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Advertising in Restrooms

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AN ABSTRACT OF THE THESIS of Karsten C. Hofmann for the
Master of Arts in Psychology presented July 21, 1988.

Title: Advertising in Restrooms

APPROVED BY THE MEMBERS OF THE THESIS COMMITTEE:


Mark Costanzo, Chairman


Kerth O'Brien


Frank Wesley


Scott Dawson

There is a common belief that the special situation one encounters in restrooms is likely to evoke negative associations between the setting and a potential product, and that these presumed associations make advertising in

restrooms incompatible with the objectives of advertisers.

This general proposition was questioned on theoretical grounds. It was argued that the specific situation in a restroom would be conducive to advertising goals in a number of ways. In addition, while negative associations may occur with certain kinds of products, others were hypothesized to be unaffected. In particular, the potential value of restrooms for communicating public education issues such as AIDS and Cholesterol was examined.

A survey of media directors from major advertising agencies in the Portland area was conducted to gather expert opinions on the issue. In a field experiment, the reactions of 48 male subjects towards two different posters in a restroom were compared to the reactions towards the same posters in a study area.

The findings of the survey supported the conjecture that the belief of possible negative associations with products is one of the reasons why restroom advertising is not common. However, half of the media directors believed that the occurrence of a negative transference would depend on the kind of product or the kind of advertising. The majority endorsed the idea of placing institutional

advertising into restrooms.

The results of the field study indicated that people perceived considerable differences in the appropriateness of advertising for different kinds of products in restrooms. On an attitude toward the advertisement scale, they also liked two different posters, one informing about AIDS, the other one informing about Cholesterol, at least as much in restrooms as in study areas. The majority of the respondents had a positive overall feeling towards advertising in restrooms when comparing it to traditional places for print advertising.

The placement of the posters in restrooms showed superior in terms of awareness and recall, compared to the placement of the stimuli in a study area. No significant difference was found for the strength of the behavioral response induced by either condition.

Practical and theoretical implications of the findings of the study were discussed.

ADVERTISING IN RESTROOMS

by

KARSTEN C. HOFMANN

A thesis proposal submitted in partial fulfillment of the
requirements for the degree of

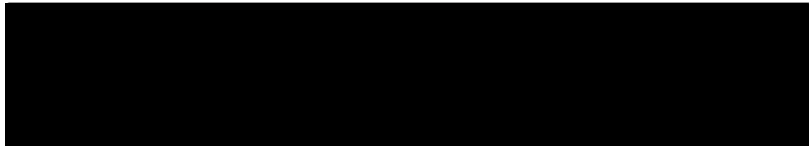
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PSYCHOLOGY

Portland State University

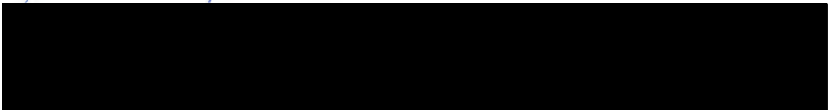
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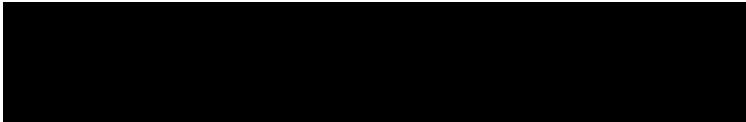
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Karsten C. Hofmann presented July 21, 1988.




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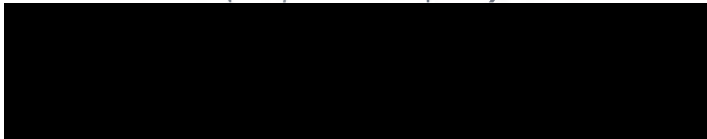


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CHAPTER I

INTRODUCTION

Superbowl Sunday. You are leaning back in your chair, you switch on the TV ready to watch the annual culmination of America's miniature war. But football is not the only event at stake: Advertising agencies have worked hard to design the commercials for this extraordinary occasion. And they better have done well: If a high proportion of the audience followed your instincts, turned off the volume and started discussing the incredible TD for the Washington Redskins during the commercial, \$ 1,000,000 could have been wasted in sixty seconds.

If we take into account the high investments and the host of competing stimuli with which we are confronted every single minute (Britt, Adams, & Miller, 1972), it makes perfect sense that advertisers are interested in using a multitude of advertising media to communicate their messages most efficiently. Among these, newspapers and TV dominate with an annual advertising volume of \$ 15.6 billion and \$ 12

billion in 1981, respectively (Dirksen, Kroeger, & Nikosin, 1983). Although they claim responsibility for about 50% of the money spent for advertising (Kleppner, 1986), radio, magazines, outdoor advertising, transit advertising, direct mail, to name the most important, offer interesting alternatives. Depending on the specific needs and purposes of the advertiser and considering factors such as the communication objectives, the target audience, the type of message or product, the extent and type of distribution required, the budget, public opinion etc., the adequate media has to be selected. Therefore the history of advertising is characterized by constant efforts to design and employ new advertising techniques and to develop innovative strategies (see Marchand, 1985).

Given this situation and the abundant presence of advertising in the USA in particular, I started wondering: Why is there almost no advertising in restrooms?

THE COMMON BELIEF

As it is quite unlikely that the idea of using a restroom for means of advertising has never crossed the mind of a marketing researcher or a creative director, there has

to be a reason why it was never, at least in the literature, turned into practice.

My conjecture is that there is a common belief telling us that the concept "restroom" and the special situation one encounters in this location is likely to evoke negative associations in people's minds¹. These conscious and unconscious associations are further assumed to influence an individual's product perceptions, which makes advertising in restrooms incompatible with the advertiser's objectives.

I disagree with this general proposition. Although there might be some negative associations triggered by the concept "restroom," in my opinion a restroom could still be an effective place for communicating information and advertising products.

In the following paragraphs it will be attempted to provide some arguments for this assertion.

PSYCHOLOGICAL CHARACTERISTICS OF RESTROOMS

To start, some of the general characteristics of the location and the special kind of situation one encounters

¹ In the sense of "embarrassing" or "unhygienic."

while attending a restroom shall be depicted.

First, the stay in a restroom, short as it is, is generally marked by a state of stimulus deprivation. There is hardly any noise, nor do the smooth surfaces and the usually white walls and floor offer any visual distraction. In such a deprived environment people tend to actively search for any kind of information to reach their normal adaption level (Helson, 1959). The best evidence for this kind of behavior that one can think of is the existence of graffiti², which satisfies the stimulation needs of both the creator and the reader. Maddi (1968) has formalized these common sense observations in his variety theory. It holds that people try to reduce boredom and relative information deficits by seeking out new, unexpected and different stimuli in their environment. In related studies it has been shown that when a new stimulus is installed in a given environment, individuals tend to attempt to learn about it (Maddi, 1961).

² An interesting introduction "Toward a sociology and psychology of graffiti" was published by Abel and Buckley (1977).

Second, in men's restrooms in particular, the physical closeness to other people during a very intimate, taboo encircled "activity" (see Reynolds, 1950), literally forces one to look at the wall. It may ironically be called the "elevator effect," in reference to the countless looks aimed at the metal plate displaying the date of construction and the maximal load allowance in order to avoid direct eye contact in an elevator. In general, the social norms valid in this place prescribe to show self-centered behavior and tell us not to conspicuously look at others or to interact with them.

Third, for many people, a restroom constitutes a retreat from reality. Thoughts float freely around, day dreams begin, ideas and plans are concocted ("Eureka! I've got it"). While some individuals find themselves lost in their dream worlds, the larger proportion will be in a general state of mind that is more responsive to external stimuli. The classic example is the island vacation ad on a billboard just across from the office building.

In the literature on cognitive responses in persuasion (see Petty, Ostrom, & Brock, 1981) some articles have been written on environmental factors that inhibit or stimulate a

person's tendency to generate thought. Very little has been published regarding the direct influences of the reception environment on the attitude toward the advertisement, on belief or attitude formation and change, or on its influence on the correspondence between attitudes and intended or actual behavior (cf. Lutz, 1985; Alwitt & Mitchell, 1985). It is a hope for the future that the role played by the environment in advertising research may gain the same attention it has already received in other areas of psychology. In this context, Wright (1981) summarizes his review of empirical works as follows:

The available evidence already reviewed is consistent with the idea that different media create reception environments that differ markedly in how much opportunity for active thinking is provided. (p. 275).

Fourth, and this again can be traced back to early general psychological principles, the salience of a single stimulus in a deprived setting is much higher than under normal conditions, where a multitude of competing stimuli attempts to catch our attention. Stimuli which are sufficiently different from the individual's adaption level, expectations, and the remaining environment, are likely to

attract our attention. If one wants to use terminology from the Gestaltist tradition, one would say that the figures will "separate themselves out of the total field of vision" (Koehler, quote in Petermann, 1950).

In my view, the concept of salience may best be described in cognitive terms. As a consequence of the lack of available information input, more processing capacity can be allocated to the message, which makes the message more likely to be memorized and potentially more persuasive (Cacioppo & Petty, 1985, but cf. Beattie & Mitchell, 1985). Hence, one of the hopes for the impact of external stimuli in this setting is related to this reflection process. Adopting a cognitive perspective (Burnkrant & Sawyer, 1983; Shanteau, 1983; Greenwald & Leavitt, 1985), it can be assumed that the active search for information leads to enhanced focal attention and perceptual and semantic processing. In addition, the time available and the absence of distracting stimuli in this situation create favorable conditions for enhanced syntactical analysis, thus permitting better comprehension of the information. They may also increase the likelihood for elaboration. In other words, more and higher levels of processing are involved,

which in turn is likely to improve the recall of the message (Craik & Lockhart, 1972). This is one of the important goals in advertising for high involvement items (Steward, 1986).

Finally, in some cases, people may feel more compelled to read and reflect on information they otherwise tend to overlook. It is much more difficult to open the stall's door than to turn the page in a newspaper or magazine to avoid exposure to disliked messages.

This last point leads to one of my major foci of interest, which is the potential use of restrooms as a communicator of public education programs.

RESTROOMS AND SEXUAL BEHAVIOR

In a number of ways restrooms are closely linked to sexual behavior. Let me elucidate this contention by presenting a few examples.

First, a visit in a bathroom often precedes sexual encounters. Bars or nightclubs are among the favorite spots for getting together with old friends, for making new acquaintances and for meeting potential sexual partners. The abundant consumption of alcohol and the desire to be

attractive for others causes frequent visits to the restrooms.

Another point is the presence of condom dispensers in some of the restrooms. Such a machine offers - strange as it may sound - relatively greater intimacy than for instance the purchase of condoms in a supermarket. Many people, and in particular teenagers, are too shy to speak about contraception and would never dare to buy contraceptives in the bright light of public attention.

A poster about AIDS near a dispenser could therefore remind people of the dangers of unprotected sexual contact and promote the purchase of condoms.

Furthermore restrooms are a meeting place for high-risk groups, namely gay men, drug-users and prostitutes of both sexes. Some of the "hot spots" in Portland not only precede sexual activities, but are the places of encounter. Although one might have the notion that the high-risk groups are already sufficiently informed, this is not exactly the case. People at risk are often found to be reluctant to

confront potentially unpleasant or scary information³.

Masters, Johnson, and Kolodny (1988) found in their highly controversial recent publication that only 10 percent of their heterosexual sample with numerous sex partners thought they were at risk. None of them used condoms regularly.

Similar results have earlier emerged in studies about anti-smoking communication and related areas (Leventhal, 1968, 1970). Vulnerable subjects (i.e., those for whom a threat is most relevant) were reported to be less likely to respond to threat messages.

A poster in a restroom could also be disregarded, but it is harder to ignore and it is closer to the action than, for example, a newspaper advertisement.

Finally, considering the importance of the issue, we should exhaust every opportunity to inform and warn people about the danger of contracting AIDS or other venereal diseases and should not be hesitant to explore alternatives. Masters, Johnson, and Kolodny (1988) demand a "... broad-

³ A nice related quote attributed to comedian Dick Gregory is: "I have been reading so much about cigarettes and cancer that I quit reading".

based multimedia general education campaign ..." (p. 144) and stress the importance of special education programs targeted at the high-risk groups. Mogielnicki et al. (1986) and Ockene and Camic (1985) found that mass media can have a positive effect on long-term smoking cessation, especially when combined with collateral advertising on different levels. The goal in AIDS prevention is after all not just to induce people to use a condom once, but to change their attitudes in order to influence their long-term behavior. The extent to which this will occur depends largely on the efficacy of public information and education programs (see Stern & Aronson, 1984; Costanzo et al., 1986).

RESTROOMS AS ADVERTISING CARRIERS

In the preceding discussion some of the psychological aspects and consequences of the situation in a restroom and the relation between restrooms and sexual activities have been presented. I would now like to illustrate the potential value of restrooms as media carriers from the advertiser's perspective.

Advertising in closed rooms (e.g., in fast-food restaurants, shops, or hallways) is not considered a media

resource category in its own right. However, it can be conveniently subsumed under transit advertising, i.e., advertising in subways, buses, or airports. By drawing on the analogy some light can be shed on prospective advantages and disadvantages of this advertising medium (Engel, Warshaw, & Kinnear, 1983, p. 260; Kleppner, 1986).

Advantages

Opportune Exposure. The use of a restroom, as argued in a previous section, is assumed to be related to sexual behavior in a way analogous to the use of a transit system to shopping. In the same vein, as inside vehicle advertising has shown recall rates of about 50% (Engel, Warshaw, & Kinnear, 1983), advertising in restrooms might serve as an effective last-minute stimulus. Clearly, the percentage of all sexual encounters preceded by a trip to a public restroom will be much lower than the percentage of shopping preceded by the use of public transportation. Moreover, some restrooms will have a much higher probability of being attended before a sexual encounter than others. Although it would be very interesting - and challenging - to find out how strong the immediate relationship may prove to

be, this will not be the topic of the current study.

Geographic and Target Group Selectivity. Indoor transit advertising offers the opportunity to reach the market on a microlevel. Similarly, advertising in restrooms permits the media planner to be highly selective in choosing neighborhoods, social classes, age groups, of even employees of a single company. By nature advertising in bathrooms also allows for gender specificity. An appealing example for an application are the stickers advertising women's crisis centers, shelters, rape crisis phone lines, etc., which can already be found in some of the women's bathrooms. A related advantage of advertising in restrooms from the viewpoint of an advertiser is the target population constancy. A lot of restrooms are presumably frequented by approximately the same population every day. The constancy of the group composition makes it easier to get the right message to the right people, which is a very important factor in advertising.

Frequency of Exposure. As mentioned above, restrooms - like transit systems - are often frequented by an identical user group. The consistency of the group composition yields a considerable exposure frequency, which is an important,

though disputed, goal in advertising (Cacioppo & Petty, 1980; Mitchell & Olson, 1977; Sawyer, 1980).

Channel Effectiveness. Tests of the relative effectiveness of communication channels have not demonstrated the common sense superiority of television with its multisensory characteristics (McConnell, 1970; Klein, 1980). In particular, the credibility and comprehensibility of television advertising and broadcasting has been questioned (Bartos & Dunn, 1976; Jacoby, Hoyer, & Zimmer, 1983). Printed information, especially when combined with a highly credible source (Stern & Aronson, 1984), may therefore have a more positive effect on consumer behavior. However, the potential of the print media for communicating drastic, vivid, and personalized information, which repeatedly have been shown to be most effective (Taylor & Thompson, 1982), appears to be somewhat limited.

Economy. Transit advertising is regarded to be one of the cheapest forms of advertising (Kleppner, 1986). Although restrooms undoubtedly will not reach the mass of people a transit does, they can still exhibit a low cost-per-thousand (CPT) figure.

Disadvantages

Limited Range. Advertising in restrooms is restricted to certain people (e.g., users of out-of-home restrooms) and cannot attain the mass coverage of mass media such as television or newspapers. It can only supplement the traditional forms of advertising.

Creative Limitations. In comparison to a billboard, a standard poster is considerably limited in size. However, this disadvantage is outweighed in a restroom, where the spatial distance between stimuli and observer is less than usual and the duration of attentive exposure is assumed to be longer, in particular if the poster is attached inside the stalls' doors.

Vehicle Source Effects. Interestingly enough, the external conditions in a transit system are assumed to cause stress (Epstein, Woolfolk, & Lehrer, 1981) and to interfere with the advertising message. The argument underlying this assumption resembles closely the rationale behind the common belief that advertising in restrooms is inappropriate. However, as Engel, Warshaw, and Kinnear conclude, "little has been published to verify or refute this possibility" (ibid., p. 261).

Conclusion

On the premise that advertising in restrooms can be effective in some ways, differences in the reaction towards various types of products can be expected. For the purpose of convenience, products or advertising messages might be categorized into three groups according to their relationship to restrooms. Some are supposedly incompatible, such as food. Others are related to the location, e.g., hygiene products, diapers, detergents, or condoms. The major group would be neutral to potential associations: advertisements for airlines, insurance companies, cars; public advertising informing about diseases, recycling, smoking, etc.; or information about cultural events. As we do not know how people react to advertising in restrooms, it might be interesting to find out whether these common sense assumptions hold in reality.

The type of the product is only one side of the coin. Equally important is the location. It makes quite a difference whether we look into the restroom of a seedy bar or into the one of a fancy restaurant. Some advertising may be appropriate in one place, but not in the other. Although the interaction of the advertising and the location has yet

to be explored, one thing becomes clear right away: Public interest advertising and community information have the best chance to be accepted in a variety of places.

ATTITUDE CHANGE

One approach which can be used to discuss and evaluate the potential effectiveness of restrooms as advertisement communicators is to take a social psychological point of view and to relate the topic to attitude and attitude change. The definition of attitude is somewhat problematic:

Although 20,209 articles and books are listed under the rubric "attitude" in the Psychological Abstracts from 1970 through 1979, there is little agreement about the definition of attitude and hence what aspects of attitudes are worth measuring. (Dawes & Smith, 1985, p. 509).

Following a widely accepted tripartite definition proposed by Rosenberg & Hovland (1960), attitudes can be considered to include three major components: They comprise cognitive, affective and behavioral elements. These elements are frequently consistent with each other. Unfortunately, the relationship of the cognitive and affective aspects of attitudes to actual behavior was often

found to be rather weak (LaPiere, 1934; Wicker, 1969; Ajzen & Fishbein, 1977; Hanson, 1980). Even if information was perceived, favorably evaluated, understood and finally remembered, the consumer's adoption of the desired behavior is not guaranteed (Costanzo et al., 1986).

Numerous factors impinging upon the relationship between attitudes and behavioral outcomes have been found (e.g., Norman, 1975; Ajzen & Fishbein, 1980; Chaiken & Stangor, 1987). While source, message, and channel factors are at the core of conventional research in advertising, the focus in the present study is on the interaction between vehicle source effects and the target population. One of the basic assertions here is after all that the composition of the environment is conducive to antecedents of attitude change, the other factors being constant.

Several models have been proposed to delineate the mechanisms involved in information processing and attitude change (see Aaker & Myers, 1987; Ajzen, 1987). Among them, we find the consistency theories (Festinger, 1957), mere exposure models (Zajonc, 1968; Krugman, 1977), the central and peripheral route to persuasion model (Petty, Cacioppo, & Schumann, 1983), the cognitive response model (see Wright,

1980), or the theory of planned behavior (Ajzen, 1985). Most of them follow a sequential or hierarchical model of effects (see Gibson, 1983). This has led to a general consensus among advertising researchers (Young, 1977, cited in Leckenby, 1979) and others to use multiple criteria in copy-testing and attitude change research. As the unique contribution of each criterion in the attitude shift process is contingent upon a multitude of factors (e.g., reliability, validity, and discriminational power of the test; situational characteristics), the dependent measures in this study will be selected in correspondence to each of the attitudinal dimensions (cf. Schmalensee, 1983). Because there is no final agreement whether a sequential, hierarchical, or a non-linear, non-contingent, parallel process model of attitude change and behavior fits the data best, a behavioral measure was included in the experimental design.

RESEARCH METHODS IN ADVERTISING

Measures of advertising effectiveness and copy-testing are numerous. Although there is a general consensus about what can be measured, opinions dramatically diverge on what

should be measured and how.

The most popular measures in current advertising research are recognition, recall, comprehension, attitudes, preferences, cognitive responses, purchase intention, and actual purchase behavior. In recent years, triggered by criticism of the methods on the grounds of uncertain reliability and validity (Clancy & Ostlund, 1976; Ross, 1982; Gibson, 1983; Steward et al., 1985), the shift has been towards behavioral measures under realistic conditions. For many purposes, however, these measures are inadequate or simply too expensive, and consequently the more traditional methods are still in wide use.

An overwhelming body of literature can be found on recall, its measurement, reliability, and validity (Percy, 1978; Gibson 1983; Leckenby & Plummer, 1983; Steward et al., 1985; Steward, 1986). Despite the ongoing disputes a recent survey has disclosed that approximately 90 percent of all advertisers and agencies use some form of recall measure (Leckenby & Plummer, 1983). In summary, research findings have shown that recall can be measured reliably, if proper controls have been established, and that recall scores are useful for evaluating whether "thinking" ads have been

attended to, which is one of the intentions of the current study. Hence, recall was operationally defined as the extent to which a subject can correctly remember elements from a previously seen stimulus (cf. Claycamp & Liddy, 1969).

It has been argued that the recall procedure measures only the respondent's cognitive processing of the ad, but not the affective component (Zinkhan, 1982; Zielske, 1982). Young (1972), Krugman (1977, 1986), Cacioppo, Petty and Schumann (1983), and other researchers have suggested that "feeling ads" and ads for low involvement products can be persuasive even if they are not recalled. In order to measure favorable and unfavorable beliefs about advertising stimuli and the processor's affective reaction, advertising researchers frequently use the attitude toward the advertisement construct (AAD) (Shimp, 1981; Lutz, 1985). On an operational level, some form of reaction profile (Wells, 1964) is usually utilized to evaluate people's ad perceptions. A typical reaction profile consists of a list of adjectives intended to measure different perceptual dimensions of the advertisement, e.g., entertainment, personal relevance, or liking. In addition, the overall

attitude toward advertisement (AOV) is assumed to play an important role in the processing of advertising stimuli (Bauer & Greyser, 1968).

Semantic differentials and attitude scaling techniques are most often used to evaluate the relative strength of a subject's affective response toward an attitudinal object (e.g., Zeitlin & Westwood, 1986). An examination of the literature on measuring social attitudes and scaling techniques (Shaw & Wright, 1967; Haley & Case, 1979; Beltramini, 1982; Dawes & Smith, 1985; Mueller, 1986) suggests that a conventional five-point Likert scale is most appropriate for the present purpose.

Another extremely popular method for assessing the effectiveness of print ads is a measure of recognition (Marder & David, 1961; Bagozzi & Silk, 1983; Singh & Rothschild, 1983). Despite its popularity, it has often - and with justification - been criticized for its sensitivity to respondent errors (Simmons, 1961; Clancy, Ostlund, & Wyner, 1979; Singh & Churchill, 1987). For the purpose of the present study, stimulus recognition appeared less applicable and was therefore replaced by a measure of stimulus awareness. Awareness was defined as being

cognizant that a stimulus was present. It should be distinguished from the use of the term "recognition" in the advertising literature, signifying the reexposure of a subject to an entire stimulus (Dugoni & Biersdorff, 1979).

HYPOTHESES

From the preceding paragraphs a number of testable hypotheses of practical relevance can be derived:

(1) Advertisements with contents presumably not compatible with restrooms, such as food, will be more disliked in restrooms than advertisements with related, neutral or unrelated content.

(2) Advertisements with a content related, neutral, or unrelated to restrooms will be liked as much in restrooms as in other places.

(3) Measures of awareness and recall of the presented stimuli will yield higher scores for the restroom than for the neutral condition.

(4) The behavioral response induced by the advertisement will be stronger for the restroom than for the neutral condition.

CHAPTER II

METHODS

"Particularly, I was struck by the number and extent of the overt disagreements between social scientists about the nature of legitimate scientific problems and methods."

(Kuhn, 1970, p. iv).

STUDY 1

Subjects

From the original sample of 15 media directors (MD), 12 could be reached. One interview was lost due to a tape recorder failure, and one person refused to participate in the research, resulting in 10 interviews for the final analysis. Of the 10 interviewees, 8 were female, and 2 were male.

Procedures

A random sample of 15 advertising agencies were drawn from a list of American Association of Advertising Agencies members in Oregon. After the investigator had called the

agencies and had obtained the name of the media director, he sent a personalized letter describing the intended interview (Appendix A). Some days later the person was called, and after consent had been obtained, a standardized interview consisting of five open-ended questions (Appendix B) was carried out. The answers were recorded on tape and were subsequently transcribed. The resulting data were analyzed qualitatively in order to separate out the central ideas, beliefs, and opinions. Inter-rater reliability was not assessed; the level of analysis for the present purpose did not merit a second rater.

STUDY 2

Subjects

For the second study 60 male subjects were interviewed. Of the interviewees, 43.3% were students, 15% were employed, 40% were both studying and had a job, and 1.7% were other. The mean age of the random sample was 30 years, with a standard deviation of about 7.5 years. All subjects were randomly selected from males present at two Portland State University sites on five consecutive days.

Materials

Questionnaire. The questionnaire used in the study (Appendix C) was constructed by employing the following technique: Thirty-seven items intended to measure attitudes towards advertising in restrooms were generated from interviews and the literature. The selected items represented affective, cognitive, and conative statements related to advertising. Twenty of the items were associated with favorable attitudes, the remaining 17 items with unfavorable ones. A five-point Likert scale ranging from "strongly agree" to "strongly disagree" was used to measure the strength of the response. The questionnaire was filled out by a convenience sample ($N = 20$; $n_{\text{male}} = 10$, $n_{\text{female}} = 10$; $n_{\text{student}} = 12$, $n_{\text{other}} = 8$; $M_{\text{age}} = 27.5$). An item analysis using SPSSX's subprogram "reliability" was performed to assess the reliability of the questionnaire (Cronbach's $\alpha = .91$). The original item pool was transformed into a shortened final version by sorting out items that exhibited one or more of the following characteristics: reported ambiguities, dubious construct validity, inapplicability for study area condition, high means, low standard deviation, and low item-total

correlation. The surviving five items (Cronbach's $\alpha = .67$), each of them pointing to a different dimension of interest, were included in the final questionnaire for the two experimental conditions (Appendix C; Item "1." to Item "5.").

Two items were extracted from the advertising literature to measure the affective attitude towards the advertisement (Wells, 1964; Zinkhan, Gelb, & Martin, 1983). The reported coefficient α for the affective scale including four items was .90. Two of those, namely good and enjoyable, were removed from the scale, because they appeared ambiguous and inappropriate, respectively, for the present study (Appendix C; "likable" and "pleasant").

The personal relevance or informational value of the ad was measured by a four item scale adapted from Aaker and Norris (1982). The factor loadings associated with the items on this scale are .57, .73, .80, and .80 (Appendix C; "worth remembering", "convincing", "informative", and "interesting").

Emerging from the survey was the question which products would be appropriate for advertisement in restrooms. A three-point Likert scale was used to enable

participants to assess the appropriateness of six different advertising categories (Appendix C; Item "6.").

The third part of the questionnaire consisted of a recall test about the advertisement. In order to make the responses more comparable, the questions were cued to the stimulus dimensions topic or heading, picture, questions, and request. Points were given for totally correct, partially correct, and incorrect responses (see Klein, 1981).

Posters. Two 61 X 91.4 cm black and white posters with information about AIDS and Cholesterol were developed and designed with the help of a professional design service (Appendix D). The pictures were obtained from the Oregon Vector Control (mosquito) and taken out of a cookbook (sausages). The posters were put in a standard 24" X 36" frame.

Informational Material. Two brochures about AIDS were offered to participants. The first brochure is entitled "Safer sex" and was published by the American College Health Association. The second brochure bears the title "Teens & AIDS: Playing it safe," and was edited by the American Council of Life Insurance. Both were obtained from the

Oregon Health Division.

Procedure

A pretest was conducted before the actual experiment took place to check the feasibility of the experimental plan. For this purpose, three subjects took part in the experimental procedure. The pretest revealed that none of the appropriate restrooms at PSU was frequented enough to obtain a sufficient number of interviews from male subjects who had been inside the stalls. During one day, in which each male who entered a specific restroom was timed, only seven men stayed long enough to be safely categorized as having been to the stalls. Therefore it was decided to place the posters above the urinals.

In the first condition of the experiment 12 subjects leaving a restroom without any poster (control group) were approached and asked whether they remembered having seen any advertisement in the restroom. This condition was included in the experimental design for two reasons: to obtain responses from participants that have not been exposed to the stimulus, and to indicate the extent of guessing due to the impact of social desirability and the subject's

perception of demand characteristics (Clancy, Ostlund, & Wyner, 1979; Aronson, Brewer, & Carlsmith, 1985). The participants were also requested to answer the attitude scale about advertising in restrooms.

Finally, their commitment was tested by employing a behavioral measure (Aronson, Brewer, & Carlsmith, 1985). After the interviews had been completed, the subjects were told that the project was related to AIDS education, and were then offered informational material on AIDS.

In the second condition of the study 24 male subjects unaware of being part of an experiment at the time of stimuli exposure were confronted with one of the two posters, which was attached to the wall right above the urinal. The subsequent interviews were different from the ones in the first condition in that the scale measuring attitudes towards the advertisement and the recall test were included. In addition, the duration of each person's stay was measured and recorded. Only individuals that spend more than 25 s and less than 150 s were interviewed. Throughout this phase of the experiment, every third man was intercepted upon leaving the restroom and asked whether he had noticed a poster during his stay. If the person

responded positively, an interview was requested. As the subjects could not be randomly assigned by the researcher to either one of the treatment conditions, they were randomly selected from the population via every nth person intercepts (see Cook & Campbell, 1979).

In the third condition of the experiment the poster was attached to a wall in a student lounge at Smith Memorial Center. After a time interval comparable to the average duration of a stay in a restroom had elapsed, the subjects, again unaware of having been exposed to the stimulus, were interviewed. The average length of a stay in a bathroom as assessed in the second condition of the experiment was 70 s ($N = 46$). In this condition of the experiment, every male person entering the study area and having a realistic chance to see the poster was approached.

The two posters were exchanged in random intervals which were determined by the following formula: A random number between 1 and 9 multiplied by 7 minutes (for random table see Walker, 1985, p. 570). The order of the resulting intervals was counterbalanced on consecutive days. If people entered the restroom or the study area in groups, they were not requested an interview.

CHAPTER III

RESULTS

STUDY 1

The following section is a summary of the analysis of the interviews obtained from a sample of ten media directors (MD). It was attempted to stay closely to the original statements, without quoting them literally.

Why is there no Advertising in Restrooms?

Although four media directors initially said they had no idea why there is no advertising in restrooms (I, III, VIII, IX), each one ultimately offered a plausible rationale.

The first cluster of statements centered around dislike, on either the part of the client (IX) or the consumer (II, VII). Two MD's said they would personally dislike the idea to placing their clients' advertising in restrooms (I, X).

The second group of statements consisted of explanations such as that no one has ever thought about it (III, IV, VIII), that no research supporting it has been done (IX), or that if it worked, somebody would do it (X). Another set of explanations was concerned with the place. It was claimed that a restroom is considered to be a private place (IV), that it would not be an appropriate environment for many clients' advertisements (I, V, IX, X), and that an advertisement in this place would be defaced (I).

Negative Association

Two MD's were very sure that there would be a negative association between the setting and the product (I, VII), and three MD's judged it very possible (II, IX, X). On the contrary, five advertising experts suggested the occurrence of a negative association would depend on the type of product (III, IV, V, VIII, IX). One MD assumed that a possible negative association would be on the restroom, and not on the product (VI).

Four of the ten interviewees were of the opinion that the negative linkage would be true for all kinds of products (I, II, VII, X), whereas the remainder rejected this notion.

Products identified as potential candidates for being advertised in restrooms were cosmetics (III, VI), prophylactics (V, VIII), health products (VIII), and men's magazines (IX). Six MD's mentioned that a restroom may have conceivable value for public or institutional type of advertising (I, IV, VII, VIII, IX, X). One of the MD's cited also advertising of the humorous vein (IX).

Recall

No positive effects of advertising in restrooms on recall scores were predicted by three of the MD's (I, VII, X), whereas three of their colleagues deemed it either possible (III) or very likely (IV, VI). It was also claimed that recall scores would depend on the product (V, VIII). The remaining two MD's responded that they would not know (II, IX).

Exposure Frequency and Selectiveness

Hypothetically comparing the exposure frequency and selectiveness available in restrooms with similar traditional places, four MD's did not see any advantage for this advertising location (I, VII, IX, X). Two experts mentioned good circulation (II) and selectiveness (III) as

assets of advertising in restrooms.

Half of the MD's answered that the success of this type of advertising would also depend on the available locations (II, IV, V, VI, VIII).

Finally, some of the experts emphasized the necessity to identify user groups, which frequent different restrooms (II, V, VI).

Future

The responses to this question exhibited great diversity. Three of the MD's did not think advertising in restrooms had a chance (VII, X) on the market, or doubted it very much (IX). In a similar vein, some of the MD's believed it would require too much effort to get it started (II, VI), or declared that they would not put their clients' advertisements in restrooms (I, X).

On the other hand, one expert considered it possible to start advertising in this location (III), and another conceived even a definite chance (IV), depending on the ability to convince people (IV, VI), and to find someone willing to invest in it (IV). In addition, half of the advertisers maintained the view that the chance of

establishing advertising in restrooms would depend on the kind of product (III, IV, VI, VIII, IX), or the availability of appropriate places (III, V, IX).

Finally, six MD's agreed in that a restroom would probably be suitable for public or institutional advertising (I, IV, VII, VIII, IX, X), i.e., advertising of a rather informational nature (IV, VII, IX, X).

STUDY 2

The field experiment yielded a number of dependent measures, which will be reported under the respective hypotheses. Because a check of the data for normal distribution did show a systematic deviation from the assumption for all items (Table I), nonparametric techniques were employed. This approach seemed also advisable considering the concerns about the scale level of Likert-type attitude scales (see Shaw & Wright, 1967; Dawes & Smith, 1985).

As the data for both attitude scales exhibited sufficient reliability (Cronbach's $\alpha(48) = .82$ for attitudes towards the advertisement (AAD); Cronbach's $\alpha(48) = .73$ for overall attitudes towards advertising in restrooms (AOV);

Table IIa, IIb), a cumulative score was computed for subsequent analyses. Equally, the recall scores for the different parts of the poster were summed up and converted into a cumulative variable for each person.

In some cases, means will be reported in order to facilitate the interpretation of the data; however, that does not imply that the data are considered to be of interval quality.

Because the results of the tests were in general unambiguously significant or not significant, the levels of significance are reported for the 2-tailed test only. The tables for the results are to be found in Appendix E.

The response rates in both conditions were fairly high. In the restroom condition, nine men refused to give an interview (27.2%). All of them explained that they had to go to class or to work. In the study area, only one person denied the request for an interview, explaining that he had to take a test soon (4%).

Hypothesis I

Contrary to the expectations, the mean of the summed liking items in the restroom condition for the group which

had seen the cholesterol poster was not lower than the mean for the group which had seen the AIDS poster ($\bar{M}_C = 24.917$, $\bar{M}_A = 22.917$). This may be partly due to the fact that the food picture was significantly ($U(12) = 33$, $p < .01$) less remembered than the picture on the AIDS poster.

In concordance with the hypothesis, the appropriateness of advertising for food in restrooms was judged significantly lower than advertising for any other item on the list ($p < .001$). The results of a Wilcoxon Matched-Pairs Signed-Rank Test indicated the following ranking: Rating for public education issues > hygiene products > cultural events > cosmetics > houseware products > food. All comparisons but the ones between cultural events and cosmetics ($Z(48) = -1.142$, $p < .254$) and cosmetics and houseware products ($Z(48) = -1.825$, $p < .068$) were significant (Table IIIa, IIIb).

Hypothesis II

The AIDS poster, as predicted, was liked equally in the restroom and in the study area ($U(24) = 61.5$, $p = .542$; Table IV). In addition, the overall feeling towards advertising in restrooms (AOV) for people who were exposed

to the AIDS poster, was not significantly different across places ($U(24) = 46, p = .126$).

The cholesterol poster did not only show no difference in liking from the AIDS poster within the restroom condition (see Hypothesis II), but was liked significantly better ($U(24) = 22, p < .01$) in the restroom than in the study area condition. The same was true for the AOV score for this poster ($U(24) = 26.5, p = < .01$).

An analogous Mann-Whitney U -Test contrasting the control group ($n = 12$) with either of the experimental groups (Table V), yielded a similar result: the score on the attitude toward advertising in restrooms scale (AOV) in the restroom condition was significantly higher for both posters ($U(12, 24) = 42.0, p < .001$), while no significant difference was observed between the control group and the study area group ($U(12, 24) = 122, p = .457$).

These trends were also reflected in a two-way ANOVA. A significant main effect for the place resulted for AAD, and a significant interaction between place and poster was also found for this variable (Table VIIIa). For AOV, the main effect for the place was significant (Table VIIIb).

Finally, the responses to item 8, item 10, and item 11

of the questionnaire deserve mentioning under the preceding hypothesis. 58.4% of the respondents agreed or strongly agreed with the statement that their reaction toward a product advertised in a restroom would not be different from their reaction toward the same product advertised in a different location. In addition, 56.3% of the interviewees disagreed or strongly disagreed with the statement that their overall feeling toward advertising in restrooms would be less positive than their feeling toward advertisement occurring in buses, subways, and on billboards. The majority of the respondents did also indicate that if they had the choice, they would not prefer a restroom without any poster advertising. A chi-square test rejected the hypothesis of equal distribution of the responses on the five answer categories for each item ($p < .01$).

Hypothesis III

A Mann-Whitney U-Test comparing the cumulated recall scores across places supported the hypothesis that subjects confronted with the posters in a restroom would recall more about them than the subjects in the study area ($U(48) = 33$, $p < .01$; Table VI). The recall of the topic (AIDS or

Cholesterol) was almost perfect (97.9%), and was, in the Wilcoxon Matched-Pairs Signed-Rank Test, significantly higher than for all the other elements of the poster ($p < .01$). The following ranking could be observed: headline > question 1 > picture > question 3 > question 2 > request > sentence 1. Most of the comparisons were significant (Table VII). 62.5% of the subjects remembered the picture correctly, and 72.9% recalled the first question. Recall scores for single elements decreased dramatically from top to bottom of the poster. Only 14.6% remembered the element above the final request, and just 31.3% of the subjects could produce the final request itself (cf. Rossiter & Percy, 1983).

In terms of awareness of the poster the experimental groups differed considerably. While 97% of all approached restroom visitors remembered having seen a poster on the wall, only 42.3% of the men in the study area had noticed it. A Z-Test of the difference between independent binomial proportions showed this difference to be statistically significant ($Z(48) = 5.02, p < .001$).

Hypothesis IV

The restroom condition did not induce a stronger behavioral response in the current study than the study area condition. Nine subjects in the first condition accepted the offer of informational material on AIDS, while 7 subjects did so in the second condition. In the control group ($n = 12$), 2 subjects took the brochure.

CHAPTER IV

DISCUSSION

The purpose of this study was to investigate people's reactions toward advertising in restrooms. Specifically, it examined whether restrooms could be effectively used as carriers of print media.

The results partially substantiated the hypotheses. From the survey of the media directors it became clear that most experts agreed in supposing a negative association between the advertising of a product in a restroom and perceptions of the product. Half of the media directors, however, qualified this belief by suggesting that the occurrence of a negative association may depend on the nature of the product. The field study corroborated this conjecture. Significant differences were found for the judged appropriateness of advertising for various products in restrooms. Advertising for food products was almost unanimously deemed inappropriate in bathrooms.

Concerning the second hypothesis, the findings are not

entirely consistent. While advertising for food was judged significantly less positive than advertising for any other product on the list, the participants liked the cholesterol poster in the restroom condition as much as the AIDS poster. This finding was contrary to the hypothesis. Two possible explanations for this phenomenon can be offered.

First, the ratings may have been less influenced by the picture than by the general attitude toward this kind of advertising, which was more positive in restrooms. In order to show the hypothesized effect in a field experiment, one would probably have to use generic food advertisements.

Second, the mosquito picture on the AIDS poster was significantly more often recalled than the food picture on the cholesterol poster, indicating that the picture with the sausages was not flashy enough to catch attention and to affect attitudes. In addition, the picture was probably too complex and too indistinct to be readily recognized (cf. Rossiter & Percy, 1980).

Regarding the third hypothesis about similar liking scores for content related or neutral advertisements in restrooms as compared to a neutral condition, the findings were quite surprising. Not only were the liking scores for

the poster, as predicted, equal in both places, but they were significantly higher for the cholesterol poster in the restroom condition, and also higher, but not significantly, for the AIDS poster. Does that mean that advertising in restrooms elicits more positive feelings about a stimulus than advertising in other places? Of course not. To start with, public advertisements may really be judged more appropriate in bathrooms than in study areas. Furthermore, the subjects' more positive attitudes towards advertising in restrooms in the restroom condition may have affected their liking of the poster (Lutz, 1985; Moore & Hutchinson, 1985). This coincides with the results of the recall test: Because people had more time to get familiar with the content of the poster, they may have taken (and liked) it more for its informational value, comparing it less to the colorful and more interesting ads with which they are usually confronted. Another explanation related to the previous one derives from the research on ad processing strategies. The situation in a restroom, where the individual is likely to search for information more actively than in other surroundings, may have led to higher involvement processing strategies, alternatively labeled "systematic processing" (Chaiken,

1980) or "central route to persuasion" (Petty & Cacioppo, 1980) in the literature. Both strategies have in common that the amount of cognitive effort devoted to the message is focused on the content rather than on the executional elements of the message. These strategies are assumed to favor attitude formation (Beattie & Mitchell, 1985), which in turn may have stimulated a more positive evaluation of the ad. It is in the nature of things, however, that these post-hoc explanations can have only speculative value.

Another issue is the influence of the reception environment on beliefs and attitudes. It appears that part of the cognitive effort people employ when they process information does depend on the extent of goal orientation induced by the environment (cf. Burnkrant & Sawyer, 1983). In most articles on the mediators of attitude formation and attitude change elicited by advertising messages, the environment is simply mentioned as a factor without any further detailed discussion (Batra & Ray, 1983; Mitchell, 1983; Alwitt & Mitchell, 1985).

In terms of the fourth hypothesis, both the awareness and the recall measure supported the initial assumption that a restroom is a very effective place for advertisement.

While part of the astounding 97% awareness rate in the bathroom was undoubtedly due to the novelty of the situation, novelty alone can certainly not explain for the high awareness score. Considering the positive responses to the item about the desirability of external information in a restroom, ($M_i = 3.85$), the results lend strong support to the previous theoretical reflections on exploratory behavior in a deprived environment and the related cognitive processes.

LIMITATIONS OF RESEARCH

Survey

Inevitably, there are some validity restrictions for the survey. The geographic region in which the interviews were conducted, for example, was predetermined. In addition, random samples for surveys of advertisers and advertising agencies have recently been criticized (Lastovicha, 1985). He suggested the use of disproportionate stratification as a sampling procedure. Thus, it can be questioned whether the analyzed interviews are representative for attitudes among advertising professionals. Some of the beliefs may be a idiosyncrasy of

the specific group of interviewed media directors.

In conclusion, the results of the survey have to be interpreted with caution and sweeping generalizations should be avoided.

Field Study

The present study is subject to the typical limitations of research with student populations. Although this may be less of a handicap at PSU than elsewhere, considering the fairly high average age and the percentage of employed students, the extent to which the results can be generalized may be questioned. Morgan (1979) and Soley and Reid (1983) found differences in response patterns between students and the general population. One of the findings of the latter investigation was that students tend to evaluate advertisements less favorably than the general population.

Obviously, the use of an exclusively male sample does not permit an examination of gender effects. This concern may apply less to the attitudes scales, but it seems plausible for exposure related effects. Specifically, women are likely to frequent the stalls more often than men, thus presumably accumulating longer intervals of exposure and

higher exposure frequencies for this condition. Assuming that the placement of a poster inside the stalls does have stronger effects on recall scores and is likely to favor the central route to persuasion processing strategy, one might expect more rather than less effectiveness for posters in women's bathrooms.

Another limitation in terms of generalizability comes into play with the specific location of the restroom. Public restrooms in general may deviate in their characteristics from the ones used in the study. They may, for instance, vary in terms of size, lighting, cleanliness, or busyness. In spite of the differential appropriateness of specific restrooms for advertising purposes, it might be justified to maintain that the basic attentional mechanisms are likely to remain fairly constant across places.

A final limitation in terms of external validity is provoked by the placement of the poster. As noted earlier, whether the poster is attached to the wall or to the inside of a stall's door, will influence how much time people spend studying it. Consequently, one can expect recall and the strength of the behavioral response to decrease if the stimulus is put on the wall. Unfortunately, time

constraints and the reduced number of students during the summer term made the strong impact version unfeasible.

Concerning internal validity, the study controlled for many of the theoretically existing threats. Nevertheless, the possibility of a few people being exposed twice to the stimulus can not be completely dismissed. On the other hand, the likelihood of this event should be approximately identical for both experimental conditions.

Regarding construct validity, some concerns may be expressed about the validity of the behavioral measure. The research has shown that an adequate choice of a behavioral criterion is quite complicated. The decision to take a brochure informing about AIDS or any other subject matter is a multidimensional decision, influenced by the situation, the individuals' mood, the interaction between interviewer and interviewee, previous information level, etc.. For instance, many of the subjects rejected the offer of informational material with a remark like "Oh, I already have a dozen of these brochures," or "I just finished reading a book about AIDS." In addition, a high percentage of the people interviewed had to go to class or were in-between classes. In either case, the willingness to take a

brochure appeared weakened. Consequently, larger sample sizes seem to be required to reflect the variation caused by the reaction to the independent variable over and above the influence of contiguous factors.

In summary, there are some viable restrictions for the generalizability of the results, mainly in terms of external validity. To eliminate these shortcomings, this study or a improved version of it would have to be conducted using a random sample of the general population.

CONCLUSION AND OUTLOOK

The results of the current study indicate that placing printed information in restrooms is worth considering. Since most commercial advertisers seem resistant to the idea, it may require more time and an innovative mind to get advertising in restrooms started. Further research has to show whether the findings of the present study can be generalized to different products, places, and populations.

In particular, restrooms as media carriers seem appropriate for disseminating information on issues of public education. From what we know about it at the moment, advertising in restrooms can be effective in terms of

awareness and recall, it could reach considerable numbers of people, and it is likely to be relatively inexpensive. In addition, as the incident with the forced removal of Cascade AIDS Project ads from the Tri-Met buses in Portland (Harris, 1988) has persuasively demonstrated, some cases may require more target group specificity than a public transportation system can grant.

From a psychological point of view it may be interesting to study the interactions between the reception environment of an (advertising) message and other variables in the attitude change process in greater detail.

Furthermore, it might be worthwhile for psychologists to pay increased attention to the construct validity of behavioroid and behavioral measures. Behavioral responses as such may be observed and measured very objectively, but that does not automatically guarantee that they will also be valid indicators for underlying psychological processes.

REFERENCES

- Aaker, D. A., & Day, G. S. (1986). Marketing research. New York: John Wiley & Sons.
- Aaker, D. A., & Norris, D. (1982). Characteristics of TV commercials perceived as informative. Journal of Advertising Research, 22, 61-70.
- Aaker, D. A., & Myers, J. G. (1987). Advertising management. Englewood Cliffs, NJ: Prentice Hall.
- Abel, E. L., & Buckley, B. E. (1977). The handwriting on the wall. Westport, CT: Greenwood Press.
- The Advertising Research Foundation (1985). Copy testing. New York: Garland Publishing.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann, (Eds.), Action control: From cognition to behavior (pp. 11-39). Heidelberg: Springer.
- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 20, pp. 1-63). San Diego, CA: Academic Press.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84, 888-918.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall.

- Alwitt, L. F., & Mitchell, A. A. (1985). Concluding remarks. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. 273-293). Hillsdale, NJ: Erlbaum.
- Arnold, S. J., & Bird, J. R. (1982). The day-after recall test of advertising effectiveness: A discussion of the issues. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1982 (pp. 59-68). Ann Arbor, MI: Division of Research Graduate school of business administration, The University of Michigan.
- Aronson, E., Brewer, C., & Carlsmith, J. M. (1985). Experimentation in social psychology. In E. Aronson & G. Lindzey (Eds.), Handbook of social psychology: Vol. 1. Theory and method (3d ed., pp. 441-486). New York: Random House.
- Bagozzi, R. P., & Silk, A. J. (1983). Recall, recognition, and the measurement of memory for print advertisements. Marketing Science, 2, 95-134.
- Bartos, R., & Dunn, T. F. (1976). Advertising and consumers: New perspectives. New York: American Association of Advertising Agencies.
- Batra, R., & Ray, M. L. (1983). Advertising situations. In R. J. Harris (Ed.), Information processing research in advertising, (pp. 127-151). Hillsdale, NJ: Erlbaum.
- Bauer, R. A., & Greyser, S. A. (1968). Advertising in America: The consumer view. Boston: Harvard University.
- Beattie, A. E., & Mitchell, A. A. (1985). The relationship between advertising recall and persuasion: An experimental investigation. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. 123-155). Hillsdale, NJ: Erlbaum.

- Beltramini, R. F. (1982). Rating scale selection in advertising research: Does it matter which one is used? In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1982 (pp. 39-58). Ann Arbor, MI: Division of Research Graduate school of business administration, The University of Michigan.
- Britt, S. H., Adams, S. C., & Miller, A. S. (1972). How many advertising exposures a day? Journal of Advertising Research, 12, 3-10.
- Burnkrant, R. E., & Sawyer, A. G. (1983). Effects of involvement and message content on information-processing intensity. In R. J. Harris (Ed.), Information processing research in advertising, (pp. 43-64). Hillsdale, NJ: Erlbaum.
- Cacioppo, J. T., & Petty, R. E. (1980). Persuasiveness of communications is affected by exposure and message quality. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1980 (pp. 97-122). Ann Arbor, MI: Division of Research, Graduate school of business administration, The University of Michigan.
- Cacioppo, J. T., & Petty, R. E. (1985). Central and peripheral routes to persuasion: The role of message repetition. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. (91-111)). Hillsdale, NJ: Erlbaum.
- Chaiken, S. (1979). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. Journal of Personality and Social Psychology, 37, 489-498.
- Chaiken, S., & Stangor, C. (1987). Attitudes and attitude change. In M. R. Rosenzweig & L. W. Porter (Eds.), Annual Review of Psychology (Vol. 38, pp. 575-635). Palo Alto, CA: Annual Reviews Inc..
- Cialdini, R. B. (1980). Full-cycle social psychology. In L. Bickman (Ed.), Applied Social Psychology Annual, (Vol.1, pp. 21-47). Beverly Hills: Sage Publication.

- Claycamp, H. J., & Liddy, L. E. (1969). Prediction of new product performance: An analytical approach. Journal of Marketing Research, 6, 414-420.
- Clancy, K. J., Ostlund, L. E. (1976). Commercial effectiveness measure. Journal of Advertising Research, 16, 29-34.
- Clancy, K. J., Ostlund, L. E., & Wyner, G. A. (1979). False reporting of magazine readership. Journal of Advertising Research, 9, 23-30.
- Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand McNally.
- Costanzo, M., Archer, D., Aronson, E., & Pettigrew, T. (1986). Energy conservation behavior: The difficult path from information to action. American Psychologist, 41, 521-528.
- Craik, F. I. M., & Lockhart, R. A. (1972). Levels of processing: A framework for memory research. Journal of Verbal Learning and Verbal Behavior, 11, 671-684.
- Dawes, R. M., & Smith, T. L. (1981). Attitude and opinion measurement. In E. Aronson & G. Lindzey (Eds.), Handbook of social psychology: Vol. 1. Theory and method (3d ed., pp. 509-566). New York: Random House.
- Dirksen, C. J., Kroeger, A., & Nicosia, F. M. (1983). Advertising: principles and management cases. Homewood, IL: Irwin.
- Dugoni, B. L., & Biersdorff, K. K. (1979). Interest effects on ad recognition. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1979 (pp. 129-134). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Engel, J. F., Warshaw, M. R., & Kinnear, T. C. (1983). Promotional strategy. Homewood, IL: Irwin.

- Festinger, L. (1957). A theory of cognitive dissonance. Stanford: Stanford University Press.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior. Reading, MA: Addison-Wesley.
- Gibson, L. D. (1983). If the question is copytesting, the answer is... not recall. Journal of Advertising Research, 23, 39-46.
- Greenwald, A. G., & Leavitt, C. (1985). Cognitive theory and audience involvement. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. 221-240). Hillsdale, NJ: Erlbaum.
- Haley, R. I., Case, P. B. (1979). Testing thirteen attitude scales for agreement and brand discrimination. Journal of Marketing, 43, 20-32.
- Hanson, D. J. (1980). Relationship between methods and findings in attitude-behavior research. Psychology, 17, 11-13.
- Harris, C. (1988, July 13). AIDS ads removed from Tri-Met buses. The Oregonian, p. B1.
- Helson, H. (1964). Adaption level theory. New York: Harper & Row.
- Jacoby, J., Hoyer, W. D., & Zimmer, M. R. (1983). To read, view or listen? A cross-media comparison of comprehension. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1983 (pp. 201-217). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Klein, G. (1981). Relative Advertising Channel Effectiveness. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1981 (pp. 71-84). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.

- Kleppner, O. (1986). Advertising procedure. Englewood Cliffs, NJ: Prentice Hall.
- Krugman, H. E. (1977). Memory without recall, exposure without perception. Journal of Advertising Research, 17, 7-11.
- Krugman, H. E. (1986). Low recall and high recognition in advertising. Journal of Advertising Research, 26, 79-86.
- Kuhn, T. S. (1970). The structure of scientific revolutions (2d ed.). Chicago: University of Chicago Press.
- LaPiere, R. T. (1934). Attitudes versus actions. Social Forces, 13, 230-237.
- Lastovicha, J. L. (1985). Sampling designs for sample surveys of advertisers and agencies. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1985 (pp. 89-94). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Leckenby, J. D. (1979). Multiple criteria issues in copy research. In S. E. Permut (Ed.), Proceedings of the annual conference of the American Academy of Advertising 1978 (pp. 16-22). New Haven, CT: Yale University printing service.
- Leckenby, J. D. & Plummer, J. T. (1983). Advertising stimulus measurement and assessment research: A review of advertising testing measures. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1983 (Vol. 2, pp. 135-165). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Leventhal, H. (1968). In E. F. Borgatta & R. E. Evans (Eds.), Smoking, health and behavior (pp. 95-121). Chicago: Aldine Publishing Company.

- Leventhal, H. (1970). Findings and theory in the study of fear communication. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 5, pp. 119-186). New York: Academic Press.
- Lutz, R. J. (1985). Affective and cognitive antecedents to attitude toward the ad: A conceptual framework. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. 123-155). Hillsdale, NJ: Erlbaum.
- Maddi, S. R. (1961). Exploratory behavior and variation-seeking in man. In D. W. Fiske & S. R. Maddi Functions of varied experience (pp. 253-277). Homewood, IL: Dorsey Press.
- Maddi, S. R. (1968). The pursuit of consistency and variety. In R. P. Abelson (Ed.), Theories of cognitive consistency. Chicago: Rand McNally.
- Marchand, R. (1985). Advertising the American dream. Berkeley: University of California Press.
- Marder, E. & David, M. (1961). Recognition of ad elements: Recall or projection? Journal of Advertising Research, 1, 23-25.
- Masters, W. H., Johnson, V. E., & Kolodny, R. C. (1988). Crisis: heterosexual behavior in the age of AIDS. New York: Grove Press.
- McConnell, J. D. (1970). Do media vary in effectiveness? Journal of Advertising Research, 10, 19-22.
- Mitchell, A. A. (1983). Cognitive processes initiated by exposure to advertising. In R. J. Harris (Ed.), Information processing research in advertising, (pp. 13-42). Hillsdale, NJ: Erlbaum.
- Mitchell, A. A., & Olson, J. C. (1977). Cognitive effects of advertising repetition. Advances in Consumer Research, 4, 213-220.

- Mogielnicki, R. P., Nessler, S., Dulac, J., Balestra, D., Gillie, E., & Corson, J. (1986). Tailored media can enhance the success of smoking cessation clinics. Journal of Behavioral Medicine, 9, 141-161.
- Moore, D. L., & Hutchinson, J. W. (1985). The influence of affective reactions to advertising: Direct and indirect mechanisms of attitude change. In L. F. Alwitt & A. A. Mitchell (Eds.), Psychological processes and advertising effects (pp. 123-155). Hillsdale, NJ: Erlbaum.
- Morgan, F. J. (1979). Students in marketing research: Surrogates vs. role-players. Journal of the Academy of Marketing Science, 7, 255-264.
- Mueller, D. J. (1986). Measuring social attitudes. New York: Teachers College Press.
- Norman, R. (1975). Affective-cognitive consistency, attitudes, conformity, and behavior. Journal of Personality and Social Psychology, 32, 83-91.
- Ockene, J. K., & Camic, P. M. (1985). Public Health approaches to cigarette smoking cessation. Annals of Behavioral Medicine, 7(2), 14-18.
- Percy, L. (1978). Some questions on the validity of recall testing as a measure of advertising effectiveness. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1978 (pp. 121-130). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Petermann, B. (1950). The Gestalt theory. London: Routledge & Kegan.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. Journal of Consumer Research, 10, 135-146.

- Petty, R. E., Ostrom, T. M., & Brock, T. C. (Eds.). (1981). Cognitive responses in persuasion. Hillsdale, NJ: Erlbaum.
- Reynolds, R. (1946). Cleanliness and godliness. New York: Doubleday and Company.
- Rosenberg, M. J., & Hovland, C. I. (1960). Cognitive, affective, and behavioral components of attitudes. In M. J. Rosenberg (Ed.), Attitude organization and change (pp. 1-14). New Haven, CT: Yale University Press.
- Ross, H. L. (1982). Recall versus persuasion: An answer. Journal of Advertising Research, 22, 13-16.
- Rossiter, J. R., & Percy, L. (1983). Visual communication in advertising. In R. J. Harris (Ed.), Information processing research in advertising, (pp. 83-125). Hillsdale, NJ: Erlbaum.
- Sandage, C. H., & Fryburger, V. R. (1975). Advertising theory and practice. Homewood, IL: Irwin.
- Shanteau, J. (1983). Cognitive psychology looks at advertising: Commentary on a Hobbit's Adventure. In R. J. Harris (Ed.), Information processing research in advertising, (pp. 153-166). Hillsdale, NJ: Erlbaum.
- Sawyer, A. G. (1981). Repetition, cognitive responses and persuasion. In R. E. Petty, T. M. Ostrom & T. C. Brock (Eds.), Cognitive responses in persuasion (pp. 237-261). Hillsdale, NJ: Erlbaum.
- Schiffman, L. G., & Kanuk, L. L. (1983). Consumer behavior. Englewood Cliffs, NJ: Prentice Hall.
- Schmalensee, D. H. (1983). Today's top priority advertising research questions. Journal of Advertising Research, 23, 49-60.
- Shaw, M. E., & Wright, J. W. (1967). Scales for the measurement of attitudes. New York: McGraw-Hill.

- Shimp, T. A. (1981). Attitude toward the ad as a mediator of consumer brand choice. Journal of Advertising, 10(2), 9-15.
- Simmons, W. R. (1961). [Abstract of] Controlled recognition in the measurement of advertising perception. Public Opinion Quarterly, 25(3), 470-471.
- Singh, S. N., & Churchill, G. A. (1987). Response-bias-free recognition tests to measure advertising effects. Journal of Advertising Research, 27, 23-36.
- Singh, S. N., & Rothschild, M. L. (1983). Recognition as a measure of learning from television commercials. Journal of Advertising Research, 20, 235-248.
- Soley, L. C., & Reid, L. N. (1983). On the validity of students as subjects in advertising experiments. Journal of Advertising Research, 23, 57-59.
- Steward, D. W. (1986). The moderating role of recall, comprehension and brand differentiation on the persuasiveness of television advertising. Journal of Advertising Research, 26, 43-47.
- Steward, W. S., Pechmann, C., Ratneshwar, J. S., & Bryant, B. (1985). Methodological and theoretical foundations of advertising copytesting: A review. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1985 (Vol. 2, pp. 121-130). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Stern, P. C., & Aronson, E. (Eds.). (1984). Energy use: The human dimension. New York: Freeman.
- Sudman, S. (1976). Applied sampling. New York: Academic Press.
- Taylor, S. E., & Thompson, S. C. (1982). Stalking the elusive vividness phenomenon. Psychological Review, 89, 155-181.

- Walker, J. T. (1985). Using statistics for psychological research: An introduction. New York: Holt, Rinehart & Winston.
- Wells, W. (1964). EQ son of EQ, and the reaction profile. Journal of Marketing, 28, 45-52.
- Wicker, A. W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. Journal of Social Issues, 25, 41-78.
- Wright, P. (1980). Message-evoked thoughts: Persuasion research using thought verbalizations. Journal of Consumer Research, 7, 151-175.
- Wright, P. (1981). Cognitive responses to mass media advocacy. In R. E. Petty, T. M. Ostrom & T. C. Brock (Eds.), Cognitive responses in persuasion (pp. 263-282). Hillsdale, NJ: Erlbaum.
- Zajonc, R. B. (1968). The attitudinal effects of mere exposure. Journal of Personality and Social Psychology, 9, 1-27.
- Zeitlin, D. M., & Westwood, R. A. (1986). Measuring emotional response. Journal of Advertising Research, 26, 34-44.
- Zielske, H. A. (1982). Does day-after recall penalize feeling ads? Journal of Advertising Research, 22, 19-22.
- Zinkhan, G. M. (1982). An empirical investigation of aided recall in advertising. In J. H. Leigh & C. R. Martin (Eds.), Current issues & research in advertising 1982 (Vol. 2, pp. 137-160). Ann Arbor, MI: Division of Research, Graduate school of Business Administration, The University of Michigan.
- Zinkhan, G. M., Gelb, B. D., Martin, C. R. (1983). The cloze procedure. Journal of Advertising Research, 23, 15-20.

APPENDIX A

LETTER TO ADVERTISING AGENCIES

Address

June 29, 1988

To whom it may concern:

Have you ever wondered why there is almost no advertising in restrooms? My conjecture is that most people believe a restroom would be inappropriate for any advertising. As I'm not so sure whether this is correct, I would like to know your, an expert's, opinion on this issue.

I would like to call you some time next week, and ask you five short questions about the topic. Let me briefly explain my situation. I'm a guest student from Germany, and for one year I have been doing graduate work at Portland State University. I'm currently working on my master thesis entitled 'Advertising in restrooms', and this interview is an important part of it.

I would greatly appreciate, if you could help me by participating.

Many thanks in advance,

Sincerely yours,

Karsten C. Hofmann
628 S.W. Sherman
Portland, OR 97201

APPENDIX B

INTERVIEW QUESTIONS

"Hello, this is Karsten Hofmann, Portland State University. I hope you received my letter in which I requested your participation in a short interview about advertising, which will take about three minutes. Can I ask you my questions and do you mind if I tape the interview for my records?"

"I have started wondering why there is no advertising in restrooms? In your opinion, why is this the case?"

"Do you think there is always a negative association between the setting and the product? Is that true for all kinds of products?"

"Do you think print advertising in restrooms could be effective in terms of recall?"

"What do you think about exposure frequency in this location?"

"Do you think it has any chance to become a part of regular advertising in the future?"

APPENDIX C

QUESTIONNAIRE

This is a questionnaire about opinions and beliefs about advertising. Please indicate your feeling about each statement by putting a check in the appropriate box. Please make sure to put a check after every statement.

Example: I enjoy reading poetry.

strongly disagree	disagree	undecided	agree	strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you like reading poetry very much, put a check in the box under strongly agree.

The poster is ...

	strongly disagree		undecided		strongly agree
likable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
worth remembering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
convincing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
informative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
interesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Could you please fill in your age and check your occupation:

Age _____	Student	<input type="checkbox"/>
	Employed	<input type="checkbox"/>
	Both	<input type="checkbox"/>
	Other	<input type="checkbox"/>

1. In a restroom, I do not want visual and/or acoustical distraction (e.g., magazines, music, etc.).

strongly disagree disagree undecided agree strongly agree

2. My overall feeling toward advertising in restrooms is less positive than toward advertisement occurring in buses, subways, or billboards.

strongly disagree disagree undecided agree strongly agree

3. If I had the choice, I would prefer a restroom without any poster advertising.

strongly disagree disagree undecided agree strongly agree

4. My reaction towards a product advertised in a restroom would not be different from the reaction to the same product advertised in a different location.

strongly disagree disagree undecided agree strongly agree

5. If I like a product, I will buy it no matter where it is advertised.

strongly disagree disagree undecided agree strongly agree

6. What kind of advertisements would in your opinion be suitable in restrooms?

Advertisements for...	inappropriate	less appropriate	appropriate
public education issues (e.g., AIDS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
cultural events (e.g, movie programs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
hygiene products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
houseware products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
cosmetics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RECALL TEST

Nr. _____

I would like to know what you recall about the advertisement you have seen.

1. What was it about? _____

2. What was shown in the picture? _____

3. Do you remember any of the three numbered questions?

4. What did the sentence under the questions say?

5. What was the final request? _____

APPENDIX D

AIDS

insert picture
"mosquito"
about here

Do you know enough about it?

1. Can mosquitoes spread AIDS?
2. Can AIDS be cured if detected early?
3. Can vaseline cause condoms to break?

KNOWING ABOUT AIDS IS NOT ENOUGH.

PRACTICE SAFER SEX!

1.	No
2.	No
3.	Yes

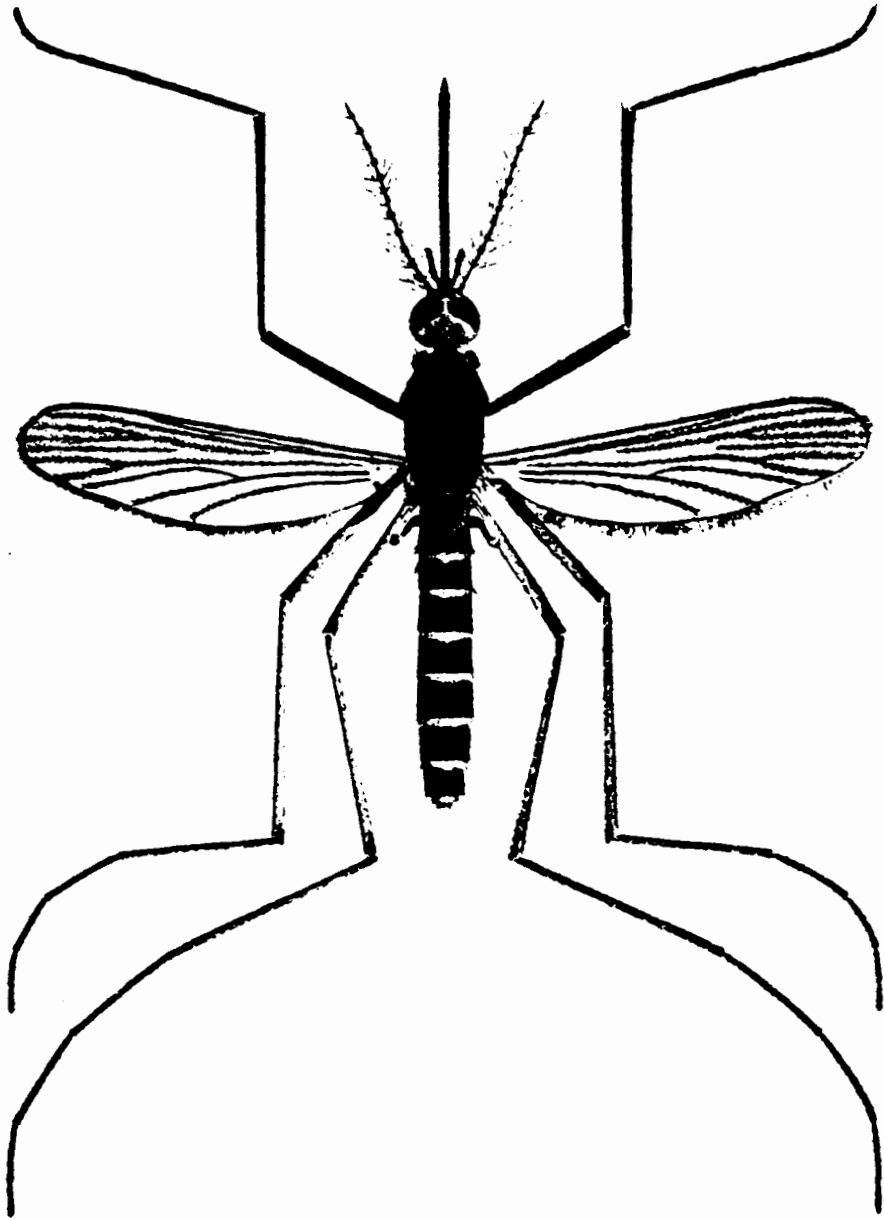


Plate 107. *Culex pipiens* Linnaeus, female.

CHOLESTEROL

insert picture

"sausages"

about here

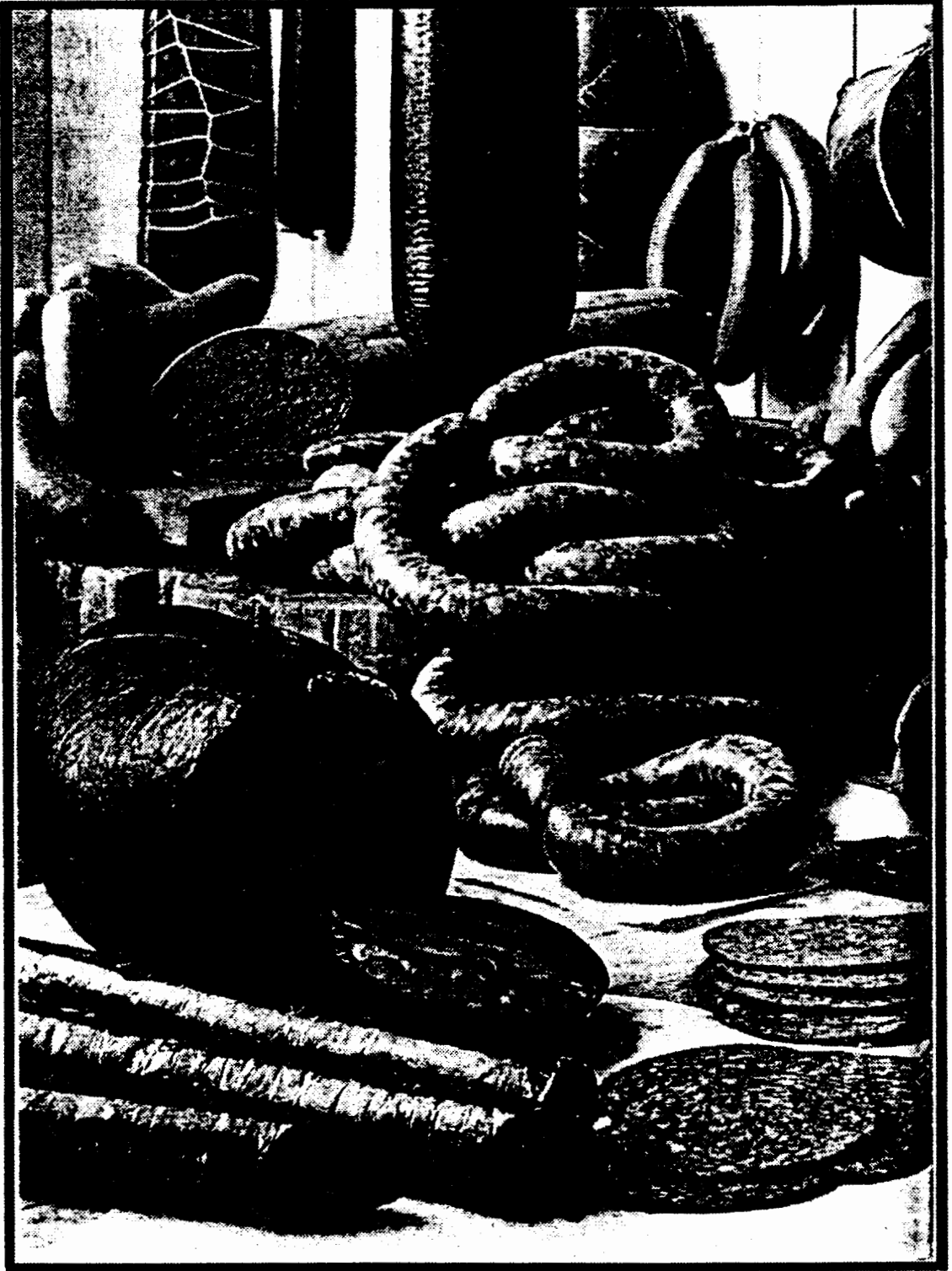
Do you know enough about it?

1. Does chicken liver have 8 times more cholesterol than steak?
2. Is seafood very low in cholesterol?
3. Do egg whites have cholesterol?

KNOWING ABOUT CHOLESTEROL IS NOT ENOUGH.

HAVE YOUR CHOLESTEROL LEVEL CHECKED!

1.	Yes
2.	No
3.	No



APPENDIX E

TABLE I
 CHECK OF ITEMS FOR NORMAL DISTRIBUTION
 KOLMOGOROV-SMIRNOV ONE-SAMPLE TEST ($N = 48$)

Item	z	2-tailed p
likable	1.51	.021
pleasant	1.67	.007
worth remembering	1.74	.004
convincing	1.58	.014
informative	1.75	.004
interesting	1.79	.003
external stimulation	2.07	.000
overall feeling	1.90	.001
preference	1.83	.002
reaction to product	1.83	.003
buying behavior	2.10	.000

TABLE IIa

MEANS, STANDARD DEVIATIONS, AND ITEM - TOTAL CORRELATIONS
 FOR ATTITUDE TOWARD THE ADVERTISEMENT SCALE
 ($N = 48$)

Item	<u>M</u>	<u>SD</u>	<u>r_i^T</u>
likable	3.50	0.97	.61
pleasant	3.27	1.13	.63
worth remembering	4.04	1.07	.57
convincing	3.77	0.88	.46
informative	3.94	1.06	.54
interesting	3.85	1.14	.74

TABLE I Ib

MEANS, STANDARD DEVIATIONS, AND ITEM - TOTAL CORRELATIONS
 FOR ATTITUDE TOWARD ADVERTISING IN RESTROOMS SCALE
 (N = 48)

Item	<u>M</u>	<u>SD</u>	<u>r_{iT}</u>
In a restroom, I do <u>not</u> want any visual and/or acoustical distraction	3.85	1.20	.73
My overall feeling toward advertising in restrooms is less positive than toward the same advertisement occurring in buses, subways or billboards.	3.35	1.16	.70
If I had the choice, I would prefer a rest- room without any poster advertising.	3.37	1.18	.63
My reaction towards a product advertised in a restroom would not be different from the reaction to the same product in a different location.	3.47	1.11	.36
If I like a product, I will buy it no matter where it is adver- tised.	4.02	0.91	.06

TABLE IIIa
 APPROPRIATENESS OF ADVERTISING FOR DIFFERENT ITEMS IN
 RESTROOMS (N = 48)

Item	inappropriate	appropriate	less appropriate
Public education issues (e.g., AIDS)	2	0	46
Cultural events (e.g., movies)	8	18	22
Hygiene products	4	8	36
Houseware products	16	23	9
food	34	11	3
cosmetics	15	13	20

TABLE IIIb
 APPROPRIATENESS OF ADVERTISING FOR DIFFERENT ITEMS
 WILCOXON MATCHED PAIRS SIGNED-RANKS TESTS
 (N = 48)

Comparison	<u>Z</u>	2-Tailed p
Public education by Cultural events	-4.12	.0000
Public education by Hygiene products	-2.80	.0051
Public education by Houseware products	-5.30	.0000
Public education by Food	-5.71	.0000
Public education by Cosmetics	-4.46	.0000
Cultural events by Hygiene products	-2.61	.0091
Cultural events by Houseware products	-3.21	.0013
Cultural events by Food	-4.62	.0000
Cultural events by Cosmetics	-1.14	.2536
Hygiene products by Houseware products	-4.76	.0000
Hygiene products by Food	-5.47	.0000

TABLE IIIb (Continued)

APPROPRIATENESS OF ADVERTISING FOR DIFFERENT ITEMS
 WILCOXON MATCHED PAIRS SIGNED-RANKS TESTS
 (N = 48)

Comparison	Z	2-Tailed p
Hygiene products by Cosmetics	-3.58	.0003
Houseware products by Food	-3.33	.0009
Houseware products by Cosmetics	-1.82	.0680
Food by Cosmetics	-4.15	.0000

TABLE IV
 COMPARISONS OF AAD AND AOV FOR EACH POSTER ACROSS PLACES
 MANN-WHITNEY U-TEST (N = 24)

Variable	Poster	<u>M</u> rank (Rest)	<u>M</u> rank (study)	<u>U</u>	<u>p</u>
AAD	AIDS	13.38	11.63	61.5	.5415
	Chol.	16.63	8.38	22.5	.0042
AOV	AIDS	14.67	10.33	46.0	.1256
	Chol.	16.29	8.71	26.5	.0083

TABLE V
 COMPARISON OF AOV WITH CONTROL GROUP
 MANN-WHITNEY U-TEST

Place	<u>M</u> rank	<u>M</u> rank (Control)	<u>U</u>	<u>p</u>
Restroom	22.75	10.00	42.0	.0006
Study area	19.42	16.67	122.0	.4570

TABLE VI
 COMPARISONS OF AAD, AOV, AND RECALL ACROSS PLACES
 MANN-WHITNEY U-TEST (N = 48)

Variable	<u>M</u> rank (Rest)	<u>M</u> rank (study)	<u>U</u>	<u>p</u>
AAD	29.81	19.19	160.5	.0084
AOV	30.33	18.67	148.5	.0037
Recall	31.56	17.44	118.5	.0004

TABLE VII
 RECALL FOR DIFFERENT ELEMENTS OF THE POSTERS
 WILCOXON MATCHED PAIRS SIGNED-RANKS TESTS
 ($N = 48$)

Comparison	<u>Z</u>	2-Tailed p
Headline by question1	-3.23	.0012
Headline by picture	-3.72	.0002
Headline by question3	-4.17	.0000
Headline by question2	-4.70	.0000
Headline by request	-5.01	.0000
Headline by sentence	-5.58	.0000
Question1 by picture	-0.32	.7509
Question1 by question3	-2.04	.0409
Question1 by question2	-2.99	.0028
Question1 by request	-3.79	.0002
Question1 by sentence	-4.28	.0000
Picture by question3	-1.02	.3086
Picture by question2	-2.03	.0427
Picture by request	-3.40	.0007
Picture by sentence	-4.01	.0001
Question3 by question2	-1.20	.2273
Question3 by request	-2.13	.0335

TABLE VII (Continued)

RECALL FOR DIFFERENT ELEMENTS OF THE POSTERS
 WILCOXON MATCHED PAIRS SIGNED-RANKS TESTS

Comparison	<u>Z</u>	2-Tailed p
Question3 by sentence	-3.41	.0007
Question2 by request	-1.76	.0787
Question2 by sentence	-3.10	.0019
Request by sentence	-2.27	.0229

TABLE VIIIa

ATTITUDE TOWARD THE ADVERTISEMENT (AAD) BY PLACE AND POSTER
TWO-WAY ANALYSIS OF VARIANCE (N = 48)

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Place	114.08	1	114.08	6.55	.014
Poster	8.33	1	8.33	0.48	.493
Place X Poster	96.33	1	96.33	5.53	.023
Residual	766.50	44	17.42		

TABLE VIIIb

ATTITUDE TOWARD ADVERTISING IN RESTROOMS (AOV) BY PLACE AND POSTER
TWO-WAY ANALYSIS OF VARIANCE (N = 48)

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Place	140.08	1	140.83	11.24	.002
Poster	3.00	1	3.00	0.24	.626
Place X Poster	14.08	1	14.08	1.13	.294
Residual	548.50	44	12.47		