudes toward

advertising in general, their product category involvement, the execution quality of the ads, and their familiarity with the brand.

A. Ad-editorial Compatibility

Ad-editorial compatibility is defined as *the degree to which the ads are perceived by readers as part of the editorial content or complement the editorial content.* It is a contextual factor that affects the evaluation of advertisements in a media vehicle. Compaigne (1982) compares the difference between ads that are compatible with the editorial those that are not compatible. He concludes that ads that are compatible with the editorial content of a magazine will be more effective because readers are receptive to advertising in this situation. Such a view is shared by other researchers on the impact of editorial environment on advertising effectiveness. The congruity hypothesis states that editorial content can prime the audiences' processing of the advertisement if the editorial contents and advertisements are congruent to each other (Celuch and Slama 1993; Kamins, Marks and Skinner 1991; Schumann and Thorson 1989; Yi 1993). Based on such a hypothesis, it is predicted that the more compatible with the editorial content the clutter is, the more positive the attitude toward advertising in a media vehicle is.

H4. The more compatible the clutter with the editorial content, the more positive the attitude toward advertising in a media vehicle.

B. Attitudes toward Advertising in General

Attitudes toward advertising in general (Aag) is defined as *the overall evaluation of advertising as an institution and instrument in the society without*

reference to a particular vehicle or specific ad. Attitude researchers have drawn inference on the linkage of one attitude to another related attitude by the attitude transfer hypotheses (MacKenzie, Lutz and Belch 1986; Abernethy and Rotfeld 1991) and the associated system theory (Carlston 1992). In the absence of alternative explanations, such attitude transfer hypotheses will be tested in this study. It is predicted that the more positive the attitude toward advertising in general, the more positive the attitude toward advertising in a media vehicle.

H5a. The more positive the attitude toward advertising in general, the more positive the attitude toward advertising in a media vehicle.

It has been assumed by researchers on advertising attitudes that a favorable attitude toward advertising in general should facilitate the processing of advertisements. Empirical evidence has been contradictory to this conventional wisdom. In their study, James and Kover (1992) found that a negative attitude toward advertising arouses curiosity and efforts to critically examine the advertisements rather than a positive attitude. It may be measurement problems that have caused this result because only one measure of advertising message involvement is used in terms of time spent on reading the ad. Nevertheless, this research model will follow their results and predicts that the more positive the attitude toward advertising in general, the lower the advertising message involvement.

H5b. The more positive the attitude toward advertising in general, the lower the advertising message involvement.

C. Product Category Involvement

Product category involvement is defined as *the degree of relevance of the advertised product category to the readers of a media vehicle.* A product category is a group of products that serves the same function to a consumer, with similar shapes, formats, or textures and can be substituted for one another in use. For example, though coffee and liquor are beverages, they are of different product categories because they have different textures. The motivational function of product category involvement has been stressed in information processing literature (Andrews 1988; Batra and Ray 1983; Burnkrant and Sawyer 1983; Celsi and Olson 1988; Craig 1988). Product involvement motivates people to search for product information and facilitates their learning process. It is predicted that product category involvement countervails the effect of clutter by increasing the advertising message involvement of the audience of the involved product category.

H6. The higher the product category involvement, the higher the advertising message involvement.

D. Advertising Execution Quality

Advertising execution quality is *the rating of an advertisement's craftsmanship and skillful use of attention-getting devices.* The importance of execution factors to an ad's success has been recognized by many researchers (Walston and Moriarty 1992; Stewart and Koslow 1989; Advertising Research Foundation 1962; Starch 1966; Rudolph 1947). Their conception of execution quality, however, is the choice of a wide variety of execution strategies such as brand-differentiating messages and product foci, not the craftsmanship that practitioners strive for. This approach is rather

fragmented because the presence of the execution factors does not mean that the factors are well executed. The low explanatory power of ad execution devices on recall and comprehension of the ad in Stewart and Koslow's (1989) study shows the weakness of such a approach in examining execution quality.

From another perspective, Unnava and Burnkrant (1992) illustrate that varying execution can arouse and sustain interest in repeated advertising messages, countering the wear-out of commercials. To assess the aesthetic value and attention-getting devices of advertisements, a consumer's rating is more relevant because he/she is the target audience of the advertisements. Applying the uses and gratifications explanation of media usage (Atkin 1985), high execution quality provides the sensory-satisfaction, utility, and hedonic value of reading the ad (Olney, Holbrook and Batra 1991). It is predicted that the better the perceived execution quality of the ad, the higher the advertising message involvement. The aesthetic value of the ad arouses the consumer's interest in the ad and motivates him/her to process the ad more deeply. It is also predicted that the satisfaction from the execution quality of the ad is caused by its aesthetic and entertaining value. An individual will have a positive evaluation of the ad if it is well-executed.

H7a. The better the rating of the execution quality of the ad, the higher the advertising message involvement.

H7b. The better the rating of the execution quality of the ad, the more positive the attitude toward the ad.

E. Familiarity with the Brand

Familiarity with the brand is defined as *the number of brand-related experiences that has been accumulated by the consumer* (Alba and Hutchinson 1987). Based on the mediation hypothesis of brand familiarity on attitude towards the ad and brand equity (Madden, Dillon and Twible 1986; Cox and Locander 1987; Gill, Grossbart and Laczniak 1988; Machleit and Wilson 1988), familiarity with a brand will lessen the positive effect of Aad on brand attitude. Since a positive brand attitude is an essential component of brand equity, it is expected that if a respondent is familiar with the focal brand, the effect of the Aad on brand equity will be decreased.

H8a. The higher the familiarity with the advertised brand, the lower the correlation between attitude toward the ad and brand equity.

Studies on memory have confirmed the importance of familiarity in facilitating the retrieval of memory. Familiar objects are recalled much better than unfamiliar objects (Postman 1975; Brown 1975). Moreover, theories on reinforcement also suggest that brand familiarity provides extra clues for the consumer to retrieve the brand from memory as a result of repeated exposure to the brand (Berger 1993; Alba, Hutchinson and Lynch 1991; Scissors and Bumba 1993). It is predicted that higher familiarity with the brand leads to a better memory of the ad.

H8b. The higher the familiarity with the advertised brand, the better the memory of its ad.

F. Exposure to other media

Exposure to other media is defined as *the reported exposure to other editorial media during the period of treatment.* It serves as an exogenous moderating factor

rather than a countervailing factor because it magnifies the impact of advertising clutter on brand equity. The exposure to other media means exposure to additional advertising messages from other media. This factor has not been included in other studies on clutter because they are conducted in laboratory settings with forced exposure. However, in field experiments, this distracting factor can greatly affect the amount of advertising message input. It is also a common problem that advertisers face when they place their ads. Their ads have to survive not only within a vehicle, but also have to compete with other advertising messages in many vehicles that their consumers are exposed to during the period. This negative effect of exposure to other media on the memory of the ad can be explained by both the interference theory and the overload theory. Interference theory will predict that exposure to other media means new messages. These messages cause a retroactive interference effect by weakening the recallability of old messages. Information overload theory predicts an increase in information load after exposure to other media. Such an increase in message load may overload the consumers. The expected result will be a loss of memory of the ad because sufficient memory resource is not given to the focal ad.

H9. The more the exposure to other media, the poorer the memory of the focal ad.

Assumptions of the research model

The research model proposed in this study has made the following assumptions based on past advertising literature:

1. The primary reason for a consumer to consume a media vehicle is to read its editorial content. Very few readers seek only advertisements in editorial

media (Batra and Ray 1983; Thorson 1990).

2. Editorial content and advertisements are two distinct domains in a reader's mind. Otherwise, the notion of intrusiveness of advertising clutter would not be valid.
3. Consumers are able to identify similar product categories in their processing of advertisements. This list identification ability of the consumers is the foundation of competitiveness (Postman 1975).
4. Non-customers of an advertised product will only be interested in the entertainment value of the ad while customers will be interested in both the entertainment and information value of the ad (Wells 1993; Lannon 1993).
5. Under a leisure environment, most individuals will browse the pages before deciding what to read. They will form a general impression of the advertising clutter level in a media vehicle before reading specific ads.
6. Attitudes toward advertising in general are a more stable and enduring construct. Attitudes toward advertising in a vehicle are situation specific, and attitudes toward the ad is ad-specific and change with different ads.
7. If an attitude does not exert any effect, the inference will be that the attitude is not strong enough to be accessible to affect decision or behavior. The effect of an attitude depends on its strength and accessibility at the time of decision-making (Fazio 1989; Snyder and DeBono 1991).

Chapter 4

METHODOLOGY

Research Design

Experimental designs allow a researcher to make a causal inference by observing different outcomes from the manipulation of the treatment variables and control for other variables (Cook and Campbell 1979). To test the proposed research model on the effect of clutter, a field experiment with three different treatments was conducted on consumer magazines. Each treatment manipulated one of the three dimensions of advertising clutter -- quantity, competitiveness, and intrusiveness, while controlling for the other two dimensions. Brand equity and other measures of advertising effects of a focal brand in a magazine were compared between high and low clutter levels. If the focal brand could not be recalled, then the best-remembered brand was used as a substitute.

Initially, the experiment was a three-wave pretest-posttest within-subjects design. Such a design can detect any ceiling and floor effect of the subjects and measure the subjects by treatment interaction. Moreover, it has a much higher statistical power than a between-subjects design because complete data are available accounting for a change after the treatment (Hunter and Schmidt 1990). It is particularly appropriate in advertising research because repeated exposure to an advertising stimulus is a common experience among consumers. To avoid the problem

of history and other threats to internal validity of the measurement in pretest-posttest design, equivalent but not identical stimulus materials were employed in each stage (Campbell and Stanley 1966).

The stimulus materials for the experiment were two issues of a dummy 70-page weekly magazine created by the author which was tailored to the taste of college students (The contents of the magazine are listed in Appendix B). Each issue was a mix of articles and advertisements excerpted from different issues of three popular magazines read by college students: *Details, Self, and Mademoiselle*. Except for the necessary deletion of two editorial articles in high quantity clutter manipulation, and the preservation of the natural pagination of the ads, the editorial contents of the dummy magazines were basically identical in all treatments in each issue.

The ads chosen for this study were comprised of 41 ads of 32 product categories which actually appeared in the real magazines. The products encompassed the top ten advertising product categories in magazines and represented magazine advertisers in the US. The choice of real magazine articles and ads ensured the professional quality of the stimulus materials and added realism to the experiment.

Sampling and Procedures

The sample for the experiment were recruited from students enrolled in university general education classes, such as College Algebra and The Role of Language in Human Society. This could ensure that subjects constituted a representative sample of the college population. Subjects voluntarily participated in the study. As an incentive to encourage participation, each respondent receive a small

gift of a retractable ball point pen after completing the experiment. The expected total sample size was 150, 50 for each clutter dimension treatment.

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advertisements used in the experiment were full-page four color ads which are the most common form of magazine advertising unit. The potential confounding effect of ad size could thus be avoided. Moreover, none of the ads used in this study were comparative advertising, so that the resistance to competitive ads would not be caused from the creative approach of the ad. The effect of repeated exposure to the ads and the amount of time spent on reading the magazine would be controlled statistically.

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all essential elements underlying each dimension, and measure the essence of each clutter dimension completely. Clutter level can be compared by the indices.

Quantity of clutter is defined as *the number of advertisements and the proportion of space in an advertising vehicle.* The basis for determining high and low clutter level for this study is the result from Ha and Litman's (1993) study of advertising density in consumer magazines. In their study, a 50% ad-editorial ratio is the point of negative returns for circulation over a period of 10 years. Those such as *TV Guide* who impose ad-editorial ratio limits set 30% as their maximum limit. Thus in this study, 50% of the total number of pages is considered high quantity clutter and 30% of the total number of pages is considered low quantity clutter. The high quantity clutter condition had 35 ads that constituted half of the total number of pages. The quantity index was 0.5 x 35 = 17.5. The low quantity clutter condition has only 21 ads that constituted 30% of all pages. The quantity index was is 0.3 x 21 = 6.3.

Quantity Index = number of ad pages/total number of pages

X number of advertisements

Competitiveness of clutter is defined as *the degree of similarity of the product categories and the distance between the advertisements of competitive brands in the same product category in a media vehicle.* A product category is defined as a group of products sharing similar product attributes and using the same competitive strategies such as low-price models (Kent 1993). The more diversified the product categories in the ads, the fewer the number of ads in the same product category, and the further away between competitive ads, the less competitive the clutter.

In this study, the competitiveness of the clutter is a composite index comprising of: 1) the number of product categories in the issue (NP), 2) the number of the ads within the dominant product category (NA), and 3) the average number of pages (distance) between the preceding ad and the successive competitive ad in the dominating product category (ND_1+ND_n/n). The higher the index, the higher the clutter's competitiveness is. In this study, the competitive product categories were subcompact cars (Saturn, Toyota Corolla, and Ford Escort), apparel (Spiegel, Jacques Moret, Union Bay, and Guess), skincare products (Wellbody and Jergens), shampoo (Pantene Pro-V and Vibrance), diet drinks (Slim-Fast and Nestle Sweet Success), and liquor (Jose Cuervo, Smirnoff, Stoli, Finlandia, Beefeater, Hennessy). There were 8 product categories with six liquor ads in high competitive clutter condition, and the average distance is four pages between the preceding and the successive competitive ads. The competitiveness index in the high competitive clutter condition was -2. In the low competitive clutter condition, there were 20 product categories, two apparel ads. The average distance between the two apparel ads was eight pages. The index was -26.

Competitiveness Index = NA - NP - $(ND_1+ND_n)/n$

High Competitiveness Index = 8 - 6 - 4 = -2

Low Competitiveness Index = 2 - 20 - 8 = -26

Intrusiveness of advertising clutter is defined as *the degree to which advertisements interrupt the flow of an editorial unit.* It was operationalized as the sum of advertisements cutting across each editorial unit (a magazine article) and

advertisements in different paper texture from the paper used for the editorial content (e.g., inserts). Inserts were not tested in this study because their double-sidedness would introduce a size factor to the dimension. In the experiment, the intrusiveness index was 0 under low intrusiveness condition that no ads cut across an article. In high intrusiveness condition, the index was 12 with 12 ads cutting across the articles. Since there were only 21 ads in the issue, 12 ads meant over 50% of the ads were intrusive. Those ads that were inserted between the articles were not counted as intrusive ads.

Intrusiveness Index

= No. of ads within an article + no. of ads in different texture

II. Ad-editorial compatibility

Ad-editorial compatibility is defined as *the degree to which the ads are perceived by readers as part of the editorial content or complement the editorial content.* It was measured by an average of the scores on three items rated by the readers. Two of the items were statements about the compatibility of the ads with the content on a seven-point Likert-scale (e.g., "I think the ads in this issue of *College Voice* fit well with the content.") The third one is a five-point equal interval on the percentage of ads in the magazine that readers feel are compatible to the content. This third item would be converted to a seven-point scale in subsequent statistical analysis.

III. Attitudes toward advertising in general (Aag)

Attitude toward advertising in general is defined as *the overall evaluation of advertising as an institution and instrument without reference to a particular vehicle or specific ad.* It consists of both beliefs and feelings such as like or dislike. A simplified version of Muehling's (1987) 31-item Aag scale was used in this study. Belief is an acceptance of a proposition as truth and the outcome of that proposition is expected. When a belief reflects the preference of the individual, then it becomes an attitude (Shaw and Wright 1967). Muehling's (1987) scale has the merit of highlighting the difference between beliefs and attitudes. His scale also distinguishes the institutional and instrumental aspect of advertising as an attitude object. However, many adjective pairs in his semantic differential scale are awkward and lack face validity such as advertising is "dirty/clean," and "weak/strong." These items were not used in this study.

Other items used to form the Aag scale of this study were drawn from James and Kover's (1992) study of overall attitudes toward advertising which include both attitudes toward advertising in general and attitudes toward advertising in a media vehicle. This study measured Aag with an average index of twelve items on a seven-point Likert scale, four of which were global attitude statements such as "advertising is good" and eight were belief statements such as "advertising saves my time to search for product information." Half of the items were reverse scored to avoid acquiescence bias, a problem commonly found in attitude studies (Bearden, Netemeyer and Mobley 1993).

IV. Product Category Involvement

Product category involvement is defined as *the degree of relevance of the advertised product category to the individual.* It acts as a motivational force to process information about the product category in advertisements. The major controversy in the measurement of the construct is whether product category involvement is unidimensional or multi-dimensional (Bearden, Netemeyer and Mobley 1993).

Zaichkowsky's (1985) Personal Involvement Inventory (PII) scale and its spin-offs (McQuarrie and Munson 1987 and 1991; Higie and Feick 1989; Flynn and Goldsmith 1993; Gainer 1993) are representatives of unidimensional product involvement scales. Product involvement refers solely to the relevance of the product to the consumer. They all use semantic differential adjective pairs to describe the relationship of a product to the respondent. The number of items ranges from 10 to 22. Their scales achieve high test-retest reliability and internal consistency. However, some of the items in these scales are not related to the product itself, but the result of product usage such as "boring-interesting," "fascinating-mundane," "exciting-unexciting." Their face validity is low.

Traylor and Joseph's (1984) General Scale to Measure Involvement with Products (GSMI) is another unidimensional scale. It consists of a six-item summative index on a seven-point Likert scale. Involvement is conceptualized as a response to a product as an expression of an individual's sense of self and identity. Although it is simple to use and it achieves high internal consistency, the scale actually tests the meaning of a product rather than an individual's involvement with the product. The

scale cannot serve as a valid measure to examine the relationship of product involvement and message involvement.

Lastovicka and Gardner's (1979) Components of Involvement (CP) are a multidimensional measure of involvement. They defined involvement as composed of normative importance and commitment. The scale consists of 22 items, of which seven are familiarity statements, four are commitment statements, and 12 are importance items. The drawback of the scale is that it confuses familiarity with involvement and the weight of each component is uneven in the scale without explanation.

Laurent and Kapferer's (1985) Consumer Involvement Profiles (CIP) and subsequent modifications (e.g., Jain and Srinivasan 1990; Kapferer and Laurent 1993; Rodgers and Schneider 1993) are the most popular multi-dimensional measures of product involvement. Involvement was conceptualized as consisting of 5 dimensions: 1) hedonic value, 2) symbolic value, 3) interest, 4) perceived risk and importance, and 5) perceived risk probability. There are 16 items on a 5-point Likert scale representing each dimension equally.

Involvement in a product class is enduring in a person's life, according to Bloch, Sherrell, and Ridgeway's (1986) Enduring Involvement Index. The index consists of two dimensions: importance of a product to an individual's life and career, and the interest in the product. It is a five-item index measured on different scales. However, the scale has different weights for each dimension. It is also doubtful that the enduring assumption is valid across products.

Although so many product involvement scales are available, the unidimensional FCBI scale (Ratchford 1987, Vaughn 1986) which is a summative index of three-item seven-point semantic differentials was employed in this study because of its proven high validity and parsimony. It has been tested in more than 20 countries on over 100 products (Ratchford 1987). The immediacy of the task of product purchase, "I plan to buy this product category within ...(time)", was a separate item added to measure product involvement for comparison with other studies because it is also a common measure of product involvement used by many researchers (e.g., Pratkanis and Greenwald 1993).

V. Advertising execution quality

Advertising execution quality is *the rating of an advertisement's craftsmanship and the skillful use of attention-getting device.* In this study, the rating is determined by the subjects, unlike past studies which predetermined the quality by experts. In fact, consumers' judgment on quality is more important than professional judgment because the consumers are the target receivers of the message. Their appreciation of the execution quality can facilitate the processing of the message. The importance of execution quality in determining advertising effectiveness has been well recognized by practitioners and advertising researchers alike (e.g., Walston and Moriarty 1992; Stewart and Koslow 1989; Gelb and Pickett 1983; Advertising Research Foundation 1962; Ruldoph 1947). Most of them used predetermined execution elements such as brand differentiation (Stewart and Koslow 1989) to predict the effects of advertising, rather than how well these elements were executed.

In contrast to past studies which have measured the numerous possible execution factors, this study adopted a back-to-basics approach by asking respondents to rate the five basic elements of a print ad (Weir 1993; Moriarty 1991a; Reid et al. 1984): 1) picture, 2) layout, 3) headline, 4) copy, and 5) typography. Subjects would rate the execution quality of the focal ad in five seven-point semantic differentials such as "the picture in the ad is attractive/unattractive." A global rating of craftsmanship was added to the rating scale as well to obtain a general evaluation of the execution quality. The ratings of respondents on the execution quality were an average score of the ratings of each element and the global rating of the execution quality of the advertisement.

VI. Familiarity with the brand

Familiarity with the brand is defined as "*the number of brand-related experiences that has been accumulated by the consumer* [italics mine]" (Alba and Hutchinson 1987). In this study, familiarity is the past knowledge level of the focal or best-remembered brand before the treatment. Such brand knowledge can be learned directly by product usage or indirectly through advertising and other promotional messages (Keller 1993; Alba, Hutchinson and Lynch 1991). The degree of familiarity was measured in a three-item average index of the frequency of seeing and using the brand, and the frequency of seeing its advertising. The higher the frequency of past exposure experience is, the higher the familiarity is.

VII. Exposure to other media

Exposure to other media is defined as *the reported exposure to other editorial media during the period of treatment.* It is measured by the average time that a respondent spent on each medium. This study only includes exposure to editorial media (television, radio, newspaper, and magazines) because their editorial contents and advertising constitute two separate domains. Each domain competes for attention from audience members. It is also a general belief that the primary reason for the consumption of editorial media is because of their content, not their advertisements. An additional question on commercial avoidance behavior is included in the questionnaire to compare the skipping of advertisements in the test magazine with the other media.

Operationalization of Endogenous Variables (Advertising Effects)

I. Attitudes toward Advertising in a Vehicle (Aav)

The attitude toward advertising in a vehicle is defined as *the evaluation of advertising in the context of a media vehicle.* The attitude object is the advertisements as a whole. This attitude toward the context of a media vehicle has not been studied by researchers on advertising. Abernethy and Rotfeld's (1991) ATRA scale has made an attempt to explore the attitude toward advertising in the media class of radio. It is still not a media vehicle with specific editorial content. The seven dimensions being identified in their scale have mingled execution quality with interest in the advertisements so that the ultimate attitude object is not the medium, but the creative aspect of the ad. It is not a context-specific measure of attitude. Mittal's (1993) study

on viewers' attitude toward TV advertising suffers the same problem as Abernethy and Rotfeld (1991). Goodstein's (1993) ad schema represents attitudes under the context of television, but it is product-specific.

This study operationalized attitudes toward advertising in a media vehicle by borrowing the appropriate items from James and Kover's (1992) attitude scale such as "too much editorial space is devoted to advertisements in this issue," and developing some specific items on the advertising in the vehicle such as "I don't like the ads in this issue." A supplementary measure of this attitude is a behavioral indicator of how many advertisements in the tested issue the subject noticed. The Aav scale in this study consisted of six items. The five attitudinal items were on a seven-point Likert-scale and the behavioral measure of reading the ads was on a five-point interval scale. The five-point scale was converted to a seven-point scale in subsequent analysis.

II. Advertising Message Involvement (AMI)

Advertising message involvement (AMI) has been defined as *the motivational state inducing advertising message processing* (Laczniak and Muehling 1993). The construct has been operationalized as the degree of attention to an advertising message on a summative index of a 25-item AMI scale. Among the 25 items, only five items measure the concept of message involvement; the rest of the items measure message attention, brand evaluation strategy, and cognitive response. In this study, four of the best-performed involvement items in terms of their reported validity and reliability in their scale were chosen, such as "when I saw the ad, I concentrated on its content."

However, the scale used by Laczniak and Muehling has not been employed by

other researchers studying advertising message involvement (James and Kover 1992; Pratkanis and Greenwald 1993). Instead, they only recorded the time the respondents spent on seeing the ad. This is an objective and non-intrusive measure, but it is only a single measure. It is not reliable in self-reported situations such as this study, and therefore was not used in this study.

III. Attitudes toward the advertisement (Aad)

Attitudes toward the advertisement is defined as *the evaluation of a specific advertisement by an individual.* In this study, the ad refers to the advertisement of either the focal brand, or the best-remembered brand if the respondent fails to remember the focal brand.

The scales of Aad that have been developed in the past can be classified into three types according to the dimensions they represent: 1) the affective response only, 2) the cognitive response only, and 3) both cognitive and affective responses. Such disagreement on the dimensions shows that the Aad concept is still vague despite the large amount of research on it (Madden, Dillon and Twible 1986).

Messmer's (1979) and Edell and Burke's (1986) Aad scales are representatives of affective response only Aad scale. Messmer's scale only contained two items on a seven-point Likert scales of "favorable-unfavorable" and "like-dislike". Edell and Burke's scale was a one item five-point interval scale from very favorable to very unfavorable. Mitchell and Olson's (1981) Aad scale; Gardner, Mitchell and Russo's (1985) five-item scale, and the three-item nine-point semantic differentials of Cox and Locander (1987) such as "good/bad," "like/dislike," are also affective response only

scales. Allen and Madden (1983) used six items representing three positive and three negative responses. Gelb and Pickett (1983) reduced Aad to a single item 5-point Likert scale to a statement of "I like this ad." MacKenzie, Lutz and Belch (1986) offered a similar two-item index on a seven-point scale to measure Aad as "favorable" and "interesting." Generally, these scales contain too few items to examine their validity. Madden, Dillon and Twible's (1986) study on Aad using a multitrait-multimethod represents a sophisticated effort to test the validity of the Aad construct. Ten item pairs were examined. It was found that Aad cannot be distinguished from the concept of attitudes toward the brand with their low discriminant validity scores.

Other researchers on Aad adopted a cognitive approach to measure the construct. For example, MacKenzie and Lutz (1982) conceptualized Aad as believability and convincingness. Only the cognitive aspect of attitude is addressed. Believability is rated on a six-point scale and convincingness is rated on a three-point scale.

A more comprehensive approach to study Aad is to include both cognitive and affective response on a general basis such as Shimp and Yokum (1981)'s measurement of reactions to advertisements along eight dimensions such as "worth-remembering," "attractive," and "believable." Moore and Hutchinson (1983) operationalized Aad as both confidence in seeing the ad and emotional reactions. Aad was measured by two items on a five-point scale. Machleit and Wilson (1988)'s eight-item seven-point semantic differential scale was a global evaluation on various aspects of an ad including execution, feelings, and evaluation. Biehal, Stephens and Curlo's (1992)

Aad scale was a five-item index of affective rating on a five-point semantic differentials. Olney, Holbrook and Batra's (1991) tricomponent model of Aad scale consisted of 16 items on a seven-point semantic differential scale. Aad was conceived as comprising three components: hedonism, utilitarianism, and interestingness. Such conceptualization includes uses and gratifications of reading an advertisement.

A shortened version of Olney, Holbrook and Batra's (1991)'s scale was used in this study because it contains the three dimensions of hedonism, utilitarianism, and interestingness that constitute Aad. These three dimensions explain 90% of the variance of global affect toward the Ad using principal component analysis. The scale used in this study maintained the original seven-point semantic differential format and consisted of five items including one global evaluation statement "I like/dislike this ad."

IV. Memory

Memory of the advertisement is defined as *any indication of remembered exposure to the focal ad or best-remembered ad in recognition and aided recall tasks.* Both aided recall and recognition measures were used to show the memory of the message because they could avoid the confounding factor of individual differences in memory capacity (Krugman 1986). Moreover, in many purchase situations, consumers only need to recognize the brand name or package that they have seen. Unaided recall is applicable only to certain products whose product packages are not displayed at the point of purchase (Alba, Hutchinson and Lynch 1991). Such a measure is too demanding as subjects who have been exposed to the stimuli one time only. The

memory score is computed as the sum of respondents' scores in both aided recall and recognition tasks. As recommended by Postman (1975) and Kent (1990), recognition tasks were preceded by recall tasks as both measures were employed in this study to avoid the cuing effect of recognition task experience for recall tasks.

In the aided recall tasks of this study, respondents were provided with cues such as the product category of the focal ad and a description of the visual of the focal ad. Visual was chosen as the cue because the importance of visuals in memory probing of print advertisements is well recognized by researchers (Edell and Staelin 1973; Paivio 1975). Subjects were asked to write down the brand name. Recall was coded as incorrect if the focal brand was not written, or the written brand was a non-focal brand and a non-competitive brand. In recognition tasks, respondents were given a list of brand names and ad claims and they had to identify the right one. Noted ad readership (Starch 1966) was probed by the direct question of whether the respondent has seen the ad. The first recognition task consisted of choices not appearing in the issue. The second recognition task consisted of choices of ad claims that were in the issue. If a respondent gave a wrong answer, then he/she would be counted as unable to recognize the ad. Both failures to recall or recognize were to be counted as 0 in memory score. Reasons accounting for no memory were probed by a separate question.

V. Resistance to Competitive Ads

Resistance to competitive ads is defined as *the degree to which an individual is uninfluenced by competitive ads to the ad that he/she has been exposed to.* The

indicator of this resistance is the individual's evaluation of the claims and quality of the competitive ads when compared to the focal ad. Such evaluation was measured on a three-item index. The first two items measure the ratings of the credibility of the competitor's claim and quality of the competitive ad on a seven-point Likert scale. The last item is a behavioral measure of the brand choice among the focal ad and the competitive ads.

VI. Brand equity

Brand equity is defined as *the added value with which a given brand name and image endow a product* (Farquhar 1991; Aaker 1991). Only customer-based brand equity was examined in this study. It is a summarized judgment on a brand and consists of four dimensions: 1) positive association, 2) loyalty, 3) perceived quality, and 4) top-of-mind awareness (Aaker 1991).

Most of the published brand equity measures are indirect measures of the perceptual map of the positioning or image of the product through open-ended responses, which are only part of the total brand equity construct. Martin and Brown (1991) have attempted to offer a five-dimensional brand impression scale of commitment, value, perceived quality, trustworthiness, and image. They have measured the brand impression facet of brand equity using this scale, but the items have shown low convergent validity. Moreover, the items for the five dimensions performed poorly in confirmatory factor analysis. It seems necessary to develop a new scale to measure the brand equity construct. The twelve-item average index on a seven-point Likert scale used in this study measures the four dimensions of the construct as

discussed by brand equity researchers. It borrows items from prior studies on brand choice, brand loyalty, and brand attitude. Three items are used to indicate each dimension: 1) positive association (e.g., "The image of this brand represents what I would like to be"), 2) loyalty (e.g., "I won't mind paying a higher price for this brand"), 3) perceived quality (e.g., "The quality of this brand is superior to the other brands"), 4) top-of-mind awareness (e.g., "This brand is the most popular brand in the category"). The use of multiple items could measure the reliability of the items and the scale's convergent and discriminant validity in confirmatory factor analysis.

Questionnaire and Scale Development

Since all the key variables of this study are either attitudes or perceptions, multiple-item scales either in the form of semantic differentials or Likert scales are used to assess the reliability and validity of the measures (Shaw and Wright 1978; Dawes and Smith 1985; Oppenheim 1992; DeVillis 1991; Bearden, Netmeyer and Mobley 1993). The scales were developed based on the theoretical conceptualization of the construct which can guide the choice and interpretation of the statistical analysis (Peter and Darcin 1991). Both aided recall and recognition measures were used to probe the memory of the focal ad (Krugman 1986). All factual data were measured in continuous or equal interval scales whenever possible.

Following the total design method on self-administered questionnaires suggested by Dillman (1978), demographic variables such as sex, age, family income, year in college, and the major of the subjects were collected at the end of the first questionnaire before the experiment to ensure that respondents would not be

intimidated by such personal information from the start. The second questionnaire began with questions on respondents' magazine reading habits and evaluation of the content to arouse respondents' interest in answering the questionnaire. Questions which required a great deal of memory effort such as exposure to other media were put at the end of the questionnaire.

Pre-test results

To test the appropriateness of the scales and research instruments, a pre-test was conducted in mid-February, 1994. In the preliminary screening of the statistical assumptions of the data on the observed variables, the program PRELIS was used because it is a precursor program for LISREL (Joreskog 1990). All the exogenous and endogenous variables were normally distributed with low level of skewness. The slightly high skewness in product category involvement was expected because of the product category of the focal brand was clothing -- a high involvement product.

To test for the linearity of the relationships among the variables, the standardized residuals of both the exogenous and endogenous variables were examined. The means of error are equal for all the variables. All except one bivariate (Aad and recall of ad) show a slightly higher level than the acceptable standard of 3.1 (Tabachnick and Fidell 1983). All these indicate that the linearity assumption has not been violated.

To examine the reliability and validity of the scales developed in this study, the scales were subject to confirmatory factor analysis (DeVillis 1991). The "exposure to other media" scale has not been subjected to that analysis because exposure to media

is a composite score which combines different items to make a meaningful score. The internal consistency test is also not applicable to the memory scores because each item measures different types of memory -- recognition and recall. Apart from face validity, there are three major statistical criteria to determine the validity of a scale (Hunter 1986): 1) internal consistency, 2) uniformity of item quality, and 3) parallelism (discriminant validity). All the scales in the pre-test show satisfactory results on these criteria. The scales for brand equity, ad execution quality, advertising message involvement, and Aad were the highest in internal consistency with Cronbach's alpha over 0.95. Originally, the Aav scale consisted of six items, but only four items show a high level of consistency with alpha=0.78. Adding the other two ("Without advertisements, the price of *College Voice* will be higher", "How much of the advertising in this issue of *College Voice* have you read?") reduces the alpha to 0.59. These two items were dropped from the scale of Aav. However, the items were kept in the questionnaire for reference purpose because they provided additional information on how subjects responded to the advertisements.

Among the 10 scales subject to confirmatory factor analysis, six of the scales had items with unequal quality. Unequal quality only indicates that different items in a scale have different strengths in representing the construct. As long as the gradient structure is consistent throughout the analysis, the scale will be acceptable. The percentage of variance in the items explained by a scale can indicate the degree to which the scale fully represents the construct. In this case, the advertising message involvement scale scores best in representing the construct with 95.6% of the variance

being explained by the same factor. The scale on familiarity with the brand scores lowest in percentage of variance explained (37.4%). An item of prior exposure to the same focal ad was added to the scale to improve the representation of the familiarity with the brand construct.

The third measure of validity is discriminant validity which means that the construct is distinct from other unrelated constructs. It can be measured by a comparison of the correlation between individual items and other scales. If a construct is valid, its items in a scale should not have a high factor loading on other scales and should have the same direction in the correlation matrix. Since the present sample size of the pre-test was too small to run a complete analysis of factors, the results on discriminant validity of the scales were reported in the results of the data in the actual experiment.

Modification of Research Design

A major threat to the internal validity of a within-subjects design study is the sensitization of the subjects to the same stimulus or research instruments (Campbell and Stanley 1966). To test for possible interaction between the order of research instruments and the endogenous variables, an analysis of variance was performed. Significant interaction effects of the sequence of the questionnaire and the recall and recognition scores were found. Since the memory of the ad is the basis of this study, it is clear that within-subjects designs are not feasible in this type of study which involves product knowledge and memory. The change of the brand from a specific one to a best-remembered brand was not a good alternative because the study will not

be able to manipulate the presence of competitive brands. Although much lower in statistical power and less desirable, the design for this study was changed to an independent group design. Subjects were randomly assigned to a low clutter level as the control group, and to a high clutter level in the experimental group representing each dimension of clutter. Only one issue of the dummy magazine was used. Subjects needed to answer two questionnaires instead of three.

Manipulation check questions were included in the questionnaire. For the quantity manipulation, the question was "There are too many advertisements in this issue." For the competitiveness manipulation, the question was "The products advertised in this issue are very similar." For the intrusiveness manipulation, the question was "Advertisements interrupt my reading of this issue." A recognition task on the overall noted readership of advertisements was put at the end of the questionnaire to check whether respondents actually read the magazine or its advertisements. In that task, a list of 10 brands mixed with five correct brands and five bogus brands were given to subjects. Subjects were asked to identify the five correct ones (The revised questionnaires are listed in Appendix A). The dummy magazines were color coded by the treatment for easy identification in the assignment of treatment. The actual experiment was conducted in April and May after obtaining the approval of Michigan State University's Committee on Research Involving Human Subjects (The list of ads and revised content of the dummy magazine are listed in Appendix D and E respectively).

Statistical Techniques

T-tests were then performed to compare the difference between the high clutter and low clutter groups on each endogenous variable as they are appropriate statistical analyses for experimental designs (Hunter and Schmidt 1990). The validity and reliability of the scales were tested by confirmatory factor analysis. The structural equations models used in LISREL VII were employed to analyze the relationship of the latent variables and estimate the measurement errors of the indicators. The superiority of using structural equations models in multivariate experimental design over other traditional statistical procedures has been explained by Bagozzi and Yi (1990). Structural equations models can provide a holistic view of the relationship among the exogenous and endogenous variables. Their power lies in delineating the direct and indirect effect of one variable on the other variables and specifying the magnitude of such effects. Measurement errors have been taken into consideration in the models and can be assessed. It is particularly appropriate for research with constructs that are not directly observable (latent variables) such as attitudes and brand equity (Joreskog and Sorbom 1989). Finally, a stepwise multiple regression was run to examine the power of each variable in explaining the variance in brand equity.

CHAPTER 5

RESULTS

Profile of Sample

A total of 133 subjects participated in this study, 15 of them did not participate in the second phase of the experiment. The sample included students majoring in different subjects enrolled in general education classes in the Spring and Summer semesters at two upper midwestern state universities. The demographic profile of the subjects is shown in Table 1.

The sample represents students at different levels majoring in a wide variety of subjects. There are more female (63.4%) than male (36.6%) subjects. Slightly less than half (47.3%) of the subjects were majoring in science subjects such as Pre-Medicine and Engineering. Many of the subjects were freshmen (28.6%) and sophomores (37.6%) with a median age of 20. Their annual family incomes were mostly in the $25,000-50,000 bracket (33.7%) and $50,000-75,000 range (38.6%). This is higher than the 1992 national average of $30,000. T-tests were conducted to compare subjects in experiments conducted at different sessions. There was no significant difference in the demographic profile and attitudes toward advertising in general among them.

To facilitate the analysis of the data, a profile of the magazine reading behavior of subjects is presented in Table 2. Since this experiment is a delayed recall task,

Table 1

Demographic Profile of Sample

	%
Gender	
Male	36.6
Female	63.4
Missing=2	
Major	
Science	47.3
Humanities and Social Science	26.7
Business	22.1
No Preference	3.8
Missing=2	
Year in College	
Freshman	29.0
Sophomore	38.2
Junior	16.0
Senior	16.8
Missing=2	
Family Annual Income	
Under $25,000	9.8
$25,000 to 50,000	33.7
$50,001 to 75,000	23.8
$75,001 to 90,000	14.8
$90,000+	18.0
Missing=11	
Age	
Median: 20	
Mean : 22	
Standard Deviation : 12.02	
Missing=3	

N=133

Table 2

Magazine Reading Style

Recency in reading *College Voice*	%
Very recent (1-2 days)	5.1
Moderately recent (3-4 days)	41.5
Not recent (5 days or more)	51.7
Did not read	1.7
Missing=15	
Reading Period	
Weekdays	49.2
Weekends	50.8
Missing=15	
Time spent on reading *College Voice*	
Mean: 40 minutes	
Standard Deviation: 32 minutes	
Maximum: 205 minutes	
Minimum: 0 minutes	
Missing=16	
Number of articles read	
Mean: 2.7	
Standard Deviation: 2.2	
Maximum: 10	
Minimum: 0	
Missing=20	

Table 2 (cont'd)

Quality Rating

Mean Quality Rating: 4.02
Mean free subscription preference: 4.7
Maximum Cost willing to pay: $5
Mean cost willing to pay: $0.71
(including those not willing to pay)
Percent willing to pay: 48.2%
Missing=9

Frequency in reading magazine in general	%
At least 3 in a week	9.9
Two in a week	13.7
One in a week	23.7
One every two weeks	19.1
Very occasional	29.0
Never	4.6

Type of Magazines Read	%
General Interest	71.8
Titles used in the dummy magazine (*Self, Mademoiselle, Details*)	13.7
Special Interest	9.9
Do not read magazine	4.6

Missing=2

Reading Behavior in *College Voice*	%
Browse the pages at random	50.9
From first to last page, skipping pages not liked	46.6
Other	2.5

it was expected that subjects had read the dummy magazine several days before they answered the second questionnaire. Indeed, it was found that almost all of the subjects (93.2%) had read the magazine more than 3 days before they answered the questionnaire. On average, they spent 40 minutes reading the magazine, and read about 2.7 articles.

The Stimulus

The dummy magazine received a fairly good rating from the subjects. The mean rating was 4 on a seven point-scale. About 48.2% of the subjects said that they were willing to pay for the magazine. This suggested that the stimulus material was appropriate for college students.

Magazine reading was found to be a common leisure activity for the subjects. Over 47% of the subjects indicated that they were frequent magazine readers reading at least one magazine a week. Most of them (71.8%) read general interest consumer magazines such as *People* and about 13.7% were readers of those magazines whose articles were used in the stimulus materials. Nevertheless, only three subjects reported having previously read more than 3 articles in the dummy magazines. These subjects were eliminated in the subsequent analysis.

As stated in the chapter on the research model, the assumption made about the reading style of magazine readers was that they tended to browse the pages at random to form an attitude toward advertising in a media vehicle. Table 2 indicates the assumption that readers browsed pages at random was valid for 50.9% of the subjects. The other major type of reading style was reading from the first to the last page,

skipping pages that the subject does not like. This type of reading style does not conflict with the assumption of the model because the readers read both editorial content and ads during the course of reading, rather than reading ads or articles exclusively. A t-test comparison of the effect of reading style on the endogenous variables, such as Aav, Aad, memory, resistance to competitive ads and brand equity, show that there were only significant differences in the level of recall (t=-2.3, df=102, p=0.1) and the number of noted ads (t=-1.91, df=109, p=.03) between reading styles, but there were no differences in the recognition of ads and other endogenous variables. Subjects who had read from the first to last page had a sequential order in reading. This may facilitate their noticing and retrieval of ads.

Subjects were probed for their advertising skipping behavior in *College Voice* and other editorial media. Table 3 shows that the mean percentage of ads being skipped in other editorial media is higher than the percentage of ads not being seen in *College Voice*. In other editorial media, the reported mean percentage of ads being skipped was 55%. In *College Voice*, only 30.2% of the subjects read less than 59% of the ads. The mean overall liking of the ads was 3.7 on a seven-point scale.

Missing Data

A common problem encountered in research is missing data. This study was no exception. The main reason for missing data in this study was that some subjects skipped some questions despite the instructions and others did not write down the brand name in the memory probing questions. There were also subjects who did not

Table 3

Ad Reading Style

Ads skipped in other media

Mean : 55%
Standard Deviation: 31.03%

Percentage of ads noticed in *College Voice*	%
None	6.9
Very few (1-19%)	7.8
A few (20-39%)	15.5
Some (40-59%)	28.4
A lot (69-79%)	31.0
Almost all (80-100%)	10.3

Missing=17

Overall liking of the ads in College Voice
(seven-point scale)

Mean: 3.7
Standard Deviation: 1.5

Missing=17

answer questions on family income as shown in Table 1. Tabanick and Fidell (1983) and Dodge (1992) suggest several steps to deal with this problem. First, one may assume the randomness in missing data. If the missing data are caused by random reasons, then the results of the studies will not be biased by the missing data. T-tests were conducted to compare the demographic characteristics and attitudes toward advertising in general of cases with missing and non-missing data. There is no significant difference in these basic characteristics between cases with missing and non-missing data. It is safe, therefore, to assume the randomness of the missing data.

Table 4

T-tests Comparing Cases with Missing Data and Non-missing Data

	t-value	df	p
Year in College	.03	129	.98
Sex	-.51	129	.61
Family Income	.05	129	.96
Major*	.35	129	.74
Aag	.92	129	.36

* Major is collapsed to science and non-science subjects for ease of comparison

Once the randomness assumption was established, the second step was to choose among alternatives to handle the cases with missing data. One option was to drop all the cases that contained missing values. This option was not feasible for this study because the moderate sample size and the high cost of recruiting subjects would have led to a substantial loss of data.

The second option was to use pairwise deletion to calculate correlations, but this also would have greatly reduced the sample size and may have produced negative eigenvalues. Using multiple regression of the complete cases to estimate missing value was a third alternative. The tradeoff is that multiple regression would overfit the data and is only be feasible when all the good predictors of the variables with missing data are available.

The fourth and most common way to deal with missing cases is to estimate the missing value with a calculated value such as the grand mean of that variable. Although the correlation size tends to be reduced by using the mean value as the

missing value, this method could allow a researcher to maximize the use of all available data on the variable in every case without great distortion. This mean substitution method is employed to handle the missing data in this study. All the missing values are substituted by the mean of the variable.

Data Examination and Scale Validation

To utilize the regression statistics legitimately, the data of this study must meet the three basic assumptions of regression: 1) normality, 2) linearity, and 3) non-multicollinearity.

Normality concerns with the normal distribution of the variables. The program PRELIS (Joreskog 1990) generated the distribution information on the data. As shown in Table 5, most of the variables in this study do not violate the normality assumption. They only have a low to moderate level of skewness (between 0.01 to 0.88) with reasonable standard deviations. Exposure to other media and brand equity are the two variables with highly skewed distributions. Attempts such as taking the square roots and the logarithm of the value of the variables, were made to transform the data (Tabachnick and Fidell 1983). However, no improvement was gained. To avoid distortion by non-beneficial transformation, the values of these two variables remained intact in the analysis. Caution is therefore needed in interpreting the estimates because the means of these two variables are not reliable indicators of the central tendency of the variable.

Linearity of the relationships among the variables was examined by the size of the standardized residuals. Acceptable largest standardized residuals are +/- 3.1

Table 5

Normality of Distribution

	Mean	S.D.	Skewness
Exogenous Variables			
1. Attitude toward advertising in general	3.80	.79	-.42
2. Ad-editorial compatibility	4.08	.95	-.51
3. Product category involvement	4.00	1.13	.02
4. Ad execution quality	2.07	2.23	.45
5. Familiarity with the brand	2.63	1.71	.01
6. Exposure to other media*	117.65	89.30	1.92
Endogenous Variables			
1. Aav	3.56	1.29	-.32
2. AMI	1.39	1.61	.88
3. Aad	1.83	1.95	.47
4. Resistance toward competitive ads	1.55	1.64	.48
5. Memory of the ad**	4.02	2.52	.57
6. Brand equity	3.41	1.19	-1.67

* Scores in minutes.
All other variables are on a seven-point scale.

** Scores include both recognition and recall and on a dichotomous scale

(Tabanick and Fidell 1983; Norusis 1988). As shown in Table 6, the largest residuals of all bivariate pairs of the variables, except five pairs, did not exceed this standard. Among these five pairs (ad execution quality-AMI, Aad and resistance to competitive ads, ad execution quality-Aad, memory and brand equity, and AMI-Aad), each pair has only one case with such large residuals. The influence of outliers on the results was tested with Cook's Distance statistics. All the large residual cases in these bivariates did not have a significant Cook's D value to affect the results as listed in Table 6. These cases are kept in the subsequent analysis.

Multicollinearity refers to the situation in which an independent variable in a model is in fact an almost linear combination of other independent variables (Norusis 1988). A variable exhibiting multicollinearity is redundant in a model and will not add any more explanation to the dependent variable. The multicollinearity of the variables can be checked by its tolerance level (1 - squared multiple correlation for that variable). As shown in Table 7, there is no sign of collinearity as all the variables have a much higher tolerance level than the minimum level of 0.01.

Table 6

Linearity of Bivariate Pairs

	Largest Standardized Residuals	Cook's D*
1. Aav-AMI	2.47	-
2. Ad-editorial Compatibility-Aav	2.46	-
3. Aag-Aav	2.14	-
4. Product category involvement-AMI	2.67	-
5. Memory of the Ad -Resistance to competitive ads	2.37	-
6. Ad execution quality-AMI	2.00	-
7. Aad-Memory of the ad	2.98	-
8. Aad-Resistance to competitive ads	3.77	.104
8. Exposure to other media-memory of the ad	2.86	-
9. Resistance to competitive ads-brand equity	-3.13	.055
10. Memory of the ad -brand equity	-3.40	.066
11. AMI-Aad	3.84	.330
12. Familiarity with the brand -memory of the ad	2.97	-
13. Exec-Aad	5.59	.281
14. Clutter level-Aav	1.75	-
15. Clutter level-AMI	2.45	-
16. Aad-brand equity	1.70	-
17. Aag-AMI	2.52	-

* Only Cook's D values of cases with largest residuals greater than 3.1 are reported.

N.B.: The mean value of the residuals of all the pairs is zero.

Table 7

Test of Multicollinearity

Exogenous Variables	Tolerance Level
1. Attitude toward advertising in general	.84
2. Ad-editorial compatibility	.74
3. Product category involvement	.87
4. Ad execution quality	.69
5. Familiarity with the brand	.90
6. Exposure to other media	.14
Endogenous Variables	
1. Aav	.12
2. AMI	.16
3. Aad	.09
4. Resistance to competitive ads	.42
5. Memory of the ad	.55

Reliability and Validity

Reliability is the consistency of the scale item measured across subjects and session. Figure 3 is a list of all the item statements in the scales used in this study. Table 8 provides the reliability of the scales used in the study. Cronbach's alphas for both the exogenous and endogenous variables are satisfactory, ranging from 0.75 to 0.99. Due to its low item-scale correlation with the attitude toward advertising in general scale, the item "Advertising adds to the costs that must be passed along to consumers in the form of higher prices" was dropped from the analysis. Cronbach's alpha for the Aag scale improved to 0.8. Composite scales such as memory of

Exogenous Variables

Attitudes toward advertising in general

A1. Advertising is honest.
A2. Advertising is annoying.*
A3. Advertising is good.
A4. Advertising is worthless.*
A5. Advertising saves my time searching for product information.
A6. The claims in advertising are always exaggerated.*
A7. Advertising helps raise our standard of living.
A8. Advertising makes people try to get products they should not buy.*
A9. Advertising adds to the costs that must be passed along to the consumers in the form of higher prices.*
A10. Advertising appeals to people's emotions rather than to their intelligence.*
A11. Advertising is essential.
A12. Advertising is a reliable source of information about products.

Ad-editorial compatibility

B1. I think the advertisements in this issue of *College Voice* fit well with the content.
B2. It is easy to distinguish between the advertisements and the articles in *College Voice*.*
B3. What proportion of the ads in this issue went with the content?

Product Category Involvement

C1. If I chose the wrong brand of clothes, I'll
have a lot to lose -- have little to lose
C2. My decision to buy clothes
requires a lot of thought -- requires little thought
C3. For me, buying clothes will be
a very important decision -- very unimportant decision

Ad Execution Quality

D1. The picture in the ad was attractive -- unattractive.
D2. The design (layout) of the ad was outstanding -- poor.
D3. The headline in the ad was provoking -- boring.
D4. The copy of the ad was well-written -- poorly-written.
D5. The typefaces used in the ad were appealing -- unappealing.
D6. Overall, the ad was well-crafted -- poorly done.

Figure 3

Scale Items Used in the Study

Figure 3 (Cont'd)

Familiarity with the Brand
E1. How often had you heard about or seen the brand?
E2. How often have you used this brand?
E3. How often did you see the advertising of this brand?
E4. Have you seen a Spiegel ad the same as the one in this issue before?

Endogenous Variables
Attitude toward advertising in a media vehicle
V1. Too much space is devoted to advertisements in this issue of *College Voice**.
V2. Advertisements interrupt my reading of this issue of *College Voice.**
V3. There are too many advertisements in this issue of *College Voice.**
V4. I like the advertisements in this issue of *College Voice.*

Advertising Message Involvement
W1. I paid attention to the content of the ad.
W2. I carefully read the content of this ad.
W3. When I saw the ad, I concentrated on its contents.
W4. I expended effort looking at the contents of this ad.

Attitude toward the ad
X1. This ad was pleasant --- unpleasant
X2. This ad was useful --- not useful
X3. This ad was entertaining --- not entertaining
X4. This ad was interesting --- uninteresting
X5. I liked this ad --- disliked this ad

Resistance to competitive ads
Y1. The claims in the ads of these other brands are more credible than Spiegel?
Y2. The ads of these other brands are better in quality than Spiegel?
Y3. If I were to choose one of the clothing brands (or your best-remembered brand's product category) advertised in this issue for purchase, I will choose

Brand Equity
a) Positive Association
Z1. The image of Spiegel is the same as the other clothing brands.*
Z2. The image of Spiegel represents what I would like to be.
Z3. I feel bad using this brand.*

Figure 3 (Cont'd)

b) Brand Loyalty
Z4. I would rank this brand as my ____ choice if I purchase clothes.*
Z5. I won't mind paying a higher price for this brand.
Z6. If the catalog of this brand is not sent to me free, I am willing to pay to get one.

c) Perceived Quality
Z7. I agree with the claim that Spiegel products are simple, stylish, and of good value
Z8. The quality of this brand is superior to other brands.
Z9. Spiegel is most suitable to my needs.

d) Top-of-mind awareness
Z10. Spiegel is the most popular brand in the category.
Z11. When I need to buy clothes, I will think of Spiegel immediately.
Z12. When asked about brands in clothing Spiegel will come to my mind immediately.

* reverse scored items

Note: Since exposure to other media and memory of the ad are composite scales not subject to reliability tests, they are not listed here.

the ad and exposure to other media are not subject to the reliability tests because the items in a composite scale do not necessary have any correlations among one another (Cohen et al. 1990; Hayduk 1987).

There are three major statistical criteria normally used to determine the validity of a scale, after an examination of face validity of the item by its substantive content (Hunter 1986): 1) internal consistency, 2) uniformity of item quality, and 3) parallelism (discriminant validity). Table 9 reports the uniformity of item quality and percentage of variance explained in the confirmatory factor analysis procedures. The factor loadings

Table 8

Reliability of the Scales

Exogenous Variables	Cronbach's α	No. of Items
1. Attitude toward advertising in general*	.80	11
2. Ad-editorial compatibility	.86	3
3. Product category involvement	.77 (.77)	3
4. Ad execution quality	.99	6
5. Familiarity with the brand	.80	4
6. Exposure to other media	n.a.	4
Endogenous Variables		
1. Aav	.95	3
2. AMI	.97(.95)	4
3. Aad	.98	5
4. Resistance toward competitive ads	.91	3
5. Memory of the ad	n.a.	5
6. Brand equity	.93	12
a) positive association	.77	3
b) brand loyalty	.72	3
c) perceived quality	.89	3
d) top-of-mind awareness	.90	3

* One item of the 12-item scale of Aag was dropped because of the low item-scale correlation.

N.B.: The numbers in parentheses next to the results are the reported reliabilities of the scales used in past studies.

of items in ad-editorial compatibility, product category involvement, ad execution quality, Aav, AMI, Aad, the positive association dimension, perceived quality dimension, and top-of-mind awareness dimension of brand equity all show equal quality. Aag, familiarity with the brand, resistance to competitive ads, and the brand loyalty dimension of brand equity show a gradient (unequal) quality. Unequal quality means that each item in the scale has a different strength in representing the construct.

It is most desirable to have equal item quality because each item equally represents the construct. When items are unequal in quality, they have to show a consistent correlation pattern with other variables to be a valid measure of the construct. The data of this study show that the unequal scale items have a consistent correlation pattern with other variables. The convergent validity of the scales can also be shown by the percentage of variance being explained by the factor. The best performed scale is ad execution quality which explains 97.5% of the variance among the items. Only Aag exhibits a relatively low explanatory power of the variance for the items.

The discriminant validity of a scale concerns whether or not a scale item measures one and only one construct in the study. It can be established if the items of a scale do not have a significant loading on other unrelated factors and their factor loading should be higher in its own factor than other related factors in the item-factor correlation matrix (The matrix is listed in APPENDIX F). An examination of the pattern of each item's loading in the matrix shows that most of the items meet the discriminant validity criteria. Although there is a moderate significant correlation

Table 9

Validity of the Scales

Exogenous Variables	Uniformity of Item#	% of Variance Explained	Parallelism
1. Attitude toward advertising in general*	unequal	35.8(57%)	Yes
2. Ad-editorial compatibility	equal	78.4	Yes
3. Product category involvement	equal	68.8	Yes
4. Ad execution quality	equal	97.5	Yes
5. Familiarity with the brand	equal	66.1	Yes
6. Exposure to other media	n.a.	n.a.	n.a.
Endogenous Variables			
1. Aav	equal	86.2	Yes
2. AMI	equal	92.4	Yes
3. Aad	equal	94.2(90%)	Yes
4. Resistance to competitive ads	unequal	86.7	Yes
5. Memory of the ad	n.a.	n.a.	n.a.
6. Brand equity	unequal	58.6	Yes
a) positive association	equal	69.4	Yes
b) brand loyalty	unequal	64.5	Yes
c) perceived quality	equal	82.7	Yes
d) top-of-mind awareness	equal	83.6	Yes

* Item quality is considered as equal if the difference between items in item-scale correlation is less than 0.1

The internal consistency of the scale is reported in Table 8.

N. B.: The numbers in parentheses are the reported explanatory power of scales in previous studies

between an Aav item and ad execution quality, the item-factor correlation within the Aav factor is much higher than its correlations with ad execution quality. Therefore, the two scales can still be considered as attaining discriminant validity. Table 10 shows the scaled items used in the final measurement model.

Manipulation Check

To examine whether or not the manipulation of the level of the three dimensions of clutter was successful, several t-tests were conducted to compare the manipulated level and the subjects' self-reported perception of the clutter level of that dimension. Table 11 shows that only the quantity manipulation was successful in eliciting a perception of too many advertisements ($t=2.28$, $df=72$, $p=0.03$). The competitiveness and the intrusiveness manipulation seemingly failed to create a corresponding perception of high competitiveness or high intrusiveness. These results suggest that there may be individual differences in the tolerance of clutter level in terms of competitiveness and intrusiveness. In subsequent testing of the hypotheses on the effects of clutter, the individual's perception of the clutter level of the dimensions of quantity, competitiveness, and intrusiveness will be used instead of the manipulated level.

The study also checked whether or not the subjects actually read the stimulus materials by asking them to write down the name or topic of the article in **College Voice** that they liked most. Around 80% of the subjects correctly named the article or topic in College Voice or clearly stated that they did not like any of the article. Only one of the subjects gave a topic that was not in the magazine. The rest did not write

Table 10

Scale Items Used in the Final Measurement Model

Exogenous Variables*		Scale item labels (with item-factor loadings)
1. Aag	α=.80	A1(0.50), A2(0.58), A3(0.58), A4(0.61), A5(0.47), A6(0.35), A7(0.27), A8(0.31), A10(0.32), A11(0.55), A12(0.63).
2. Ad-editorial compatibility	α=.86	B1(0.74), B2(0.68), B3(0.80)
3. Product Category Involvement	α=.77	C1(0.54), C2(0.58), C3(0.69)
4. Execution Quality	α=.99	D1(0.98), D2(0.99), D3(0.97), D4(0.98), D5(0.99), D6(0.98).
5. Familiarity of the Brand	α=.80	E1(0.77), E2(0.49), E3(0.74), E4(0.64).
Endogenous Variables*		
1. Aav	α=.95	V1(0.92), V2(0.89), V3(0.93), V4(.74)
2. AMI	α=.97	W1(0.92), W2(0.93), W3(0.95), W4(0.91).
3. Aad	α=.98	X1(0.96), X2(0.95), X3(0.94), X4(0.95). X5(0.96).
4. Resistance to Competitive Ads	α=.91	Y1(0.93), Y2(0.94), Y3(0.73)
5. Brand Equity	α=.93	Z1(0.56), Z2(0.80), Z3(0.58), Z4(0.59), Z5(0.71), Z6(0.56), Z7(0.77), Z8(0.81), Z9(0.84), Z10(0.83), Z11(0.74), Z12 (0.68).

* Exposure to other media and memory of the ad are composite scales not subject to item-factor loading analysis because their items do not necessary have any interrelations.

Table 11

Manipulation Check

T-tests Comparing Manipulated Clutter Level and Perceived Clutter Level (one-tailed tests)

Manipulated Level	Mean Perceived Clutter Level	t-value	df	p
Lo Quantity	3.0	2.28	72	0.01
Hi Quantity	4.25			
Lo Competitiveness	5.06	.14	68	0.45
Hi Competitiveness	5.13			
Lo Intrusiveness	4.68	-.11	65	0.46
Hi Intrusiveness	4.62			

down the topic or name of the article. Based on the high percentage of the correct identification of the article, the data obtained in the study should reflect the response of the subjects after the reading of the stimulus material.

Direct Effects of Clutter

Clutter had been hypothesized to negatively affect attitudes toward advertising in a media vehicle (Aav) of the subjects. The t-test comparison of the mean scores of Aav between low and high clutter levels in Table 12 shows that this hypothesis was supported for both the quantity and intrusiveness dimension of clutter, but not for competitiveness. Subjects perceiving a low quantity of clutter exhibited Aav scores

significantly higher than subjects perceiving a high quantity of clutter (t=-11.38, df=121, p<.001). In other words, subjects perceiving a high quantity of clutter seem to hold a more negative attitude toward advertising in a media vehicle than those perceiving a low quantity of clutter.

The *intrusiveness dimension* of clutter level exhibited the same pattern as the quantity dimension. Subjects perceiving a low level of intrusiveness of clutter displayed a significantly higher Aav score than subjects perceiving a high level of intrusiveness (t=-8.66, df=128, p<.001). There was no significant difference in Aav scores between the subjects perceiving high competitiveness of clutter and subjects perceiving low competitiveness of clutter (t=-1.01, df=128, p=.16).

Table 12

T-test Comparing Direct Effects of Clutter on Aav (one-tailed tests)

	Mean Aav Score	t-value	df	p
Quantity Dimension				
Low	5.78	-11.38	121	<.001
High	2.48			
Competitiveness Dimension				
Low	4.11	-1.01	128	.16
High	3.52			
Intrusiveness Dimension				
Low	5.06	-8.66	128	<.001
High	2.33			

* one-tailed tests are used because the hypotheses have a predicted direction.

The hypothesis that clutter level adversely affects AMI was not supported by the data. Research results showed no significant difference between subjects perceiving a high clutter level and a low clutter level in all three dimensions. Table 13 shows that subjects perceiving a low quantity clutter level do not have a higher AMI score than subjects perceiving a high quantity clutter level (t=.32, df=100, p=.38). Similarly, subjects perceiving a low intrusiveness clutter level do not have a higher AMI score than subjects perceiving a high intrusiveness clutter level (t=1.24, df=109, p=.16).

Table 13

T-tests Comparing Direct Effects of Clutter on AMI (one-tailed tests)

	Mean AMI Score	t-value	df	p
Quantity Dimension				
Low	1.5	.32	100	.38
High	1.38			
Competitiveness Dimension				
Low	.84	-1.36	109	.08
High	1.49			
Intrusiveness Dimension				
Low	1.57	1.24	109	.16
High	1.15			

* one-tailed tests are used because the hypotheses have a predicted direction.

Since testing of the indirect effects of clutter was largely based on the memory of a specific ad in the stimulus material, it was necessary to examine the general

performance of the noted ad readership and memory scores of the subjects. Table 14 lists the scores of the subjects on the various memory tasks. It shows that many subjects reported that they did not remember any ad in the dummy magazine (54.6%). Very few subjects could accurately recall or recognize the focal ad. This low performance in memory is usually expected in delayed recall tasks such as this study because subjects are not instructed to pay attention to the ads, and they read the magazine in a normal setting. Nonetheless, subjects' recognition scores are substantially better than aided recall scores. The Spiegel ad, the focal ad of this study, scored quite well with 9.6% of the subjects who cited it as their best-remembered brand. Spiegel was also the most frequently mentioned brand of all the brands in the best-remembered category. Since only four subjects have named a non-existing brand in the issue as the best-remembered brand, the self-reported recall appeared to reflect the true recall of the brand.

In the aided recall task with a product category cue, subjects demonstrated some confusion among product categories. It is more difficult to relate a given product category to a brand than a given brand to a category (Farquhar and Herr 1993). Even though 29.9% reported that they saw a catalog apparel brand, quite a number of them could not or did not write the brand name. Some identified a clothing brand in the issue that was not a catalog apparel brand.

Table 14

Memory Performance

Best Remembered Brand	%
Spiegel	9.6
Not remembered any ad	54.8
Other brands in the issue	24.3
Wrong brand	4.3
Have not read any ad	7.0
Missing=18	

Aided recall with product category cues	
	% (reported remembered the brand)
Correct	14.2 (29.9%)
Wrong	6.2
Not applicable	79.6
Missing=20	

Aided recall with visual cues	
	% (reported remembered the brand)
Correct	8.3 (17.9%)
Wrong	1.9
Not applicable	89.8
Missing=25	

Brand name recognition	
	%
Correct	37.4
Wrong	55.6
Have not seen any ad	7.0
Missing=18	

Saw the ad?	
	%
Yes	35.9
No	57.3
Not noticed any ad	6.8
Missing=16	

Table 14 (cont'd)

Brand claim recognition

	%
Correct	12.8
Wrong	29.1
Not applicable	58.1
Missing=16	

Subjects responded poorly to the visual cues also. Only 8.3% of all the subjects could recall the brand name correctly when given the visual cues. Compared to the recall task with product category cues, the recall task with visual cues achieved a better accuracy rate among those who claimed to have seen the ad with the listed visual cues.

The specificity of the visual cues may account for such results. The scores on brand name recognition and reported noted readership of the Spiegel ad are much better than the aided recall tasks. The closeness among the scores of noted ad readership and brand name recognition (37.4% vs. 35.9%) seem to indicate that the recognition of a brand reflects the noted readership of its ad. Indeed, the correlation between recognition of a brand name and noted readership was very strong ($r=.79$, $p<0.01$). The scores in brand claim recognition are substantially lower than the scores in noted ad readership and brand name recognition. Only 12.8% of the subjects identified the brand claim correctly. Those who reported not seeing the Spiegel ad substituted the best-remembered brand for Spiegel. Hence, around 46% of the subjects could provide complete data for every variable in the model. Those who did not

remember seeing any ad received a 0 score for Aad, resistance to competitive ads, and advertising message involvement.

One way to examine the noted ad readership of subjects is to test the overall recognition of ads that appear in both high and low clutter level manipulations. Table 15 reports the overall recognition of the ads. Subjects did better in identifying the bogus ads than the correct ads. Among the 10 ads, the average correct identification of the bogus ad is 75% while the average correct identification of the correct ads is only 66%. Vibrance Shampoo and Redkin Conditioning Color were the two correct ads that subjects could identify most.

Table 15

Noted Ad Scores

Status	Brand	% Correct Identification
right	Marlboro Cigarettes	66.7
bogus	Allstate Insurance	86.4
bogus	Honda Accord	76.5
right	Jacques Moret	55.6
right	Redkin Conditioning Color	69.1
bogus	United Airlines	72.8
right	Finlandia Vodka	59.3
right	Vibrance Shampoo	79.0
bogus	AT & T	64.2
bogus	Motorola Cellular Phone	72.8

Mean correct identification of bogus ads 74.5%
Mean correct identification of right ads 65.9%
Missing=40

Indirect Effects of Clutter

The indirect effects of clutter were examined through the parameter estimates of the causal paths in the structural equation model. Table 16 reports all the parameter estimates of this study in the original research model generated by the program LISREL VII using the maximum likelihood method. This method progressively improves the parameter estimates so that the discrepancy between the estimates and the true values will only be caused by a sampling fluctuation (Hayduk 1987). Moreover, this method does not require the assumption of normality (Joreskog and Sorbom 1989). It has been suggested that ordinal data such as those used in this study should employ polychoral correlations instead of product moment correlations because the skewness may be corrected by polychoral correlations (Joreskog and Sorbom 1989). There is also an opposing view that product moment correlations should be used even if the data are ordinal because there is no mathematical proof that polychoral correlations can be justifiably entered into the fit function for maximum likelihood estimation. Moreover, unless the skewness is caused by a narrow range in the scale, the usage of polychoral correlations cannot rectify the problem (Hayduk 1987). Peter and Darcin (1991) also contend that the reasoning of the scale and its meeting of the assumption of normality and linearity should determine the choice of the statistics used, not the type of scale. This study employed the Pearson product moment correlation matrix in estimating the structural equation solutions.

The hypothesis that *the more positive the Aav, the higher the AMI* was rejected

(β_{21}=.03, t=.54). Hypothesis 3b predicted that *the higher the AMI, the more positive the Aad.* The data supported this hypothesis (β_{32}=.22, t=3.37). It was also hypothesized that *both positive Aad and better memory of the ad will induce a stronger resistance to competitive ads.* Only the hypothesis that Aad leads to stronger resistance to competitive ads was supported by the data (β_{53}=.67, t=8.51). Memory did not appear to have a significant effect on resistance to competitive ads (β_{54}=.11, t=1.36). The three antecedents of brand equity: Aad, resistance to competitive ads, and memory of the ad all positively correlated with brand equity; but only memory of the ad has a significant effect on brand equity (β_{64}=.22, t=1.99). Aad and resistance to competitive ads have no significant effects on brand equity (β_{63}=.07, t=0.47; β_{65}=.10, t=.77).

Effects of Countervailing Factors

Ad-editorial compatibility was predicted to countervail the effect of clutter by creating a more positive Aav. The data supported such a prediction (γ_{13}=0.18, t=2.54). Aag was also predicted to affect Aav by attitude transfer. This hypothesis was supported by a significant relationship between Aag and Aav (γ_{12}=.24, t=3.34). Product category involvement did not have any significant effect on AMI (γ_{24}=.05, t=1.4). Contrary to the findings of James and Kover (1992), Aag did not have any effect on AMI in this study (γ_{22}=.00, t=-.003).

Hypothesis 7a and 7b predicted that *better ad execution quality leads to higher AMI and more positive Aad.* Both hypotheses were strongly supported by the data (γ_{25}=.91, t=23.4; γ_{35}=.73, t=10.9).

Hypothesis 8a predicted *the moderating role of familiarity with the brand on the relationship between Aad and brand equity.* This hypothesis was tested by partialling out "familiarity with the brand" in the correlation between Aad and brand

Table 16

Standardized Parameter Estimates of the Original Model (t-value)

$ß_{21}$=.03(.09)	γ_{11}=-.48(-6.67)	ζ_1=.61
$ß_{32}$=.22(3.37)	γ_{13}=.18(2.54)	ζ_2=.17
$ß_{43}$=.56(7.21)	γ_{25}=.91(23.4)	ζ_3=.09
$ß_{53}$=.67(8.51)	γ_{35}=.73(10.9)	ζ_4=.59
$ß_{64}$=.22(1.99)	γ_{46}=.10(2.01)	ζ_5=.46
$ß_{65}$=.10(0.77)	γ_{21}=.03(0.71)	ζ_6=.89
$ß_{63}$=.07(0.47)	γ_{24}=.05(1.4)	
$ß_{54}$=.11(1.36)	γ_{36}=.04(1.27)	
	γ_{47}=-.03(-.38)	
	γ_{22}=.000(-.0003)	
	γ_{12}=.24(3.34)	

χ^2 = 85.26 df=38 p<.001

Goodness of fit index (GFI)	=	.92
Adjusted goodness of fit index (AGFI)	=	.80
Total Coefficient of Determination	=	.95

equity. The zero-order correlation coefficient between Aad and brand equity dropped from .28 to a partial r of .15. The hypothesis was supported, but it must be noted that controlling brand familiarity did not reduce the partial r between Aad and brand equity to 0. The relationship between Aad and brand equity was therefore not spurious. Hypothesis 8b predicted that *familiarity with the brand facilitates the memory of the ad.* This hypothesis was also supported (γ_{46}=.10 , t=2.01).

The last hypothesis predicted that *greater exposure to other media will reduce*

the memory of the ad. This hypothesis was rejected due to the insignificant parameter estimate (γ_{47}=-0.03, t=-.38). Figure 4 summarizes the hypotheses-testing results.

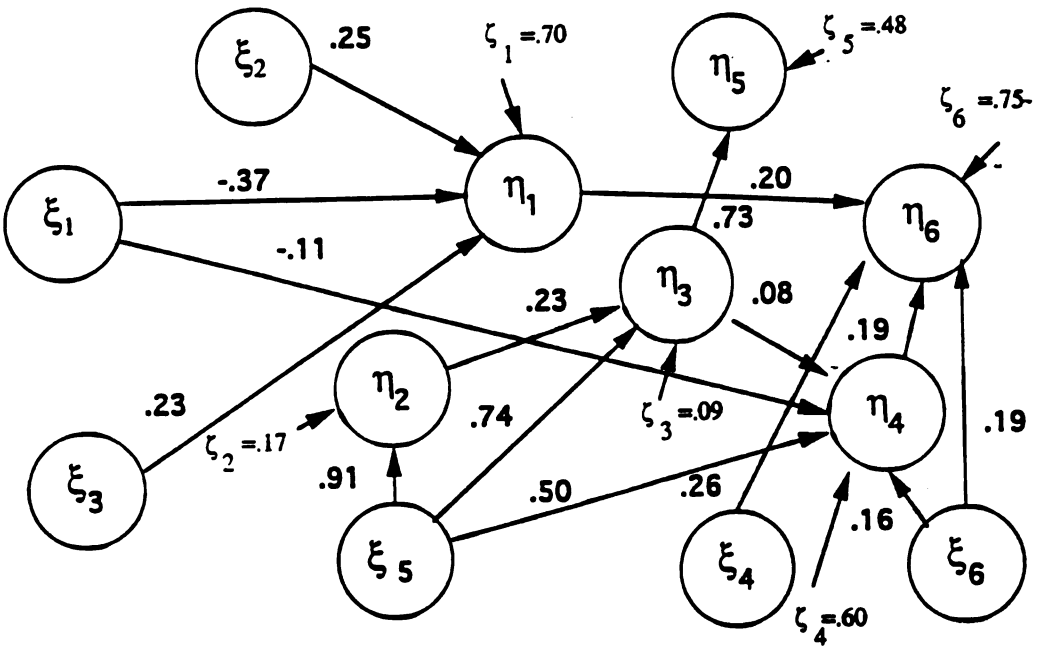
Validity of the Model

The research model shows a moderate fit (χ^2=85.26, df=38, p<.001, GFI=.92, AGFI=.80). The null hypothesis that the model fits the data could be rejected because the model is statistically significantly different from the data with a significance at a 0.05 level. The modification indices show that the model can be improved by relaxing some of parameters and adding new parameters. In light of the insignificant causal paths between exposure to other media and memory, product category involvement and AMI, Aav and AMI, the research model is modified by dropping these paths, and adding product category involvement as a direct determinant of brand equity and the direct effect of execution quality on memory of the ad. The final model is presented in Figure 5 and shows a good fit (χ^2=54.86, df=36, p=.02, GFI=.94, AGFI=.87). Although the chi-square value is still large, it should be noted that chi-square is not a very good measurement of fit because its size is affected by the normality assumption and sample size. The adjusted goodness of fit index (AGFI) is a better indicator of the fit of the model with the adjustment of standard errors (Joreskog and Sorbom 1989). In this case, the AGFI of the final model is quite satisfactory with .87. The total coefficient of determination of the structural equations is .95, which means that 95% of the variance in the endogenous variables can be explained by the exogenous variables. The modification indices also show that there would be no significant gain by adding or dropping any parameters.

	Results
H1. Higher clutter level, more negative Aav	partially supported
H2. Higher clutter level, lower AMI	rejected
H3a. More positive Aav, higher AMI	rejected
H3b. Higher AMI, more positive Aad	supported
H3c. More positive Aad, better memory of the ad	supported
H3d. More positive Aad, stronger resistance to competitive ads	supported
H3e. Better memory of the ad, stronger resistance to competitive ads	rejected
H3f. More positive Aad, higher brand equity	rejected
H3g. Stronger resistance to competitive Ads, higher brand equity	rejected
H3h. Better memory of the ad, higher brand equity	supported
H4. More compatible the clutter with the editorial content, more positive the Aav	supported
H5a. More positive Aag, more positive Aav	supported
H5b. More positive Aag, lower AMI	rejected
H6. Higher product category involvement, higher AMI	rejected
H7a. Better ad execution quality, higher AMI	supported
H7b. Better ad execution quality, more positive Aad	supported
H8a. Higher familiarity with the brand, lower correlation between Aad and brand equity	supported
H8b. Higher familiarity with the brand, better memory of the ad	supported
H9. Greater exposure to other media, poorer memory of the ad	rejected

Figure 4

Summary of Hypotheses-testing Results



ξ_1 Clutter Level
ξ_2 Attitudes toward advertising in general (11-item)
ξ_3 Ad-editorial compatibility (3-item)
ξ_4 Product Category Involvement (3-item)
ξ_5 Ad execution quality (6-item)
ξ_6 Familiarity with the brand (4-item)

η_1 Attitudes toward advertising in a media vehicle (4-item)
η_2 Advertising Message Involvement (4-item)
η_3 Attitudes toward the ad (5-item)
η_4 Memory of the ad
η_5 Resistance toward competitive ads (3-item)
η_6 Brand equity (12-item)

Chi-square= 54.86 df=36 p=0.02

GFI= 0.94

AGFI= 0.87

Total Coefficient of determination= 0.95

Figure 5

Final Model

The model yielded similar results in both the intrusiveness and the quantity dimensions as shown in Table 17. The usage of recall only, recognition only, or both as the measure of memory does not make any major difference in the fit of the model as shown in Table 18. Table 19 lists the direct, indirect, and total effects of the - variables on brand equity.

Table 17
Comparison of Goodness of Fit by Clutter Dimension

	Combined Dimensions	Quantity	Intrusiveness
χ^2	54.86	59.83	68.51
p	.02	.01	.01
GFI	.94	.93	.93
AGFI	.87	.85	.84
Total Coefficient of Determination	.95	.95	.97

Table 18

Comparison of Goodness of Fit by Memory Measures

	Recall and Recognition	Recognition	Recall
χ^2	54.86	50.63	55.33
p	.02	.05	.02
GFI	.94	.94	.94
AGFI	.87	.87	.87
Total Coefficient of Determination	.95	.96	.95

Table 19

Effects of the Variables on Brand Equity

	Total Effects	Direct Effects	Indirect Effects
Clutter level	-.05	0	-.05
Ad-editorial compatibility	.04	0	.04
Aag	.04	0	.04
Ad execution quality	.11	0	.11
Product category involvement	.24	.24	0
Familiarity with the brand	.21	.17	.04
Aav	.15	.15	0
AMI	.02	0	.02
Aad	.11	0	.11
Memory	.20	.20	0

Multiple Regression Analysis of the Variables

To examine the explanatory power of the variables in predicting brand equity, a multiple regression of the variables on brand equity was conducted. The results of the regression is shown in Table 20. Ad-editorial compatibility, product category

involvement, ad execution quality, familiarity with the brand, and Aav seem to be good predictors of brand equity. The variables explain only 30% of the variance in brand equity with an adjusted R^2=.30.

Table 20

Multiple Regression of the Variables on Brand Equity

	Standardized* Coefficients	t-value	p
1. Clutter level	.03	.39	.35
2. Ad-editorial compatibility	-.22	-2.59	.005
3. Product Category Involvement	.28	3.56	.001
4. Ad Execution Quality	-.44	-3.13	.08
5. Familiarity with the Brand	.24	2.86	.003
6. Aag	.13	1.61	.06
7. Exposure to other media	-.03	-.44	.33
8. Aav	-.15	1.70	.05
9. AMI	.04	.24	.41
10. Aad	.32	1.40	.08
11. Resistance toward competitive ads	.11	.99	.16
12. Memory of the ad	.04	.39	.35

$F = 5.69 \quad p < .001$

Adjusted R^2= .30
Standardized Residuals=1.91

Note: One-tailed tests are used because all the independent variables have a predicted direction on the dependent variables.

CHAPTER 6

DISCUSSION AND CONCLUSION

Advertising Clutter and Brand Equity

Advertising clutter has been viewed as an advertiser's enemy and a public nuisance. Researchers and industry practitioners debate on whether clutter affects advertising effects. Armed with the selective attention argument, clutter as a problem of concern has been rejected by critics. The captive audience assumption and the cognitive approach of past research seem unable to answer such a challenge. Despite researchers' efforts, very limited insight into the nature of clutter and how clutter affects advertising effects has been offered.

This study attempts to shed light on this controversy by differentiating the direct and indirect effects of clutter. Factors that may countervail the effects of clutter during the advertising process are also examined. The overload and interference explanation of the effect of clutter are redefined here to incorporate both cognitive and affective responses of consumers toward clutter. Perceived threat of overload and interference, instead of the actual experience of overload and clutter, are postulated to cause the negative effect of clutter on an individual's attitude toward advertising in a media vehicle, and also on his/her advertising message involvement. In addition to the overload and interference explanation, the theory of psychological reactance is introduced to explain consumers' negative responses toward clutter.

Direct and Indirect Effects of Clutter

Results of this study show that there is a significant effect of clutter level on attitudes toward advertising in a media vehicle, but not on advertising message involvement. The hypothesis that clutter has a negative effect on the attitudes of consumers was supported, but the evidence was not supportive of the hypothesis that AMI is mediated by Aav. It may be suspected that the variations in time spent on reading the magazine could explain the difference in AMI, but the data showed no correlation between time spent on reading and AMI, nor between time spent on reading and noted ad readership. When more time was spent on the magazine, readers read more articles, not more ads.

The findings show that Aav and AMI are two separate processes determined by different factors. Aav seems to be determined by Aag, clutter level and ad-editorial compatibility; AMI is largely shaped by the execution quality of the ad as perceived by the individual. The data also show that clutter has a weak direct effect on memory. This seemed to conform to the interference and overload explanation that clutter reduces the information processing capacity of consumers. It should be noted that the t-test comparison does not show a difference between clutter level and memory of the ad. The weak relationship only appears when a complete set of variables are linked to one other.

The indirect effects of clutter on brand equity appears dependent upon whether or not Aav has any effects on brand equity. Attitudes toward the ad, memory of the ad, and resistance toward the ad were hypothesized as the three advertising factors that

affect brand equity directly. Results of this study show that only memory of the ad has a significant direct effect on brand equity. Attitudes toward the ad affect brand equity indirectly by facilitating the memory of the ad. They also facilitate the resistance to competitive ads. Since the data shows that AMI has quite a strong effect on Aad; and Aav facilitates brand equity, it can be deduced that clutter indirectly affects brand equity.

Surprisingly, resistance to competitive ads appear to bear no relationship to brand equity. This may imply that brand equity and resistance to competitive ads are two separate domains. Brand equity is formed by a consumer's cumulative direct and indirect experience of a brand, while resistance is a process of persuasion and counter persuasion that is affected by the positive image and comparative advantages of the products shown in the ads.

The inference to be drawn from such independence between resistance to competitive ads and brand equity is that consumers may not have a definite choice for some products. Multiple brands can co-exist in the evoked set of the consumers. Situational factors such as product availability may determine the final choice. Even if a consumer does not resist competitive ads, he/she may still give a high rating to an advertised brand. This is because there may be several brands with similar high equity in consumers' minds. The competition between brands in consumers' minds may not be a zero-sum game as marketers contend. Unless the equity of a brand is much higher than a competitive brand, the purchase decision may be more likely to be based on a multiple brand set with similar equity.

The Role of Countervailing Factors

Five factors have been identified in this study as possible factors that may countervail the negative effect of clutter on brand equity: advertising-editorial compatibility, attitudes toward advertising in general, product category involvement, ad execution quality, and familiarity with the brand. These factors have been shown to countervail the effect of clutter by enhancing either the Aav, the AMI, memory of the ad, and brand equity during the advertising communication process.

Advertising-editorial compatibility is a factor that appears to contribute to the development of a positive attitude toward advertising in a media vehicle. Attitudes toward advertising in general seem to affect Aav only, and not advertising message involvement. The inference is that Aag is accessible to consumers when they form their Aav during the process of media consumption.

Product category involvement does not appear to have any impact on advertising message involvement. Its role in the advertising process is seemingly not a motivating force for message processing, but a basis for the judgement of a brand's equity. There is a significant direct effect of product category involvement on brand equity. The higher the product category involvement of the consumer, the more likely the consumer is to rate a brand in that product category with a higher equity. This may indicate that the a brand's equity is dependent upon the product's perceived importance to the consumer. In the case of products with which consumers are highly involved, such as automobiles, brand equity may be a more important factor in the purchase decision than less involved products.

Ad execution quality apparently plays a very significant role in enhancing the advertising message involvement of the consumer, the evaluation of the ad, and memory of the ad. This factor almost entirely explains why a consumer pays great attention to an ad with high AMI and why he/she remembers an ad. It may well be that the aesthetic value of an ad is the motivating force for a deeper processing of advertisements because it can lead consumers to expect the pleasant consequence of reading the ad. It is a major factor that can explain why an ad can still be remembered in a competitive message environment.

Familiarity with the brand was found to moderate the effect of Aad on brand equity. Such results are consistent with other studies on the moderating effect of familiarity. It plays a significant role in the processing of an ad by enhancing its retrieval in memory recall tasks, and enhancing brand equity directly by providing alternative cues other than the ad to determine a brand's equity. This seems to favor established brands in advertising, a view in accordance with the emphasis of brand familiarity as a prerequisite of brand equity (Moran 1990; Biel 1992; Macrae 1991).

Exposure to other media is a variable introduced to tap the effect of distraction from additional input of other media on the memory of the ad. This factor does not show any significant effect on the memory of the ad nor other measures of advertising effects. It may be suspected that skipping of the ads may have moderated the relationship between memory of the ad and exposure to other media, but controlling the percentage of ads skipped does not improve the correlation between memory and exposure to the other media. Hence, exposure to other media does not affect memory

of the ad in this study.

That the intensity of exposure to other media does not have any effect on memory is a finding that is contrary to the assumption of overload and interference. It may be possible that the intensity of exposure is not a good measure of the extraneous media consumption factor. The quantity of media consumption may not affect an individual unless the individual pay full attention to these media. Perhaps a subject's involvement with the stimulus material and other media is a better measure of the interference of media consumption intensity with memory in a natural media consumption environment.

How far these factors can countervail the negative direct and indirect effects of clutter seems to rest upon the coexistence and strength of these factors. For example, if an ad is placed in a highly compatible editorial environment, but its execution quality is mediocre, it may not be able to capture the attention of the consumer in a highly-cluttered condition. If all the countervailing factors are present, then it is likely that the effect of clutter can be offset by these factors and become invisible in the measurement of brand equity or memory of the ad. In reality, very rarely can an ad possess all the countervailing factors because some of these factors are not controllable, such as the product category involvement of the consumer. Advertisers can only manipulate those factors that are within their options such as media placement and execution quality.

The fact that only 30% of the variance in brand equity can be explained by the variables in the regression model is no surprise since advertising is only one of the

many sources used to build a brand's equity. The difference in the results between the solutions of the structural equations model and the multiple regression model can be explained by difference in the mechanisms of the two analyses. Structural equations models can decompose the direct and indirect effects among the variables. Since multiple regression cannot account for indirect effects and the inter-relationships among the endogenous variables, the results should be viewed as merely an indicator of the explanatory power of the variables as mutually independent predictors of brand equity.

In short, brand equity in this study has been shown to be caused by familiarity with the brand, memory of the brand's ad, and the product category involvement. Clutter only affects brand equity indirectly by affecting the Aav and memory of the ad.

Three Dimensions of Clutter as Evaluative Measures of Media Vehicles

Media vehicles are chosen for their delivery of target audience and their advertising environment. Clutter was conceptualized in this study as the three-dimensional density of advertising in a media vehicle, comprising of quantity, competitiveness, and intrusiveness. Results of this study demonstrate the negative effect of clutter on the consumer's evaluation of the advertising environment in both the quantity and the intrusiveness dimension. The individual differences in the tolerance level of each dimension of clutter are very pronounced in the intrusiveness dimension, but not significant in the quantity dimension of clutter. For the quantity dimension of clutter, the evidence suggests that advertisers can still evaluate different

media vehicles' clutter level with the indices employed in this study. For the intrusiveness dimension, an advertiser may possibly use the indices employed in this study as an estimate of readers' clutter tolerance level in similar type of magazine titles.

The effects of the competitiveness dimension of clutter cannot be measured in this study because of the failure of the competitiveness manipulation. A plausible explanation of why the competitiveness dimension manipulation failed to induce a perception of high competitiveness in this study is that the subjects might not have read most of the ads. They could not perceive the competitiveness of the ads and so were not affected by the competitiveness dimension. The highly unequal number of cases between perceived high competitiveness and low competitiveness may also account for the insignificant effect of competitiveness. With such a restrictive assumption that readers have to attend to all the competitive ads, the utility of the competitiveness dimension of clutter may be somewhat limited. Even if it can be shown that competitiveness also negatively affects the Aav, AMI, and memory of the ad; competitiveness of the ads in a media vehicle would be meaningful only if an advertiser is certain that most of the ads of the vehicle would be read. Otherwise, it is doubtful whether or not consumers can recognize the competitiveness of the advertised products in a media vehicle.

Attitude Transfer from General to Specific

Studies on attitudes toward advertising generally imply that there will be an attitude transfer from a general media class to a specific media vehicle and to a

specific ad. This notion is only partially supported in this study. The accessibility of attitudes toward a general object in the formation of evaluation on a specific object is low. When a consumer reads a magazine, for example, its specific editorial content and advertising mix are the basis for the formation of the attitude toward the advertising in that magazine. His/her general attitude toward advertising is accessible and exerts influence on his/her Aav formation. This seems to support the attitude transfer hypothesis. However, attitudes toward a specific ad are largely caused by how well the ad is executed. There is no attitude transfer from Aav to Aad, nor from Aag to Aad. This is consistent with findings about the antecedents of Aad (Biehal et al. 1992).

Attitude researchers contend that a positive attitude toward advertising in general can enhance advertising effects. Results of this study indicates that Aag plays a role in the processing of advertisements of specific brands by affecting Aav. It is also noteworthy that there is a strong positive relationship between Aad and resistance toward competitive ads. Once an ad is accepted by the consumer, then the consumer is more likely to resist competitive ads. Aad can be a good indicator of whether an ad has successfully persuaded the consumer to withstand the lure of competitive ads.

Reliability and Validity of the Scales

Ten scales were developed in this study to measure the latent variables. These scales in general displayed satisfactory reliability and validity by measures of consistency, equality of items, item-scale correlations, percentage of variance explained, and discriminant validity in a confirmatory factor analysis. Of particular

interest are the ad execution quality scale and brand equity scale which can be reexamined with future marketing and advertising research. The number of items is not too large for inclusion in a study and the scale adequately measures the two constructs. The ad execution quality scale can explain 97.5% of all the variances with six items only. The brand equity scale can explain 59% of the variances. The subscales for each of the four dimensions of customer-based brand equity -- positive association, brand loyalty, perceived quality, and top-of-mind awareness -- perform even better. Over 83% of the variance of the top of mind awareness dimension, and 82.7% the variance of the perceived quality dimension can be explained by each subscale representing the dimension.

Most of the scales adapted from other studies show better results than the original scales, except the Aag scale which explains 36 percent of the variance only. The original Aag scale is reported to be able to explain 58% of the variance (Muehling 1987), but its results were based on a homogeneous sample of business students. Its 31 items also limit the practical utility of the scale as one of the variables in general surveys. The Aad scale and AMI scale employed in this study are simplified versions of Olney et al. (1992) and Laczniak and Muehling's (1993) scales respectively. Containing fewer items, these scales score as high or higher in reliability and validity than the longer original scales. This may indicate a refinement of the scales and may be applied in future studies.

The usage of multiple items in measuring the latent variables allows a researcher to assess the measurement error of his/her research model. The error of the

measurement for the indicators can be shown in the squared multiple correlations. The higher the squared multiple correlations are, the lower the errors of measurement are. Among all the scales, the indicators of ad execution quality construct scored best with an average squared multiple correlation of 0.95.

Although Aag, Aav, and Aad are three attitude scales that look similar to one another, they are actually three distinct constructs. Data in this study showed that they are three discriminantly valid constructs of their own right in confirmatory factor analysis. It is necessary to differentiate them when measuring consumers' attitudes toward advertising. The choice of which attitude scale to use should be based on the research question. If the attitude object of interest is pertinent to the media vehicle, then items in the Aav scale can be used, instead of Aag. However, if the research interest is on advertising as a social institution, only items in Aag scale should be used. In the Aag scale, there is a distinction between the global attitude statement and the belief statement. The belief statement reflects the respondents' knowledge of and experience with advertising. One possible inference is that the stronger the correlation between attitude statements and belief statements, the more the respondent's attitude is based on knowledge and experience.

The familiarity with the brand scale also consists of two types of experiences. Advertising experience had a high loading of 0.74 on the scale. Product usage experience produced a relatively low loading of 0.49 on the scale. This suggests that there is a big difference in direct experience and indirect experience of a brand. A person may be highly familiar with a brand just by being frequently exposed to a

brand's advertising, but may have never used the brand before. A person that uses a brand often may not be often exposed to the brand's advertising if he/she is not an active media user.

Implications of the Study

Theoretical Implications

One major discovery of this study was the individual differences in the tolerance level of clutter. Past studies such as Brown and Rothschild (1993), Pillai (1990), Cobb (1985) have assumed that there is a common high clutter level for every individual and the effect of clutter is across the board. Results of this study show that this assumption is far from valid, especially in the intrusiveness dimension of clutter. Some consumers may welcome advertising so much that they do not consider advertising as interrupting their consumption of the media content. Some consumers may be so hostile toward advertising that even the arrangement of the ads does not interrupt their reading, they still consider the ads as intrusive. The intrusive dimension of clutter demonstrates its effects on Aav only when the individual's perception of intrusiveness level is used, but not in a manipulated intrusiveness level situation.

The combined cognitive and affective approach used in this study has provided a fuller explanation of the effect of clutter on advertising effects. The direct effects of clutter on attitudes toward advertising in a media vehicle was generally confirmed by the data for two of the three proposed dimensions of clutter: the quantity and intrusiveness dimensions of clutter. Clutter only has a weak direct negative effect on memory too. This may indicate that the direct effect of clutter on memory as posited

by the interference and overload theory can only be applied to a limited number of individuals.

Perhaps one of the most significant findings of this study is the importance of attitudes to the advertising process. There is a direct effect of Aav on brand equity, suggesting that a perceived favorable advertising environment could facilitate the acceptance of the advertisements and the advertised products. The high coefficient between Aad and resistance to competitive ads reinforce the importance of the studying of Aad in explaining the effects of advertising on consumers. Since execution quality is an important determinant of Aad as shown in the results of this study, future researchers on Aad would have to provide a good measure of ad execution quality, instead of taking execution quality for granted.

This research model offers a preliminary explanation of how Aav and Aad are formed. Advertising message involvement plays quite a significant role in this attitude formation process. It allows a consumer to process an ad with more time and cognitive effort, as suggested by Laczniak and Muehling (1993), so that a more positive evaluation of the ad can be formed. Ad execution quality also contributes to this process by facilitating the advertising message involvement and providing sensory gratification to the consumers with cues other than the advertised product.

In a multiple competitive advertising message environment, an ad can fulfil its task of building brand equity by its well-crafted artistic value with an appropriate media placement. The aesthetic value of the ad is very important in creating a high advertising message involvement and a positive Aad to countervail the negative Aav

and lower memory in a highly cluttered environment. Ad execution quality is more important for new brands than established brands because new brands do not enjoy the advantage of having the alternative cues of brand familiarity as established brands. The understanding of the importance of ad execution quality may mean a dilemma between emphasizing high frequency at the expense of execution quality, and emphasizing execution quality at the expense of frequency. The latter seems to give a better payoff to advertisers if building brand equity is the goal of advertising.

Moreover, the ad should be placed in an compatible editorial environment which can facilitate the development of a positive Aav. Such positive Aav guides the consumers' processing of the ad as suggested by Yi (1993) and Thorson (1990). A well-executed ad and a compatible editorial environment can be efficient clutterbusters that can countervail the negative effect of clutter.

A brand's equity is built by many factors. In this study, familiarity with the brand, memory of the ad, and product category involvement all were found to contribute to the enhancement of a brand's equity directly. Consistent with the views of other researchers on brand equity (Aaker 1993; Moran 1990; Baker et al. 1986), advertising plays an important role in familiarizing consumers with the brand. A positive memory of the ad will give a brand higher equity.

The ad execution quality scale developed in this study is an answer to the call for improving measures of execution quality of the ad (Bell 1988). The five elements of a print ad -- headline, copy, layout, visual, and typefaces, in addition to a global evaluation of the craftsmanship of the ad, form the basis of evaluation. This approach

of differentiating the quality of the ad in terms of the provocativeness of the headline, the writing skill of the copy, the picture's attractiveness, the layout's outstandingness, and the appeal of the typefaces from a consumer's perspective seems to be highly reliable and valid in confirmatory factor analysis. It may be tested in future studies to assess the role of ad execution quality in the advertising process. The scale could be adapted to other media by the production characteristics of the medium.

Magazines have long been viewed as a high involvement advertising medium where readers are consciously aware of what they have read and learned. However, this study indicates that low involvement learning of advertising is also possible in self-paced media such as magazines. The overall noted readership performance of the subjects in this study provides evidence of such a low involvement learning process. Many magazine readers do not admit that they are influenced by the ads. Unconsciously, the ads have sneaked into their minds. The subjects could correctly identify brands that were or were not advertised in the issue although they said they did not remember seeing any ad. The higher scores in recognition rather than the aided recall scores also indicate that consumers do not realize they already have a memory structure of the ad. Nevertheless, more cognitive efforts and deeper memory formation is necessary to achieve a strong Aad to resist competitive ads. Noted readership is not enough to do a successful sell for a brand. Successful advertising that can withstand competition may only be possible when a consumer has undergone a high involvement learning of the ad and develops a positive Aad.

The negative effect of clutter on magazine advertising effects found in this

study can be a warning sign for other new media which are rushing for advertising revenues such as on-lines services and some of the pay cable services. These media may need to look out for the clutter level that their subscribers can accept and provide a balance of ad service and editorial service before a negative Aav develops for their service.

Methodological Implications

This study attempted to simulate the actual reading environment for magazine advertising. As expected, the overall advertising recall performance of the subjects was much lower when compared to other studies on clutter using forced exposure in laboratory settings. The relatively low scores in memory of the ad in this study than previous studies may indicate a big difference between tapping audiences' responses in an uninstructed delayed recall task and settings that require subjects to concentrate on the stimulus materials. Such low scores on the memory of individual ads may be a better reflection of reality.

The presence of both editorial content and advertisements in the stimulus materials can test the synergy between the editorial content and advertisements in an editorial medium such as magazines. This factor has been largely ignored in most studies of magazine ads which isolate magazine ads from the editorial content. Since advertising media contain both editorial content and ads, the editorial content and ads can compete for the attention of the readers. They can also be complimentary to each other. For example, this study has found a positive effect of editorial content's compatibility with advertising on Aav.

The procedures of checking the appropriateness of the stimulus materials and the validity of the manipulation are vital to a correct interpretation of the results. For example, the failure of the competitiveness dimension manipulation in this study can distort the results. The checking of the intrusiveness dimension reveals the high individual difference in clutter perception level.

The sample in this study has an advantage over most experimental studies in advertising which used either business or advertising students as their subjects. The recruitment of students in general education classes is much more difficult than in advertising/marketing classes. The great effort to recruit non-advertising student subjects can pay off by providing a much broader group of subjects, most of whom have no training or preference in advertising or related topics. The bias of subjects in affecting the results can be minimized. With a diverse college student sample, results of this study have a higher generalizability than other similar experimental research.

The effect of clutter is the same with either recall or recognition as the memory measure. The two measures yield similar results because both measures have cross-checking mechanisms and are of considerable difficulty. Over-reporting is not likely to happen. Subjects have to know the brand's product category and the visual characteristics of the ad in order to get scores in the aided recall task. With the recognition measure, the presence of similar bogus brands and actual excerpts of the claims of different ads in the same issue confuse subjects who do not remember the ad well. Results of this study provide further support to the suggestion that both methods can be as good to measure the memory of the subject in delayed situations (Singh,

Rothschild and Churchill 1988).

Overall recognition tasks show that the shampoo and haircare ads were best recognized among the subjects. The frequent usage of shampoo and haircare products by subjects may account for the high recognition rates of these two ads. This question has the highest number of missing data. One possible reason is that it is put at the end of a lengthy questionnaire. To identify ten ads may seem to require too much effort of the subject. Another reason may be that subjects really could not identify the ads at all and just left the answer blank.

The application of the structural equations modeling technique in this study decomposes the direct and indirect relationships between clutter and advertising effects. The structural parameter estimates not only show the relationships between the exogenous variables and endogenous variables, but also reveal the relationships among the endogenous variables. Missing causal paths can be identified by the modification indices. For example, the effects of product category involvement on brand equity could not be known using traditional methods of statistical analysis such as ANOVA. Researchers on clutter and other advertising effects may use this technique to broaden the horizons of their conceptualization. Studies on advertising effects can be freed from the constraints of association between variables and can avoid falling into the traps of distal fallacy. A meaningful linkage of the variables can provide a fuller picture of the advertising process.

Practical Implications

The worry of advertisers about the effect of clutter on advertising effectiveness is partially supported in this study. Clutter lowers the Aav and to a lesser extent, the memory of the ad by the consumer. By negatively affecting Aav and memory of the ad, clutter indirectly affects Aad and brand equity, respectively. Results of this study confirm the suggestions of practitioners that there are countervailing factors that can offset the negative impact of clutter on Aav and memory of the ad. These factors are the ad execution quality and advertising-editorial compatibility. The former is the job of the creative staff and the latter is the job of the media planning staff. Advertisers should strive to maximize the AMI of the ad by creating a high quality advertisement that excels in headlines, copy, visual, typeface, and layout. The high AMI then achieved can facilitate the development of a positive Aad. Ads should be placed in a compatible editorial environment to maximize the benefit of a positive Aav in enhancing an advertised brand's equity.

The three dimensions of clutter identified in this study may serve as an additional evaluative measure of a media vehicle for an advertiser. As this study shows, the quantity and the intrusiveness of clutter have a negative impact on Aav and memory of the ad. If the ad of an advertiser does not possess the countervailing factors such as a very high execution quality, the advertiser should try to avoid media vehicles with a high clutter level because his/her ad is highly likely to be missed by the consumer in a cluttered environment. The large readership of popular magazines may not be appropriate for some advertisers because their clutter level is usually high

and their editorial environment may not be compatible with the product.

Advertising media owners can benefit from this study by reviewing the three dimensions of clutter in their own media. The large quantity of ads could produce an unfavorable environment for consumers to process the ads by the resultant negative Aav. When advertisers become suspicious of the quality of the advertising environment of the media vehicle, they may withdraw their advertising support. The short-term gain in advertising pages may not be able to compensate the media for its eventual loss of advertising effectiveness in the long run.

The belief that a more intrusive arrangement of ads will get better attention is not supported in this study. In the manipulated intrusiveness conditions, there is no significant difference in the AMI score between high and low intrusiveness level. When intrusiveness is determined by subjects' perception, high intrusiveness levels create a negative impact on Aav and memory. This result has great implications on the arrangement of the advertising pod. If intrusiveness does not yield gain in AMI, the media should not risk the resistance from the readers by interrupting their reading of the media content. Advertisements do not necessarily need to infiltrate into an editorial unit to create an impact if their execution quality is high and compatible with the editorial content.

The effect of advertising editorial compatibility in affecting Aav may indicate a need for media owners to rethink their strategy in recruiting advertisers and editorial policy. If they wish to maintain their current editorial profile and be independent from advertisers' pressure, they may want to go after advertisers who have products

compatible to their editorial content. For example, a general interest magazine such as *Readers' Digest* may not want to recruit industrial advertisers such as Exxon Oil Refinery. If the media owners would like to broaden their pool of advertisers, their editorial policy may have to change to accommodate their needs. If they want to recruit more car advertisers, they may need to include more articles on automobiles or life-style features to provide a compatible editorial environment for these advertisers. The risk of this strategy is that the media vehicle will relegate itself as an vehicle of advertisers and may antagonize its readers who do not like the shift in editorial content.

Limitations of the study

This study recruited a fairly representative sample of college students by recruiting subjects in general education classes. The requirement of answering two questionnaires at two consecutive classes and take a magazine back home to read posed a barrier to subject recruitment. The final sample size of 130 is acceptable (excluding those who read more than three articles previously), but not large enough to further explore all the possible parameters in the measurement model in the structural equations.

The failure of the manipulation of the competitiveness dimension of clutter is the greatest drawback of the study. For future studies that need to manipulate this dimension, it is necessary to know how competitiveness is perceived by consumers. It may be so product-specific that a pre-test on the products' similarity on the perceptual map of consumers may be required before the actual experiment is conducted. If the

manipulation still fails after a pre-test on the competitiveness of the products has been conducted, then one can draw the conclusion that competitiveness is a valid concept only when all the alternative/competitive ads have been read by the consumer.

The usage of a new magazine as a stimulus material may explain why clutter did not stimulate advertising avoidance behavior in this study. As discussed in Chapter 2, if individuals are not familiar with the format or content of the media vehicle, they are less likely to skip the ads. If the tested magazine is one that the subjects subscribe to, the results on advertising message involvement may be different from this study.

This study's primary interests lay in exploring the proposed three dimensions of clutter and their impact in the advertising process. No interactions among the three dimensions have been studied to avoid the complexity of factorial designs in structural equations models. Nevertheless, results of this study do not show that the three dimensions create opposite effects. It may be a next step for researchers to explore the interaction among the proposed dimensions in future studies.

The method of handling missing data by mean substitution in this study is a compromise between the loss of data and attenuated estimates. The results of this study should therefore be viewed only as a conservative estimate of the relationship among the variables.

To avoid overcomplexity of the research model, this model has only included some of the major creative and media factors in advertising. Ad execution quality is the creative variable chosen that may countervail the effect of clutter. Other creative variables such as the product's positioning and usage of celebrity endorsement in

arousing AMI has not been studied. Clutter level and advertising-editorial compatibility are the two media factors included the model. Positioning and frequency of the ads are also possible countervailing variables which have not been studied in this study.

Suggestions for Future Research

The model in this study represents an effort to explain the relationship of clutter and brand equity in the advertising process. However, the low coefficients for some of the causal paths may indicate that there are missing mediating variables that may better explain relationships of the variables. For example, the relationship between Aav and brand equity may be mediated by the number of ads being read.

The indirect effects of clutter on brand equity by affecting Aav and memory of the ad have been shown in the results. The large individual differences in the tolerance of clutter level is a subject that should be pursued in order to provide solutions to the clutter problem. An area of study that can be developed is to identify the determinants of clutter tolerance level such as the level of interest in the editorial content.

Since the competitive manipulation in this study has failed, the question of whether competitiveness creates any effect on consumers in a multiple advertising message environment has not been answered. A better manipulation of competitiveness may shed light on this question and test whether the assumption of reading all the competitive ads is a prerequisite to testing for competitiveness. If the competitiveness dimension is so dependent on the thoroughness of exposure of

multiple ads, the utility of the concept may be rather limited.

A natural extension of this study is to examine the interaction of the three dimensions of clutter in a factorial design on the direct effects of clutter found in this study: Aav and memory of the ad. If no interaction is found, then the dimensions of clutter can be viewed as an additive phenomenon. If there is an interaction, one dimension could be a countervailing factor of the other dimension. In that situation, the concept of clutter will have to be reexamined.

The economic effects of advertising clutter and advertising rates is another management issue that can be explored. With the present understanding of how clutter affects attitudes toward advertising in a media vehicle, whether advertising rates should be adjusted according to the clutter level of a vehicle can be a matter for the industry to negotiate. The clutter level of the vehicle may be a basis for media placement discount if more studies on clutter can confirm the relationship between clutter and its negative effects on advertising effects.

This study has only examined the impact of clutter on individual ads, but clutter may also pose a threat to the readership of the editorial content too. The difficulty in processing the editorial content that may be caused by highly intrusive clutter can be a subject for further study.

Based on the results of this study, a cross-vehicle and cross-media comparison of the effects of clutter on brand equity as suggested in the final model should be conducted to test for the generalizability of the model. A comparison can be made between vehicles of different frequency such as weeklies and monthlies, between

media with different mode of presentation such as TV, radio, newspapers, and between business and consumer publications.

The composite indices of this study can be used for a survey of the objective clutter level in the magazine industry and other media. The clutter problem has been overlooked in the magazine industry. There has been no attempt to assess the severity of the clutter problem in magazines. A future study pursuing this issue can be a comparison of the clutter level between business publications and consumer publications. The former rely more on advertising income than the latter do to cover the cost of production. This may serve as a good basis on which to discuss the advertising clutter issue in the magazine industry.

APPENDICES

APPENDIX A

Research Questionnaires Used in Experiment

Code Number: _____

RESEARCH QUESTIONNAIRE 1

As a potential subscriber, you are invited to preview and evaluate *College Voice*, an upcoming general interest magazine for college students. Before you read it, please fill out this questionnaire for our reference purpose. Thank you for your participation.

Unless stated otherwise, please circle the number of your answer for each question.

Part I.

1. **We would like to know your magazine reading habits. Please indicate how often you read magazines.**

   1 At least three magazines a week
   2 Two magazines a week
   3 One magazine a week
   4 One magazine every two weeks
   5 Very occasionally (Less than one magazine every two weeks)
   6 Never read any magazines **(please skip to Part II)**

2. **Please list the titles of the three magazines that you read most often.**

	Do you buy or subscribe to this magazine?	
_____	Yes ____	No ____
_____	Yes ____	No ____
_____	Yes ____	No ____

3. **When do you usually read magazines?**

   1 Weekday (Monday-Friday)
   2 Weekend (Saturday, Sunday, or holiday)
   3 Both weekday and weekend

Part II.

Since our magazine will carry advertising, we would like to know your attitude toward advertising in general. Please circle the degree of your agreement with the statements below.

1. **Advertising is honest.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

2. **Advertising is annoying.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

3. **Advertising is good.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

4. **Advertising is worthless.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

5. **Advertising saves my time searching for product information.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

6. **The claims in advertising are always exaggerated.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

7. **Advertising helps raise our standard of living.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

8. **Advertising makes people try to get products they should not buy**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

9. **Advertising adds to the costs that must be passed along to the consumers in the form of higher prices.**

   7 6 5 4 3 2 1
   strongly agree ---- strongly disagree

10. Advertising appeals to people's emotions rather than to their intelligence.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

11. Advertising is essential.

7 6 5 4 3 2 1

strongly agree ---- strongly disagree

12. Advertising is a reliable source of information about products.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

Part III.

Information on your life-style will also enable us to prepare content suitable to your needs. Please circle the degree of your agreement with the following statements.

1. I like to socialize with other people.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

2. If I have time, I would rather stay home than go out.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

3. I don't like to talk to strangers.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

4. If given the opportunity, I'd like to reach a top management position within a short time.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

5. The most important thing in life is to be successful.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

6. I feel great to be able to work on several projects at the same time.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

7. I always try a product before my friends do.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

8. I always buy the latest model of any product.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

9. I always provide opinions to my friends on products they plan to buy.

7 6 5 4 3 2 1
strongly agree ------ strongly disagree

Part V.

Please provide the following information to aid our analysis of the data.

a. Your Gender:

1 Male
2 Female

b. Your Major:

_____

c. Your Year in College:

1 Freshman (first year)
2 Sophomore (second year)
3 Junior (third year)
4 Senior (fourth year or longer)

d. Your Family's Annual Income:

1 Under $15,000
2 $15001 - $25,000
3 $25,001 - $35,000
4 $35,000 - $50,000
5 $50,000 - $75,000
6 $75001 and $90,000
7 $90,001 and above

e. Your Age:

_____

Color of Magazine:_____ Code Number: _____

RESEARCH QUESTIONNAIRE 2

Please answer the following questions as accurately as you can. Put a circle around the number of the correct answer. Thank you for your participation.

Part I. About *College Voice*:

1. On which day did you last read this issue of *College Voice*?

1 Thursday
2 Friday
3 Saturday
4 Sunday
5 Monday
6 Tuesday
9 none - **please skip to PART IV on page 5**

2. In total, how much time did you spend on reading this issue?

____ hour(s) _____ minutes

3. How many articles in this issue have you read?

_____ articles

4. Which article did you like most in this issue?

_____

5. If you were to give a score from 1 to 7 (7 for the best), what would be your rating of the editorial content quality of this issue?

_____ points

6. I would subscribe to this magazine at a cost of $_____ per issue. (If you don't think you will subscribe to it at any cost, please write 0).

7. I would like to obtain a free subscription to this magazine for a trial period of three months.

7 6 5 4 3 2 1
Strongly agree ------ strongly disagree

8. How did you read *College Voice*?

1 I browsed the pages at random
2 I read only the articles listed in the cover
3 I read from the first to the last page, skipping pages that I did not like
4 Other (Please state)_____

Part II. We would like to know your comments on the specific aspects of the issue that you read. Please circle the number that corresponds to your agreement with the statement.

1. **Too much space is devoted to advertisements in this issue of *College Voice*.**

7 6 5 4 3 2 1
strongly agree ----- strongly disagree

2. **Advertisements interrupt my reading of this issue of *College Voice*.**

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

3. **Without advertisements, the price of *College Voice* will be higher.**

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

4. **There are too many advertisements in this issue of *College Voice*.**

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

5. **I like the advertisements in this issue of *College Voice*.**

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

6. **I think the advertisements in this issue of *College Voice* fit well with the content.**

7 6 5 4 3 2 1
strongly agree ----- strongly disagree

7. **It is easy to distinguish between the advertisements and the articles in *College Voice*.**

7 6 5 4 3 2 1
strongly agree ----- strongly disagree

8. **What proportion of the ads in this issue went with the content?**

1 less than 20%
2 21-40%
3 41-60%
4 61-80%
5 81-100%

8a. **The products advertised in this issue were very similar.**

7 6 5 4 3 2 1
strongly agree ----- strongly disagree

9. How many ads in this issue of *College Voice* did you notice?

0 none - **please skip to PART VI on page 8.**
1 very few (1-19%)
2 a few (20-39%)
3 some (40-59%)
4 a lot (60-79%)
5 almost all (80%-100%)

10. Which advertised brand in this issue did you remember best? Please write down the name of your best-remembered brand in the space below.

1 _____ (brand name) - **Please answer Q.12.**
2 I did not remember any advertisements - **Please answer Q.11.**

11. Can you tell us why you did not remember any advertisement in the issue?

1 I did not read any of the ads at all
2 I just could not remember
3 Any other reason (please state) _____

12. Do you remember seeing any catalog apparel advertisements in this issue?

1 Yes
2 No --- **skip to Q.14**

13. What's the brand name(s) of that catalog?

_____

14. Do you remember seeing an catalog apparel ad with a woman sitting on the ground in the issue?

1 Yes
2 No --- **skip to Q.16**

15. What's the name of that product?

_____

16. Which one of the following clothing brands has advertised in this issue?

1 Dockers
2 Spiegel
3 Gitano
4 Ralph Lauren
5 Don't know

17. Have you seen an ad of the Spiegel clothing catalog in this issue of *College Voice*?

1 Yes
2 No -- **Please skip to Part III.**

18. Which of the following was the slogan of the Spiegel ad in this issue? Please do not go back to questions
on the previous page (All of the following choices are from the ads in this issue).

1 Home stretch
2 I love what you do for me
3 The bon marche
4 Simplicity, style, value
5 Shaping the looks of today
6 Don't know

Part III. What do you think about the Spiegel ad (IF YOUR ANSWER TO Q.17 ABOVE IS NO, PLEASE RATE THE AD OF YOUR BEST REMEMBERED BRAND IN THIS ISSUE). Please circle your score on top of the statement unless stated otherwise. If you said you didn't remember any ad in Q.14 above, please go to Part IV on
page 5.

Section A.

1. 7 6 5 4 3 2 1
This ad was pleasant --- unpleasant

2. 7 6 5 4 3 2 1
This ad was useful --- not useful

3. 7 6 5 4 3 2 1
This ad was entertaining --- not entertaining

4. 7 6 5 4 3 2 1
This ad was interesting --- uninteresting

5. 7 6 5 4 3 2 1
I liked this ad --- disliked this ad

Section B.
1. I paid attention to the content of the ad:

7 6 5 4 3 2 1
strongly agree -------strongly disagree

2. I carefully read the content of this ad:

7 6 5 4 3 2 1
strongly agree -------strongly disagree

3. When I saw the ad, I concentrated on its contents.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

4. I expended effort looking at the contents of this ad.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

5. We would also like to know your attitude toward the elements of the Spiegel ad (or your best-remembered ad if you said you did not see remember the Spiegel ad in Q.17 above). Please circle your score <u>on top of each description</u>.

a. The picture in the ad was

7 6 5 4 3 2 1
attractive ------ unattractive

b. The design (layout) of the ad was

7 6 5 4 3 2 1
outstanding -------- poor

c. The headline in the ad was

7 6 5 4 3 2 1
provoking --------- boring

d. The copy of the ad was

7 6 5 4 3 2 1
well-written ---- poorly written

e. The typefaces used in the ad were

7 6 5 4 3 2 1
appealing ---- unappealing

f. Overall, the ad was

7 6 5 4 3 2 1
well-crafted ----- poorly done

Part IV.

1a. Had you heard of or seen the Spiegel brand (Please substitute with your best-remembered brand that you listed in Part II, Q.14 if you said you did not see the Spiegel ad in Q.17) before reading this issue?

1 yes
2 no -- **please skip to Q.2a**

1b. If yes, how often had you heard about or seen the brand?

1 almost everyday
2 at least two times a week
3 at least once every week
4 at least once a month
5 at least once a year
6 less than once a year

2a. Have you used this brand before?

1 yes
2 no --- **please skip to Q.3a**

2b. How often have you used this brand?

1 almost everyday
2 at least two times a week
3 at least once every week
4 at least once a month
5 at least once a year
6 less than once a year

3a. Have you seen advertising for this brand before?

1 yes
2 no ---- **please skip to PART V.**

3b. How often did you see the advertising of this brand?

1 almost everyday
2 at least two times a week
3 at least once every week
4 at least once a month
5 at least once a year
6 less than once a year

3c. Have you seen a Spiegel ad the same as the one in this issue before?

1 yes
2 no

Part V. If you said you did not remember any ad in Part II Q.14, please skip to Q.5 on page 7. Apart from the Spiegel ad, we would like to know your opinion on other ads as a whole. If you don't remember the Spiegel ad, substitute Spiegel in the following questions by your best-remembered brand and the product category of your best-remembered brand in this issue. Please circle the right answers.

1. Have you seen any ads for apparel products similar to Spiegel in this issue?

1 Yes - **please skip to Q.2.**
2 No– **please skip to Q.1a.**

1a. Why did you not see any ads of products similar to Spiegel in this issue?

1 I skipped all the other ads in this issue
2 I did not want to see any ads of similar product
3 I was not aware of any ads of similar product
4 Other reasons (please state) _____

2. The claims in the ads of these other brands are more credible than Spiegel?

7 6 5 4 3 2 1
Strongly Agree --- strongly disagree

3. The ads of these other brands are better in quality than Spiegel?

7 6 5 4 3 2 1
Strongly agree ---- strongly disagree

4. If I were to choose one of the clothing brands (or your best-remembered brand's product category) advertised in this issue for purchase, I will choose

1 Spiegel (or your best-remembered brand)
2 Other brands advertised in the issue
3 Brands that were not advertised in this issue
4 Cannot determine

5. The image of Spiegel is the same as the other clothing brands.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

6. The image of Spiegel represents what I would like to be.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

7. I feel bad using this brand.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

8. I would rank this brand as my ____ choice if I purchase clothes (or you best-remembered brand's product category).

1 first
2 second
3 third
4 fourth or more
5 never consider this brand

9. I won't mind paying a higher price for this brand.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

10. If the catalog of this brand is not sent to me free, I am willing to pay to get one.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

11. I agree with the claim that Spiegel products are simple, stylish, and of good value (substitute the claim of your best-remembered brand here if you don't remember the Spiegel ad).

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

12. The quality of this brand is superior to other brands.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

13. Spiegel is most suitable to my needs.

7 6 5 4 3 2 1
strongly agree ----- strongly disagree

14. Spiegel is the most popular brand in the category.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

15. When I need to buy clothes (or product category of your best-remembered brand), I will think of Spiegel (or your best-remembered brand) immediately.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

16. When asked about brands in clothing (or product category of your best-remembered brand), Spiegel (your best-remembered brand) will come to my mind immediately.

7 6 5 4 3 2 1
strongly agree ---- strongly disagree

Part VI.

1. I plan to buy clothes within (e.g. 10 days, 5 months, etc.)

___ year ___ months ___ days
___ Never buy clothes

2. If I chose the wrong brand of clothes, I'll

7 6 5 4 3 2 1
have a lot to lose ------- have little to lose

3. My decision to buy clothes

7 6 5 4 3 2 1
requires a lot of thought ---- requires little thought

4. For me, buying clothes will be

7 6 5 4 3 2 1
a very important decision ---- very unimportant decision

If you said you did not remember any ad in Part II Q.14, please answer the following questions. IF YOU REMEMBER THE SPIEGEL AD OR IF YOU SAID YOU DIDN'T READ ANY OF THE ISSUE OR ANY AD, PLEASE SKIP TO PART VIII.

Part VII.

1. I plan to buy the product category of my best-remembered brand in this issue within (e.g. 10 days, 5 months, etc.)

___ year ___ months ___ days
___ Never buy this category

2. If I chose the wrong brand of the product category of my best-remembered brand in this issue, I'll

7 6 5 4 3 2 1
have a lot to lose ------- have little to lose

3. My decision to buy the product category of my best-remembered brand in this issue

7 6 5 4 3 2 1
requires a lot of thought ---- requires little thought

4. For me, buying the product category of my best-remembered brand in this issue will be

7 6 5 4 3 2 1
a very important decision ---- very unimportant decision

Part VIII. Lastly, we would like to know how you used other media during the period that you had ***College Voice*** with you.

1a. Did you read any other magazines in this period?

1 Yes
2 No --- Please skip to Q.2a

1b. If yes, how much time did you spend reading other magazines?

____ Hours ____ Minutes

1c. Please list the titles of the major magazines you've read during this period.

_____

_____

_____

2a. Did you read any newspapers during this period (e.g. dailies, weeklies, Sunday papers)?

1 Yes
2 No --- **please skip to Q.3a**

2b. If yes, how much time did you spend reading newspapers during this period?

_____ Hours ___ Minutes

3a. Did you watch any television during this period?

1 Yes
2 No --- please skip to Q.4a

3b. If yes, how much time did you spend watching television during this period?

_____ Hours ___ Minutes

4a. Did you listen to any radio station during this period?

1 Yes
2 No --- **please skip to Q.5**

4b. If yes, how much time did you spend listening to radio during this period?

_____ Hours ___ Minutes

5. **When using these other media this week, could you give a rough estimate of how many of the advertisements in them did you skip?**

   _____% (0 for none, 100 for all)

6. **If you have read the articles in this issue, how many of them had you read before?**

   _____ (0 for none).

7. **Please circle the five brands that have advertised in this issue of *College Voice* (only five brands are correct).**

1 Marlboro Cigarettes	6 United Airlines
2 Allstate Insurance	7 Finlandia Vodka
3 Honda Accord	8 Vibrance Shampoo
4 Jacques Moret Bodywear	9 AT & T
5 Redkin Conditioning Color	10 Motorola Cellular Phone

APPENDIX B

Content of Dummy Magazines Used in the Pre-test

Content of Dummy Magazines Used in the Pre-test

Issue 1 (low quantity clutter)
(low competitive clutter)
(low intrusive clutter)

1. Spiegel
Revolution of 1994... 1-7
2. Redken Conditioning Color Gloss
3. Jacques Moret
4. Windmere styling iron
5. Ford Escort
Will I ever be Happy?...12-15
6. Vibrance Shampoo
The eat to lose diet... 17
7. Carefree Pantiliners
8. Camelot music
Nutrition Flash...20
Dissatisfaction guaranteed...21
A skeptic's guide to catching
a natural buzz...22
9. Wellbody Skincare
Makeup with a point...24-27
10. Incognito
Beauty Strategy...29-30
How to Do Everything Better...31-38
11. Salon Selectives
12. NFL Football jackets
15 Reasons to be Hopeful About the Future...41
Firmative Action...42-44
13. Champs Rollerblade
The Art of Being You...46-49
14. Slim-Fast
15. Rosacea Society
Nostagia...52
16. Sebastian Makeup
Alice Unchained...54-57
17. Tagheuer watch
Medical Flash...59
18. Power Bar
Mumbo Gumbo...61-63
A Force of One...64-69
19. L'Uomo Vogue Magazine
20. Finlandia
21. Marlboro

Issue 2 (high quantity clutter)

1. Spiegel
Trend Watch 94...1-5
5 hot ways to stay fit...6-7
2. Redken Conditioning Color Gloss
3. Jacques Moret
4. Windmere styling iron
5. Ford Escort
6 Pantene ProV
7. Nivea Shower Gel
8. HP Deskjet
Ecology Flash...15
Style Flash...16-17
9. Incognito
10. Vibrance Shampoo
11. Guess Jeans
12. Henessy Cognac
13. Carefree Pantliners
14. Camelot Music
15. Champs Sports Rollerblade
Fashion...25-35
Home Goals...36-41
Sandra Bullock...42
16. Beefeater Gin
17. Union Bay
18. Sebastian Makeup
19. Looking Grreat
20. Slim-Fast
HIV + me...48-52
21. Salon Selectives
22. NFL Football jackets
Beauty Flash...55
The Determinator...56
23. Nestle Sweet Success Diet Mocha
24. Fabio Fitness Video
25. Wellbody Skincare
26. Acne Statin Kit
27. L'Uomo Vogue Magazine
Hey, DJ...62-63
Record Reviews...64
28. Jergens Lotion
29. Tagheuer watch
30. L'Oreal Invisi-Gel
31. Oil of Olay Bath Bar
32. Lancome Lash Brush
33. Jose Cuervo
34. Finlandia
35. Marlboro

Issue 2 (high competitiveness clutter)

1. Spiegel
Trend Watch 94...1-5
5 hot ways to stay fit...6
2. Jacques Moret
3. Redken Conditioning Color Gloss
I'll Cry if I want to...10-13
4. Wellbody Skincare
Body Mind Flash...15
5. Jergens Lotion
6. Henessy Cognac
7. Guess Jeans
8. Union Bay
9. Beefeater Gin
Ecology Flash...21
10. Pantene ProV
11. Vibrance Shampoo
Fashion...24-35
Home Goals...36-41
Sandra Bullock...42
12. Slim-fast
13. Nestle Sweet Success Diet Mocha
Style Flash...45-46
14. Saturn
15 Toyota Tercel
16 Ford Escort
HIV + me...50-54
Beauty Flash...55
17. Jose Cuervo
18. Smirnoff
The Determinator...58
Sex, Plagues of the 90s...59-63
Hey, DJ...64-65
Record Reviews...66
MusicbooksartsdanceTVvideomovies...67-69
19. Stoli
20. Finlandia
21. Marlboro

Issue 2 (high intrusiveness clutter)

APPENDIX C

Research Questionnaires Used in the Screening Session

RESEARCH QUESTIONNAIRE (For selection of ad)

Your participation in this experiment will earn you five extra points for the course. By completing this questionnaire, you indicate your agreement to participate in this study. Thanks for your participation.

I. Please list the three magazines that you like to read most. 0 for none.

_____

_____

_____

II. Please rate the 19 ads according to the listed criteria. The numbers in brackets are the scores you will give to each aspect of the ad. You can give any score between 1 to 7 for each item.

1. Pantene Pro-V

Score

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

2. Vibrance

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

3. Joese Cuervo

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

4. Smirnoff

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

5. Finlandia

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

6. Stoli

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

7. Beefeater

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

8. Hennessy

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

9. Guess

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

10. Union Bay

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

11. Moret

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

12. Spiegel

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

13. NFL Jacket

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

14. Nivea

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

15. Jergens

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ad are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

16. Wellbody

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ads are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

17. Toyota Tercel

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ads are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

18. Saturn

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ads are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

19. Ford Escort

The picture in the ad is attractive (7) ---- unattractive (1) ____

The design (layout) of the ad is outstanding (7) ---- poor(1) ____

The headline in the ad is provoking (7) ----- boring (1) ____

The copy of the ad is well-written (7) ---- poorly written (1) ____

The typefaces used in the ads are pleasing (7) ---- unpleasing (1) ____

Overall, the ad is well-crafted (7) ----- poorly done(1) ____

IIIa. I plan to buy haircare products (e.g. shampoo) within

___ months or ____ days

___ Never buy this product (skip to IV)

IIIb. I'll have a lot to lose if I chose the wrong brand for haircare products (7)
---- little to lose if I chose the wrong brand (1)

_____

IIIc. My decision to buy haircare products
requires a lot of thought (7)---- requires little thought (1)

____

IIId. For me, to buy haircare products will be
a very important decision (7)---- very unimportant decision (1)

____

IVa. I plan to buy liquor (e.g. vodka, gin) within

___ months or ____ days

___ Never buy this product (skip to V)

IVb. I'll have a lot to lose if I chose the wrong brand for liquor (7)
---- little to lose if I chose the wrong brand (1)

____

IVc. My decision to buy liquor
requires a lot of thought (7) ---- requires little thought (1)

____

IVd. For me, to buy liquor will be

a very important decision (7)---- very unimportant decision (1)

____

Va. I plan to buy clothes within

___ months or ____ days

___ Never buy this product (skip to IV)

Vb. I'll have a lot to lose if I chose the wrong brand for clothes (7)
---- little to lose if I chose the wrong brand (1)

_____

Vc. My decision to buy clothes
requires a lot of thought (7)---- requires little thought (1)

____

Vd. For me, to buy clothes will be
a very important decision (7)---- very unimportant decision (1)

____

VIa. **I plan to buy skincare products (e.g. lotion) within**

___ months or ____ days

___ Never buy this product (skip to VII)

VIb. I'll have a lot to lose if I chose the wrong brand for skincare products (7)
---- little to lose if I chose the wrong brand (1)

____

VIc. My decision to buy skincare products
requires a lot of thought (7)---- requires little thought (1)

____

VId. For me, to buy skincare products will be
a very important decision (7) ---- very unimportant decision (1)

____

VIIa. **I plan to buy a car within**

___ months or ____ days

___ Never buy this product (skip to VII)

VIIb. I'll have a lot to lose if I chose the wrong brand for cars (7)
---- little to lose if I chose the wrong brand (1)

____

VIIc. My decision to buy a car
requires a lot of thought (7) ---- requires little thought (1)

____

VIId. For me, to buy a car will be
a very important decision (7) ---- very unimportant decision (1)

____

VIIIa. Have you heard or seen about any of these advertised brands in this experiment before?

___ yes
___ no -- Please skip to Q.IX

VIIIb. If yes, please list the brands that you know.

_____

_____

_____

_____

VIIIc. Among these brands, please list the three most familiar brands. Please start with the most familiar one.

1. _____

2. _____

3. _____

IX. The following are 10 possible titles for a general interest weekly magazine for college students. Please rank them from 1 to 10 (1 for the most preferred title, 10 for the least preferred title).

____ Cool

____ 4.0

____ College Voice

____ GPA

____ In

____ OK

____ Ours

____ The New Generation

____ Me

____ Young Adults

X. Please indicate your sex: ____ Male ____ Female

XI. Have you taken any creative courses in advertising such as ADV317?

____ Yes (please list the courses you've taken)

_____

____ No

APPENDIX D

List of Ads Used in the Study

List of Advertisements Used in the Study

Haircare
1. Pantene Pro-V
2. Vibrance Shampoo
3. Salon Selectives
4 Redken Conditioning Color Gloss
5. L'Oreal Invisible Gel

Cosmetic/skincare
6. Clarins Lotion
7. Oil of Olay Bath Bar
8. Lancome Lashbrush
9. Nivea Shower and Bath
10. Jergens Lotion
11. Sebastian
12. Wellbody (DR)
13 Looking Grreat (DR)
14. Acne-stat Kit (DR)

Perfume/Fragrance

15. Incognito Fragrance

Liquor
16. Hennessy Cognac
17. Beefeater Gin
18. Jose Cuervo
19. Smirnoff Vodka
20. Stoli Vodka
21. Finlandia Vodka

Food
22. Power-Bar

Diet Food and Beverages
23. Slim-Fast
24. Nestle Sweet Success

Cigarettes

25. Marlboro

Automobile
26. Ford Escort
27. Saturn
28. Toyota Corolla

Fashion/Apparel
29. Unionbay jean
30. Guess Jeans
31. National Football Jacket
32. Spiegel(DR)
33. Jacques Monet

Entertainment
34. Camelot Music
35. L'uome Vogue Magazine
36. Fabio Fitness Video

Jewellry/watch
37. Tagheuer watch

Sports Goods
38. Champs Rollerblade

Personal
39. Carefree Pantiliners

Office/Stationery
40. HP Deskjet printer

Charity/Public Service
41. Rosaccea Society (DR)

(DR) Direct Response Advertising

APPENDIX E

Content of Dummmy Magazines

Content of Dummy Magazines
low quantity clutter
low competitiveness clutter
low intrusiveness clutter

*1. Spiegel
Revolution of 1994... 1-7
2. Redken Conditioning Color Gloss
3. Jacques Moret
4. Windmere styling iron
5. Ford Escort
Will I ever be Happy?...12-15
6. Vibrance Shampoo
The eat to lose diet... 17
7. Carefree Pantiliners
8. Camelot music
Nutrition Flash...20
Dissatisfaction guaranteed...21
A skeptic's guide to catching
a natural buzz...22
9. Wellbody Skincare
Makeup with a point...24-27
10. Incognito
Beauty Strategy...29-30
How to Do Everything Better...31-38
11. Salon Selectives
12. NFL Football jackets
15 Reasons to be Hopeful About the Future...41
Firmative Action...42-44
13. Champs Rollerblade
The Art of Being You...46-49
14. Slim-Fast
15. Rosacea Society
Nostagia...52
16. Sebastian Makeup
Alice Unchained...54-57
17. Tagheuer watch
Medical Flash...59
18. Power Bar
Mumbo Gumbo...61-63
A Force of One...64-69
19. L'Uomo Vogue Magazine
20. Finlandia
21. Marlboro

* The position of Spiegel was rotated in different copies

high quantity clutter

1. Spiegel
Revolution of 1994... 1-7
2. Redken Conditioning Color Gloss
3. Jacques Moret
4. Windmere styling iron
5. Ford Escort
6 Pantene ProV
7. Incognito
Will I ever be Happy?...14-17
8. Vibrance Shampoo
The eat to lose diet... 19
9. Camelot Music
Nutrition Flash...21
10. Carefree Pantiliners
11. Nivea Shower Gel
12. HP Deskjet
Dissatisfaction guaranteed...25
13. Champs Sports Rollerblade
14. Guess Jeans
15. Henessy Cognac
How to Do Everything Better...29-37
16. Beefeater Gin
17. Union Bay
18. Sebastian Makeup
19. Looking Grreat
Beauty Strategy...43-44
20. Fabio Fitness Video
The Art of Being You...46-49
Alice Unchained...50-53
21. Slim-Fast
Medical Flash...55
22. Power Bar
23. Salon Selectives
24. NFL Football jackets
25. Wellbody Skincare
26. Acne Statin Kit
Mumbo Gumbo...61-63
27. L'Uomo Vogue Magazine
28. Jergens Lotion
29. Tagheuer watch
31. Oil of Olay Bath Bar
30. L'Oreal Invisi-Gel
32. Lancome Lash Brush
33. Jose Cuervo
34. Finlandia
35. Marlboro

* The position of Spiegel was rotated in different copies

high competitiveness clutter

*1. Spiegel
Revolution of 1994... 1-7
2. Jacques Moret
3. Redken Conditioning Color Gloss
Will I ever be Happy?...10-13
4. Wellbody Skincare
The eat to lose diet... 15
Makeup with a point...16-19
5. Jergens Lotion
Beauty Strategy...21-22
6. Henessy Cognac
7. Guess Jeans
8. Union Bay
9. Beefeater Gin
Dissatisfaction guaranteed...27
A skeptic's guide to catching a natural buzz...28
10. Pantene ProV
11. Vibrance Shampoo
How to Do Everything Better...31-38
12. Slim-fast
13. Nestle Sweet Success Diet Mocha
14. Saturn
15 Ford Escort
15 Reasons to be Hopeful About the Future...43
Firmative Action...44-46
Medical Flash...47
16. Toyota Corolla
Nutrition Flash...49
Alice Unchained...50-53
17. Smirnoff
18. Jose Cuervo
The Art of Being You...56-59
Nostagia...60
Mumbo Gumbo...61-63
A Force of One...64-69
19. Stoli
20. Finlandia
21. Marlboro

* The position of Spiegel was rotated in different copies

high intrusiveness clutter

*1. Spiegel
Revolution of 1994... 1-4,8-9
2. Jacques Moret...5
3. Windmere Styling Iron...6
4. Redken Conditoning Color...10
5. Carefree Pantiliners...11
Will I ever be Happy?...12-14,17-18,20
6. Sebastian Makeup...15
7. Fabio Fitness Video...16
8. Nestle Sweet Success Coffee...19
The eat to lose diet... 21
9. L'uomo Vogue Magazine
Dissatisfaction guaranteed...23
A skeptic's guide to catching
a natural buzz...24
Nutrition Flash...25
Makeup with a point...26-28,31
10. Wellbody Skincare...29
11. Acne-Statin Kit...30
12. Vibrance Shampoo...32
Beauty Strategy...33-34
How to Do Everything Better...35-36,39-43
13. Salon selectives...37
14. NFL Football Jacket...38
Medical Flash...44
15 Reasons to be Hopeful About the Future...45
Firmative Action...46,49-50
15. Nivea Shower Gel...47
16. HP Laser Jet...48
17. Tagheuer watch...51
The Art of Being You...52-55
Alice Unchained...56-59
Nostagia...60
Mumbo Gumbo...61-63
A Force of One...64-66,68,70
18. Clarins Lotion 67
19. Incognito...69
20. Finlandia
21. Marlboro

* The position of Spiegel will be rotated in different copies

APPENDIX F

Item-factor Correlation Matrix

-- Correlation Coefficients --

	AAG1	AAG2	AAG3	AAG4	AAG5	AAG6
AAG1	1.0000	.2290**	.2990**	.3483**	.3473**	.2563**
AAG2	.2290**	1.0000	.4382**	.6172**	.3869**	.3153**
AAG3	.2990**	.4382**	1.0000	.4950**	.4047**	.2524**
AAG4	.3483**	.6172**	.4950**	1.0000	.3552**	.3562**
AAG5	.3473**	.3869**	.4047**	.3552**	1.0000	.0894
AAG6	.2563**	.3153**	.2524**	.3562**	.0894	1.0000
AAG7	.0661	.0984	.2505**	.1058	.2284**	.0144
AAG8	.2981**	.2909**	.1992*	.2599**	-.0021	.3335**
AAG10	.2420**	.1755*	.0388	.1933*	.0680	.2719**
AAG11	.3148**	.3838**	.3612**	.4986**	.3917**	.1106
AAG12	.3155**	.4015**	.5671**	.3084**	.5254**	.1272
ADCOMP1	.0195	.2371**	.1717*	.1219	.0310	.1339
ADCOMP2	-.1085	-.0503	-.2340**	-.0700	-.1276	-.0766
ADCOMP3	.0963	.1331	.1913*	.1192	.0960	.0522
EXEC1	-.0368	.0614	.0635	.0349	-.0033	.0793
EXEC2	-.0285	.0593	.0627	.0276	-.0037	.0772
EXEC3	-.0479	.0841	.0735	.0397	-.0035	.0600
EXEC4	-.0121	.0338	.0655	.0463	-.0132	.0990
EXEC5	-.0004	.0650	.0614	.0234	-.0143	.0966
EXEC6	-.0433	.0842	.0743	.0513	.0088	.0836
INV2	.1331	.1336	.0384	.0151	.0186	-.0400
INV3	.0590	-.0475	-.0225	-.0022	.0292	-.0660
INV4	.1142	.1259	.2139**	.1322	.1403	-.1394
FAM2	-.0771	.0437	.0519	-.0881	-.1103	-.0381
FAM4	-.0154	.0902	.0714	-.0411	-.0194	-.0859
FAM6	-.0570	.0088	.0287	-.0154	-.0677	.0293
FAM7	.0158	-.0426	.0328	.0241	-.0458	.0423
RES3	-.1371	.0225	.0159	-.0409	-.0240	-.0481
RES4	-.1359	.0079	.0346	-.0312	.0141	-.0648
RES5	-.0719	.0573	.0394	-.0800	-.0397	-.0309
AAV1	.0536	.1947*	.1317	.1449	.0733	.0966
AAV2	.0393	.2413**	.1250	.2213*	.0609	.1715*
AAV4	.0582	.2418**	.1315	.2351**	.0408	.1476
AAV5	.2154*	.5069**	.3337**	.3839**	.1708	.2615**
AAD1	-.0697	.0969	.1419	.0686	-.0057	.0914
AAD2	-.1072	.0459	.0515	.0000	-.0553	.0903
AAD3	-.0965	.0677	.0956	-.0258	-.0042	.0009
AAD4	-.0444	.1225	.1092	.0230	.0182	.0549
AAD5	-.0206	.0925	.1575	.0722	-.0002	.1305
AMI1	-.0444	.0403	.1270	.0288	-.0744	.0979
AMI2	-.0027	.0371	.1345	-.0319	-.0171	.1062
AMI3	.0110	.0235	.0769	-.0266	-.0244	.1022
AMI4	.0232	.0680	.0944	-.0300	.0391	.0561
EQ1	.0990	.1202	.1335	.0720	.0245	.2172*
EQ2	.1571	.2452**	.1863*	.1801*	.1525	.0578
EQ3	-.0313	.1323	.0989	.0512	.0349	-.0274
EQ4	-.0595	-.0039	-.0169	.0107	-.0766	-.0080
EQ5	.0631	.2779**	.1644	.1921*	.0875	.0292
EQ6	.1189	.1553	.1355	.1350	.0351	-.0142
EQ7	.1798*	.1436	.1425	.1175	.0398	.0596
EQ8	.1770*	.1476	.1223	.1140	.1355	.0424
EQ9	.1486	.1774*	.1315	.1161	.1790*	-.0454
EQ10	.0989	.0979	.0490	.0697	.0984	-.0231
EQ11	.1589	.1659	.1506	.0656	.1552	.0111
EQ12	.1845*	.1271	.0835	.0415	.0309	.0414
AAG	.5753**	.6974**	.6593**	.6969**	.5944**	.4605**
ADCOMP	-.0214	.1555	.0740	.0918	.0047	.0566
EXEC	-.0537	.0732	.0579	.0325	-.0047	.0837
INV	.1227	.0617	.1091	.0541	.0715	-.0958
FAM	-.0587	.0247	.0583	-.0336	-.0766	-.0074
RES	-.1234	.0319	.0324	-.0547	-.0175	-.0514
AAV	.1223	.5757**	.2233*	.5083**	.1143	.2190*
AAD	-.0683	.0897	.1194	.0320	-.0092	.0782
AMI	-.0045	.0447	.1135	-.0143	-.0215	.0945
EQUITY	.1335	.1931*	.1444	.1264	.0989	.0340

* - Signif. LE .05   ** - Signif. LE .01   (2-tailed)

- - Correlation Coefficients - -

	AAG7	AAG8	AAG10	AAG11	AAG12	ADCOMP1
AAG1	.0661	.2931**	.2420**	.3148**	.5155**	.0195
AAG2	.0984	.2909**	.1755*	.3838**	.4016**	.2371**
AAG3	.2305**	.1992*	.0883	.3612**	.5671**	.1717*
AAG4	.1058	.2599**	.1933*	.4986**	.3084**	.1219
AAG5	.2284**	-.0021	.0680	.3917**	.5254**	.0310
AAG6	.0144	.3335**	.2719**	.1106	.1272	.1339
AAG7	1.0000	.0661	.1907*	.3571**	.2225*	.0420
AAG8	.0661	1.0000	.2217*	.0789	.2469**	.0399
AAG10	.1907*	.2217*	1.0000	.2600**	.2492**	.0342
AAG11	.3571**	.0789	.2600**	1.0000	.4555**	.1220
AAG12	.2225*	.2469**	.2492**	.4555**	1.0000	.1135
ADCOMP1	.0420	.0399	.0342	.1220	.1135	1.0000
ADCOMP2	.0080	-.1178	-.0403	-.1234	-.0725	-.0076
ADCOMP3	.0524	.0252	.0251	.1763*	.2025*	.3321**
EXEC1	.0302	.1126	.1043	.1252	.0457	.1468
EXEC2	.0335	.1042	.0997	.1082	.0431	.1331
EXEC3	.0401	.0964	.0848	.0973	.0544	.1221
EXEC4	.0432	.1413	.0953	.0945	.0253	.1572
EXEC5	.0406	.1030	.1095	.0918	.0209	.1522
EXEC6	.0301	.1233	.1107	.1063	.0301	.1356
INV2	.0083	-.0279	.0393	.1288	.0464	.0978
INV3	.1117	-.1036	.0018	.0480	-.0053	.0843
INV4	.1231	-.0730	-.0104	.2063*	.2130*	.0730
FAM2	-.0099	.0571	.1293	.1087	.1295	.2749**
FAM4	.0040	.0897	.2156*	.0609	.1242	.0870
FAM6	.0915	-.0244	.1109	.0865	.0484	.2151*
FAM7	.0295	.0199	.1367	.0552	.0815	.2070*
RES3	.0975	-.0136	-.0440	.0420	-.0214	.0791
RES4	.1164	-.0234	-.0452	.0297	-.0149	.1509
RES5	.1355	.0873	.0319	.0262	.0349	.2022*
AAV1	.0960	.0259	.1354	.0185	.0486	.3005**
AAV2	.0559	.0709	.1508	.0491	.0693	.4035**
AAV4	.1014	.1203	.1743*	.0929	.0789	.3309**
AAV5	.0975	.4946*	.2322*	.3932**	.3561**	.5294**
AAD1	.0511	.1157	.0943	.1758*	.0768	.2025*
AAD2	.0133	.1179	.0319	.1918	.0438	.1989*
AAD3	.0105	.1073	.0244	.1157	.0554	.1336
AAD4	.0429	.1420	.0945	.1464	.0855	.1762*
AAD5	.0428	.1285	.1047	.1988*	.1098	.2058*
AMI1	.0656	.0923	.0481	.1500	.0846	.1453
AMI2	.0454	.0868	.0391	.1313	.0778	.0801
AMI3	.0297	.0811	.1433	.1132	.0519	.0978
AMI4	.0456	.0574	.1391	.1232	.0835	.0696
EQ1	.0751	.0544	.1432	.0619	.0269	.0740
EQ2	.2215*	.1551	.0504	.1799*	.1123	.0591
EQ3	.0147	.0135	.0503	-.0126	-.0257	.0074
EQU4	.1322	.0582	-.1403	.0292	-.1518	.0191
EQ5	.1565	.1197	.0711	.2595**	.1071	.1330
EQ6	.0957	.0954	-.0062	.1810*	.0292	.1179
EQ7	-.0002	.0840	.1022	.1890*	.1162	.1182
EQ8	.1281	.1392	.0492	.1010	.0363	.0477
EQ9	.1587	.1457	.0401	.1511	.1153	.0136
EQ10	.0327	.0681	.0067	.0636	-.0255	-.0201
EQ11	.1773*	.1170	.0459	.1589	.1259	.0001
EQ12	.0731	.1144	.0343	.0909	.0114	-.0358
ANO	.3962**	.4710**	.4592**	.5600**	.5951**	.1517
ADCOMP	.0716	-.0257	.0105	.0769	.1333	.5766**
EXEC	.0437	.1151	.1324	.1059	.0375	.1448
INV	.0953	-.0048	.0344	.1498	.0950	.1036
FAM	.0388	.0412	.1573	.0956	.1095	.2491**
RES	.1131	.0102	-.0202	.0351	-.0303	.1553
AAV	.1135	.1249	.2267*	.1690	.1797	.4833**
AAD	.0287	.1253	.0745	.1650	.0778	.1910*
AMI	.0417	.0833	.0754	.1359	.0782	.1040
EQUITY	.1454	.1286	.0407	.1564	.0458	.0597

- - Correlation Coefficients - -

	ADCOMP2	ADCOM3	EXEC1	EXEC2	EXEC3	EXEC4
AAG1	-.1586	.0958	-.0368	-.0285	-.0479	-.0121
AAG2	-.0503	.1331	.0514	.0593	.0841	.0808
AAG3	-.2340**	.1918*	.0635	.0627	.0736	.0658
AAG4	-.0700	.1192	.0349	.0276	.0397	.0463
AAG5	-.1275	.0960	-.0033	-.0037	-.0035	-.0132
AAG6	-.0766	.0522	.0793	.0772	.0600	.0990
AAG7	.0080	.0824	.0502	.0335	.0401	.0432
AAG8	-.1178	.0252	.1126	.1042	.0964	.1418
AAG10	-.0403	.0251	.1048	.0997	.0848	.0950
AAG11	-.1234	.1753*	.1252	.1032	.0973	.0945
AAG12	-.0725	.2025*	.0457	.0431	.0544	.0263
ADCOMP1	-.0075	.3321**	.1488	.1331	.1221	.1872
ADCOMP2	1.0000	.0029	-.1112	-.1074	-.0613	-.1216
ADCOM3	.0029	1.0000	.2404**	.2116*	.2405**	.2302**
EXEC1	-.1112	.2404**	1.0000	.9813**	.9615**	.9570**
EXEC2	-.1074	.2116*	.9813**	1.0000	.9529**	.9702**
EXEC3	-.0613	.2405**	.9615**	.9529**	1.0000	.9447**
EXEC4	-.1215	.2302**	.9570**	.9702**	.9447**	1.0000
EXEC5	-.1062	.2292**	.9741**	.9767**	.9557**	.9760**
EXEC6	-.1350	.2375**	.9701**	.9732**	.9446**	.9753**
INV2	-.1557	-.1254	.1405	.1477	.1357	.1520
INV3	-.0684	-.0345	.1288	.1452	.1279	.1640
INV4	-.1507	.0336	.1325	.1454	.1161	.1423
FAM2	-.0424	.0752	.4090**	.4051**	.3578**	.3727**
FAM4	-.0732	.0932	.2584**	.2769**	.2665**	.2384**
FAM6	-.0506	.0137	.3482**	.3541**	.3293**	.3297**
FAM7	.0209	-.0133	.3271**	.3372**	.3021**	.3353**
RES3	-.0112	.0975	.6548**	.6737**	.6651**	.7021**
RES4	-.0315	.1403	.6748**	.6899**	.6708**	.7172**
RES5	-.0331	.1230	.6455**	.6356**	.5744**	.5423**
AAV1	.0356	.1870*	.0552	.0577	.0451	.1143
AAV2	.0155	.2290**	.2145*	.2129*	.1669	.2415**
AAV4	.0503	.1242	.0340	.0353	.0179	.0989
AAV5	-.0361	.2407**	.1900*	.1854*	.1627	.2071*
AAD1	-.1598	.2437**	.9399**	.9367**	.9057**	.9258**
AAD2	-.0719	.2150*	.9015**	.9020**	.8820**	.8886**
AAD3	-.0979	.2394**	.8749**	.8679**	.8721**	.8566**
AAD4	-.1441	.2513**	.9023**	.8981**	.8808**	.8954**
AAD5	-.1461	.2621**	.9349**	.9225**	.9043**	.9092**
AMI1	-.0261	.2074*	.8948**	.8768**	.8770**	.8684**
AMI2	-.0423	.1213	.8232**	.8404**	.8116**	.8286**
AMI3	-.0954	.2053*	.8794**	.8924**	.8579**	.8887**
AMI4	-.1025	.1755*	.8501**	.8548**	.8423**	.8409**
CE1	-.1557	-.0551	.2490**	.2536**	.2327**	.2350**
CE2	-.0732	-.1322	.3084**	.2824**	.2752**	.2642**
CE3	-.1037	-.1345	.2930**	.2936**	.2793**	.3051**
CE4	-.0337	-.0975	.1464	.1568	.1365	.1651
CE5	-.0303	.0039	.1582	.1359	.1361	.1503
CE6	-.0592	.0119	.0971	.0741	.0694	.0623
CE7	-.1559	-.0727	.2272**	.2187*	.1710*	.2109*
CE8	-.1024	-.0923	.1587	.1346	.1273	.1310
CE9	-.1225	-.0359	.2315**	.2285**	.2407**	.2358**
CE10	-.0559	-.1655	.0773	.0567	.0540	.0488
CE11	-.1376	-.1059	.0954	.0929	.0619	.0625
CE12	-.0587	-.1553	.0207	.0196	.0331	-.0013
AAG	-.1495	.1752*	.1043	.1033	.0952	.1144
ADCOMP	.5049**	.7284**	.1514	.1304	.1546	.1505
EXEC	-.1071	.2349**	.9885**	.9900**	.9733**	.9841**
INV	-.1333	-.0554	.1522	.1770*	.1539	.1856*
FAM	-.0533	.0453	.4262**	.4276**	.3925**	.3999**
RES	-.0272	.1293	.7092**	.7167**	.6846**	.7390**
AAV	.0325	.2375*	.1565	.1559	.1259	.2089*
AAD	-.1305	.2322**	.9432**	.9377**	.9100**	.9255**
AMI	-.0683	.1856*	.9363**	.9114**	.8865**	.8908**
EQUITY	-.1286	-.1213	.2552**	.2202*	.2022*	.2131*

* - Signif. LE .05   ** - Signif. LE .01   (2-tailed)

- - Correlation Coefficients - -

	EXEC5	EXEC6	INV2	INV3	INV4	FAM2
AAG1	-.0504	-.0433	.1331	.0590	.1142	-.0771
AAG2	.0659	.0842	.1336	-.0475	.1259	.0487
AAG3	.0614	.0748	.0884	-.0228	.2239**	.0619
AAG4	.0284	.0513	.0161	-.0022	.1322	-.0881
AAG5	-.0140	.0088	.0186	.0292	.1403	-.1103
AAG6	.0965	.0836	-.0400	-.0660	-.1394	-.0381
AAG7	.0406	.0501	.0363	.1117	.1231	-.0099
AAG8	.1090	.1253	-.0279	-.1089	-.0730	.0571
AAG10	.1393	.1107	.0393	.0018	-.0104	.1293
AAG11	.0916	.1053	.1288	.0480	.2063*	.1087
AAG12	.0209	.0331	.0464	-.0053	.2130*	.1295
AGCOMP1	.1522	.1395	.0973	.0843	.0730	.2749**
AGCOMP2	-.1062	-.1350	-.1557	-.0884	-.1507	-.0424
AGCOMP3	.2292**	.2376**	-.1254	-.0345	.0336	.0752
EXEC1	.9741**	.9701**	.1400	.1238	.1325	.4090**
EXEC2	.9767**	.9732**	.1477	.1452	.1454	.4051**
EXEC3	.9557**	.9466**	.1357	.1279	.1161	.3678**
EXEC4	.9700**	.9753**	.1323	.1940	.1423	.3727**
EXEC5	1.0000	.9807**	.1383	.1570	.1517	.4052**
EXEC6	.9807**	1.0000	.1323	.1301	.1405	.3859**
INV2	.1383	.1323	1.0000	.4191**	.5417**	.2261**
INV3	.1570	.1301	.4191**	1.0000	.6190**	-.0077
INV4	.1517	.1405	.5417**	.6190**	1.0000	.1710*
FAM2	.4052**	.3859**	.2261**	-.0077	.1710*	1.0000
FAM4	.2527**	.2603**	.1417	-.0449	.1822*	.5293**
FAM6	.3534**	.3234**	.1140	.0452	.1821*	.3963**
FAM7	.3283**	.3230**	.2585	.1206	.1640	.5301**
RES3	.6872**	.6838**	.1382	.1135	.0923	.3347**
RES4	.7073**	.7135**	.0863	.1100	.0741	.2982**
RES5	.5407**	.5433**	.2253**	.0905	.0949	.3537**
AAV1	.1025	.1150	.0959	.0517	.1041	.0233
AAV2	.2594**	.2427**	.0120	.0836	.0773	.1632
AAV4	.0762	.0898	.0585	.0549	.0662	-.0001
AAV5	.1939*	.1935*	.2019*	.1608	.2583**	.2069*
AAU1	.9371**	.9421**	.1203	.0866	.1402	.4140**
AAU2	.7053**	.7911**	.1185	.0879	.1211	.4569**
AAU3	.8627**	.8719**	.1591	.1011	.1749*	.3868**
AAU4	.8923**	.9005**	.2039*	.0737	.1310	.4049**
AAU5	.9299**	.9220**	.1514	.0880	.1577	.4169**
AMI1	.8925**	.8627**	.1575	.0876	.1369	.4342**
AMI2	.8939**	.8038**	.2413**	.0675	.1700	.3735**
AMI3	.8783**	.8879**	.2381**	.1715*	.1799**	.3992**
AMI4	.8515**	.8274**	.2734**	.1263	.1479	.3635**
EU1	.2375**	.2555**	.2700**	.1964*	.1060	.2096*
EU2	.2930**	.2942**	.2743**	.1663	.2331**	.2800**
EU3	.2920**	.3155**	.2594**	.1904*	.2220*	.3645**
EU4	.1834	.1821	.0173	.1337	.1061	.2076*
EU5	.1819	.1616	.2261**	.0471	.2117*	.3045**
EU6	.0656	.0849	.0972	.0557	.1027	.1857*
EU7	.2111*	.2217*	.3815**	.1935*	.2784**	.3838**
EU8	.1351	.1506	.2506**	.1506	.1466	.1914*
EU9	.2532**	.2931**	.3246**	.2235**	.1837*	.2232**
EU10	.0693	.0659	.2113*	.1792*	.1207	.1488
EU11	.0693	.0757	.3369**	.3022**	.2510**	.1895*
EU12	.0525	.0570	.3337**	.2526**	.1595	.1685
AAG	.0980	.0241	.1325	-.0169	.1564	.0359
AGCOMP	.1503	.1322	-.1319	-.0225	-.0214	.1565
EXEC	.9715**	.9830**	.1435	.1438	.1401	.3971**
INV	.1304*	.1623	.7959**	.8236**	.9564**	.1540
FAM	.4211**	.4020**	.2038*	.0448	.2147*	.8510**
RES3	.7295**	.7315**	.2519*	.1126	.0933	.3540**
AAV	.1974*	.2034*	.1184	.1037	.1594	.1271
AAU	.9413**	.9390**	.1565	.0307	.1537	.4259**
AMI	.9115**	.8834**	.2405**	.1176	.1652	.4004**
EQUITY	.2227**	.2263**	.3193**	.2306**	.2345**	.3231**

- - Correlation Coefficients - -

	FAM4	FAM5	FAM7	RES3	RES4	RES5
AAG1	-.0154	-.0570	.0158	-.1371	-.1358	-.0719
AAG2	.0902	.0038	-.0426	.0225	.0079	.0578
AAG3	.0714	.0237	.0323	.0159	.0348	.0394
AAG4	-.0411	-.0154	.0241	-.0409	-.0312	-.0800
AAG5	-.0194	-.0677	-.0458	-.0240	.0141	-.0387
AAG6	-.0359	.0293	.0423	-.0481	-.0548	-.0309
AAG7	.0040	.0515	.0255	.0675	.1164	.1356
AAG8	.0897	-.0244	.0199	-.0136	-.0264	.0673
AAG10	.2155*	.1159	.1367	-.0440	-.0452	.0319
AAG11	.0509	.0865	.0552	.0420	.0297	.0262
AAG12	.1242	.0434	.0615	-.0214	-.0149	.0349
ADCOMP1	.0370	.2151*	.2370*	.0791	.1509	.2022*
ADCOMP2	-.0732	-.0536	.0209	-.0112	-.0315	-.0331
ADCOMP3	.0902	.0137	-.0133	.0976	.1403	.1238
EXEC1	.2584**	.3432**	.3271**	.5548**	.5748**	.5455**
EXEC2	.2759**	.3541**	.3372**	.5737**	.5899**	.6356**
EXEC3	.2565**	.3233**	.3321**	.5651**	.6703**	.5744**
EXEC4	.2554**	.3277**	.3353**	.7021**	.7172**	.5423**
EXEC5	.2527**	.3554**	.3233**	.5872**	.7073**	.5409**
EXEC6	.2505**	.3234**	.3200**	.6839**	.7135**	.5433**
INV2	.1417	.1140	.1535	.1362	.0865	.2253**
INV3	-.0449	.0452	.1205	.1135	.1100	.0908
INV4	.1622*	.1821*	.1640	.0923	.0741	.0949
FAM2	.5295**	.3903**	.5301**	.3347**	.2982**	.3537**
FAM4	1.0000	.3839**	.2574**	.2250**	.2293**	.2348**
FAM5	.3539**	1.0000	.7557**	.2979**	.2965**	.2088*
FAM7	.2574**	.7557**	1.0000	.2428**	.2551**	.1866*
RES3	.2250**	.2979**	.2428**	1.0000	.9553**	.7085**
RES4	.2293**	.2965**	.2551**	.9553**	1.0000	.7270**
RES5	.2345**	.2088*	.1866*	.7035**	.7270**	1.0000
AAV1	-.0202	.0253	.0372	.0861	.1392	.1350
AAV2	.0098	.2601**	.1561	.1584	.2165*	.2321**
AAV4	-.0255	.0553	.0100	.0347	.1210	.1296
AAV5	.1700	.1999*	.1315	.0094	.0712	.1955*
AAD1	.2855**	.3536**	.3262**	.6955**	.7134**	.6370**
AAD2	.3014**	.3533**	.3049**	.5857**	.5811**	.5519**
AAD3	.2560**	.3271**	.2513**	.5231**	.6365**	.6284**
AAD4	.2817**	.3350**	.2355**	.6320**	.6355**	.6495**
AAD5	.2949**	.3774**	.3397**	.5747**	.5842**	.5485**
AMI1	.3071**	.3576**	.3365**	.6239**	.6350**	.5946**
AMI2	.2759**	.3279**	.2603**	.5121**	.6114**	.5579**
AMI3	.2521**	.3132**	.2513**	.5505**	.5672**	.5130**
AMI4	.2432**	.3133**	.2377**	.5261**	.5295**	.5290**
EQ1	.1445	.3252**	.3337**	.2310**	.2372**	.1733*
EQ2	.3153**	.1759*	.1767*	.2089*	.2125*	.3289**
EQ3	.2237**	.3932**	.3437**	.4117**	.3983**	.2445**
EQ4	.0735	.1711*	.1100	.1703*	.1994*	.1394
EQ5	.2455**	.2256**	.2013*	.1336	.1344	.2579**
EQ6	.1939*	.2825**	.1749*	.0375	.0983	.1355
EQ7	.2562**	.3244**	.2910**	.2757**	.2799**	.2869**
EQ8	.1755*	.1077	.1201	.1594	.1747*	.2541**
EQ9	.1219	.0839	.0733	.2226*	.2277**	.2498**
EQ10	.0909	.0031	.0374	.0535	.0654	.1239
EQ11	.1656	.1352	.0914	.0052	.0121	.1529
EQ12	.0464	.0044	-.0192	-.0356	-.0555	.0368
AAG	.0913	.0323	.0514	-.0136	-.0039	.0372
ADCOMP	.0505	.0532	.1053	.0933	.1378	.1527
EXEC	.2700**	.3443**	.3293**	.6359**	.7051**	.5399**
INV	.1067	.1336	.1523*	.1401	.1103	.1679
FAM	.6322**	.6915**	.3311**	.3404**	.3342**	.3146**
RES	.2535**	.2777**	.2422**	.9541**	.9503**	.8746**
AAV	.0539	.1949*	.1285	.1111	.1746	.2161*
AAD	.2795**	.3622**	.3155**	.6552**	.6949**	.6545**
AMI	.2367**	.3456**	.2334**	.6071**	.6137**	.5002**
EQUITY	.2325**	.2710**	.2234**	.2167*	.2301**	.2743**

- - Correlation Coefficients - -

	AAV1	AAV2	AAV4	AAV5	AAD1	AAD2
AAG1	.0536	.0393	.0682	.2154*	-.0697	-.1072
AAG2	.1949*	.2413**	.2416**	.5068**	.0989	.0469
AAG3	.1017	.1250	.1515	.3337**	.1419	.0616
AAG4	.1449	.2213*	.2351**	.3839**	.0686	.0000
AAG5	.0733	.0639	.0403	.1708	-.0057	-.0553
AAG6	.0965	.1715*	.2476	.2615**	.0914	.0903
AAG7	.0966	.0559	.1014	.0975	.0511	.0138
AAG8	.0259	.0703	.1203	.1946*	.1157	.1175
AAG10	.1354	.1508	.1745*	.2322*	.0943	.0319
AAG11	.0185	.0491	.0929	.3932**	.1758*	.1518
AAG12	.0485	.0693	.0769	.3561**	.0766	.0438
AUCUMP1	.0505**	.0659**	.0505**	.5294**	.2025*	.1935*
AUCUMP2	.0655	.0155	.0600	-.0361	-.1593	-.0719
AUCUM3	.1570*	.2290**	.1242	.2407**	.2487**	.2150*
EXEC1	.0592	.2145*	.0340	.1900*	.9399**	.9016**
EXEC2	.0577	.2129*	.0353	.1854*	.9367**	.9020**
EXEC3	.0451	.1897	.0175	.1627	.9057**	.8620**
EXEC4	.1143	.2419**	.0989	.2071*	.9229**	.8588**
EXEC5	.1026	.2594**	.0762	.1939*	.9371**	.9053**
EXEC6	.1136	.2427**	.0893	.1935*	.9421**	.8911**
INV2	.0959	.0120	.0389	.2019*	.1203	.1198
INV3	.0817	.0834	.0549	.1608	.0666	.0879
INV4	.1041	.0773	.0662	.2583**	.1402	.1211
FAM2	.0233	.1632	-.0502	.2069*	.4140**	.4359**
FAM4	-.0202	.0895	-.0265	.1730	.2555**	.3014**
FAM5	.0365	.2681**	.0353	.1999*	.3566**	.3508**
FAM7	.0372	.1661	.0100	.1816	.3262**	.3049**
RES3	.0461	.1534	.0847	.0094	.6955**	.6857**
RES4	.1392	.2165*	.1210	.0712	.7134**	.6811**
RES	.1553	.2321**	.1295	.1955*	.8370**	.8319**
AAV1	1.0000	.7171**	.8578**	.3031**	.0891	.0132
AAV2	.7171**	1.0000	.7388**	.3743**	.2275**	.1483
AAV4	.8573**	.7088**	1.0000	.3677**	.0715	-.0096
AAV5	.3031**	.3743**	.3677**	1.0000	.2594**	.2145*
AAD1	.0891	.2276**	.0718	.2594**	1.0000	.9144**
AAD2	.0132	.1483	-.0096	.2145*	.9144**	1.0000
AAD3	.1092	.1572	.0559	.2568**	.8695**	.9167**
AAD4	.1102	.1800*	.0900	.2752**	.9251**	.9104**
AAD5	.0702	.2354**	.0515	.2903**	.9685**	.9219**
AMI1	.0364	.1699	.0343	.2208*	.8914**	.8834**
AMI2	.0969	.1587	.0541	.2096*	.8033**	.8281**
AMI3	.1035	.1754*	.0731	.2126*	.8373**	.8270**
AMI4	.1163	.1625	.0563	.1690	.7930**	.7815**
EW1	.1013	.2379**	.1297	.2284*	.2559**	.2378**
EW2	.0993	.1450	.1219	.3014**	.2763**	.3016**
EW3	.0502	.1231	-.0133	.0992	.3318**	.2909**
EW04	-.0099	-.0075	.0488	.0354	.1531	.1857*
EW5	.2195*	.1158	.2119*	.3402**	.1791*	.2434**
EW6	.2036*	.1811*	.2185*	.2254*	.0895	.1393
EW7	.2533**	.1235	.1873*	.2849**	.3077**	.2958**
EW8	.2078*	.0963	.2538**	.2472**	.1578	.1911*
EW9	.1827*	.0315	.1423	.1912*	.2423**	.2620**
EW10	.1422	.0250	.1157	.1439	.0763	.1511
EW11	.1486	.0462	.1502	.1929*	.0613	.1084
EW12	.0523	-.0157	.1191	.0804	-.0259	.0416
AMW	.1734*	.2136*	.2591**	.4980**	.1390	.0866
AUCUMP	.2370**	.3359**	.2733**	.3792**	.1539	.1826*
EXEC	.0829	.2252**	.0599	.1916*	.9449**	.9077**
INV	.1003	.0659	.0721	.2477**	.1301	.1315
FAM	.0612	.2144*	.0130	.2361*	.4292**	.4307**
RES	.1293	.2173*	.1203	.3993	.7334**	.7233**
AAV	.8586**	.8052**	.9099**	.3182**	.2033*	.1155
AMW	.0813	.1992*	.0549	.2689**	.0746**	.0627**
AMI	.1055	.1746*	.0645	.2129*	.3707**	.8692**
EQUITY	.1730*	.1228	.1323*	.2591**	.2392**	.2734**

* - Significant at .05 ** - Significant at .01 (2-tailed)

- - Correlation Coefficients - -

	AAD3	AAD4	AAD5	AMI1	AMI2	AMI3
AAG1	-.0768	-.0444	-.0206	-.0446	-.0027	.0110
AAG2	.0879	.1225	.0925	.0403	.0371	.0256
AAG3	.0756	.1072	.1576	.1270	.1345	.0769
AAG4	-.0233	.0230	.0722	.0288	-.0319	-.0266
AAG5	-.0042	.0132	-.0002	-.0744	-.0171	-.0244
AAG6	.0306	.0549	.1305	.0979	.1062	.1022
AAG7	.0109	.0169	.0423	.0656	.0154	.0297
AAG8	.1073	.1420	.1295	.0923	.0868	.0811
AAG10	.0244	.0945	.1547	.0481	.0391	.1433
AAG11	.1107	.1484	.1983*	.1500	.1313	.1132
AAG12	.0654	.0835	.1093	.0846	.0778	.0519
AUCOMP1	.1535	.1752*	.2056*	.1453	.0801	.0979
AUCOMP2	-.0979	-.1441	-.1461	-.0261	-.0423	-.0954
AUCOMP3	.2594**	.2513**	.2521**	.2074*	.1213	.2063*
EAEC1	.7749**	.7023**	.7349**	.5746**	.5232**	.5954**
EAEC2	.6879**	.3951**	.9225**	.3968**	.3404**	.3924**
EAEC3	.6721**	.6608**	.7043**	.6770**	.3116**	.6579**
EAEC4	.6505**	.3943**	.7092**	.6634**	.3285**	.6687**
EAEC5	.6627**	.3926**	.9299**	.6925**	.3439**	.6980**
EAEC6	.6719**	.7056**	.9220**	.6627**	.3068**	.6675**
INV2	.1091	.2039*	.1514	.1575	.2415**	.2561**
INV3	.1311	.0737	.0660	.0376	.0675	.1715*
INV4	.1749*	.1510	.1577	.1369	.1700	.1799*
FAM2	.6665**	.6649**	.4169**	.6342**	.3735**	.3552**
FAM4	.2656**	.2817**	.2945**	.3071**	.2759**	.2621**
FAM6	.3271**	.3365**	.3774**	.3575**	.3299**	.3152**
FAM7	.2513**	.2356**	.3397**	.3365**	.2609**	.2616**
RES3	.6631**	.6320**	.6747**	.6239**	.6121**	.6565**
RES4	.6363**	.6353**	.6842**	.6350**	.6114**	.6672**
RES	.6184**	.6495**	.6485**	.6946**	.5579**	.6130**
AAV2	.1092	.1102	.0702	.0864	.0969	.1036
AAV2	.1572	.1800*	.2364**	.1690*	.1587	.1769*
AAV4	.0559	.0900	.0915	.0543	.0541	.0731
AAV5	.2566**	.2752**	.2903**	.2208*	.2095*	.2126*
AAD1	.8695**	.9251**	.9685**	.8914**	.8033**	.8373**
AAD2	.9187**	.9134**	.9217**	.8634**	.8291**	.8270**
AAD3	1.0000	.9360**	.9903**	.8559**	.8433**	.8537**
AAD4	.9360**	1.0000	.9200**	.8425**	.7987**	.8446**
Eu1	.2046*	.2673**	.2939**	.2182*	.2319**	.2384**
Eu2	.3213**	.2777**	.3861**	.3663**	.3217**	.3202**
Eu3	.2593**	.2953**	.2917**	.2708**	.2453**	.2309**
Eu4	.1540	.1540	.1451	.1938*	.1719*	.1540
Eu5	.2571**	.2289**	.2334*	.1973*	.1841*	.1731*
Eu6	.1456	.1494	.1121	.1152	.0375	.0992
Eu7	.2837**	.3031**	.3037**	.2751**	.2103*	.2357**
Eu8	.2044*	.1890*	.1856*	.2113*	.1608	.1785*
Eu9	.2815**	.2921**	.2455**	.2558**	.2069*	.2476**
Eu10	.1867*	.1491	.1071	.1062	.1015	.1065
Eu11	.1567	.1390	.0772	.1224	.1329	.1680
Eu12	.0571	.0611	-.0052	.0534	.0546	.0330
AAG	.0027	.1243	.1534	.0395	.0340	.0841
AUCOMP	.1511	.1534	.1751*	.1752*	.0854	.1151
EAEC	.6535**	.7036**	.9340**	.6949**	.3375**	.6930**
INV	.1779*	.1721*	.1493	.1534	.1721*	.2463**
FAM	.6573**	.6041**	.6435**	.6452**	.3315**	.6683**
RES	.6771**	.6374**	.7197**	.6345**	.6385**	.6230**
AAV	.1809	.2059*	.2223*	.1574	.1629	.1749
AAD	.9240**	.9369**	.9744**	.9038**	.8463**	.8723**
AMI	.8795**	.8695**	.8813**	.9505**	.9609**	.9694**
EQUITY	.2623**	.2776**	.2533**	.2684**	.2372**	.2487**

- - Correlation Coefficients - -

	AMI4	EQ1	EQ2	EQ3	EQU4	EQ5
AAG1	.0232	.0990	.1571	-.0313	-.0596	.0631
AAG2	.0680	.1202	.2452**	.1323	-.0089	.2779**
AAG3	.0944	.1335	.1363*	.0985	-.0169	.1644
AAG4	-.0300	.0720	.1301*	.0512	.0107	.1921*
AAG5	.0391	.0245	.1525	.0549	-.0766	.0875
AAG6	.0361	.2172*	.0573	-.0274	-.0080	.0292
AAG7	.0456	.0751	.2215*	.0147	.1322	.1565
AAG8	.0574	.0544	.1551	.0135	.0582	.1197
AAG10	.1391	.1432	.0904	.0908	-.1400	.0711
AAG11	.1232	.0619	.1799*	-.0126	.0292	.2595**
AAG12	.0035	.0259	.1128	-.0267	-.1518	.1071
ADCOMP1	.0595	.0740	.0591	.0074	.0191	.1330
ADCOMP2	-.1025	-.1659	-.0732	-.1637	.0337	-.0303
ADCOMP3	.1755*	-.0531	-.1522	-.1346	-.0975	.0039
EXEC1	.3501**	.2490**	.3384**	.2980**	.1464	.1682
EXEC2	.3545**	.2536**	.2824**	.2936**	.1568	.1359
EXEC3	.3423**	.2327**	.2752**	.2793**	.1366	.1361
EXEC4	.3409**	.2330**	.2542**	.3051**	.1661	.1503
EXEC5	.3513**	.2375**	.2930**	.2728**	.1634	.1319
EXEC6	.3294**	.2535**	.2542**	.3155**	.1521	.1616
INV2	.2734**	.2700**	.2743**	.2594**	.0173	.2261**
INV3	.1263	.1954*	.1663	.1904*	.1337	.0471
INV4	.1479	.1030	.2331**	.2220*	.1061	.2117*
FAM2	.3535**	.2076*	.2300**	.3645**	.2076*	.3045**
FAM4	.2422**	.1445	.3153**	.2237**	.0736	.2455**
FAM6	.3153**	.3252**	.1759*	.3932**	.1911*	.2256**
FAM7	.2377**	.3337**	.1767*	.3437**	.1100	.2015*
RES3	.5261**	.2310**	.2089*	.4117**	.1703*	.1336
RES4	.5295**	.2372**	.2126*	.3988**	.1984*	.1344
RES5	.5290**	.1753*	.3283**	.2445**	.1394	.2579**
AAV1	.1183	.1013	.0793	.0902	-.0095	.2195*
AAV2	.1525	.2377**	.1400	.1231	-.0075	.1159
AAV4	.0565	.1297	.1219	-.0138	.0488	.2119*
AAV5	.1690	.2234*	.3014**	.0882	.0354	.3402**
AAD1	.7930**	.2659**	.2763**	.3318**	.1531	.1791*
AAD2	.7313**	.2379**	.3015**	.2709**	.1357*	.2434**
AAD3	.8105**	.2045*	.3213**	.2859**	.1540	.2671**
AAD4	.8329**	.2673**	.2779**	.2968**	.1516	.2299**
AAD5	.7553**	.2939**	.3061**	.2917**	.1451	.2036*
AMI1	.8310**	.2132*	.3663**	.2705**	.1938*	.1973*
AMI2	.8638**	.2319**	.3219**	.2458**	.1719*	.1841*
AMI3	.9336**	.2334**	.3202**	.2309**	.1540	.1731*
AMI4	1.0000	.2161*	.2711**	.2404**	.1047	.1256
EQ1	.2161*	1.0000	.4603**	.3555**	.3646**	.3540**
EQ2	.2711**	.4603**	1.0000	.4463**	.5947**	.6615**
EQ3	.2404**	.3555**	.4463**	1.0000	.2991**	.3510**
EQU4	.1047	.3646**	.5947**	.2991**	1.0000	.5046**
EQ5	.1256	.3540**	.6615**	.3510**	.5046**	1.0000
EQ6	.1163	.2620**	.5115**	.2023*	.4333**	.3477**
EQ7	.1751*	.3034**	.5397**	.3998**	.3867**	.5098**
EQ8	.1215	.4109**	.7427**	.3120**	.5042**	.5967**
EQ9	.2367**	.4700**	.7022**	.4403**	.5268**	.6006**
EQ10	.0653	.4254**	.6792**	.2627**	.6057**	.6036**
EQ11	.1302*	.3455**	.6494**	.2484**	.4505**	.5612**
EQ12	.1002	.2695**	.5516**	.1234	.4838**	.4693**
AAG	.1100	.1415	.2652**	.0619	-.0527	.2521**
ADCOMP	.0312	-.0790	-.0024	-.1551	-.0284	.0524
EXEC	.3509**	.2563**	.2353**	.3019**	.1556	.1532
INV	.2225*	.2357**	.2711**	.2711**	.1031	.1922*
FAM	.3586**	.3227**	.2253**	.4150**	.1809*	.2995**
RES	.5682**	.2309**	.2595**	.3776**	.1320*	.1391*
AAV	.1541	.2271*	.1971*	.0924	.0025	.2669**
AAD	.8271**	.2541**	.3055**	.3109**	.1626	.2292**
AMI	.9463**	.2351**	.3357**	.2589**	.1642	.1784*
EQUITY	.2172*	.5056**	.3509**	.5531**	.7089**	.7517**

* - Signif. LE .05   ** - Signif. LE .01   (2-tailed)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	EQ6	EQ7	EQ8	EQ9	EQ10	EQ11
AAG1	.1137	.1793*	.1773*	.1466	.0989	.1599
AAG2	.1533	.1455	.1473	.1774*	.0979	.1639
AAG3	.1355	.1425	.1225	.1315	.0490	.1505
AAG4	.1350	.1175	.1140	.1161	.0697	.0656
AAG5	.0351	.0393	.1355	.1730*	.0984	.1552
AAG6	-.0242	.0395	.0424	-.0454	-.0281	.0111
AAG7	.0737	-.0032	.1231	.1587	.0827	.1773*
AAG8	.0754	.0810	.1392	.1457	.0661	.1170
AAG10	-.0052	.1022	.0492	.0401	.0087	.0459
AAG11	.1610*	.1890*	.1310	.1511	.0586	.1589
AAG12	.0282	.1152	.0363	.1153	-.0255	.1259
ASCOMP1	.1179	.1132	.0477	.0136	-.0221	.0001
ASCOMP2	-.0092	-.1659	-.1524	-.1225	-.0859	-.1596
ASCOMP3	.0119	-.0727	-.0923	-.0839	-.1655	-.1059
EXEC1	.0971	.2272**	.1387	.2515**	.0773	.0964
EXEC2	.0741	.2137*	.1345	.2235**	.0557	.0923
EXEC3	.0554	.1710*	.1273	.2407**	.0540	.0619
EXEC4	.0023	.2237*	.1310	.2333**	.0493	.0525
EXEC5	.0598	.2111*	.1551	.2332**	.0693	.0593
EXEC6	.0547	.2127*	.1505	.2321**	.0659	.0757
INV2	.0772	.3315**	.2505**	.3246**	.2113*	.3360**
INV3	.0557	.1935*	.1505	.2235**	.1792*	.3022**
INV4	.1027	.2734**	.1450	.1837*	.1207	.2510**
FAM2	.1557*	.3831**	.1914*	.2232**	.1433	.1395*
FAM4	.1939*	.2552**	.1795*	.1219	.0929	.1658
FAM6	.2523**	.3243**	.1077	.0359	.0831	.1352
FAM7	.1749*	.2915**	.1251	.0738	.0574	.0914
RES3	.0395	.2757**	.1574	.2226*	.0536	.0062
RES4	.0983	.2799**	.1747*	.2277**	.0654	.0121
RES5	.1353	.2859**	.2341**	.2498**	.1233	.1629
AAV1	.2030*	.2332**	.2073*	.1927*	.1222	.1436
AAV2	.1611*	.1265	.0763	.0315	.0260	.0452
AAV4	.2133*	.1873*	.2533**	.1428	.1157	.1502
AAV5	.2254*	.2049**	.2472**	.1712*	.1439	.1929*
AAU1	.0695	.3077**	.1573	.2423**	.0758	.0613
AAU2	.1375	.2539**	.2011*	.2520**	.1511	.1036
AAU3	.1450	.2637**	.2064*	.2815**	.1887*	.1567
AAU4	.1404	.3031**	.1390*	.2921**	.1451	.1390
AAU5	.1121	.3037**	.1355*	.2455**	.1071	.0772
AMI1	.1152	.2751**	.2113*	.2558**	.1062	.1224
AMI2	.0870	.2133*	.1533	.2069*	.1015	.1329
AMI3	.0792	.2357**	.1795*	.2476**	.1063	.1530
AMI4	.1255	.1751*	.1215	.2357**	.0653	.1302*
EQ1	.4820**	.5034**	.4167**	.4730**	.4264**	.3438**
EQ2	.5115**	.5347**	.7427**	.7022**	.6942**	.5434**
EQ3	.2023*	.3973**	.3120**	.4403**	.2529**	.2484**
EQ4	.4533**	.5567**	.5342**	.5253**	.6057**	.4505**
EQ5	.5477**	.5675**	.5767**	.6006**	.6095**	.5612**
EQ6	1.0000	.4347**	.5032**	.4673**	.5320**	.5031**
EQ7	.4345**	1.0000	.5599**	.5714**	.5310**	.5129**
EQ8	.5052**	.5694**	1.0000	.7694**	.5143**	.6309**
EQ9	.4575**	.5714**	.7594**	1.0000	.6020**	.7023**
EQ10	.5325**	.5810**	.5143**	.6020**	1.0000	.7331**
EQ11	.5031**	.5124**	.6609**	.7023**	.7301**	1.0000
EQ12	.4601**	.4955**	.7315**	.6330**	.7632**	.7933**
AAG	.1475	.1733*	.1353*	.1776*	.0720	.2039*
ASCOMP	.0450	-.0057	-.1107	-.1044	-.1467	-.1405
EXEC	.0604	.2133*	.1453	.2441**	.0632	.0734
INV	.1020	.3442**	.2227**	.2936**	.2071*	.3619**
FAM	.2550**	.3923**	.1365*	.1549	.1157	.1754*
RES	.1059	.3022**	.2113*	.2512**	.0873	.0657
AAV	.2495**	.2623**	.2425**	.1655	.1139	.1539
AAU	.1275	.3031**	.1395*	.2721**	.1343	.1092
AMI	.1095	.2355**	.1755*	.2431**	.0994	.1570
EQUITY	.6507**	.7616**	.3487**	.6549**	.3632**	.7843**

* - Signif. LE .05   ** - Signif. LE .01   (2-tailed)

- - Correlation Coefficients - -

	EQU2	AAG	ADCOMP	EXEC	INV	FAM
AAG1	.1343*	.5753**	-.0214	-.0387	.1227	-.0387
AAG2	.1271	.5974**	.1565	.0732	.0817	.0247
AAG3	.0636	.6398**	.0740	.0679	.1091	.0583
AAG4	.0416	.6969**	.0918	.0385	.0541	-.0336
AAG5	.0809	.5944**	.0047	-.0047	.0715	-.0766
AAG6	.0414	.6635**	.0366	.0837	-.0958	-.0094
AAG7	.0731	.3952**	.0712	.0437	.0953	.0388
AAG8	.1144	.6710**	-.0259	.1161	-.0848	.0412
AAG10	.0343	.4592**	.0106	.1024	.0344	.1678
AAG11	.0909	.6600**	.0969	.1059	.1498	.0956
AAG12	.0114	.6951**	.1333	.0375	.0950	.1095
ADCOMP1	-.0353	.1517	.6765**	.1448	.1036	.2491**
ADCOMP2	-.0687	-.1490	.5049**	-.1091	-.1580	-.0386
ADCOMP3	-.1563	.1752*	.7284**	.2349**	-.0554	.0453
EXEC1	.0209	.1068	.1514	.9885**	.1623	.4262**
EXEC2	.0185	.1038	.1304	.9900**	.1770*	.4276**
EXEC3	.0031	.0952	.1646	.9733**	.1539	.3925**
EXEC4	-.0513	.1144	.1505	.9841**	.1855*	.3999**
EXEC5	.0025	.0930	.1503	.9911**	.1804*	.4211**
EXEC6	-.0040	.1201	.1322	.9880**	.1623	.4020**
INV2	.3337**	.1026	-.1019	.1430	.7959**	.2038*
INV3	.2616**	-.0159	-.0226	.1438	.3286**	.0448
INV4	.1585	.1584	-.0214	.1401	.8564**	.2147*
FAM2	.1535	.0359	.1565	.3971**	.1540	.3510**
FAM4	.0454	.0913	.0566	.2730**	.1067	.6322**
FAM6	.0034	.0323	.0482	.3449**	.1335	.8915**
FAM7	-.0192	.0614	.1050	.3295**	.1520*	.8311**
RES3	-.0369	-.0136	.0833	.0869**	.1401	.3404**
RES4	-.0556	-.0039	.1378	.7051**	.1103	.3342**
RES5	.0363	.0372	.1527	.0399**	.1679	.3146**
AAV1	.0825	.1734*	.2970**	.0829	.1003	.0412
AAV2	-.0157	.2136*	.3359**	.2262**	.0688	.2144*
AAV4	.1191	.2391**	.2733**	.0589	.0721	.0130
AAV5	.0804	.4990**	.3792**	.1916*	.2477**	.2361*
AAD1	-.0259	.1399	.1583	.9449**	.1300	.4292**
AAD2	.0416	.0656	.1325*	.9077**	.1315	.4307**
AAD3	.0571	.0627	.1511	.9835**	.1779*	.3879**
AAD4	.0611	.1243	.1554	.9088**	.1721*	.4041**
AAD5	-.0052	.1604	.1751*	.9340**	.1493	.4435**
AMI1	.0534	.0895	.1752*	.8949**	.1534	.4452**
AMI2	.0546	.0840	.0864	.8375**	.1921*	.3815**
AMI3	.0330	.0851	.1161	.8930**	.2463**	.3683**
AMI4	.1502	.1130	.0312	.8569**	.2225*	.3588**
EQU1	.2895**	.1416	-.0790	.2563**	.2357**	.3227**
EQU2	.0816**	.2652**	-.0824	.2859**	.2711**	.2858**
EQU3	.1284	.0617	-.1551	.3015**	.2711**	.4150**
EQU4	.0803**	-.0527	-.0284	.1556	.1031	.1809*
EQU5	.0893**	.2521**	.0524	.1532	.1922*	.2995**
EQU6	.0301**	.1473	.0450	.0804	.1020	.2565**
EQU7	.0000**	.1730*	-.0067	.2133*	.3442**	.3923**
EQU8	.7315**	.1853*	-.1107	.1453	.2229**	.1965*
EQU9	.0330**	.1976*	-.1044	.2441**	.2985**	.1549
EQU10	.7832**	.0720	-.1467	.0632	.2091*	.1157
EQU11	.7933**	.2038*	-.1405	.0784	.3619**	.1754*
EQU12	1.0000	.1099	-.1405	.0070	.3094**	.0590
AAG	.1499	1.0000	.0980	.1071	.0929	.0670
ADCOMP	-.1403	.0980	1.0000	.1484	-.0602	.1299
EXEC	.0070	.1071	.1484	1.0000	.1725*	.1790**
INV	.3094**	.0929	-.0602	.1725*	1.0000	.1829*
FAM	.0590	.0670	.1299	.1790**	.1829*	1.0000
RES	-.0314	.0073	.1360	.7234**	.1502	.2546**
AAV	.0606	.3532**	.3693**	.1772	.1539	.1533
AAD	.0433	.1170	.1700	.9483**	.1562	.4341**
AMI	.0755	.0951	.1215	.9108**	.2114*	.4077**
EQUITY	.7484**	.1846*	-.1039	.2245**	.3191**	.3236**

- - Correlation coefficients - -

	RES	AAV	AAO	AMI	EQUITY
AAG1	-.1234	.1223	-.0688	-.0045	.1335
AAG2	.0319	.3737**	.0897	.0447	.1931*
AAG3	.0324	.2233*	.1194	.1136	.1444
AAG4	-.0547	.3083**	.0320	-.0143	.1264
AAG5	-.0176	.1143	-.0092	-.0215	.0989
AAG6	-.0514	.2170*	.0782	.0948	.0340
AAG7	.1151	.1135	.0287	.0417	.1454
AAG8	.0102	.1248	.1263	.0833	.1286
AAG10	-.0202	.2257*	.0745	.0954	.0407
AAG11	.0351	.1690	.1650	.1359	.1564
AAG12	-.0003	.1797	.0779	.0782	.0456
AOCOMP1	.1553	.4833**	.1913*	.1040	.0597
AOCOMP2	-.0272	.0325	-.1306	-.0655	-.1284
AOCOMP3	.1299	.2375*	.2522**	.1866*	-.1213
EXEC1	.7082**	.1565	.9432**	.9060**	.2362**
EXEC2	.7167**	.1559	.9377**	.9114**	.2202*
EXEC3	.8846**	.1259	.9199**	.8866**	.2020*
EXEC4	.7390**	.2033*	.9265**	.8908**	.2181*
EXEC5	.7295**	.1974*	.9418**	.9116**	.2229**
EXEC6	.7315**	.2034*	.9390**	.8804**	.2263**
INV2	.1019	.1104	.1565	.2405**	.3193**
INV3	.1126	.1067	.0807	.1176	.2306**
INV4	.0938	.1584	.1537	.1652	.2345**
FAM2	.3540**	.1271	.4259**	.4004**	.3231**
FAM4	.2053**	.0849	.2996**	.2867**	.2326**
FAM6	.2377**	.1949*	.3022**	.3456**	.2710**
FAM7	.2452**	.1235	.3156**	.2884**	.2234**
RES3	.9941**	.1111	.6862**	.6071**	.2167*
RES4	.9803**	.1746	.6949**	.6137**	.2301**
RES5	.9745**	.2131*	.6849**	.6002**	.2743**
AAV1	.1293	.8696**	.0315	.1055	.1739*
AAV2	.2173*	.3602**	.1992*	.1746*	.1229
AAV4	.1203	.9079**	.0949	.0846	.1628*
AAV5	.0993	.9182**	.2699**	.2128*	.2591**
AAO1	.7334**	.2033*	.9746**	.8707**	.2392**
AAO2	.7233**	.1136	.9827**	.8892**	.2736**
AAO3	.6771**	.1809	.9546**	.8795**	.2823**
AAO4	.6875**	.2053*	.9689**	.8665**	.2775**
AAO5	.7197**	.2029*	.9744**	.8813**	.2538**
AMI1	.8845**	.1674	.9038**	.9505**	.2684**
AMI2	.8386**	.1629	.8463**	.9609**	.2372**
EQ1	.2309**	.2171*	.2541**	.2361**	.6059**
EQ2	.2595**	.1971*	.3056**	.3357**	.8509**
EQ3	.3775**	.0924	.3107**	.2589**	.5531**
EQU4	.1820*	.0025	.1626	.1642	.7088**
EQ5	.1891*	.2657**	.2292**	.1784*	.7517**
EQ6	.1059	.2496**	.1275	.1095	.6607**
EQ7	.3022**	.2628**	.3031**	.2356**	.7616**
EQ8	.2113*	.2436**	.1935*	.1768*	.8487**
EQ9	.2512**	.1655	.2721**	.2481**	.8549**
EQ10	.0873	.1139	.1343	.0994	.8632**
EQ11	.0857	.1539	.1092	.1570	.7843**
EQ12	-.0014	.0506	.0235	.0756	.7484**
AAG	.0073	.3582**	.1170	.0961	.1846*
AOCOMP	.1360	.3873**	.1700	.1216	-.1039
EXEC	.7284**	.1772	.9483**	.9103**	.2245**
INV	.1502	.1539	.1362	.2114*	.3131**
FAM	.3546**	.1633	.4341**	.4077**	.3236**
RES	1.0000	.1835	.7534**	.6930**	.2585**
AAV	.1803	1.0000	.1095*	.1750	.2235*
AAO	.7334**	.1835*	1.0000	.9027**	.2726**
AMI	.8530**	.1750	.9027**	1.0000	.2546**
EQUITY	.2585**	.2235*	.2726**	.2546**	1.0000

* - Signif. LE .05 ** - Signif. LE .01 (2-tailed)

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