

# Television Exposure: Programs vs. Advertising

Avery M. Abernethy

Although it is generally accepted that television program ratings are greater than the audience's exposure to the advertising, the key issue is the actual size of the difference. A review of advertising, marketing, communication, and sociology literature yields some indications of the degree of difference between ad and program exposure and factors in the viewing environment which could influence audience commercial avoidance.

Television commercial avoidance can be divided into two general categories, physical and mechanical avoidance. Viewers physically avoid commercials if they leave the room when the commercials are aired. The penetration of remote controls and video cassette recorders (VCRs) made mechanical avoidance of television commercials an important issue due to channel switching or fast-forwarding through commercials on taped programming.

Unfortunately, the availability of VCRs and remote controls did not end the problem of physical avoidance of television advertising. Also, no publicly available study has examined the combined impact of physical and mechanical avoidance of commercials on the degree of difference between program and commercial exposure.

If norms for commercial avoidance are developed, then program exposure data could be adjusted to reflect commercial exposure instead of program exposure. These norms could be directly input into standard reach and frequency models, thus producing commercial audience estimates instead of program audience estimates [Rust 1985]. This paper reviews marketing, advertising, communications, and sociology literature to develop norms for the degree of difference between ad and program exposure for television.

## Measuring Television Audiences

When advertisers purchase television time, they are interested in the commercial's audience, not the audience of the television program carrying the

ad. Not all advertising is effective in influencing consumer purchases, even with exposure. However, exposure to the message is needed for the message to have a direct impact on consumption behavior. If a consumer is not exposed to the commercial, the advertiser's message was not perceived and cannot influence purchase decisions.

General information processing theories such as those proposed by Lavidge and Steiner [1961], McGuire [1976], and Preston [1982] all agree that exposure to the advertising message is needed for higher-order effects such as perception, comprehension, and retention of advertising information into memory to occur. Even if ad exposure occurs, individuals can mentally screen out the message, making the ad ineffective. However, it is difficult to determine if ineffective advertising messages are caused by lack of exposure or mental screening since recall and recognition tests frequently suffer from both underclaiming and overclaiming of advertising exposure (review presented by Singh and Cole 1985). Unfortunately, available television audience data measures the audience of the television program, not the advertising carried by that program. It is generally accepted that commercial exposure is lower than program exposure for television, but the key question is, how much lower?

Television audience data available for media buyers are gathered by interviews, diaries, or electronic recording devices. Interviews are usually recall measures, with viewers usually contacted by telephone and asked to recall both the television programs they have recently viewed and the ads carried by those programs. Some recall tests ask subjects if they recall any ads in a given television program for a specific product class [Singh and Cole 1985]. Although recall measures attempt to assess advertising audiences, they are used more to assess higher-order advertising effects such as storing advertising information into memory. Also, surveys of practitioners show that interviews are seldom used compared to diary or electronic recording measures [Russell and Martin 1980].

Although most large markets measure viewing audiences through electronic recording devices, markets smaller than the top ten are still measured using diaries [Gay 1986]. Diary data are obtained by asking a random sample of viewers to record their television viewing over a period of time. These diaries typically assess the audiences of broadcast media over all 15-minute time segments during the broadcast day [Fletcher and Bowers 1979]. However, the diary data only measure vehicle audience size and not necessarily the size and composition of the advertising audience. For example, someone who watches a television program during a given 15-minute diary segment but leaves the room during the commercial breaks (to talk, get something to eat, or go to the bathroom) would be a member of the program audience but not the commercial audience. These brief absences are not recorded in individuals' diaries which are based on longer blocks of time [Bunn 1982].

Television audience data are also collected by meters which record when the television is on and which station it is tuned to. Diary data are then used to determine who was watching the television. Thus, the accuracy of this method depends on the validity of both the meter and the diary data. Although old-style meters give an accurate record of the set-in-use time, they fail to determine whether or not anyone is in the room when the television is on.

The recently introduced "people-meter" is generally believed to more accurately measure audience viewing habits. The people meter is attached to a family's TV set with buttons assigned to each family member. Viewers are asked to push the appropriate button each time they view, and again when they stop watching or leave the room. People-meter buttons also have to be pushed in order to change stations [Gay 1986]. However, the assumption that people-meter households correctly log out when they leave the room during commercial breaks may be inaccurate.

People-meters probably do not record physical avoidance of advertising since audience members are reminded to push the buttons only at thirty-minute intervals [Soong 1988]. Many people may leave the room for short breaks and not push the appropriate buttons. According to a recent audit of people-meter technology, viewers may become fatigued pushing buttons over time and not record when they leave the room for short periods. The fatigue problem becomes worse the longer the household has been in the panel [Walley 1989].

Because people-meters capture station switching during commercials (the buttons have to be pushed in order to change channels), they provide a closer approximation of commercial audiences than audimeters or diaries. However, people-meters can overcount commercial audiences since many viewers may not log out when they leave the room during commercial breaks. So people-meter data still report vehicle exposure, not ad exposure.

Daozheng Lu and David A. Kiewit [1987], two engineers for the A. C. Nielsen company, suggest that the ideal television audience measurement system would use an automatic method requiring no active involvement by the viewers. Lu and Kiewit report that Nielsen is doing laboratory tests of a sonar and an infrared device that can passively measure audience presence to see if people are present in the room, although neither system can tell who is watching. However, even in the lab, these devices are only accurate 80% of the time.

In summary, only interviews (which are seldom used by practitioners), directly assess advertising audiences. Diaries and electronic recording devices assess program audiences, but it is difficult to accurately infer advertising viewership from their program viewership data.

## Direct Observation of Television Viewing Behavior

Several studies have directly assessed television viewing behavior using videotapes [Allen 1965; Anderson et al. 1985; Bechtel, Achelpohl and Akers 1972; Bogart 1986], human observers [Steiner 1966], or monitoring electricity usage [Bunn 1982]. Summarized in Table 1, these studies provide insight into rates of sets-in-use with no audience and commercials that play to an empty room.

Allen [1965] placed a dynascope (a precise photochronograph) which took four pictures a minute of anyone in the viewing area of the TV set in 95 homes with 358 total residents. If nobody was in the viewing area for three or more of the pictures within a given minute, that minute was classified as having no viewers. An average of 19% of the set-in-use time had no viewers. However, during commercials, there were no viewers an average of 40% of the time. Therefore, physical avoidance of commercials caused commercial audiences to be 20% lower than the actual program audience. If program ratings were used as a surrogate for commercial exposure, advertising exposure would be inflated by 40%.

In a general article about advertising research, Bogart [1986] briefly discussed a video tape study of viewing behavior. A hundred households in Springfield, Massachusetts had their viewing behavior videotaped showing 15% of set-in-use time with nobody in the room. Subjects were only looking at the set 60% of the time that it was on [Bogart 1986, p. 104]. Unfortunately, no data were given concerning differences between commercial and program audiences, but the assessment of the amount of time the TV is on with no viewers (15%) closely corresponds with Allen's [1965] 19% figure from two decades earlier.

Anderson et al. [1985] videotaped the home viewing behavior of 99 families having at least one 5-year-old providing 4,672 hours of recordings. Each tape was coded once every 55 minutes in still-frame mode measuring the presence of each person in the room and their visual orientation towards the television. Children's viewing behavior was the focus of the study and only the 5-year-olds' viewing habits were reported. They found that children looked at the television 67% of the time they were in a room when a set was on. The children spent considerable amounts of time in a room with an activated television doing things other than watching TV. This strongly suggests that sets-in-use measures of television viewing may greatly overstate the audience of small children. However, the study made no direct assessment of the degree of overstatement of advertising versus program audiences for children.

Bechtel, Achelpohl, and Akers [1972] put video cameras in a convenience sample of 20 homes, representing 96 subjects, to assess the accuracy of diary

TABLE 1

Observed Differences between Program and Ad Exposure

Study	Description	Number of Subjects	Advertising Exposure
Allen [1965]	A camera which unobtrusively recorded viewing behavior was placed in the subjects homes.	358	19% of the time TV was on, none were present in room. 48% of the ad minutes had no or an inattentive audience.
Anderson et. al [1985]	Videotapes of 5-year-olds home viewing behavior	99 families	33% of the time TV was on, child not looking at TV. No data for adults.
Bechtel et. al [1972]	Videotapes of home viewing behavior.	96	46% of ad time had no viewers
Bogart [1986]	Video camera used to assess viewing. Almost no information given about study.	100	15% of the time TV on, none were present in room.
Bunn [1982]	UK study found that electricity usage jumped during commercial breaks.	21 observations	
Steiner [1966]	Study used "spies" who wrote down behavior of their family they watched TV at home.	47,823 ads	47% watch network ads (10.4% not in room). 41.51 watch spot ads (12.81 not in room).

measures of television viewing. The tapes were coded at two and one half minute intervals. Forty-six percent of commercial time had no viewers compared to 30% for all other programming. The 46% commercial avoidance level closely corresponds to Allen's [1965] finding of 40% commercial avoidance, though Allen's program avoidance rate was much lower.

Steiner [1966] got 325 college students to surreptitiously observe another

member of their own family watching TV at home over a nine-day period. For network commercials, only 47% of the respondents watched all or almost all of the commercials and 10.4% were not in the room during the commercial. For spot commercials, these figures are 41.5% and 12.8% respectively. Overall, Steiner found that attention and exposure sharply dropped when the program broke for a commercial.

The unique environment of British political commercials allowed an unusual surrogate measure of advertising avoidance. Bunn [1982] examined electric load data around commercial breaks for five-to ten-minute political ads shown simultaneously on all television channels. He discovered electricity usage significantly increased during these breaks (which are longer than normal commercial breaks) for 21 observations of the London television market. Bunn suggested that this electricity surge was caused by tens of thousands of viewers turning on lights, opening refrigerator doors, etc. Bunn claimed that London utilities prepared for these demand surges by checking television schedule. This research provides an interesting convergent measure of physical avoidance of television ads, though it cannot be replicated in the U.S. because of the lack of a long commercial break running simultaneously on all networks, including cable stations.

All of these observational studies illustrate that television commercial exposure is much lower than television program exposure. Sets-in-use measures of advertising audiences also overestimate program audiences by 15–19% [Allen 1965; Bogart 1986]. This figure doubles (33%) for children in the viewing audience [Anderson et al. 1985].

Sets-in-use data greatly overestimate commercial exposure. The videotape studies most accurately assess differences between ad exposure and sets-in-use time because the video tapes always ran when the sets were on. Allen [1965] and Bechtel, Achelpohl, and Akers [1972] found that between 40% and 46% of the time a commercial was playing, nobody was in the room.

The three studies that videotaped television viewing of adult audiences were conducted between 1964–1970. If anything, the 40–46% difference between ad exposure and set-in-use time derived from these studies *underestimates* today's ad avoidance behavior. Three changes in the contemporary viewing environment could have greatly increased the levels of commercial avoidance behavior since these studies were conducted. The penetration of cable and the skyrocketing number of independent television stations since 1970 has greatly increased the number of viewing options, giving viewers more program options to switch to when commercials are aired. The larger number of television remote controls available make switching away from commercials much easier. Also, more households have VCRs, allowing viewers to tape programs without advertisements.

All combined, the greater number of viewing alternatives, videotape recorders, and remote controls make the findings of Allen [1965] and Bechtel,

Achelpohl and Akers [1972] of a 40–46% difference between sets-in-use and television advertising exposure a conservative estimate.

## **Self-Reported Viewing and Commercial Avoidance**

Several studies assessed television viewing behavior by conducting personal and telephone interviews [Barclay, Doub, and McMurtrey 1965; Nuttall 1962; Rich, Owens, and Ellenbogen 1978] or by surveying viewers [Ehrenberg and Twyman 1967; Greene 1989; Heeter and Greenberg 1985; Kaatz 1986; Kaplan 1985; Stutts, Eure and Hunnicutt 1985; Yorke and Kitchen 1985]. Going beyond the observational studies of television viewing, several of the self-report studies examined the impact of remote controls, cable television, and VCR's on commercial avoidance behavior.

### **Differences Between Program and Ad Exposure**

Self-reported physical avoidance of television advertising of both British [Ehrenberg and Twyman 1967; Nuttall 1962] and Canadian [Rich, Owens and Ellenbogen 1978] viewers show avoidance levels comparable to those found in the United States (Table 2). Overall, claimed physical avoidance of television ads ranged from 20–24%. Ehrenberg and Twyman [1967] summarized five years of British television research and found that adults left the room 20% of the time ads were on, and were in the room but not viewing the advertising an additional 10% of the time. Nuttall [1962] reported a study conducted by the London Press Exchange which found that viewers claimed to leave the room when ads were broadcast 24% of the time. Rich, Owens, and Ellenbogen [1978] conducted phone interviews of 250 people in Montreal finding that 22% claimed to leave the room during commercial breaks with an additional 48% claiming to stay in the room but not watch the ads. Overall, claimed physical avoidance of television ads ranged from 20–24%.

Barclay, Doub, and McMurtrey [1965] phoned Chicago housewives who had the television on when the call was placed. Only 34% claimed to be exposed to the ad. However, they placed subjects who were in the room, but not paying attention to the ad into the “non-exposed” category. Therefore, their study assessed attention to the ad (a higher level of information processing), rather than ad exposure.

Yorke and Kitchen [1985] discussed part of the results of a proprietary study of self-reported commercial avoidance habits conducted in Great Britain. Forty-one percent claimed that they were “quite or highly unlikely” to watch television commercials during the end-program break as compared to 22% at the mid-program break. However, no information about the sample size, methodology, or questionnaire design was given, making it difficult to

TABLE 2

## Self-reported Differences Between Program and Ad Exposure

Study	Description	Number of Subjects	Advertising Exposure
Barclay, Doub and McMurtrey [1965]	Phone interviews asked if subjects had TV on in the room and if they claimed exposure to the last ad.	1629	44 % of those with the TV on claimed exposure
Ehrenberg and Twyman [1967]	Summary of 5 years of British TV audience research	?	20 % of audience left room during ad breaks
Greene [1988]	Surveyed participants of an in-home copy-testing service	4000	8 % switch ads > 50 % of the time, 16 % sometimes
Heeter and Greenberg [1985]	Survey of commercial avoidance behavior from five proprietary surveys.	1900 (total)	> 50 % switch stations to avoid ads, Males and homes with remote controls avoid more ads
Kaatz [1986]	Reports on 3 proprietary studies.	?	16 %, 14 %, and 5 % switch during commercials.
Kaplan [1985]	Reports on 2 proprietary studies	?	61 % of station changes avoid ads. Users of remotes switch 37 % more ads. 50 % of all taped ads avoided.
Nuttall [1962]	Summary of 3 sets of interviews in Britain about TV usage.	3,000 (total)	24 % of respondents not in room during ads.
Rich, Owens and Ellenbogan [1978]	Telephone interview in the Montreal area	250	22 % claim to leave the room during TV commercial breaks.



Stutts, Eure and Hunnicutt [1985]	Self report behavior during TV commercials.	310	76% of men and 60% of women switch stations during programs. 50.5% and 43.5% switch within programs.
Yorke and Kitchen [1985]	Self report behavior during TV commercials	?	41% unlikely to view ads at end breaks. 22% unlikely to view ads in mid-program

assess the validity of the study. Furthermore, it is difficult to translate “quite or highly unlikely” into actual ad avoidance patterns.

### Station Switching, Remote Controls, VCRs and Commercial Avoidance

Several studies examined the proclivity of television viewers to switch stations to avoid television advertising. Greene [1989] surveyed respondents of an in-home television advertising copy-testing service. Participants in the copy test agreed to view an hour-long program aired on independent television stations. They were called the next day to measure ad recall and to assess commercial avoidance behavior during the copy-test. Eight percent claimed switching stations to avoid ads more than half of the time with an additional 16% switching “sometimes.” However, asking participants to view a particular program probably increased ad exposure due to a testing effect tied to the forced program exposure.

Heeter and Greenberg [1985] reported commercial avoidance behavior from five proprietary studies. More than half of the 1900 subjects claimed to switch stations in order to avoid ads with men and younger respondents switching more often than other demographic groups. Kaatz [1986] reported results of three proprietary studies of station switching done to avoid television commercials which found avoidance levels of 16%, 14%, and 5%. In no case was information provided about the sample size or research procedures, making it impossible to assess reliability or validity.

Kaplan [1985] discussed a proprietary study by Nielsen which claimed that 61% of total station changes were done to avoid advertising. Again, no information was given about sample size or research methodology. Stutts,

Eure, and Hunnicutt [1985] surveyed 310 college students finding that on average, subjects claimed to switch stations to avoid ads "often" or "very often." The imprecise terms "often" or "very often" make it difficult to determine actual commercial avoidance patterns.

Since remote controls make station switching easier, viewers with remote controls should be expected to switch stations more often and avoid more ads. Kaplan [1985] found that homes with remote controls avoided 37% more commercials. Heeter and Greenberg [1985] also found that commercial avoidance increased when remote controls were available. Therefore, there is evidence that having remote controls increases commercial avoidance levels.

Despite problems, several findings can be generalized from these studies. Station switching to avoid television commercials exists, and increases when viewers have access to remote controls. Reported station-switching ranged from 5% [Kaatz 1986] to over 50% [Heeter and Greenberg 1985; Kaplan 1985], though the lack of procedural information makes critical evaluation of this research difficult. The proprietary studies probably give a viable range of station-switching behavior, but more public research is needed in order to determine norms for the impact of station switching on television commercial avoidance.

Limited evidence exists suggesting viewers with cable television and more viewing alternatives increase commercial avoidance. Greene [1989] found that television advertising recall levels fell for cable viewers, providing indirect evidence of commercial avoidance since recall is a higher level of information processing than ad exposure. It is reasonable to assume that when more viewing alternatives are available, station switching and commercial avoidance would increase. However, no public study was found which examined the influence of cable availability on commercial avoidance. Research on the impact of the number of viewing alternatives on commercial avoidance is a critical need.

Compared to normal viewing, recording programming using VCRs for later viewing provides unique opportunities to avoid advertising. During normal viewing the audience cannot control the pace of the advertising. The timing, number, and length of the television ads is controlled by the station broadcasting the signal. However, audience members viewing recorded programming can fast-forward through the ads greatly speeding up the pace ("zipping"). Kaplan [1985] reported that viewers fast-forward through more than half of the commercials recorded on taped programs.

Should "zipped" ads be counted as an ad exposure? When a viewer fast-forwards through an ad, all audio information is lost. Information processing research tells us that, when the pace of information is increased by three or more times normal speed, recognition and recall decline drastically [Fairbanks, Guttman and Miron 1957; Goldhaber 1974; LaBarbera and MacLachlan 1979; Myerson 1974]. Furthermore, the picture quality of a

zipped ad depends on the quality of the VCR used to record the programming. High-quality (and expensive) VCRs present a much clearer image of fast-forwarded material than lower-quality VCRs. At best, a zipped ad will have no audio material, lower visual quality, and faster information flow.

Because of these problems, zipped ads should not be counted as a normal viewing exposure. However, it is unclear what information is communicated to viewing audiences when they zip ads. The creative execution, the importance of the audio information in the ad, and the quality of the VCR could all influence the amount of information processed from a zipped ad. Future research about these issues is of increasing importance since the number of households with VCRs is increasing.

## **Commercial Avoidance Norms and Media Planning**

Previous observational and self-report research all agree that commercial audiences are lower than program audiences. However, there are several types of commercial avoidance and factors in the viewing environment which tend to increase commercial avoidance.

(1) A large percentage of the time the television set is on, there is no audience. Videotapes of television viewing behavior that record when the set is on agree that 15–19% of the time the set is on, there is no viewing audience [Allen 1965; Bogart 1986].

(2) Audiences physically avoid commercials by leaving the room when ads are aired. This physical avoidance of ads ranged from 40–46% of the total set-in-use time for studies that recorded viewing whenever the set is on, including when there is no program audience [Allen 1965; Bechtel, Achelpohl, and Akers 1972]. Physical avoidance of ads when there is a program audience was reported by four studies to be 13–24% [Steiner 1966; Ehrenberg and Twyman 1967; Nuttall 1962; Rich, Owens, and Ellenbogen 1978]. If Steiner's 13% measure is omitted (because his human observers could make viewers unwilling to leave the room), remarkably consistent results ranging from 20–24% are obtained. Therefore, the norm for physical avoidance of television ads by program viewers is 22% of the total viewing audience.

If physical avoidance of ads by program viewers (22%) is added to the average amount of time the television was on with no audience (18%), a total physical ad avoidance level is 40%. This 40% total "non-audience" figure closely corresponds to the physical commercial avoidance levels found by Allen [1965] and Bechtel, Achelpohl, and Akers [1972] of 40% and 46% respectively for their observational studies. The total "non-audience" time for television advertising when compared to set-in-use time has remained fairly constant over the last 20 years.

(3) Even when viewers don't physically avoid ads, they can mechanically avoid advertising by switching stations. All of the station switching studies that addressed the issue found that at least some viewers avoided more than half of the ads broadcast [Greene 1989; Heeter and Greenberg 1985; Kaplan 1985]. Having remote control devices increased ad avoidance [Kaplan 1985] and there is limited evidence that cable viewers avoid more ads [Greene 1989].

Although none of the publicly available station switching studies directly assessed the degree of ad avoidance, the evidence that is available suggests that television commercial avoidance due to station switching involves at least 10% of the viewers present in the room when the commercial is broadcast.

What is the difference between television program and commercial audiences? Physical avoidance of television ads is approximately 22% with station switching responsible for at least another 10% of the viewing audience. A conservative estimate of average differences between program audiences and commercial audiences would be 32%, a simple average of physical and mechanical ad avoidance. This means that only 68% of the viewing audience is exposed to the ad, the minimum needed for any direct advertising effects.

How accurate is the 32% avoidance norm? The physical avoidance average of 22% was derived from four studies using several different methodologies having a range of only four percent (20–24%). As an additional check, if the 22% physical avoidance level is added to the average set-in-use time with no audience (18%), a total physical ad avoidance level of 40% is obtained. This 40% "non-audience" figure closely corresponds to the total viewer absence levels during ads found by Allen [1965] and Bechtel, Achelpohl and Akers [1972] of 40% and 46%. This physical avoidance average is remarkably consistent and should be considered a "minimum" level of television commercial avoidance.

Mechanical avoidance of ads through the use of remote controls or fast-forwarding through programming taped on a VCR is more difficult to estimate. Viewers fast-forward through more than half of the commercials on taped programming, and VCR usage is increasing [Kaplan 1985]. Several studies also note that channel switching occurs most often during commercials [Greene 1989; Heeter and Greenberg 1985; Kaplan 1985]. An additional 10% commercial avoidance seems a conservative estimate of commercial avoidance due to zipping or remote controls.

If anything, the 32% advertising avoidance norm developed in this review is a conservative figure. The 22% physical avoidance level seems valid since multiple studies using widely varying methodologies give consistent results. Adding only an additional 10% for mechanical avoidance probably underestimates television commercial avoidance.

## Using Avoidance Norms in Media Models

If *accurate* program audience data are available, commercial avoidance norms could be used to adjust program audience data to commercial audiences. Media planners usually attempt to estimate the reach and frequency of media plans where reach is the percentage of the target audience exposed to the ad at least once, and frequency is the average number of times the audience is exposed to the ad. However, these media models use program audience data as inputs which means that only program reach and frequency are being estimated.

Rust [1985] presented the VIDEAC model, a general method where the widely used beta binominal distribution used to estimate reach and frequency of television commercial audiences could be adjusted to reflect qualitative media factors [Headen, Klompmaker, and Teel 1977; 1979]. If estimates of average advertising exposure were inserted in the place of average effective exposure, Rust's [1985] model would estimate advertising exposure using program exposure data. Furthermore, this model only adds two pieces of information to the common beta binomial model, the mean and variance of advertising exposure probabilities.

There are several reasons why media planners seldom adjust reach and frequency models to reflect commercial instead of program exposure. Many advertising agencies consider program and advertising audiences of television programs to be equal and therefore do not attempt to adjust program audiences to reflect commercial audiences [Kreshel, Lancaster, and Toomey 1985].

Data limitations also limit commercial audience estimation for television. Currently available television data used as inputs into media models are either based on diaries or people-meters, methods which measure program audiences. Media models using these inputs without adjustment are limited to estimates of program exposure. Furthermore, the industry lacks a standard number or weight that could be used to adjust program audiences to reflect commercial audiences [Kreshel, Lancaster, and Toomey 1985]. Hopefully, the television exposure norm developed by this review can be used by industry to adjust program audiences into commercial audiences.

This research uses previous studies of both physical and mechanical television advertising avoidance to derive an average television commercial avoidance rate of 32%. Ignoring either physical or mechanical commercial avoidance would strongly underestimate total commercial avoidance. It is also clear that using unadjusted television program data in media models will greatly overestimate advertising audiences.

Although this research derives an overall norm for television commercial avoidance, it is clear that certain viewing segments probably have much

higher commercial avoidance rates than other viewing segments. First, viewers with cable have more programming alternatives to switch to when ads are aired, which should increase commercial avoidance levels. Second, viewers with remote controls can switch stations easier, increasing commercial avoidance. Third, homes with VCRs can fast-forward through ads on recorded programming.

Billions of dollars are spent annually on television advertising in the United States. Are these advertising dollars wasted because viewing declines during television commercials? Magazine research conducted by Starch has indicated for decades that advertising readership is less than article readership. Nevertheless, magazines have continued to be a valuable advertising vehicle. However, it would be naive to assume that an advertiser spending a million dollars on television advertising to reach a program audience of 300,000 would have an advertising audience of 300,000.

It is also important to remember that the literature reviewed deals with aggregate avoidance, not avoidance of specific ads or viewing segments. An interesting and creative television commercial may have lower levels of avoidance, while a dull ad could have higher levels of avoidance. Different viewing segments probably also have different avoidance levels. However, developing a television advertising avoidance norm allows media planners to make more accurate intermedia comparisons when purchasing advertising time or space.

More research about the television commercial avoidance behavior of these viewing segments is needed in order to more accurately estimate the size of commercial audiences. The need for observational studies is especially critical since only observational studies can accurately estimate both mechanical and physical avoidance of television advertising and the last major observational study of television viewing behavior was conducted in 1970 [Bechtel, Achelpohl, and Akers 1972].

Changes in the viewing environment since 1970 such as increased clutter and the greater availability of VCRs, cable, and remote controls could mean commercial avoidance levels are increasing. Unfortunately, putting photographic equipment like that used by Allen [1965] and Bechtel, Achelpohl, and Akers [1972] into a large number of households to photograph or videotape television viewing would be both expensive and likely to suffer from households refusing to allow the equipment in their homes. With industry support, perhaps through a trade association such as the National Association of Broadcasters, the problems of executing such an expensive research project could be overcome.

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