DOCUMENT RESUME

ED 116 820 PS 008 380

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TITLE The Effects of Television Advertising on Children. Report No. 6: Survey of Pre-Adolescent's Responses to Television Commercials. Final Report.
INSTITUTION Michigan State Univ., East Lansing. Coll. of Communication Arts.
SPONS AGENCY Office of Child Development (DHEW), Washington, D.C.
REPORT NO OCD-DB-346
PUB DATE Jul 75
NOTE 136p.; For other reports, see PS 008 205-209

EDRS PRICE MF-$0.76 HC-$6.97 Plus Postage
DESCRIPTORS Attitudes; Food; *Intermediate Grades; Knowledge Level; Medicine; Reactive Behavior; *Socialization; *Television Commercials; *Television Research
IDENTIFIERS *Television Advertising and Children Project

ABSTRACT

This report, the last in a series of six reports on television advertising and children, describes patterns of advertising exposure and evaluation in the naturalistic setting and examines the role of commercials in late childhood socialization. An omnibus questionnaire was administered to 775 fourth through seventh grade students in urban, suburban, and small town schools in Michigan. Two-thirds of the sample also completed a supplementary form dealing with food and nutrition, while one-third answered additional medicine-related questions. Multivariate analyses were used to assess the relationships among indices of advertising exposure and corresponding cognitions, attitudes, and behavior. The results are presented with regard to the following areas: (1) opportunity for advertising exposure, (2) attention to commercials, (3) evaluation of advertising, (4) advertising and distruct of adult authorities, (5) socialization from public service announcements, (6) advertising andhygiene socialization, (7) impact of message repetition, (8) effects of advertising on materialism, (9) effects of medicine advertising, (10) effects of cereal advertising, (11) nutrition learning from advertising, (12) effects of candy advertising, and (13) effects of advertising on general food consumption patterns. (JMB)

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EFFECTS OF TELEVISION ADVERTISING ON CHILDREN --

SURVEY OF PRE-ADOLESCENT'S RESPONSES TO TELEVISION COMMERCIALS

Charles Atkin

REPORT #6

TV ADVERTISING AND CHILDREN PROJECT

THE EFFECTS OF TELEVISION ADVERTISING ON CHILDREN: SURVEY OF PRE-ADOLESCENT'S RESPONSES TO TELEVISION COMMERCIALS

-- FINAL REPORT --

July, 1975

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Submitted to:

Office of Child Development
Department of Health,
Education and Welfare

Primary research assistants on this phase of the project included Mark Miller, Nancy Richardson, Gary Heald, Deborah Keller and Robert McPhee.

ABSTRACT

This survey research investigation describes patterns of advertising exposure and evaluation in the naturalistic setting and examines the role of commercials in late childhood socialization. An omnibus questionnaire was administered to 775 fourth through seventh grade students in urban, suburban and small town schools in Michigan; two-thirds of the sample also completed a supplementary form dealing with food and nutrition, while one-third answered additional medicine-related questions. Multivariate analyses assess the relationships among indices of advertising exposure and corresponding cognitions, attitudes, and behaviors. These are some key results:

(1) OPPORTUNITY FOR ADVERTISING EXPOSURE -- Pre-adolescence is a period of heavy television consumption, with respondents reporting more than two hours of prime-time viewing each evening. They still view many Saturday morning programs (particularly fourth and fifth graders) and have begun watching teen-oriented music programs. These viewing patterns indicate that youngsters encounter a large number of commercials for a wide variety of product types.

(2) ATTENTION TO COMMERCIALS -- Averaging across measures for 26 specific ads, children report being moderately attentive when commercials appear. PSA's are watched most closely, followed by ads for candy, hygiene, cereal, toys, and medicine. Fourth and fifth graders pay slightly more attention than older children.

(3) EVALUATION OF ADVERTISING -- Respondents express a lukewarm liking for five specimin ads, as only one-third of the sample likes any ad "very much." Attention and liking are strongly correlated. Most children report being irritated by commercial interruptions; the sample is divided on the question of banning Saturday morning commercials, with younger children and those who are highly irritated tending to favor removal. Pre-adolescents are generally skeptical of the trustworthiness of TV ads; less than one-fourth think that commercials always tell the truth and just one-eighth definitely believe claims in three specimin ads.

(4) ADVERTISING AND DISTRUST OF ADULT AUTHORITIES -- Children who disbelieve commercials tend to disbelieve authority figures such as adults and salesmen, but attention and liking variables are not related to either form of distrust. Apparently a viewer's skeptical response to ads is transferred to other authoritative sources, although exposure in itself does not produce this reaction.

(5) SOCIALIZATION FROM PUBLIC SERVICE ANNOUNCEMENTS -- Exposure to anti-smoking, anti-littering and seat belt PSA's correlates modestly with display of corresponding orientations. Effects are strongest for literring and weakest for smoking; behavioral practices are most clearly affected, probably due to frequent reminder cues to perform these socially constructive actions.

(6) ADVERTISING AND HYGIENE SOCIALIZATION -- There are substantial positive associations between exposure to deodorant/mouthwash/acne cream commercials and worrying about personal hygiene, using hygiene products, perceiving the importance and societal usage of these products, and believing that the products work effectively. Those who don't interpersonally discuss hygiene topics gain some knowledge about hygiene from the ads.

(7) IMPACT OF MESSAGE REPETITION -- Sheer frequency of exposure is only mildly related to liking for a recently novel commercial message. Liking for the ad is strongly associated with preference for the new product, and any influence of repeated exposure operates indirectly via the intervening liking variable.

(8) EFFECTS OF ADVERTISING ON MATERIALISM -- Mild positive relationships occur between materialistic orientations and both general viewing and specific toy advertising exposure. Lower status children are influenced most strongly.

(9) EFFECTS OF MEDICINE ADVERTISING -- Exposure to ads for headache/stomach ache/sleeplessness remedies is moderately related to children's perceptions that people often become ill and rely on medicine, and to their personal concern about getting sick. Personal usage and approval of medicine is only weakly affected by advertising, as are beliefs that medicine works fast and effectively. Specific effects on orientations toward sleeping pills are very limited and there is no evidence that ads contribute to positive attitudes toward illicit drugs; indeed, approval of cannabis substances is slightly inversely associated with medicine exposure.

(10) EFFECTS OF CEREAL ADVERTISING -- Children who watch the most cereal ads on Saturday television are much more likely to ask parents to buy cereals and to eat advertised brands; those from families with no snack rules are most strongly affected. There is also an indirect impact on arguing with parents and becoming angry when requests are denied, which is mediated by increased request frequency. Advertising does not significantly affect beliefs of the value of sugar or the incidence of tooth cavities.

(11) NUTRITION LEARNING FROM ADVERTISING -- Children most exposed to informational cereal messages stressing nutritious breakfast habits tend to recognize the importance of eating a good breakfast and to give higher nutritional ratings for the cereal, toast, and orange juice foods that are emphasized in these ads.

(12) EFFECTS OF CANDY ANDERTISING -- Advertising has a modest impact on children's eating of advertised candy brands and quantity of candy bars consumed. There are negligible effects on beliefs about sugar and development of cavities.

(13) ADVERTISING EFFECTS ON GENERAL FOOD CONSUMPTION PATTERNS -- Heavier viewers are somewhat more likely to eat those types of food that are promoted on television, along with non-advertised foods. A moderate association occurs between viewing and requests to eat at advertised drive-in restaurants, particularly for lower status children. There is a limited impact on after-school snacking patterns of children in families with no express snack rules.

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SURVEY OF PRE- DOLESCENT'S RESPONSES TO TELEVISION COMMERCIALS

Children in the pre-adolescent age range of 9 to 13 years old have the opportunity to view hundreds of commercial messages each week while watching television. This survey research investigation examines the amount of exposure to TV advertisments and the types of evaluative responses to these ads in the naturalistic home setting. The role of advertising in socializing children in their development of cognitions, attitudes and behaviors is also explored in this study.

There are a wide range of research problems that this survey investigates, including these basic topics:

(a) opportunity for exposure to TV advertising, as indexed by extent of viewing adult- and child-oriented television programs carrying various types of commercials.

(b) patterns of attention to commercials, particularly ads for toys, candies, cereals, general foods, medicines, hygiene products, and public service causes.

(c) evaluations of commercials, especially liking and believing TV ads.

(d) consequences of exposure to misleading advertising claims in development of generalized distrust of adult authorities.

(e) impact of public service announcement campaigns on beliefs, attitudes and practices regarding smoking, littering, and seat belts.

(f) effects of deodorant, mouthwash and acne cream commercials on personal hygiene socialization, in terms of knowledge, perceptions, beliefs, concerns, and product usage.

(g) influence of repeated message exposures on liking for the message and the product.

(h) contribution of general TV advertising and toy commercials to acquisition of materialistic orientations.

(i) impact of commercials for headache, stomachache and sleeplessness remedies on perceptions of societal illness and medicine reliance, beliefs in efficacy and speed of remedies, personal concern about illness, usage of medical products, and approval of medicine and drugs.

(j) effects of food advertising on consumption of cereal, candy and other foods, requests for food purchases, conflict and anger over request denials, approval of sugar, incidence of cavities, and beliefs about nutritional value of breakfast foods.

There are a number of theoretical frameworks that can explain how television advertising influences the cognitions, attitudes, and behaviors of

children. Social learning theory suggests that the observation of mediated portrayals produces imitation of models who attain rewards for consuming products or performing normative practices, as the child acquires new responses for novel behaviors or is facilitated or inhibited in the performance of previously learned behaviors. Persuasion learning theories indicate that children's beliefs, attitudes and actions are affected by verbalized appeals from highly credible sources presenting carefully designed arguments. Much of the learning may be incidental as the child acquires secondary perceptions while focusing on the product or observes ads while awaiting the next program segment. In other circumstances, the child might be motivated to use advertising inputs to reduce uncertainties regarding purchases or appropriate social behavior. Developmental differences are also important, as children within this age range vary in cognitive structure (the younger ones are at the concrete operational stage of intellectual development, while the older children have a more advanced formal operational ability to process messages), personal experiences, communication inputs from interpersonal and mass media sources, and physiological and personality development.

RESEARCH METHOD

The methodological approach employed in studying these issues is survey research, using a standardized questionnaire to measure each variable and multivariate analysis to assess the relationships among variables. This mode of investigation relies on self-reports of actual experience with TV advertising and current patterns of knowledge, attitudes, and practices in everyday life. The goal is a realistic description of children's reactions to commercials and their learning from TV ads. Although the non-experimental methodology does not provide unambiguous evidence of causality regarding the effects of advertising, the field setting allows more confident generalization of the findings to the real world in which the children live.

Sample. The age range selected for this study is the late childhood/pre-adolescent period represented by the fourth through seventh grades. Children of these ages are old enough to be forming orientations toward hygiene, medicine, nutrition, and smoking, yet are still interested in toy products. This age group supplements the younger 4-to-12 year old age range surveyed in the previous year's research.

Respondents are 775 children from a number of schools in urban, suburban and small town areas of Michigan. The cities are Livonia (N=290), Dearborn (N=214), Eaton Rapids (N=147) and Lansing (N=124); the specific schools are listed in Figure 1. Fourth graders compose 15% of the sample, fifth graders 30%, sixth graders 21% and seventh graders 34%; the average age is 11.1 years. There are 54% girls and 46% boys in the sample. The father's occupation was described by the children: 15% wrote a job description falling in the professional/technical category, 18% indicated a clerical/sales occupation, 25% gave skilled labor identifications, and 22% identified an unskilled job. For 2% of the children, the father is unemployed, and 18% did not provide an adequate response or had no father (the overall social status index also takes into account the child's rating of the mother's occupation).

Questionnaire design. An omnibus survey instrument was prepared to measure children's responses to television advertising along a number of dimensions. The core questionnaire included 14 pages of items administered to all children in the fourth through seventh grades. Most of the questions were accompanied by multiple choice response alternatives that the child circled or marked; on eight items, blanks were provided for the child to write a brief open-ended answer.

In addition to the core instrument used with all students, each questionnaire appended a supplementary set of items pertaining to either medicine or food and nutrition. The Form A medicine version was distributed to a subsample of 256 fifth, sixth and seventh grade students; all of them completed the five extra pages of questions. The six-page alternative Form B supplement dealing with food and nutrition was completed by 506 children in the fourth, fifth, sixth, and seventh grades. The remaining 13 respondents were unable to complete the Form B supplement, but did answer the core questionnaire.

The format of the questionnaire was varied throughout with a mixture of picture items, close-ended items, open-ended items and different colored pages to minimize tedium. The instrument began with a page of commercial attention items accompanied by familiar still pictures from each advertisement; then came innocuous questions about orientations toward seat belts, littering and smoking, followed by a series of ratings for television program exposure. These first few pages provided an easy, interesting, and non-sensitive beginning to the questionnaire. The subsequent sections of the questionnaire booklet dealt with hygiene advertising viewing and orientations toward hygiene, repetition of exposure and liking for the message and product, belief in commercials and adult authorities, materialism, affective responses to ads, and demographic variables. The set of medicine or food items immediately followed the demographic page to complete the booklet. A copy of the questionnaire appears in Figure 2 at the end of the text.

For each of the problem areas, the questionnaire contained items measuring criterion variables such as knowledge, beliefs, attitudes, and behavior. These were accompanied by measures of predictor variables at various points throughout the instrument, i.e., demographics, television exposure, and advertising attention. The bivariate and multivariate relationships among specified variables could then be assessed in the analysis.

The questionnaire was accompanied by these instructions: "HERE ARE SOME QUESTIONS ABOUT TELEVISION COMMERCIALS. PLEASE TRY TO ANSWER AS MANY AS YOU CAN. JUST CIRCLE THE ANSWER THAT TELLS WHAT YOU THINK OR WHAT YOU DO. IF YOU HAVE ANY TROUBLE, JUST RAISE YOUR HAND AND WE WILL HELP YOU. YOU DO NOT HAVE TO WRITE YOUR NAME ON THIS SURVEY."

Although the questionnaire featured simple language and format, we anticipated that younger students might have trouble reading all of the items or keeping an appropriate pace. In fourth and fifth grade classes where the teacher felt that some children would have difficulty completing the instrument alone, a proctor read each question aloud to the class while

they circled answers. The instrument was self-administered by the older children. For most classes, 30 to 40 minutes were required to distribute, obtain responses, and collect the questionnaires. There were no significant problems with any of the questions or procedures.

Items and Indices. This section outlines the sets of items used in the questionnaire, and describes the construction of indices from individual measures. Two approaches were employed in composing the indices: summation of equally-weighted standardized scores on each item, and multiplication of pairs of standardized sub-indices. The multiplicative technique was used in computing the various exposure indices which combined degree of attention and frequency of viewing. To determine a child's exposure to certain types of advertising messages, it was necessary to take into account both the number of exposure opportunities and the closeness of attention to the message. It is possible for a heavy TV viewer to ignore many of the ads encountered, resulting in little actual exposure. On the other hand, a light viewer may focus on certain ads whenever they occur; although frequency of encounter may be infrequent, actual exposure may be substantial because the message is closely attended. To provide for equal weighting of the frequency and attention sub-indices, it was necessary to equalize the ratios of means and standard deviations of each.

The wording of almost all of the items is presented in various tables in the Results section; the exact format and context of these items can be examined in the appended questionnaire. Here are the sets of items and indices for each phase of the investigation, with tabular location specified:

OPPORTUNITY FOR ADVERTISING EXPOSURE -- The potential for viewing commercials is assessed by measures of amount of program exposure and total prime-time viewing (Table 1).

Saturday Morning Exposure Index = Bugs Bunny + Addams Family + Scooby Doo + Inch High Private Eye + I Dream of Jeannie + Lassie's Rescue Rangers + Speed Buggy + Star Trek + Josie and the Pussycats + Pebbles and Bamm Bamm

Hygiene Program Viewing Index = American Bandstand + Midnight Special + In Concert + Soul Train + prime-time viewing item

PSA Program Viewing Index = Bugs Bunny + Addams Family + Scooby Doo + Inch High Private Eye + I Dream of Jeannie + Lassie's Rescue Rangers + Speed Buggy + Star Trek + Josie and the Pussycats + Pebbles and Bamm Bamm + American Bandstand + Midnight Special + In Concert + Soul Train

Medicine Program Viewing Index = National News + prime-time viewing item

Total Television Exposure Index = Bugs Bunny + Addams Family + Scooby Doo + Inch High Private Eye + I Dream of Jeannie + Lassie's Rescue Rangers + Speed Buggy + Star Trek + Josie and the Pussycats + Pebbles and Bamm Bamm + American Bandstand + Midnight Special + In Concert + Soul Train + prime-time viewing item + National News

ATTENTION TO COMMERCIALS -- Eight types of commercials were represented in the questionnaire, with measures of attention to twenty-six specific ads (Table 2).

Anti-Smoking Attention Index = Wolf ad + like-father-like-son ad

Anti-Littering Attention Index = Indian ad + Point-it-out ad

Seat Belt Attention Index = Broken egg ad + won't-talk-to-you ad

Medicine Advertising Attention Index = Anacin ad + Digel ad + Sominex ad + Pepto-Bismol ad

Toy Advertising Attention Index = Snoopy Pencil Sharpener ad + Kenner Tower and T-T-P Cycle ad + Vertibird Helicopter and Rescue Ship ad

Hygiene Advertising Attention Index = Right Guard ad + Sure ad + Listerine ad + Certs ad + Clearasil ad

Candy Advertising Exposure Index = Hershey Chocolate Bar ad + Reese's Peanut Butter Cup ad + general candy advertising exposure item

Nutrition Attention Index = attention to nutrition part of ads for Post Raisin Bran + Trix + Cheerios + Cinnamon Crunch + Kellogg nutrition PSA

EXPOSURE TO TELEVISION ADVERTISING -- The actual exposure to specific types of ads is assessed with indices combining the viewing and attention measures above.

Anti-Smoking Exposure Index = Anti-Smoking Attention Index X PSA Program Viewing Index

Anti-Littering Exposure Index = Anti-Littering Attention Index X PSA Program Viewing Index

Seat Belt Exposure Index = Seat Belt Attention Index X PSA Program Viewing Index

Hygiene Advertising Exposure Index = Hygiene Advertising Attention Index X Hygiene Program Viewing Index

Toy Advertising Exposure Index = Toy Advertising Attention Index X Saturday Morning Exposure Index

Medicine Advertising Exposure Index = Medicine Advertising Attention Index X Medicine Program Viewing Index

Cereal Advertising Exposure Index = general cereal advertising attention item X Saturday Morning Exposure Index

Nutrition Exposure Index = Nutrition Attention Index X Saturday Morning Exposure Index

Candy Advertising Exposure Index = Candy Advertising Attention Index X Saturday Morning Exposure Index

LIKING FOR COMMERCIALS -- On five of the ads visually portrayed in the questionnaire, students were asked to rate their degree of liking for the commercial (Table 4).

Advertising Liking Index = liking for point-it-out ad + Clearasil ad + Snoopy Pencil Sharpener ad + Kenner Tower and T-T-P Cycle ad + Pepsi ad

OPINIONS ABOUT TELEVISION ADVERTISING -- One set of items asked whether ads should be removed from Saturday television, whether ads interrupt program enjoyment, and whether advertising affects viewer moods (Table 5).

BELIEF IN TELEVISION COMMERCIALS -- Three of the pictured commercials were accompanied by questions dealing with belief of message claims; another screening question dealt with general veracity of commercials (Table 6).

Advertising Disbelief Index = disbelief of Clearasil ad + Kenner Tower and T-T-P Cycle ad + Vertibird Helicopter and Rescue Ship ad + always-tell-truth item

DISBELIEF OF ADULT AUTHORITIES -- To tap the extent of skepticism of adults and other authority figures, three questions asked whether the child believes that adults, salesmen, and newscasters always tell the truth (Table 9).

Disbelief of Adult Authorities Index = disbelief of adults + salesmen + newscasters

ORIENTATIONS TOWARD SMOKING, LITTERING AND SEAT BELTS -- Among the major causes promoted in public service announcements are campaigns against smoking, littering and non-use of seat belts. To measure the cognitive, affective and behavioral effects of these messages, three items were prepared for each topic (Table 12, 13, and 14).

Anti-Smoking Index = won't smoke + tells parents not to smoke + believes smoking harmful

Anti-Littering Index = believes important not to litter + tells others not to litter + doesn't litter

Seat Belt Index = uses seatbelt + believes belts helpful + favors seatbelts

ORIENTATIONS TOWARD HYGIENE -- Two and a half pages of the questionnaire contained items dealing with personal hygiene problems (Table 17). These can be divided into variables of knowledge, perception, belief, concern, and usage.

Hygiene Knowledge Index = number of deoderants listed + awareness of reasons for using deoderant and mouthwash + awareness of distinctions between two types of toothpaste

Hygiene Usage Perception Index = perceived usage of deoderants + mouthwash + skin cream

Hygiene Importance Index = belief in importance of people using deoderant + mouthwash

Hygiene Concern Index = worrying about body odor + skin blemishes

Hygiene Usage Index = frequency of using mouthwash + skin cream.

MATERIALISTIC ORIENTATIONS -- A six-item battery measured children's attitudes toward material goods, such as toys, money, clothes and cars (Table 21).

Materialism Index = thinks toys produce happyness + thinks money is important + wants to impress friends with goods + prefers toys to playground + thinks clothes important + wants luxury car

MEDICINE ORIENTATIONS -- Children receiving the medicine form of the questionnaire were presented with 28 items dealing with cognitive, affective and behavioral aspects of medicine and drug issues (Table 24). A number of these were combined into indices, while others were analyzed individually; these are the major indices:

Perceived Illness Index = estimated frequency that people get stomach aches + colds

General Medicine Efficacy Index = believes that people are helped by medicine for stomach aches + colds

General Medicine Speed Index = believes medicine works quickly for stomach aches + colds

Personal Illness Concern Index = worry about getting stomach aches + colds

Personal Illness Index = frequency of getting stomach aches + colds

Personal Medicine Usage Index = frequency of using medicine for stomach aches + colds

Personal Medicine Efficacy Index = believes that medicine helps relieve stomach aches + colds

Illicit Drug Approval Index = approves of uppers + downers + dope + grass or pot

FOOD AND NUTRITION ORIENTATIONS -- An alternative six-page supplement to the questionnaire covered a wide range of topics relating to food consumption,

requests and denials for cereal purchases, beliefs about nutritious foods, approval of sugar and incidence of cavities (Table 27, 30, 33, and 36).

Consumption of Heavily Advertised Cereals Index = Alpha Bits + Boo Berry + Sugar Smacks + Cheerios + Pebbles + Captain Crunch + Rice Krispies + Raisin Bran

Consumption of Lightly Advertised Cereals Index = Wheaties + Quangeroos + Corn Flakes + Kix + Cocoa Puffs

Cereal Denial Response Index = frequency of arguing + anger

Nutritional Value of Emphasized Foods Index = orange juice + toast + plain cereal + sweet cereal

Nutritional Value of Advertised Foods Index = waffles + Poptarts

Nutritional Value of Nonadvertised Foods Index = eggs and bacon + donuts + cream of wheat

Consumption of Heavily Advertised Candies Index = Hershey Chocolate Bar + Kit Kat + Choc-O-Lite

Consumption of Lightly Advertised Candies Index = Snickers + Butterfinger + Milk Duds + Baby Ruth

Consumption of Heavily Advertised Foods Index = potato chips + soda pop + hamburgers + chocolate drinks + cookies

Consumption of Lightly Advertised Foods Index = pretzels + ice cream + hot dogs + cake

DEMOGRAPHIC INFORMATION -- Children were asked to report their age, sex, school performance ("How well do you do in school -- how good are the grades on your report card?" VERY GOOD/PRETTY GOOD/NOT SO GOOD), and parental occupation.

Analysis. Two basic types of descriptive statistics are used to represent the relationships between variables in this investigation. Correlation coefficients precisely describe the linear association between the advertising exposure indices and the various indices of knowledge, attitudes and behavior: (a) zero-order correlations are initially calculated to describe the raw bivariate association between predictor and criterion variables; (b) partial correlations are then computed to control for the contaminating influence of antecedent variables (such as grade in school, social status, and prior behavior patterns) that might explain the existance of a partly spurious raw relationship; (c) conditional partial correlations are then computed to assess the nature of the relationship under various antecedent or intervening conditions (such as males vs. females, high vs. low status, and presence vs. absence of communication behavior) that might facilitate or inhibit the effects of advertising exposure; and (d) path coefficients

are also employed to analyze interrelationships among sets of variables in several phases of the investigation.

The meaning of correlation coefficients, especially between indices, are often difficult to interpret, even by social science researchers. Scholars may argue over the importance of a correlation of +.10, or +.20, or +.35; non-scientists have little basis for understanding such figures. Percentage differences provide a more concrete and readily interpretable representation of relationships, comparing the specific answers of those respondents who are heavily or lightly exposed to certain advertising stimuli. The advertising exposure indices are dichotomized near the median to yield a gross classification of respondents into the "light" vs. "heavy" exposure groups. The distribution of responses by each group can then be described in percentage form on every individual questionnaire item. This allows the reader to assess the magnitude of difference between the groups in easily understandable statistical figures. Furthermore, the reader can ascertain the absolute proportion of respondents who chose the various response categories on each item.

Most tables feature the raw cross-tabulations between the predictor and criterion variables; however, when moderately or highly contaminating control variables are identified, partial cross-tabs are computed. This procedure involves dichotomizing the exposure index separately for each subgroup on the critical control variable, such that respondents are assigned into the "heavy" and "light" exposure groups based on their score relative to others in their subgroup rather than the overall sample. In most analyses, grade in school is the control variable; to eliminate the contaminating influence of this factor, the "heavy" and "light exposure groups are composed separately at each grade level before overall differences are computed.

RESULTS

The findings from the survey questionnaires are described by cross-sectional correlations, which severely limit inferences that advertising exerts a causal influence on children's thinking and behavior. While partial correlations controlling for demographics or other obvious contaminating variables can help to establish functionality in these relationships, the issue of causal direction is more doubtful. In each of the areas studied, it is plausable that pre-existing knowledge, attitudes or practices may lead the child to selectively attend commercials consistent with these prior orientations; for instance, children concerned about acne may seek out acne cream commercials. Thus, conclusions regarding advertising effects on the criterion variables must be tempered by the recognition that the reverse flow of causality may account for considerable variance in an obtained relationship. Nevertheless, such a functional explanation for associations does not necessarily mean that the advertising does not play a role in socializing viewers; it can be argued that the children are using advertising messages to learn about matters of relevance to them, which is basic to the socialization process.

The presentation of findings will progress from assessment of television viewing patterns to commercial attention patterns to evaluative responses such as liking, opinions, and beliefs regarding advertising. Then specific topic areas will be covered, including learning from public service announcements, hygiene learning, development of materialistic orientations, the role of repetition, medicine advertising effects, and food advertising effects.

The presentation of data will not be accompanied by tests of statistical significance for each relationship. Due to the large sample size, even small correlations are significant; thus, the significance level has limited meaning. Furthermore, the main objective of the survey analysis is to determine the strength of association rather than the existance of a relationship. For those who desire such information, the following chart provides a general guide to the significance levels for zero-order and partial correlation coefficients for the overall sample, the medicine and food/nutrition subsamples, and various demographic subgroups. For instance, the overall N=775 requires a correlation of .07 to achieve significance at the 5% level and the 1% critical value is .10.

		$p \leq .05$	$p \leq .01$
Overall sample	N=775	.07	.10
Males	N=360	.11	.14
Females	N=415	.10	.13
4-5th graders	N=347	.11	.14
6-7th graders	N=428	.10	.13
High status	N=321	.11	.15
Low status	N=342	.11	.14
Medicine subsample	N=256	.13	.17
Food subsample	N=506	.09	.11

OPPORTUNITY FOR EXPOSURE TO COMMERCIALS ON TELEVISION

A necessary condition for contact with commercials is viewing of television programming. A child who views almost no television will rarely see TV advertising and probably will not be significantly affected by commercials. On the other hand, the child who watches four or five hours per day has the opportunity to see perhaps thirty thousand advertising messages each year. Thus, it is important to examine the amount of time that children spend watching television.

Since different kinds of ads are shown during different programs and time periods, viewing behavior is measured several different ways. The first category is Saturday morning programming, the conventionally defined vehicle for children's advertising. Ten programs representing different networks, time slots, and audience appeal measure the opportunity for exposure to child-oriented ads for toy, cereal, candy and other edibles, along with many types of public service announcements. The second category, represented by four weekly pop music programs, measures the opportunity for viewing teenage-oriented ads for hygiene products, food products, and clothing, plus some PSA's. General advertising exposure, including medicine advertising, is indexed by the number of hours viewed during evening prime-time; daily viewing of national news offers a particularly extensive chance to view ads for medical and drug products.

Saturday morning viewing. Table 1 displays the proportions of children who say they watch various individual programs "a lot." With one exception, the younger respondents in the fourth-fifth grades are much more likely to consume these Saturday morning programs than sixth-seventh graders. On some shows, there are only minor differences between boys and girls; however boys more often see Bugs Bunny and Star Trek cartoons while girls tend to view Jeannie and Pebbles and Bamm Bamm cartoons. There is consistently greater cartoon viewing reported by the lower status children than those from higher status homes.

Averaging across the ten programs, 36% of the younger children vs. 22% of the older age group are heavy viewers; the difference between lower vs. higher status categories is about half as large. No overall amount difference appears between the sexes, although programming preferences differ somewhat.

In terms of program popularity, Scooby Doo is seen "a lot" by 45% of the sample and "sometimes" by an additional 36%. Other highly ranked programs include Bugs Bunny, Jeannie, and Speed Buggy. On the other hand, Lassie's Rescue Rangers is viewed by less than half the sample.

Pop music program viewing. Table 1 also presents the findings on the four teenage music programs. Although there is considerable variation from program to program, the averaged data show that the sixth-seventh graders view slightly more than the fourth-fifth graders, that girls watch slightly more than boys, and that social status makes no difference in exposure. The most popular show is In Concert, attracting more than half of the chil-

dren; the other three programs are seen by slightly less than half of the respondents. About one-fourth of the sample report viewing the typical music show "a lot" of the time.

Evening viewing patterns. A single item asked children how many hours they viewed TV on an "average evening between 8:00 and 11:00." Response categories represented each half hour level from 0 to 3 hours. The amount of exposure described by the children is quite high: 40% say that they watch the maximum 3 hours, and the mean viewing time is 2 hours and 17 minutes.

In Table 1, it can be seen that somewhat higher viewing levels are found for younger children, boys, and those from lower status backgrounds. However, these differences represent only about 10 minutes per evening on the average.

About two-fifths of the children say that they watch the national news, with only 15% indicating heavy viewing. News exposure does increase with age, and is slightly greater for the higher status children.

Discussion. Late childhood appears to be a period of heavy television consumption, both for the child-oriented Saturday programs, and the adult-oriented evening programs. Many also view the pop music shows aired on Saturday afternoons and late evenings. Although the estimates provided by the children are likely to be inflated, the magnitude of actual exposure is still impressive. It is clear that children between the ages of 10 and 13 have the opportunity for extensive exposure to a wide variety of advertising messages.

Younger children in the fourth and fifth grades report watching more television than those in the sixth and seventh grades, particularly on Saturday mornings. Males see slightly more in the evenings, but do not differ importantly from the females on other types of programs. Those from lower status backgrounds generally view more TV than higher status children. The national news is the main exception to these basic patterns, and pop music program viewing diverges slightly from overall viewing behavior.

The amount of exposure to various types of television programming does not necessarily constitute an accurate index of advertising exposure, however. A child might sit before the TV set watching a program while tuning out some commercials and closely attending others. Thus television viewing can be considered conservatively as an opportunity for rather than a guarantee of advertising exposure. Actual attention to a particular commercial or type of commercial is assessed in the next section. These measures will be combined with the TV viewing measures to estimate advertising exposure rates. Program viewing will be used to reflect the frequency of encounter with an advertisement, given that some degree of attention is accorded the message. Two children who say that they pay the same level of attention to a toy ad will have different exposure scores, depending on how much they are exposed to the ten Saturday morning programs. Thus, these variables will play an important role in subsequent analyses.

ATTENTION TO COMMERCIALS

On 26 items displayed throughout the questionnaire, children were asked to indicate the degree of attention that they paid to specific commercials along a four-step scale. Since these ads represent a wide variety of products and ideas aimed at both child and adult audiences, computing an overall average distribution across all commercials provides precise evidence of children's attention patterns. According to these self-report data, when a commercial comes on TV an average of 17% of the children "always" watch it, 24% "usually" watch it, 40% "sometimes" watch it, and 19% "never" watch it. The final set of figures in Table 2 show that the fourth-fifth graders attend slightly more closely than the sixth-seventh graders, with an average of 20% vs. 14% reporting that they always view a given advertisment. There are no overall differences between boys vs. girls and those from higher vs. lower social status backgrounds.

Attention to different types of commercials. Table 2 and Table 3 present the findings for nine types of television commercials. Children report viewing public service announcements most closely; on the average, more than half always or usually watch the six PSA's studied in the questionnaire. Anti-littering PSA's are most popular, with 65% watching always or usually. Second most popular are anti-smoking messages, as 56% scored in these upper two attention categories. The seat belt PSA's are highly attended by 39% of the children.

Among product commercials, 50% give high attention to candy advertising and 41% give high attention to hygiene advertising, closely followed by 39% for cereal advertising and 38% for shoe advertising. Toy advertising is attended by 33%, with medicine advertising showing the lowest rate of 25%.

Age differences in attention. Older children pay slightly more attention to public service announcements than younger children, with an average of 55% vs. 51% scoring in the upper two response categories. Candy attention is also slightly higher in the older age group. On the medicine, toy, hygiene and cereal attention measures, younger children report considerably greater attention. Thus, the paid commercials tend to attract more attention from the fourth-fifth graders than the sixth-seventh grade students, regardless of subject matter.

Sex differences in attention. There are only marginal differences between males and females on most types of advertising. The key exception is for toy commercials, where 39% of the boys vs. 27% of the girls attend always or usually. To test whether the sex of the actors is an important factor in attracting viewers, a shoe product appropriate for either sex was selected for closer study. Keds "Gold Medal" and "Tail Lights" shoes can be worn by both boys and girls, but the "Gold Medal" commercial portrayed a boy runner while the "Tail Lights" ad featured both boy and girl bike riders using the shoes. A pictorial and verbal representation of each advertisment was presented in the questionnaire,

accompanied by the attention question. Table 3 shows that 49% of the boys vs. 39% of the girls always or usually watch the boy-oriented Gold Medal ad, while 34% of the girls vs. 30% of the boys are high attenders of the general Tail Lights ad.

Status differences in attention. While there is no overall difference between children according to their social status, the pattern varies by type of commercial. Those from higher status backgrounds pay slightly more attention to public service announcements, while the lower status respondents attend medicine advertising somewhat more closely. There is also a mild tendency for more higher status children to watch candy advertising.

Discussion. Findings aggregated across a number of specific attention measures indicate that children are neither highly attentive nor inattentive to television commercials. For the typical TV ad, almost two-thirds of the children fall into the middle categories on the attention scale, saying that they "usually" or "sometimes" watch the message. While general advertising attention drops slightly as children become older, there are few differences by sex or social status.

Children are more attentive to public service messages than conventional commercials, and pay somewhat more attention to Saturday morning advertising than adult-oriented ads in prime-time. Surprizingly, the younger fourth and fifth grade students give high attention to ads for adult products: almost half "always" or "usually" watch hygiene product commercials and one-third devote this much attention to medicine advertisments.

Boys watch toy commercials more closely than girls, but other types of commercials produce no differences between the sexes. There is a tendency for girls and boys to selectively expose themselves to a pair of commercials for equivalent products according to the sex of the performers in the ads.

EVALUATION OF ADVERTISING

The survey assessed the respondents' liking for specific TV commercials, attitudes concerning the general practice of advertising and affective responses to ads, and belief in commercial messages. Each of these factors involves reactions to advertising along an evaluative dimension.

Liking for commercials. For five of the commercials portrayed in the questionnaire, measures were obtained on the degree of liking for the ads. On the average, 16% of the children report liking the ads "very much," with 37% indicating "pretty much" and 47% marking "not so much." This lukewarm response varies only slightly by the demographic characteristics. Table 4 shows that 18% of the fourth-fifth grade students vs. 14% of the older group selected the most favorable evaluation category, with no difference between males and females or between higher and lower

status children. Predictably, younger children definitely tend to like the toy commercials, while the older ones more often express liking for the Clearasil skin cream ad. Girls are more likely to like the Clearasil ad and Pepsi ads, while boys prefer the motorcycle toy commercial. There is slight tendency for higher status children to like the Pepsi series of ads and for lower status children to like one of the toy ads.

The most highly rated advertising is for Pepsi, with 36% in the highest liking category. The anti-pollution PSA is also well liked, as 25% of the sample express high liking. The two toy ads are much less popular, both attracting less than 10% high liking. Just 3% say that they like the Clearasil ad very much.

There is a mild tendency for children who like one commercial to also like the other commercials that were measured. Although the five ads are somewhat dissimilar, there is an average intercorrelation of +.18 among the liking ratings, and this pattern of associations remains when the grade, sex, school performance and status are controlled.

There is a clear relationship between attention to a commercial and liking for that commercial, in the three cases where both measures were obtained. Averaging the skin cream, motorcycle and anti-pollution ads, the correlation is +.48 between degree of attention and degree of liking for the ad. When the four control variables are partialled out, the correlation drops slightly to +.45.

In the case of the Snoopy pencil sharpener, the total number of exposures was available as the predictor variable rather than the usual attention measure. The raw correlation between exposure frequency and liking for the ad is +.23, and the partial correlation is +.17. Table 19 displays the proportion of respondents who expressed liking at five different frequencies of exposure. Of course, many of those who hadn't seen the ad did not evaluate it. Among these with 0 exposures who did respond, just 9% say they liked it "very much" or "fairly much," with the vast majority at the "not much" level. Among those who had seen the ad from 1 to 5 times, 44% express liking; 45% of those exposed 10 times indicate liking, rising to 49% of those seeing 20 or 30 presentations and 55% of those seeing it 40 or more times.

For the Pepsi commercials, the liking measure was accompanied by an affective response item asking whether these ads make the child feel better or worse when watching while bored or lonely. Those who report an improved disposition like the ads the most. There is a raw correlation of +.34 between the two variables, which remains at +.32 when the control variables are partialled out of the relationship. In percentage terms, 24% of those who feel worse report liking the ads "very much" compared to 63% of those who feel better; conversely, 32% of the former group vs. 3% of the latter group dislike the ads.

Attitudinal responses to advertising. One general opinion item asked whether all commercials should be taken off of television on Saturday mornings. Table 5 presents the wording of the question and the answers according to subgroups of children. Overall, 33% feel affirmatively that ads should be removed from Saturday morning TV, and another 30% say that

"maybe" ads shouldn't be shown. The remainder oppose the idea. Younger children display the most negative opinion: 45% of the fourth-fifth graders vs. 23% of the sixth-seventh graders say "yes" to the removal proposition. Boys are somewhat more in favor of the proposal than girls, and lower status children support the idea more than middle class children.

A follow-up question probed the reasons behind this opinion, asking: "Why do you feel that way about Saturday morning commercials?" Among those favoring the removal of ads, most write that the ads "interrupted" the program or "disturbed" their enjoyment. Small proportions are negative toward the content of ads, or dislike the repetition of commercials presented during children's hours. Those who oppose the idea of taking off commercials write that ads are informative, entertaining, pay for the programs, or provide a break in the programming.

A general affective response item asked how often the child is bothered by commercial interruptions during TV programs. Overall, 79% are bothered "a lot" and 18% are irritated "sometimes" by the practice of presenting ads within programs. There are no clear differences between the grade, sex, or status subgroups on this measure.

Those who report that commercial interruptions bother them also tend to favor taking commercials off the air; there is a correlation of +.26 between these two measures (partial r = +.25, controlling grade, sex, school performance and status). Among the majority who say that commercial breaks bother them "a lot", 39% definitely favor removal of ads and 28% respond "maybe." On the other hand, only 8% of those who are "sometimes" or "never" bothered definitely favor removal and 37% fall in the "maybe" category.

Another affective response item asked whether the lively Pepsi ads combat or intensify depressed feelings. Table 5 shows that slightly over half of the children are not affected by such commercials, while 22% feel worse and 25% feel better after seeing them. Younger children tend to feel worse and older children tend to feel better. Boys respond negatively and girls respond positively to the ads. There is a slight tendency for higher status children to improve their disposition, compared to lower status children.

Belief of advertising. Respondents were asked a general question about the trustworthyness of TV commercials along with three specific belief items pertaining to currently advertised products. These items are presented in Table 6, accompanied by data on grade, sex and status differences in believability. Table 7 displays correlations between the belief measure and a number of predictor variables.

Less than one-fourth of the sample think that "TV commercials always tell the truth." Disbelief is expressed by 71% of the younger children and 81% of the older ones; higher status children are more skeptical than lower status children by a 81% to 73% margin. Those who felt that commercials are not always truthful were asked in a follow-up question to indicate which commercials are not true. Cosmetic advertising is most frequently cited,

especially by girls. Toy and automobile ads also receive mention by more than 5% of the sample. On the other hand, commercials for candy, drugs, cereal, stores and restaurants are almost never mentioned. One-tenth of the children feel that all or almost all ads are not truthful; one-fourth cannot name a specific ad although they say ads aren't always true.

A second follow-up item probed to find out why they don't believe the commercial that they identify. The subset of respondents who had mentioned an ad tend to focus on the logical validity of the message claims as the primary reason for disbelief; 21% of this subgroup give reasons relating to the improbable or irrational features of the message content or presentation. Older children and girls tend to mention message reality factors. Direct experience with the product is the basis for disbelief in 11% of the cases, while personal advice from others is almost never cited.

The veracity of two toy ads and a hygiene product ad was also evaluated by the children. For the Clearasil skin cream commercial, 11% of the respondents say that they definitely believe the major effectiveness claim and another 61% say "maybe." For the Kenner motorcycle toy commercial, 13% say they definitely believe the visual performance displayed in the ad and another 40% say "maybe." In a similar item, children who had played with a Vertibird helicopter were asked if it is better or worse than the toy portrayed in the TV commercial; while half say it was "about the same," about twice as many of the remainder say it was worse rather than better. There is not clear pattern of differences by grade, sex or status across these three items.

In Table 7, it can be seen that consistent positive correlations are found between amount of Saturday morning viewing and the belief measures. Attention to ads, particularly the ones corresponding to the belief items, is also mildly related to belief. Liking for commercials also shows this pattern of mild positive correlations; in the two instances where corresponding measures were available the associations are above +.20. Child characteristics are not consistently related to these items, as indicated in the previous table.

The intercorrelations among the general and specific belief items are relatively weak. The average correlation between belief of the motorcycle, skin cream and helicopter ads is +.05. The average correlation of these three measures to the general rating of the truthfulness of advertising is +.12.

Discussion. These findings yield a variety of interesting patterns in the manner that children evaluate advertising. Many of the respondents have strong feelings about the advertising that they see on television, both favorable and unfavorable. Although occasional differences occur between the various grade, sex and status subgroups, their overall responses are more uniform than disparate. Apparently advertising generates similar reactions regardless of the characteristics of the child, at least within this age range.

There is great variation in liking for specific commercials, even across the limited range of ads presented in the questionnaire. In general, children are not highly favorable toward the advertisments studied, which

are fairly typical of the commercials viewed by this age group. Toy commercials apparently lose their appeal by the time children reach middle school; the sixth and seventh graders clearly don't enjoy such advertising. Reliable sex differences in liking occur for several commercials, with boys prefering a standard toy ad and girls expressing preference for a hygiene advertisment.

Despite the fact that the five test commercials were dissimilar, there is a tendency for the ratings to converge; some children generally like commercials, while others generally dislike ads. Furthermore, those who pay the most attention to commercials show a strong tendency to like the ads. The causal sequence in this relationship is not clear, as it is possible that greater attention produces greater liking, or that favorable evaluation of ads leads to more attention to the ads (conversely, dislike may produce avoidance of advertising). The most likely inference is that the two variables are reciprocally related, with a mutual causation from one to the other. In terms of sheer frequency of exposure, a moderate association is obtained between the number of times an ad is encountered and liking for the particular ad examined in this study. This provides some evidence that mere exposure to a novel message engenders positive affect, although the effect is not strong nor is the direction of influence clear.

This survey does not attempt to systematically explore the bases for liking commercials. One factor that was studied, the emotional response to a commercial along a "feel better" to "feel worse" dimension, shows a moderate correlation with liking for the ad. Much more research is needed to identify the reasons why children like some ads and dislike other ads.

There is considerable divergence in the children's opinion about whether advertising should be removed from Saturday morning television, with the sample splitting into three equal-sized groups saying "yes," "maybe," and "no." On this issue, one of the major demographic differences is found: younger children are twice as likely as older children to favor removal of ads. The major criticism of advertising that undergrids this attitude is the interruption factor, as many children object to ads disrupting their enjoyment of programming. Few children are upset by the content of advertising or the style of presentation.

The disruption objection is more forcefully apparent in an item asking whether the viewers are bothered by advertising interruptions. Almost all say that they are irritated, with the vast majority indicating that this happens "a lot." These are the same children who tend to feel that advertising should not be allowed on Saturday morning television.

Another item measuring emotional reactions to advertising is the question assessing whether a lively, happy, socially-oriented set of commercials for Pepsi serves either to bolster or further depress viewers who are feeling unhappy. About one-quarter of the sample report feeling better and one-quarter describe feeling worse, with the other half unchanged by the experience of seeing such ads.

Findings regarding belief of advertising show that few children display complete faith in the commercial messages presented on television: less than one-fourth of the sample think that commercials always tell the truth, and less than one-eighth definitely believe the claims presented in each of three specific commercials referred to in the questionnaire. Apparently children have developed a skeptical attitude toward advertising by late childhood, and there is a slight trend toward disbelief between the fourth and seventh graders in this sample.

Children cite a wide variety of untruthful ads and a number of different reasons why they feel the ads are untrue. Aside from advertising for cosmetic products, no product class was singled out for criticism by the respondents. The introspective explanations for disbelief are not well articulated by the youngsters, although internally invalid components of the message claim are concretely identified by a sizable minority. Generalized disbelief of ads does not seem to occur, as skeptical responses to one item are not even moderately related to such answers on other items. Apparently children make independent judgements from one ad to the next, perhaps applying different criteria in different situations.

Demographic factors such as grade, sex, and status do not account for pronounced differences in believability ratings, the various subgroups are fairly equivalent in their responses. Children who closely attend a particular ad and those who clearly like the commercial tend to believe the message. It is difficult to specify whether attention and liking cause belief, or whether a reverse causal sequence occurs.

The weight of the evidence does not suggest that children harbor outright cynical attitudes toward advertising, however. While they do not display an unconditional acceptance of all advertising claims, neither do large numbers uniformly reject the validity of commercials appeals. The majority seem to be uncertain about whether to completely believe particular commercials; thus, tentative skepticism may be the most accurate description of their approach to evaluating the truthfulness of TV ads.

TELEVISION ADVERTISING AND DISTRUST OF ADULT AUTHORITIES

This section examines the implications of television advertising, particularly disbelief of commercials, for children's trust in adult authorities. Many observers have suggested that frequent exposure to false or misleading commercial messages may contribute to a generalized distrust of the statements of authorities. In these analyses, the attention and evaluation variables described above are related to an index of disbelief of adults, salesmen, and TV newscasters. A series of predictor variables are employed: total television exposure (opportunity for advertising viewing, measured by frequency of watching all programs listed and number of prime-time hours viewed per evening), attention to the sets of five hygiene ads and three toy ads (these types of advertising are rated by the children and many critics as least believable), disliking for commercials (as measured on five specimin ads), and disbelief of commercials (response to general question about commercials always telling the truth, and rating of three specific ads).

First, the zero-order correlations of these variables with disbelief of authorities are reported; the partial correlations controlling for grade in school, sex, social status, and scholastic performance are also presented. The relationships are also described in percentage terms, comparing those students who agree or disagree with the statement that all commercials are truthful. Then, conditional partial correlations are presented, showing how the relationship differs among various subgroups of students characterized by grade, sex, and status. Finally, a path model of the flow of influence among the variables is computed to determine how the demographic and advertising variables combine to affect distrust of adult authorities.

General exposure effects. Assuming that children are exposed to commercials in proportion to the amount of time they spend watching TV, this variable reflects the total amount of commercial messages that the children see. Table 8 shows that exposure has a slight negative relationship with distrust; the raw association is -.07, and the fourth-order partial is -.05. Thus, children who watch the most advertising are not more likely to distrust adults--indeed, the relationship is slightly in the opposite direction. The conditional correlations in Table 10 indicate that younger children have the largest negative relationship (r=-.16), while older children have a minimal positive relationship (r=+.04). There is little difference between males and females, and between higher and lower status children.

Commercial attention effects. Attention devoted to hygiene and toy commercial announcements also correlates negatively with disbelief. The coeffients are a bit stronger, with a zero-order correlation of -.11 and a partial of -.09. The strength of association does not vary from one subgroup to another for this predictor variable. Regardless of age, sex, and status, there is a modest tendency for those who pay the most attention to these dubious forms of advertising to trust authorities more than those paying lower attention.

Commercial disliking effects. There is a slight tendency for children who dislike ads to also distrust adults. The correlation of +.08 remains almost unchanged when the control variables are partialled out (Table 8). The association is much stronger for higher status children (r=+.20) than lower status children (r=+.03), and somewhat greater in the female and younger subgroups.

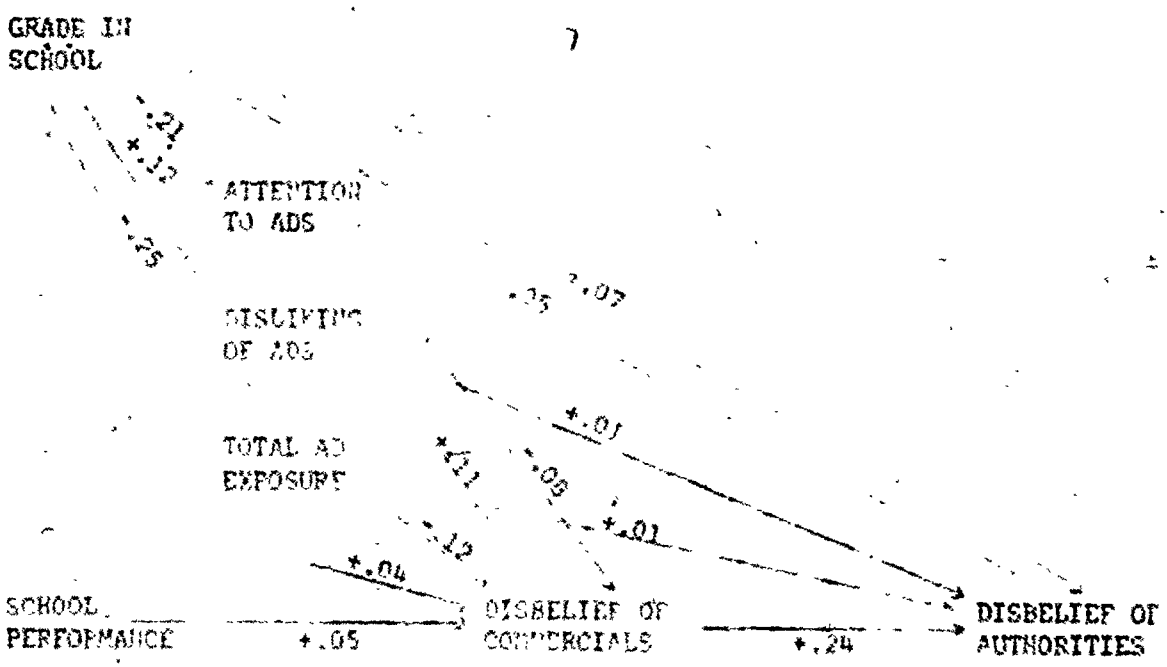
Commercial disbelieving effects. Two approaches were used in measuring disbelief of TV advertising. A general question asked, "do you think that TV commercials always tell the truth?" Considering responses of "yes" vs. "no" as a dummy variable, there is a correlation of +.24 between disbelief of advertising and disbelief of authorities. This item also used in a cross-tabulation analysis with each of the items composing the authority distrust index. Table 9 shows that 63% of children who disbelieve commercials reply "no" when asked if "adults always tell the truth," compared to 45% of the children who believe ads. Similarly, 81% of the advertising disbelievers say "no" in response to the item asking if "salesmen always tell the truth," while 61% of the believers give the negative response. There is a 37% vs.

27% difference between the two groups in saying "no" to "TV newscasters always tell the truth."

Another measurement approach uses three items dealing with particular advertisement (Clearasil acne cream, Kenner Tower and TTP Cycle toy, and Vertibird Helicopter and Rescue Ship toy). Summing together responses indicating disbelief in these ads, the index correlates +.15 with distrusting adult authorities.

The generalized and specific items were combined into an overall index of disbelief of TV ads. This has a raw correlation of +.26 with distrusting authorities, and the partial correlation drops negligibly to +.25. Conditional correlations indicate that the relationship is stronger for girls than for boys, while the differences by grade and status are minor.

Multivariate relationships. To examine the process of advertising influence on distrust of authority, the interrelationships among the key variables are assessed using path analytic techniques. It is hypothesized that the primary causal variable is disbelief of commercials, and that the impact of exposure, attention and liking is indirectly mediated by commercial disbelief. Furthermore, it is predicted that grade in school will influence all of the other variables in the model, and that scholastic performance will affect disbelief of ads. These patterns of influence are described in the firgure below. The path coefficient estimates are displayed for each linkage, these standarized beta weights represent the independent direct contribution of each variable upon the next. This model assumes recursive relationships, although it is possible that reciprocal causality might exist in some cases.



This analysis shows that the major predictor of distrusting authorities is disbelief of TV advertising; none of the other variables have an important direct linkage with distrust. Only 7% of the variance in this criterion variable can be explained by these variables. Any impact of disliking is mediated by commercial disbelief, as those who don't like commercial tend not to believe it, and this in turn leads to disbelief of adult authorities. Total exposure and attention to ads are associated inversly with ad disbelief, so any subsequent impact on disbelief of authorities is also negative but slight. Attention also has a direct inverse relation that is minor. Grade has a very small direct relationship with commercial disbelief, but the indirect paths through viewing and liking are more substantial. Most of the relationship between grade and disbelief of authority is direct, but weak. School performance is slightly related to disbelief of commercials.

Discussion. Simple frequency of exposure and degree of attention to advertisments does not have an important impact on disbelief of adults and other authority figures. The only substantial influence can be traced from disbelief of advertising, as there is a partial correlation of +.24 with disbelief of authorities. Since this magnitude of association remains when all of the other factors are taken into consideration, a functional relationship apparently exists. Probably some of the causal flow runs from advertising disbelief to authority disbelief, but is is plausible that children who don't trust adults, salemen and newscasters will be motivated to evaluate TV ads in a skeptical fashion. Therefore, there is likely to be a two-way reciprocal causation operating in this situation.

Since advertising disbelief does seem to cause some distrust of authorities, it is useful to examine what factors lead children to be distrustful of ads. Obviously exposure alone does not produce distrust, since children who view the most ads (particularly those that are least trustworthy) actually show a slight tendency to be advertising believers. While older children and those who do well in school are slightly more skeptical of ads, neither relationship is substantial. Disliking of commercials is associated with disbelief, although causal direction is unclear. Subsequent research must identify the roots of disbelief in advertising more fully.

In sum, distrust of authorities does appear to be affected by children's experience with TV commercials to some extent. However, the critical factor is not amount of exposure, but the evaluative response of disbelieving ads. Thus, exposure alone does not create distrust in adults and other authorities, but the type of reaction to ads when exposed is important. It can be concluded that the characteristics of the child exert a much stronger influence than the attributes of the commercials; if the child feels that ads are untruthful, this distrust may be transferred to other authority figures that are encountered.

SOCIALIZATION FROM PUBLIC SERVICE ANNOUNCEMENTS

The public service announcement phase of the investigation sought to determine whether children's beliefs, attitudes and practices regarding smoking, littering, and seat belts are influenced by the pervasive campaigns for these causes. The questionnaire presented still video pictures and verbal descriptions of two representative commercials dealing with each of these three topics. Children were asked how much attention they paid to each message; their frequency of exposure was assessed by measures of viewing behavior during Saturday morning and weekday periods when PSA's are most often presented. Three separate predictor variables were computed by multiplying degree of attention times amount of exposure, yielding an Anti-Smoking Exposure Index, an Anti-Littering Exposure Index, and a Seat Belt Exposure Index. The corresponding criterion variables are the children's responses to items measuring orientation toward smoking (belief in harmfulness, telling others not to litter, and personal non-littering behavior), and seat belts (belief in safety belt effectiveness, attitude toward wearing, and personal usage). Results are organized according to topic rather than type of variable.

Anti-smoking orientations. Exposure to anti-smoking public service messages has little overall relationship with the children's orientations toward smoking, as the three-item anti-smoking index correlates -.02 with exposure (Table 11). This overall finding masks mildly contrasting associations between the individual items: controlling for demographic factors, personal intention not to smoke correlates -.11 with exposure while the frequently reported behavior of reminding parents to stop smoking shows a +.10 correlation (children with non-smoking parents are dropped from the analysis for this correlation). There is a slight negative relationship between exposure and belief that smoking causes diseases.

Table 12 presents these results in a cross-tabulation format. The more heavily exposed respondents are more likely to express an intention to smoke when older: 33% said "yes" or "maybe" when asked if they would smoke, compared to 26% of the lightly exposed. The heavy viewers more often report that they tell their parents to stop smoking, with 52% doing this at least "sometimes." Only 39% of the light viewers say this to their parents, but fewer of this group have parents who smoke. Even when the parental smoking factor is considered in the analysis by eliminating those without smoker parents, a 78% vs. 67% difference remains between the two groups in telling parents not to smoke. There is no difference on the belief item, as most children think that smoking causes cancer regardless of exposure level.

The overall relationship differs from subgroup to subgroup of respondents. Table 15 shows that the anti-smoking index correlates positively with exposure for younger children (r=+.17) and negatively for older children (r=-.16). There is also a substantial difference between higher status children (r=-.11) and those from lower status backgrounds (r=+.03).

Anti-littering orientations. There are consistently positive correlations for the littering variables. Exposure to anti-pollution announce-

ments is related +.18 with the anti-littering index when the control variables are partialled out (Table 11). The relationship is strongest for telling others not to litter, and weakest for personal non-littering behavior.

In Table 13, the cross-tabulations show that almost all children agree that it is "really important for people to stop being litterbugs." Nevertheless, the light viewers are twice as likely as heavy viewers (6% vs. 3%) to fail to express affirmative agreement with this item. On the item dealing with telling others to stop littering, 25% of the heavily exposed vs. 14% of the lightly exposed said they do this "a lot." Finally, there is a 69% vs. 62% difference between heavy and light exposure groups in reporting that they frequently throw litter in a trash can.

The conditional partial correlations in Table 15 do not differ between the various subgroups of children; the relationship between exposure and the anti-littering index is fairly consistent for older and younger, male and female, and higher and lower status children.

Seat belt orientations. There is a slight positive association between viewing seat belt PSA's and the seat belt orientation index (Table 11). The fourth-order partials are +.08 for the belief that seat belts are effective and +.06 for the child's frequency of using seat belts. Favorable attitude toward seat belts is not related to exposure.

The percentage data in Table 14 reflect these weak correlations. There is a 54% vs. 48% difference between heavy and light viewers on the affirmative belief that seat belts help save lives. Only 2% more heavy than light viewers say that they actually use seat belts. There is no clear difference between the two groups on the attitudinal item.

The younger children have a stronger association (r=+.13) than older children (r=+.04). There is a positive relationship for boys (r=+.16) but none for girls (r=+.01). The conditional correlations do not differ according to social status of the respondents.

Discussion. The overall pattern of results shows that exposure to public service announcements is modestly related to those orientations that the messages seek to influence. Children who are more exposed to PSA's for smoking, littering, or seat belts show a slight or mild tendency to score higher on the corresponding criterion measures. Since the correlations remain as strong when grade, sex, status, and scholarship variables are controlled, it is likely that the predictor and criterion variables are causally related. Probably a substantial portion of the relationship is due to a selective seeking of both information and reinforcement by children who already hold a positive orientation toward the theme of the message; nevertheless, some of the causality undoubtedly flows from the message to the receiver. Thus, it appears that PSA's have an effect on young viewers, but the impact is quite limited.

The effects are strongest for littering and weakest for smoking, with seat belts falling in between. This might be explained by the

superior entertainment quality of the anti-pollution announcements and the greater relevance of these messages for child audiences, especially compared to anti-smoking ads. In addition, parental training may place a greater emphasis on smoking than littering, leaving children less susceptible to media influence on the former topic.

Conditional correlations by age show generally stronger relationships for younger (fourth and fifth grades) than older children. Perhaps the sixth and seventh graders are more fixed on their orientations, and therefore less likely to be influenced by the PSA's.

Across the three sets of findings, the affective dimension is related least strongly to viewing, while behavioral practices (especially verbal) are related more closely. Perhaps the repetitive nature of the PSA's tend to remind children to display these socially constructive actions.

It should be emphasized that the effects that can be traced to exposure are fairly weak, with the exception to telling others not to litter. Apparently children primarily develop orientations toward smoking, littering and seat belts from sources other than public service announcements--such as teachers, parents, and peers. For many children, the PSA messages represent only a small portion of influences impinging upon them: they are exposed to extensive interpersonal communication about smoking from many sources, parents often emphasize seat belt use, and peers and school officials frequently stress the non-littering. Thus, the persuasive impact of public service announcements may be lost in the glut of incoming messages.

A second reason that might account for the lack of strong correlations concerns the restricted variety of PSA's on each topic. There are only a handful of different ads that are frequently repeated; those who watch little TV or pay limited attention probably receive a sufficient range of information to learn the basic themes. Thus, children who are heavily exposed may not score much higher than the lightly exposed viewers because of the redundancy of information; the main consequence of greater exposure may be repeated reminders of how to behave, the outcome indicated in the findings.

TELEVISION ADVERTISING AND HYGIENE SOCIALIZATION

The personal hygiene phase of the investigation explores the impact of deoderant, mouthwash and acne cream commercials on children's orientations toward adolescent and adult hygiene. Pictures and descriptions of five representative commercials were used to elicit attention ratings, and exposure frequency is assessed by measures of viewing during prime-time programming. A Hygiene Advertising Exposure Index is the product of attention times frequency of exposure. The study seeks to determine how exposure is related to knowledge about hygiene products and practices, perceptions of others' use of hygiene products, belief in the effectiveness of these products, concern about personal hygiene problems, and usage of the products. Since interpersonal communication about hygiene matters may play an important role in affecting mass media impact, this factor was mea-

sured by items asking how often the child talked with parents or friends about skin creams, mouthwash, and deodorants. An index composed of responses to these three questions is used in the analyses as a fifth control variable beyond the demographic controls, and as a contingent condition variable.

Knowledge. Exposure to commercials for deodorants, mouthwashes and acne creams is slightly related to knowledge about these products in terms of naming and distinguishing between brands, and describing why people use such products (Table 16). There is no difference in the number of different deodorant brands named by light and heavy commercial viewers (Table 17). The light and heavy viewers of hygiene ads differ little in listing reasons why people use deodorants and mouthwashes, and in identifying differences between a pair of cavity-oriented and mouthwash-oriented toothpastes.

In general, the findings in Table 17 indicate fairly extensive knowledge, regardless of amount of exposure to hygiene commercials: each group could name an average of three deodorants beyond the brands identified in the questionnaire, and most in each group could name at least one reason why people use deodorants and why they use mouthwashes. Their responses reflect a negative orientation in each case, as most say that people use deodorants "to prevent smell" rather than "to keep dry," and most say that people use mouthwashes "to prevent bad breath" rather than "to have clean breath." On the toothpaste item, there is more general recognition of the properties of Crest (flouride, green color) and Close-up (red color, mouthwash ingredient) than the presumed benefits of each (prevents cavities, makes whiter teeth, gives sex appeal). In particular, the Close-up advertising emphasis on sex appeal is not reflected in the students' differentiation against Crest.

Table 18 shows that those children who don't talk with parents or friends about hygiene matters are the only ones who learn from commercials: the non-talkers have a correlation of +.09, while the relationship is nil in the group that does discuss such topics. The relationship also exists only among higher status children. Boys and girls differ little, and older learn more than younger children.

Perceived usage. Three items measured the children's perceptions of the proportion of adults (or teenagers, in the case of skin cream) who use each hygiene product. Hygiene commercial viewers are much more likely to perceive that people are heavy users of deodorants, mouthwashes and skin creams. The correlation between Hygiene Exposure Index and an index of the three perceived usage items is +.30; when grade, sex, social status, scholastic performance and talking are controlled, the partial correlation remains sizable at +.26 (Table 16).

Table 17 presents the percentage differences between those with heavier and lighter exposure. For deodorants, there is only a slight trend for the heavily exposed respondents to perceive more frequent use. Clearer differences appear for skin cream and mouthwash usage, with about three-fifths of the heavy viewers perceiving that most or everybody uses these products compared to less than half of the light viewers.

Table 18 shows that the various grade, sex, status and talker subgroups differ negligibly in size of correlations between advertising exposure and perceptions of hygiene usage. The influence of advertising appears to be rather general across the categories of children analyzed on this criterion variable.

Belief in importance. Those who watch the most advertisments for hygiene products are substantially more likely to think that it is important for people to use such products. The zero order correlation is +.22, which declines slightly to +.18 when all five control variables are partialled out. In Table 17, it can be seen that 30% of the light viewers vs. 50% of the heavy viewers think that it is "very important" for people to use deoderant; 14% vs. 24% agree that people really need to use mouthwash to maintain popularity. Each conditional relationship is approximately as strong in each of the key subgroups of children (Table 18).

Belief in effectiveness. One item asked what is the best remedy for skin blemishes, either washing with regular soap or using a skin cream such as Clearasil. There is a positive +.14 association between the exposure index and the skin cream response (Table 16). The fifth-order partial is +.13. The percentage distribution in Table 17 indicates that 44% of the lightly exposed children chose the skin cream alternative, compared to 57% of those more heavily exposed.

Personal concern. Heavier viewers are more worried about body odor and acne problems featured in hygiene ads; the raw correlation is +.20, the fourth-order partial is +.17, and the fifth-order partial is +.14. Table 17 shows that 19% of the lightly exposed group us. 29% of the heavily exposed group worry "very much" about offending others with body odor, and there is a slightly larger difference on concern about skin blemishes. The only important conditional interaction in Table 18 is the stronger relationship for males (+.19) than females (+.09).

Personal usage. There is a definite positive relationship between viewing hygiene ads and frequency of using the products; the final partial correlation is a moderate +.23. In Table 17, it can be seen that heavy viewers are more than twice as likely as light viewers to say they use mouthwash and skin cream "a lot." The relationship is replicated across all subgroups (Table 18).

Discussion. In general, there are substantial positive relationships between exposure to hygiene advertising and the various hygiene orientation variables. The main execption is for knowledge: greater amounts of exposure to advertising does not seem to yield much greater knowledge about hygiene matters. Those children with lesser exposure are fairly knowledgable about attributes of deoderants, mouthwashes, and toothpastes; they can even identify an average of three brand names of deoderant.

On all other variables, there are mild or pronounced differences between children who are heavy vs. light consumers of hygiene advertising. Those who see the most ads for deoderants, mouthwashes and skin creams are more likely to perceive extensive usage of such products, to believe that

it is important for people to use the products, to display personal concern about their own hygiene problems, and to actually use the products themselves.

Each of these relationships appears to be functional; the correlation coefficients decrease only minimally when standard demographic factors plus interpersonal communication are controlled. Thus, the major question involves the direction of causality between the predictor and criterion variables in each case. It is plausible that children who have positive orientations toward hygiene products may seek out these commercials for various functional reasons. For instance, those who have an existing concern about offending others with body odor may pay close attention to deodorant ads that they subsequently encounter, instead of the deodorant commercials creating the concern. It can also be argued that children seldom have clear perceptions, beliefs, and behavior patterns regarding hygiene products before they start watching hygiene commercials, especially since interpersonal communication about this topic is very limited. Thus, the advertising can be viewed as the predominant causal influence in the relationship. In either interpretation, the inference really involves the type of effect rather than the existance of effect. The former explanation accords advertising a secondary reinforcing role in altering orientations in response to the needs of the receiver; the alternative explanation accords advertising a more active role in directly creating and changing orientations as an independent influence. Probably both processes are operating in this situation, but the nature of the audience suggests that the direct effects interpretation is most valid.

The conditions under which this effect operates are not specific to any subgroup of children. The mild-to-moderate relationship between the exposure index and the various criterion indices are quite similar for boys and girls, older and younger children, higher and lower status youngsters, and those who talk and don't talk with others about hygiene. The most significant exception to this conclusion is for hygiene knowledge: higher class children appear to be modestly influenced while lower status children are not, and nontalkers are also modestly affected while those to discuss hygiene topics are not. The lack of differences is unexpected, since it might be anticipated that girls would be more receptive to advertising effects because of their presumed earlier interest in hygiene matters, that older children would find the information more relevant to their situation, and that nontalkers would have a greater need for inputs and would be more affected in the absence of other influences. Perhaps such rationales are self-contradictory, and thus the lack of differential effects. For example, the nontalkers might be considered more susceptible because of the lack of interpersonal inputs; however, it is also possible that they don't care about the subject and therefore ignore the content of advertising messages. Similarly, some boys and younger children might be affected because of their absence of predispositions while others are unaffected due to lack of perceived relevance; it is possible that some girls and older students have more clearly formed orientations that are resistant to change, but others find the information of interest.

The overall pattern of findings suggests that adolescent- and adult-oriented advertisements for hygiene products have a distinct influence on all types of pre-adolescent television viewers. While the impact on knowledge is slight, it appears that advertising has substantial consequences for children's perceptions of hygiene usage, beliefs about the import of using hygiene products, worries about hygiene problems, and personal use of the products.

IMPACT OF MESSAGE REPETITION

To assess the effects of the mere number of exposures on liking for the message and the product, one recent commercial was selected for closer analysis. The advertisment featured a new product, the Snoopy Pencil Sharpener; this battery-operated device was shaped as a dog-house with the cartoon character Snoopy sitting on top. The commercial had been aired for only a few months at the time of the study, providing an opportunity for some children to be extensively exposed while others might not have seen the advertisment at all. The questionnaire portrayed two still pictures from the ad, accompanied by this verbal description: "There is a new commercial showing a boy using the Snoopy pencil sharpener. To make it work, he puts a pencil into a dog-house that Snoopy is sitting on." The exposure frequency question asked: "How many times have you seen this commercial on TV?" Eight numbers were offered as alternatives, ranging from 0 to 60. The majority of the children said that they had seen the commercial 10 or more times, while one-fourth said they had not seen the ad. These are the percentages of respondents in each of the eight exposure categories: 0 (24%), 1 (6%), 5 (17%), 10 (18%), 20 (14%), 30 (8%), 40 (4%), 50 (2%), and 60 (7%). The analysis focuses on the relationship between exposure frequency and two criterion variables: liking for the pencil sharpener commercial, and ownership or desire for the pencil sharpener.

Liking for message. There is a +.23 correlation between the number of exposures and liking for the Snoopy advertisment. The partial correlation controlling for grade, sex, status and scholarship drops to +.17. Table 19 shows the relationship in percentage terms. In general, the children did not like the message, with only 7% saying that they liked it "very much." There is a clear linear trend for liking to increase with frequency of exposure, with 15% of the most heavily exposed respondents indicating strong liking.

Since children might not have been able to provide an accurate report on the number of times they watched the advertisment, a back-up measure of exposure was employed: total Saturday morning viewing. This correlates +.32 with liking for the ad, with a fourth-order partial correlation of +.24.

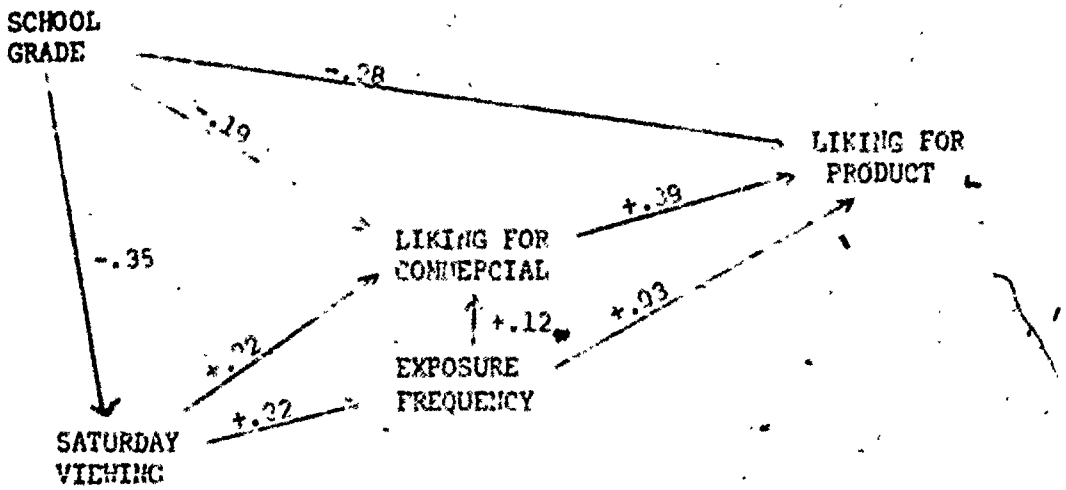
Conditional correlations were calculated between frequency and liking within grade and status subgroups. These findings show a slightly stronger relationship for older (partial r=+.23) than for younger children (+.17), and a modestly stronger association for lower status (+.27) than for higher status children (+.14).

Liking for product. Frequency of exposure correlates +.19 with desire for the Snoopy pencil sharpener, but the partial correlation fades to +.10. Since only 2% of the sample actually owned the product, they were grouped with the 17% who affirmatively expressed desire to get one; a similar proportion said they "maybe" wanted the pencil sharpener. Combining these two favorable categories, the proportion liking the product increases steadily with the number of exposures: 25% for the unexposed, 35% for those exposed from one to five times, 41% for respondents seeing ten presentations, 43% for those viewing twenty to thirty times, and 51% for children who saw forty or more repetitions (Table 19).

The conditional correlations show that the relationship exists only for lower status children with a partial correlation of +.25; the partial in the higher status subgroup is -.03. The association is slightly stronger for older (+.17) than younger students (+.10).

Liking for the product is much more strongly correlated with liking for the advertisment than with mere frequency of exposure. The raw correlation is +.48 and the fourth-order partial is +.41. Among the minority who like the ad "very much", 72% owned or definitely wanted the pencil sharpener. This compared with 28% for children who liked the ad "fairly much." Among those who liked it "not so much," only 9% definitely wanted the product. The strength of association does not differ from the younger to older grade levels, nor is there a differential relationship according to social status.

Multivariate relationships. One important question concerns the path of influence of the television advertising variables on product liking. The path analytic model compares the direct link from exposure frequency vs. the indirect linkage via liking for the ad. The only demographic factor of importance for this particular product and ad is grade in school, since younger children are more likely to watch television, like the ad, and desire the product. The analysis indicates that exposure frequency has almost no direct influence on product liking; any impact is mediated by the children's affective response to the commercial. The beta weight between number of exposures and liking for the commercial is +.12, and the subsequent link from advertisment liking to product liking is +.39, indicating a modest indirect impact of repetition.



The most important finding is the role of liking for the commercial, as this factor is far more influential than the frequency of viewing the ad. Thus, it is important to trace the various factors influencing this variable. Liking is primarily determined by amount of Saturday television and school grade, both directly and indirectly. The more TV that children view, the more likely they are to like the ad; the direct relationship is moderately strong and an indirect flow also occurs through frequency of exposure to the ad itself. Younger children tend to express liking, and age also leads to more positive affect via viewing. The substantial contribution of grade to product liking is probably an artifact of the nature of the pencil sharpener device, which is designed to appeal to younger children. All three predictor variables combine for a multiple correlation of .56 with product liking, accounting for 31% of the variance.

Discussion. A recent commercial for a new product was studied to explore the impact of message repetition on affect toward the message and the object promoted in the message. There is a modest positive relationship between the number of times children are exposed to the commercial and their liking for the ad when control variables are considered. However, the direction of causation between these two variables is ambiguous, since those who like the ad may be more likely to watch it when it appears during television programming. Since sheer amount of Saturday TV viewing is more closely related to liking, the exposure frequency measure may not be very valid. As a index of opportunity to see the commercial, amount of TV viewing is a more clear independent variable in the relationship with liking; children who like the ad are not going to sit in front of the television just to see the commercial. Between these two measures, there is some evidence that exposure to a message does produce greater affect toward the message.

Frequency of exposure seems to have very little direct impact on liking for the product advertised in the message. The influence on this factor occurs primarily via liking for the ad. Liking for the ad is the strongest predictor, with a beta weight of +.39. Thus, the effectiveness of the message in producing desire for the product is largely dependent on a positive evaluative response to the ad; subsequent research should seek to identify the key determinants of liking for the ad.

EFFECTS OF ADVERTISING ON MATERIALISM

Many social and economic observers have suggested that television commercials create a generalized desire to acquire material goods and produce materialistic values, particularly among children and adolescents. This section of the study seeks to ascertain the extent of relationship between exposure and materialistic orientations. Since most forms of advertising should contribute to materialism, the basic predictor variable is total viewing of both Saturday morning and prime time programming. Assuming that children are exposed to general advertising in proportion to overall television viewing, the General Television Exposure Index should be appropriate for assessing the amount of commercial messages reaching the children. A more specific predictor variable is directly tied to attending advertisements:

the Toy Advertising Exposure Index is the product of attention to three typical toy commercials times the amount of Saturday program viewing. This facet of advertising is examined because toys, games and dolls are probably the most relevant material objects available to pre-adolescents. The criterion variable is a six-item index assessing preferences for toys, money, clothes, and cars.

General exposure effects. Table 20 presents the correlational data for television viewing and materialism. The index of preference for material goods is correlated +.24 with the General Television Exposure Index. Since grade in school correlates negatively with both the predictor and criterion variables, the partial correlation is reduced somewhat to +.18 when the four demographic controls are applied. The grade variable is also controlled in the cross-tabulations for each materialism item in Table 21. There is a consistent tendency for heavier TV viewers to choose the more materialistic alternative, compared to the lighter viewers: 12% vs. 5% affirm that "kids who have the most toys are the most happy kids", 18% vs. 10% agree that "the most important thing is to have lots of money"; 47% vs. 37% "buy things so you can show off to your friends"; 11% vs. 8% "would rather play with a toy from the store than go play at the playground"; 40% vs. 26% think it is "very important" to have nice clothes to wear at school"; and 29% vs. 25% want to own a luxury car when older.

The conditional partial correlations in Table 22 show a stronger relationship for females (r=+.23) than males (r=+.13), and for lower status children (r=+.24) than high higher status children (r=+.14). There is little difference in the strength of association for the older vs. younger subgroups.

Toy advertising effects. The specific index of exposure to toy ads correlates +.22 with the materialism index, but this drops substantially to a partial correlation of +.13 because both grade and sex contribute to a spurious relationship (younger children and males tend to pay more attention to toy ads and hold more materialistic orientations). The conditional partial correlations again indicate a stronger relationship for lower status children (r=+.15) than higher status children (r=+.07). Toy advertising exposure is more closely related to materialism in the younger subgroup (r=+.18) than among older children (r=+.10). Sex is not an important interacting variable. One other variable was examined as an intervening condition which might facilitate impact of ads: liking for toy commercials. When respondents are dichotomized into those who liked and disliked the two toy ads that were rated in the questionnaire, there is no interaction. The partial correlation between exposure and materialism is +.11 for the children who expressed liking, and +.09 for the subgroup scoring lower on liking.

Discussion. Moderate correlations are found between materialistic orientations and both general TV viewing and specific toy advertising exposure. When the standard control variables are considered, part of the relationship is shown to be spurious and the correlations drop to a milder strength. Nevertheless, a consistent and discernable association remains between viewing and the materialism measures. In the case of general TV exposure, the plausible inference is that the causal influence flows from viewing to materialism, since it is very unlikely that previously materialistic children are motivated to watch TV just to see ads for material goods. The direction of causation is less

clear for the toy exposure predictor, since those with materialistic inclinations might pay greater attention when toy commercials are shown on Saturday morning.

This set of findings provides evidence that TV advertising contributes to materialistic orientations of children. The effect seems to be greater for children from lower status backgrounds; perhaps these poorer children become more conscious of material objects via television due to their relatively deprived opportunity for possessing certain products. General commercials appear to affect girls the most, while toy ads have a greater impact on younger children. Among the different measures of materialism, the greatest effect occurs for ratings of the importance of money and the display of material acquisitions (such as clothing) to peers.

It should be noted that the television viewing index does not measure actual advertising exposure, but rather the opportunity for seeing general advertising during the course of TV watching programming. More precise measurement of exposure to ads for conspiciously consumed products might yield stronger correlations with preferences for material goods.

EFFECTS OF MEDICINE ADVERTISING

In addition to the core questionnaire administered to all children in the sample, each instrument contained a supplementary set of items pertaining to either medicine or nutrition. The Form A supplement which dealt with medicine was completed by a subsample of 256 fifth, sixth and seventh grade students. This version featured five pages of questions designed to assess the impact of commercials for headache, stomach ache, and sleeplessness remedies. Pictures and descriptions of four typical medicine commercials were employed to elicit attention ratings; one ad dealt with headache pills, two pertained to stomach ache remedies, and one concerned sleeping pills. Frequency of exposure is tapped by measures of viewing during the prime-time evening hours and national news programs, when this type of advertising is most prominently presented. A Medicine Advertising Exposure Index was constructed by multiplying amount of viewing by the degree of attention to the specific messages displayed in the questionnaire. The medicine phase of the investigation seeks to determine how advertising exposure affects such orientations as perceived frequency of people having headaches, stomach aches, and sleeping difficulties and using medicine to relieve these problems, belief in the efficacy and speed of the remedies, personal concern about these illnesses, personal usage of the products, and approval of the medicines. Indirect effects on attitudes toward illicit drugs is also explored with questions about amphetamines, barbituates, and marijuana.

Two sets of partial correlations are presented for the relationships in this portion of the investigation. The first set controls for grade, sex, status and scholarship, yielding the fourth-order partials used throughout this report. Initial analyses indicated that exposure to medicine commercials is mildly related to both the children's frequency of illness and their parents' approval of medicine usage (Table 23). Since these two factors are also moderately correlated with many of the criterion variables and are likely to be antecedent conditions rather than consequences of attending medicine ads, they are controlled in specially computed sixth-order partial correlations. The simultaneous control of all six potentially contaminating variables provides the most conservative test of functionality in the set of medicine relationships. Due to the large number of variables, conditional correlations are calculated only for the primary criterion variable indices.

Perceptions of reality. Several items dealt with the perceived frequency of illness in our society and the perceived frequency of medicine use to relieve these problems. Table 23 shows that those children more heavily exposed to medicine advertising tend to perceive that people are often sick (r=+.19) and often use medicine (+ 16). Since sleeping problems are qualitatively different from headaches and stomach aches, this topic is analyzed separately; the correlation with advertising exposure is +.07. Controlling for all six partialling variables, these associations drop somewhat: the partial for perceived illness is +.14, for perceived sleeping problems is +.02, and for perceived medicine usage is + 14.

The raw relationships are presented in percentage form in Table 24. Comparing heavy and light viewers of medicine advertising, 23% vs. 15% perceive "a lot" of stomach aches, 40% vs. 27% perceive "a lot" of colds, and 23% vs.

21% perceive "a lot" of sleeping troubles in society. Perceptions of what people usually do for illness also varies according to amount of exposure. 73% of the heavy viewers cite medicine in response to the open-ended question, compared to 62% of those lightly exposed. Light viewers are more likely to perceive that people rest or do nothing.

From Table 25, it can be seen that these perception relationships are stronger for higher status than lower status children, and for children who are seldom ill than those who are often sick. Boys have a much stronger illness perception correlation than girls, but girls have a slightly stronger medicine perception correlation. Different conditional correlations are also found depending on parental attitude toward medicine usage: those who report that their parents often want them to take medicine have a stronger exposure-illness perception association than those whose parents don't encourage medicine usage, while the opposite pattern occurs for medicine use perceptions.

Belief in general effectiveness of medicine. A series of items measured the children's beliefs regarding the efficacy and speed of medicine in relieving illness and other problems. There is a +.14 correlation between advertising exposure and efficacy beliefs for stomach ache and cold medicines, but this drops to just +.05 when all control variables are partialled out of the relationship (Table 23). In Table 24, it can be seen that the main difference is on the item asking how much it helps to take medicine for a cold: 23% of the heavy viewers say "very much," compared to 13% of the light viewers; there is only a 14% vs. 13% difference in believing that medicine helps a stomach ache. The association exists primarily for older children and for girls (Table 25).

The correlation between exposure and belief in the efficacy of sleeping pills is negligible when control variables are considered. The percentage data actually show that light viewers more often think that sleeping pills are of "very much" help, by a 22% to 18% margin.

To assess whether medicine efficacy beliefs carry over to the relief of emotional depression rather than physical illness, one item asked "when people feel sad, how much does it help them feel better if they take some pill or medicine?" The raw correlation with advertising exposure is +.05, which disappears with partialling. In Table 24, it can be seen that heavy and light viewers are equally unlikely to select the "very much" category, but heavy viewers do select "pretty much" more often than light viewers.

Regarding the quickness of relief from medicine, there is a modest positive relationship (r=+.14, partial r=+.10). The estimated length of time for medicine to work is lower for heavy viewers: for stomach ache relief, 34% of the heavy viewers vs. 17% of the light viewers say that medicine will help within "a few minutes", and there is a 19% vs. 13% difference for fast cold relief. The correlation is much stronger for higher status children and those with higher scholastic performance.

The possible carry-over effect on expectations regarding the quickness of general problem solving is examined with an item asking, "when people have a problem that bothers them, how long does it usually take for them to solve it?" The correlation with medicine advertising exposure is +.04, with a sixth-order partial of +.02. A slight difference appears on the cross-tabulation, where 35% of the heavy viewers estimate from "a few minutes" to "one hour", compared to 29% of the light viewers.

Concern. A pair of items asked how often the child worried about getting a stomach ache and catching a cold. This index correlates +.22 with medicine advertising exposure, and the sixth-order partial correlation is +.14; this partial controls for the frequency that the child actually does become ill. Data in Table 24 show that the relationship is stronger for stomach aches: 47% of the heavily exposed children worry about this illness while only 29% of the lightly exposed respondents express concern. There is a 57% vs. 48% difference on worrying about colds.

The partial correlation between exposure and concern is substantially greater for children who are in generally good health and for children whose parents encourage medicine usage.

Medicine usage. Children viewing the most medicine advertising are somewhat more likely to use medicine for stomach aches and colds (r=+.17), but this relationship is almost negated when frequency of illness is controlled (partial r=+.03). The cross-tab for stomach aches shows 30% of the heavy viewers "always" or "usually" take medicine and 51% "sometimes" take it; this compares to 27% and 39% for the light viewers in these categories. For colds, 52% of the heavy viewers vs. 40% of the light viewers take medicine "always" or "usually."

The relationship exists mainly among older children, boys, higher scholastic performers, and those whose parents seldom want them to use medicine; however, the partial correlations in these subgroups are not sizable.

Medicine efficacy. A pair of items asked children to describe the extent to which they feel better after taking medicine for a stomach ache and a cold. This personal efficacy index correlates +.22 with medicine advertising exposure; the conventional fourth-order partial remains at +.21. More stringent controls for frequency of illness and parental attitude reduce the sixth-order partial correlation to +.12.

In terms of percentage differences, heavy viewers (47%) are much more likely than light viewers (29%) to say that they "always" or "usually" feel better after taking medicine for a stomach ache. A less strong relationship occurs for cold relief: 52% of those heavily exposed fall into the "always" or "usually" categories, compared to 43% of children who are lightly exposed.

Conditional correlations indicate that substantially stronger associations occur for higher rather than lower status children, brighter rather than duller children, and for those whose parents disapprove rather than approve of medicine usage.

Approval of medicine. A series of questions dealt with attitudinal responses to over-the-counter medicine, especially aspirin. An open-ended question asked "what do you think is the best thing" for people to do when they have a stomach ache or a cold. Medicine-oriented responses are correlated +.15 with exposure, with a sixth-order partial of +.12. Among heavy viewers, 47% mentioned medicine and 33% said people should rest, see a doctor, or do nothing (many left the question blank). On the other hand, light viewers tend to advise non-medicine responses: 33% mentioned medicine while 48% suggested resting, seeing a doctor,

or doing nothing. The tendency for advertising viewers to give medicine-related answers occurs only for older children, those of high social status, and the more scholastically proficient students; in addition, the correlation is somewhat greater for girls, those who are often sick, and those whose parents disapprove of medicine usage.

Specific approval of aspirin is slightly correlated with seeing medicine ads; the raw and partial correlations are both +.08. Among heavy viewers, 63% think that aspirin is a "good thing"; 59% of the light viewers give this rating. Those achieving well in school and those whose parents don't approve of medicine usage show the strongest correlation.

To test whether advertising overly encourages reliance on aspirin, other questions asked the children to write the number of aspirin that they should take and to indicate whether it is acceptable for them to take aspirin if not really ill. The proper number of aspirin is correlated +.07 with exposure (partial r=+.06), while approval of aspirin usage for non-sickness is unrelated to advertising viewing. The percentage findings show that the light and heavy viewers don't differ in approval of taking three or more aspirin, but 16% more heavy viewers proposed two aspirin as the proper dosage.

Approval of sleeping pills is correlated +.07 with exposure, but the application of control variables reduces this to a null relationship. In fact, the dichotomous comparison of heavy and light viewers shows that 3% of the former group and 11% of the latter feel that sleeping pills are a "good thing."

Approval of illicit drugs. One of the most controversial possible consequences of medicine advertising is the creation of favorable attitudes toward illegal drugs. These orientations were measured by asking whether each of four drugs is a "good thing or bad thing for people to use," or "in between." An index of "uppers," "downers," "dope," and "grass or pot" is slightly negatively related to advertising exposure: the raw correlation in Table 23 is +.05 and the sixth-order partial correlation is -.04. The sub-index of pill approval (uppers and downers) is essentially unrelated to medicine advertising exposure (r=+.02, partial r=+.01), while the smoking drugs sub-index (dope, grass/pot) is somewhat negatively related (r=-.11, partial r=-.08). The cross-tabulations are slightly divergent from the linear correlational findings for uppers and downers: although no difference appears in respondents' feeling that these are a "good thing" (few students chose this category, regardless of advertising exposure), the heavy viewers are more likely to give the neutral response. Outright disapproval of uppers is less often found for heavy viewers (77%) than light viewers (83%), and a similar difference (86% vs. 80%) is obtained for downers. The negative association for the smoking drugs is reflected in the percentage data: while feelings that dope is a "bad thing" are only marginally stronger for the heavy viewers (89%) than for the light viewers (87%), a substantial 85% vs. 75% difference is found for grass/pot. In particular, light viewers are more likely to have a neutral evaluation of marijuana.

The conditional correlations for the four-item illicit drug index indicate only minor differences from one subgroup to the next. The only positive association (+.02) occurs for younger children; those who have parents that disapprove of medicine are most likely to have a negative relationship (-.13).

Discussion. The medicine portion of the investigation yields a large and diversified set of findings. In general, it appears that televised advertising of medical products moderately shapes children's views of the amount of societal sickness and reliance on medicine. These advertisements also appear to increase children's concerns about getting sick. Approval of advertised medicine is less strongly related to exposure, as are beliefs that medicine works fast and effectively. Specific effects on orientations toward sleeping pills seem to be very limited, and there is no evidence that advertising contributes to positive attitudes toward illicit drugs; indeed, approval of cannabis-related substances is inversely related to medicine exposure.

The inference of causality in the stronger relationships must be drawn somewhat tentatively. There is probably some advertising influence on children's perceptions of reality: modest + .14 correlations between exposure and both perceived frequency of illness and perceived amount of medicine usage remain when six major control variables are taken into account, and it is implausible that such perceptions motivate children to attend medicine ads. Thus, it appears that exposure is the causal variable in the relationship, such that heavy viewing of pain reliever commercials leads to the perception that people are often sick and that people often use medicine to obtain relief. Since most medicine commercials portray ill individuals taking medicine, it is understandable that these models might define the perceptions of child viewers who have restricted reference points for estimating the extent of sickness and medicine use in society.

There is also some support for the conclusion that medicine advertising exposure causes children to feel that medicine is effective in relieving their stomach aches and colds. The +.22 correlation drops only to +.21 when the four demographic control variables are considered; however, it is also advisable to partial on parental approval of medicine-taking, since this factor is closely related to the children's judgments of personal satisfaction from medicine use. The most conservative partial, including parental attitude and personal frequency of sickness along with the demographics, reduces the correlation to +.12. Although this is quite modest, it probably does reflect a predominantly unidirectional flow of causality from exposure to efficacy judgments. It is unlikely to expect that personal effectiveness ratings exert much influence on viewing behavior, while it is quite conceivable that heavy viewing of successful medicine use in commercials might lead children to interpret that medicine is providing them with relief.

The sizable raw association between advertising exposure and personal concern about becoming sick is more difficult to interpret. Certainly the strength of the relationship drops substantially when the children's actual frequency of illness is controlled, since this factor probably contributes to worries about becoming ill. Nevertheless, the partial correlation is modestly positive at +.14, indicating that the two variables are not spuriously related. The primary problem involves the direction of causality: does habitual worrying lead the child to pay more attention when medicine commercials appear on TV, or does viewing produce these concerns? A cautious inference might be that both causal processes are operating, yielding the conclusion that there is some limited evidence of advertising effects on personal concern about illness. To some extent, then, the frequent watching of sick people in commercials seems to heighten children's worries about their own health.

Medicine ads seem to have restricted impact on various beliefs and attitudes toward medicine, despite some mild raw associations. When the full set of control variables are applied, only one of the belief correlations is even +.10: the correlation between exposure and belief that medicine provides people with speedy relief. Since speed is a frequently emphasized theme in headache and stomach ache commercials, the development of such a belief is understandable. The impact on beliefs that medicine is effective for users appears to be negligible, since the partial correlation is only +.05. Weak partial correlations with beliefs of medicine efficacy for relieving depression and with expectations regarding the speediness of general problem-solving indicate very little potential carry-over effects of medicine advertising to these related topics. There is almost no evidence that such learning is a by-product of exposure to stomach ache and headache ads that promise quick solutions and promote the general benefits of pill-taking.

Similarly, just one attitudinal correlation is even modestly strong: the feeling that medicine-taking is the best thing for a stomach ache or cold has a partial correlation of +.12 with advertising exposure. There is a distinct tendency for those who watch many ads to say that people should use medicine when sick, while the light viewers are more likely to suggest resting, seeing a doctor, or doing nothing. Again, this relationship probably results from a reciprocal causation, as those with positive attitudes watch ads and in turn ads produce positive attitudes. There are slight relationships between exposure and approval of aspirin (+.08) and suggested aspirin dosage (+.06), while exposure is unrelated to approval of aspirin usage for non-sickness. Thus, advertising appears to have very limited impact on these orientations toward aspirin.

Effects of medicine advertising on actual personal usage of medicine seems to be negligible. Although there is a clear tendency for heavier viewers to use more medicine, this is primarily accounted for by the fact that they are more often ill. The most stringent partial correlation is only +.03; given that a child is frequently sick, heavy advertising exposure doesn't produce greater medicine usage.

Advertising effects on orientations toward sleeping pills are also very restricted. There is almost no relationship between exposure to medicine ads and perceptions that sleeping problems are prevalent in our society, despite the repeated commercial portrayal of individuals having trouble falling asleep. There are negligible correlations with belief in the efficacy of sleeping pills and with approval of sleeping pills, when the control variables are taken into account. Perhaps pre-adolescent children do not find advertisements for sleeplessness remedies very relevant to their own life, since they may not have experienced or observed such problems.

Arguments that advertising of medical products will create a generalized favorable attitude toward illicit drugs are given no empirical support in this study. Indeed, approval of cannibis-related substances (dope, pot, grass) is inversely related to medicine exposure with a partial correlation of -.08. In particular, children who frequently attend medicine ads are slightly more likely to disapprove of marijuana. On the other hand, there is a almost no correlation between exposure and approval of pills (uppers and downers), although there is

marginal evidence that outright disapproval of these drugs is less strong for heavy viewers. It is tempting to observe that illicit pills are more similar to advertised medicines than are illegal smoking substances, thus accounting for the difference in the strength of relationship. However, it is difficult to explain the negative relationship for marijuana: why do heavier medicine advertising viewers have a tendency to disapprove? Although the rate of disapproval is only slightly greater for those more exposed, the finding is interesting and deserves further investigation. The overall lack of impact of medicine ads may be explained by the fact that there are so many other interpersonal influences operating on attitudes toward drugs; in competition with messages from parents, peers, and teachers, the possible indirect impact of ads for aspirin or sleeping pills is bound to be restricted. For instance, there is a stronger inverse correlation for children whose parents disapprove of medicine usage than for those who have parents that support medicine-taking. In addition, it is likely that children who see the most medicine ads on TV also view a greater number of public service announcements that seek to discourage drug use; these anti-drug messages may serve to counter the influence of conventional medicine ads.

The analysis of differential associations between exposure and the various criterion variables does not provide any clear and consistent pattern, except for status and scholastic performance. The relationships are mixed across age groups, with stronger correlations for older children on some variables (general medicine efficacy and approval of medicine) and more positive correlations for younger children on other variables (personal medicine efficacy and approval of illicit drugs). Boys have higher correlations on perceived frequency of illness and belief in the speed of relief from medicine, while girls show stronger correlations for general efficacy and approval of medicine. Smarter children appear to be more affected than those who don't do well in school, especially on perceived frequency of illness, personal medicine efficacy, belief in the speed of relief, and approval of medicine and of aspirin. Higher status children generally seem to be more influenced than lower status children, with larger associations on perceived frequency of illness, perceived frequency of medicine usage, personal efficacy, belief in speed of relief, concern about illness, and approval of medicine.

The non-demographic variables were also studied as conditional factors that might specify the relationship. The child's general frequency of illness shows mixed relationships; the students who are usually sick have some higher correlations (approval of medicine and approval of aspirin) while those who tend to be well have higher correlations on other variables (perceived frequency of illness, belief in speed of relief, and concern about illness). The parental attitude toward medicine usage also shows an inconsistent pattern: children whose parents generally encourage medicine use have higher correlations in several cases (perceived frequency of illness, concern about illness, and approval of illicit drugs), while some stronger relationships are found for those with parents more stringent in allowing medicine usage (perceived frequency of medicine use, personal efficacy, personal usage of medicine, approval of medicine, and approval of aspirin). Such a combination of contrasting interactions prevents simple generalizations about the conditions most likely to facilitate or inhibit advertising effects.

Food and Nutrition Subsample of Respondents

The alternative Form B of the questionnaire contained six pages of items dealing with beliefs, attitudes and behaviors regarding nutrition and eating of cereals, candies, and general foods. A total of 506 children in the fourth through seventh grades completed this version of the questionnaire; others received the medicine and drug version.

EFFECTS OF CEREAL ADVERTISING

This portion of the research assesses the impact of breakfast cereal commercials on children's cereal consumption, requests for cereal purchases, reactions to denials, approval of sugar and incidence of cavities. Attention to cereal ads is measured by an item asking: "There are lots of commercials for breakfast cereals. When these commercials come on TV on Saturday mornings, how much do you watch them?" Only 10% said they "never" watch cereal ads, while 53% watch "sometimes," 26% "usually" watch, and 11% "always" watch. Frequency of viewing ads is assessed by the amount of Saturday morning program exposure, since these programs carry most of the cereal advertising. The attention and frequency variables were multiplied together to produce a Cereal Advertising Exposure Index.

Cereal consumption. Children were asked to report how much they ate 13 different kinds of breakfast cereals which varied in the extent to which they were advertised on Saturday morning. The eight cereals advertised most heavily were summed together into a consumption index (Alpha Bits, Boo Berry, Sugar Smacks, Cheerios, Pebbles, Captain Crunch, Rice Krispies, and Raisin Bran); the others (Wheaties, Quangerpos, Corn Flakes, Kix, and Cocoa Puffs) are comparable but promoted less heavily on television, and they were combined into a control index for purposes of analysis. In the event that some condition might produce a spurious association between advertising exposure and general cereal eating, the advertised cereal consumption provides a control variable for examining the relationship between heavily advertised cereal consumption and exposure.

Table 26 shows that cereal advertising exposure correlates +.41 with consumption of the eight heavily advertised brands; when grade, sex, status and school performance are controlled, the fourth-order partial correlation remains a strong +.37. However, the association between exposure and consumption of lightly advertised cereals is a substantial +.27; eating of these cereals is correlated +.58 with eating of the heavily advertised brands. When this index is added as a control variable, the fifth-order partial between exposure to and consumption of advertised cereals is +.29.

Comparing the heavy and light viewers in Table 27, consistently moderate differences appear for those cereals that are promoted more frequently on Saturday mornings. For instance, 15% of the heavily exposed children vs. 8% of the lightly exposed children say that they eat Alpha Bits "a lot;" there are large differences for these advertised brands: 8% vs. 23% for Pebbles, 20% vs. 42% for Captain Crunch, and 26% vs. 46% for Rice Krispies. All differences have been adjusted to control for grade in school.

The conditional correlation analyses in Table 28 indicate that children with no parental snack rules are far more affected than those with restric-

tions: the partial correlation between eating and exposure is a very strong +.49 in the condition where no rules exist. The other differences are minor, although boys (+.41) show a stronger relationship than girls (+.33).

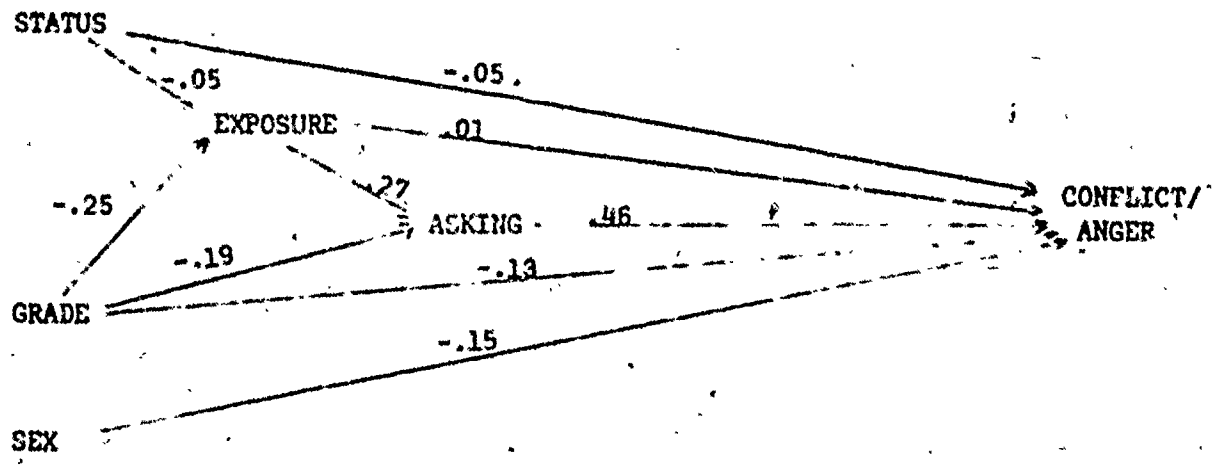
Cereal requests. There is a moderate +.32 relationship between cereal advertising exposure and the frequency of requesting cereal purchases (Table 26). The fourth-order partial correlation is +.27. In percentage terms, a clear difference appears: 12% of the light viewers vs. 27% of the heavy viewers of cereal ads ask their mothers to buy cereals "a lot" (Table 27). The relationship is stronger for children without snack rules (+.36) than those with parental restrictions (+.20), and there is a slightly stronger relationship for males than females (Table 28).

Conflict and anger. The two item index combining incidents of parent-child conflict and child anger after cereal request denials is correlated +.20 with exposure to cereal commercials; the partial correlation drops somewhat to +.13 (Table 26). The partial cross-tabs show that 20% of the heavy viewers argue "a lot" and 35% argue "sometimes" over denials, while the corresponding proportions for light viewers are 14% and 32%. Similarly, 24% of those heavily exposed vs. 15% of the lightly exposed children say that they get mad at their mother "a lot" of the time after a rejected request. Impact on conflict and anger occurs primarily among boys (+.23) with little effect on girls (+.03). There are slight tendencies for stronger effects on older children and those from lower status backgrounds.

Sugar and cavities. There is no relationship between cereal advertising exposure and the belief that "sugar is good for you," as the raw correlation is -.03 and the partial is +.03. A slight +.09 correlation is found for number of tooth cavities, but the partial correlation is only +.04. In Table 27, it can be seen that 68% of the heavily exposed children had one or more cavities in the past year, compared to 63% of the lightly exposed respondents. The mean number of cavities is 2.10 for heavy viewers and 2.05 for light viewers.

The conditional partial correlations show that approval of sugar is positively related with exposure among boys (+.09) and negatively related for girls (-.04); slight positive associations are also found for younger students, lower status children, and those with parental snack rules (Table 28). There is a slightly stronger correlation between exposure and cavities for girls, lower status children, and those from homes with snack rules.

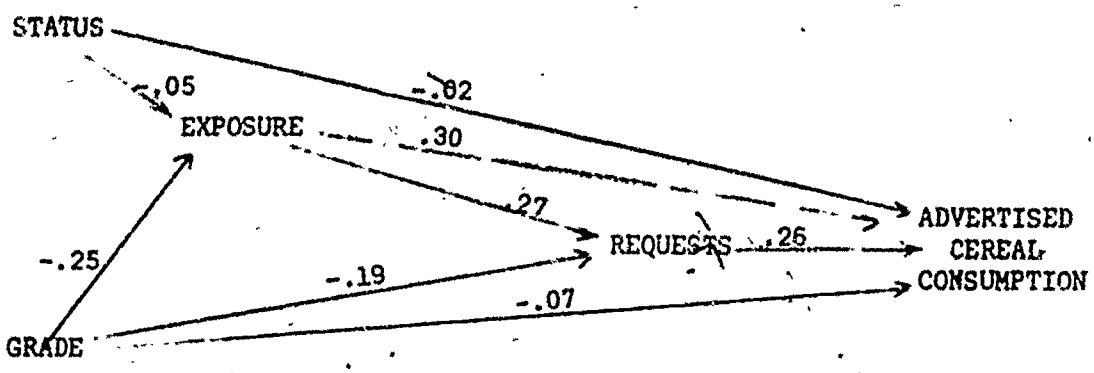
Multivariate relationships. An examiniation of the interrelationships among the key variables provides an indication of the process of advertising influence on cereal consumption and on conflict and anger. It is hypothesized that the impact of advertising exposure on conflict/anger is indirect, mediated by the frequency of request variable. Furthermore, it is predicted that grade, sex, and status will have an impact on conflict/anger, that grade will affect requests, and that grade and status have an effect on exposure. These patterns of influence can be tested using path analysis procedures. The figure below displays the path coefficient estimates for each of the hypothesized influences; these standardized beta weights represent the independent direct contribution of each variable upon the other, assuming recursiveness.



The most important finding is the lack of direct relationship between exposure and conflict/anger in the model. Although the two variables have a positive zero-order correlation, the evidence shows that this influence is mediated by the frequency of requests. Exposure produces more frequent asking for cereals, which produces conflict and anger when such requests are denied. Given that a request has been made and denied, the heavily exposed child is no more likely to respond by arguing with the parent or becoming upset. However, the heavily exposed child more frequently makes requests which then result in conflict and anger.

From this set of findings, it can also be observed that social status does not play an important role. On the other hand, younger children more often watch ads, ask for cereals, and display conflict and anger; boys also display conflict and anger more frequently than girls. Overall, these variables have a multiple correlation of +.53 with the conflict/anger index, accounting for 28% of the variance.

The second model assesses the paths of influence upon consumption of advertised cereals. It is predicted that the impact of cereal advertising exposure flows primarily via requests for cereal, but that there is also more frequent eating among heavy viewers aside from their frequency of requesting. It is also expected that younger children and those from lower status homes will eat more cereal and watch more advertising for cereal as in the previous model. Although it is possible that reciprocal causation may exist between consumption and exposure, a recursive set of paths are assumed in this model. The figure below displays the path coefficient estimates for the hypothesized influences.



The path analysis indicates that cereal advertising exposure is both directly and indirectly linked to cereal eating. Those more exposed tend to ask more often, and those who ask more often tend to eat more cereal. Surprizingly, the direct path from exposure to consumption is fairly strong; asking for cereal is not a necessary condition for advertising impact on eating patterns. In fact, frequency of asking is not a strong predictor of amount of consumption; it seems that actual access to and eating of cereal is not highly dependent on purchase requests to the parents. This may explain why it is not a more important mediating variable in the process.

The two exogenous demographic variables are not significantly related to cereal eating, and only grade in school has a substantial influence on exposure and asking. Indeed, all of the variables together account for just 24% of the variance in consumption. As observed in the previous model, grade does have a substantial impact on exposure and asking, as younger children tend to exhibit these behaviors more often.

Discussion. These results demonstrate that children who watch the most cereal ads on Saturday television more often ask for cereals, eat cereal, and argue or become angry when requests are denied. The most extensive analysis was conducted on cereal consumption behavior, where frequency of eating 13 different kinds of cereal was measured. The strong association between advertising exposure and consumption of advertised brands appears to be functional; the relationship is diminished only slightly when child characteristics are controlled, and remains moderately positive when eating of lightly advertised cereals is also controlled. The main question concerns the direction of causality: does exposure produce eating, or does eating lead to exposure? Since a major portion of the exposure variable involves the amount of time viewing Saturday morning television, it seems that only a part of the relationship could be due to a selective seeking of cereal advertisments by those who heavily consume advertised cereals. The most likely explanation is that the exposure contributes to a greater desire for cereals promoted on television, which is reflected in eating behavior. Evidence of the moderate relationship between exposure and requests is consistent with this interpretation.

The extent of association between exposure to cereal advertising and frequency of requesting mother to purchase cereals is impressive: more than twice as many heavy viewers as light viewers say that they ask "a lot" of the time. Somewhat less substantial associations are found for two negative consequences of cereal requests, parent-child arguments and child unhappiness; nevertheless, the relationship in each case is mildly positive. Since it is unlikely that these criterion variables have much of a reverse causal influence on viewing behavior, there are intuitive grounds for inferring that television advertising stimulates requests, conflict, and anger regarding cereal purchases. Clearly other factors contribute significantly to the latter two variables, since the relationships with advertising exposure are not strong; even so, the importance of advertising can't be ignored.

Two other criterion variables do not seem to be importantly influenced by Saturday commercials. Despite the emphasis on sweetness in many ads for sugared cereal products, those children who are heavily exposed are not more likely to feel that sugar is good for them. There is only marginal evidence that viewing of commercials will have adverse consequences for den-

tal problems, as the relationship with number of cavities is small when statistical controls are considered.

An analysis of the paths of influence suggests that the impact on conflict and anger is primarily mediated by asking behavior; when frequency of requests is controlled, almost no relationship remains between exposure and conflict/anger. Apparently heavy viewers of cereal commercials are no more argumentative or upset in situations where their requests are denied; the influence on this pair of variables can be traced only indirectly through the greater frequency of requests. The path analysis further indicates that exposure has a direct effect on amount of consumption as well as an indirect effect mediated by asking. This might be explained by the tendency for heavy viewers to eat more of the cereal that is available in the home, or mothers' awareness of and response to children's cereal preferences without frequent reception of requests.

Thus, the most plausible conclusions from these findings are that watching cereal commercials causes children to ask for more and more cereals, and that this may produce greater conflict over purchase decisions and unpleasant reactions to denials. Most clearly, the viewing of cereal ads causes youngsters to eat those cereals that are advertised most often on TV. In each case, boys are slightly more influenced than girls by cereal advertising, and those from families with no snack eating rules are much more affected. Age and status differences in response do not occur in this study.

NUTRITION LEARNING FROM TV ADVERTISING

Many Saturday morning cereal commercials now emphasize the importance of eating a nutritious, well balanced breakfast that includes cereal, milk, orange juice, and toast. Typically, the visual portrayal displays a breakfast table with this combination of food items; this if often reinforced by an announcer's statement or by dramatic action. The research questionnaire presented pictures of the balanced breakfast scene from four representative cereal commercials, accompanied by a short verbal description of that aspect of the ad. The measures sought to assess attention to the nutritional portion of the message, with these instructions: "For each picture, tell us how much you watch that part of the commercial, . . . even though the commercials show lots of different things, we want to know whether you watch the part of the commercial shown in the picture." In response to the four questions asking "how much do you watch this part?", an average of 16% say "always," 23% say "usually," 40% say "sometimes," and 21% say "never."

Recently, Kellogg's has presented several public service announcements encouraging children to eat a good breakfast. Photographs picturing four sequences from the most frequently aired nutrition PSA were presented in the questionnaire, along with a description of the message. There is a somewhat lower level of attention to this ad: 9% watch "always," 22% watch "usually," 37% watch "sometimes," and 32% watch "never."

An attention index was composed of the sum of these five items, and this was multiplied by the total amount of Saturday morning viewing to construct a Nutrition Exposure Index. To study the impact of this exposure, measures were taken of the perceived nutritional value of nine specific foods: four that are emphasized as important for a good breakfast in the ads (toast,

orange juice, plain cereal and sweet cereal), three comparable foods that are not often discussed in television advertising (bacon and eggs, donuts, and cream of wheat) and two that are not emphasized in the nutritonal portions of ads but which are nevertheless promoted on Saturday morning television (Poptarts and waffles). It is expected that the nonadvertised food ratings can be used as a control variable to partial out spuriousness that might exist in the relationship between nutrition exposure and beliefs in the value of emphasized foods. Another item asked the children to rate the importance of having a nutritious and balanced breakfast.

Perceived nutritional value of foods. Table 29 displays the correlation coefficients for each food listed in the questionnaire. In each case, the more children are exposed to nutritional information in television ads, the more highly they rate the nutritional value of the products. Among the emphasized foods, the exposure index correlates +.22 with toast, +.14 with sweet cereal, +.13 with plain cereal, and +.11 with orange juice. The index combining these four items is correlated +.26 with the Nutrition Exposure Index; the partial correlation controlling for demographics is +.24. When ratings for the nonadvertised foods are also controlled, the partial drops to +.18.

The percentage differences between the responses of those heavily and lightly exposed to nutritional aspects of advertising appear in Table 30. The largest difference occurs for toast; 48% of those most heavily exposed believe that toast is "very good for you" compared to 30% of the less exposed. The other cross-tabs parallel the correlation coefficients; only a few percentage points separate the two groups on orange juice ratings.

There are only minor differences in the strength of relationship between the various subgroups, as displayed in Table 31. Perceived nutritional value of emphasized foods is correlated slightly higher with viewing for younger students, boys, higher status children, and those without snack rules.

The two foods that are frequently advertised but not specifically emphasized as nutritious are also rated more favorably by heavier viewers. There is a correlation of +.27 for Poptarts and +.16 for waffles, with slightly lower partial correlations (Table 29). Nonadvertised foods are perceived as more nutritious by those scoring high on the Nutrition Exposure Index, although the bacon and eggs meal is correlated only slightly (Table 29).

Importance of good breakfast. One item asked children to rate the importance of starting their day with a "nutritious and balanced breakfast." The Nutrition Exposure Index correlates +.25 with this variable, and the partial is +.24. There is a large difference of 74% vs. 57% between the heavily and lightly exposed children in believing that a good breakfast is "very important" (Table 30). The association is much stronger for girls (r=+.34) than boys (r=+.13).

Discussion. The data indicate a moderate relationship between viewing nutritional information in Saturday commercials and perceptions of the nutritional value of foods emphasized in these messages; the heavily exposed students also tend to believe that a nutritious and balanced breakfast is important. The basic validity of these association remains when various

statistical controls are applied, suggesting a causal connection. Since it is likely that attention to this type of information embedded in commercials requires positive motivation, the possibility of reverse causation can not be ignored. Children who are concerned and knowledgeable about nutrition may be selectively seeking out this content while viewing television. Nevertheless, some of the relationship is probably accounted for by learning from these commercials.

The finding that advertised foods not concentrating on nutritional value are also seen as nutritious may be due to two factors: a generalized carry-over learning effect from the breakfast foods that are emphasized in nutritional terms, and the inference that any frequently advertised food is nutritious. The carry-over effect may also be generalizing to breakfast foods such as donuts that are not promoted on Saturday television.

In conclusion, there is tentative evidence that cereal commercials stressing the elements of a good breakfast has some impact on children's perceptions of the nutritional value of toast, orange juice, and cereal. Furthermore, commercial and public service campaigns to emphasize the importance of eating a nutritious and well balanced breakfast each day appear to influence the views of young viewers in the intended direction.

EFFECTS OF CANDY ADVERTISING

One section of the study explores the impact of candy commercials on children's candy consumption patterns, approval of sugar, and incidence of cavities. These criterion variables are considered as possible consequences of exposure to Saturday candy advertising. Attention is measured by a generalized summary question and two specific viewing items. The general item asked: "There are lots of commercials for candy. When these commercials come on TV on Saturday mornings, how much do you watch them?" Responses indicate that the children are fairly close attenders: 23% said they "always" watch this kind of advertising, with 28% "usually" watching, 40% watching "sometimes," and 9% "never" viewing candy ads. This is supplemented by responses to pictured questions referring to a specific Hershey ad and a Kit Kat ad, using the same rating scale. Since most of these commercials are presented on Saturday mornings, frequency of exposure is gauged by the number of programs viewed during this time period. The attention and frequency variables were multiplied together to create a Candy Exposure Index.

Candy consumption. Children were asked to report how often they ate seven brands of candy bars which varied in amount of Saturday morning promotion. The more frequently advertised candies (Hershey, Kit Kat, and Choc-O-Lite) were combined into one index and the others (Snickers, Butterfinger, Milk Duds, and Baby Ruth) composed an index of lightly advertised candies. This latter index of comparable candies can be employed as a control variable for examining the spuriousness of the relationship between the Candy Advertising Index and consumption of heavily advertised candy bars.

Table 32 presents data showing that exposure is correlated +.29 with eating of the heavily advertised candy brands. Controlling for grade, sex, status, and scholarship, the partial correlation drops to +.25. By specific

brand, the partial correlation is strongest for Hershey Chocolate Bar (r=+.28), followed by Kit Kat (r=+.17) and Choc-O-Lite (r=+.16). The associations for the less advertised candies are equally as strong, those who watch the most candy ads on Saturday morning tend to eat all kinds of candy with greater frequency than light viewers. Furthermore, there is a close interrelationship among the various brands of candy, the correlation between the indices of heavily and lightly advertised candies is +.57. When consumption of these less advertised brands is controlled, the fifth-order partial correlation between exposure and eating of the frequently promoted candies falls sharply to +.11.

The item-by-item cross-tabs are displayed in Table 33. For the three highly advertised products, heavy viewers are moderately more likely to report eating "a lot" than light viewers: the difference is 49% vs. 32% for Hershey, 38% vs. 25% for Kit Kat, and 35% vs. 24% for Choc-O-Lite. These analyses take into account the spurious contribution of grade level to the obtained relationships. The conditional correlations between eating and consumption in Table 34 are of similar strength across the various categories of respondents.

One item sought to determine the quantity of candy bars that the child eats using the technique of asking how many were consumed during the past week. The correlation is a modest +.10, which is not diminished when control variables are applied (Table 32). The mean number of candy bars eaten by heavy viewers is 2.24, while the light viewers report eating an average of 1.96. For example, 19% of the highly exposed said they eat six or more candy bars per week, compared to 14% of the less exposed respondents (Table 33). There is a tendency for children from homes with snack rules to show a stronger correlation (Table 34).

Sugar and cavities. There is basically no relationship between candy advertising exposure and either the belief that "sugar is good for you" or the number of tooth cavities developed in the past year. For approval of sugar, the partial correlation with the Candy Exposure Index is .00, while there is a -.02 partial for number of cavities (Table 32). The average number of cavities among heavy viewers is 2.10, compared to 2.18 cavities among light viewers.

In Table 34, there is a slight tendency for younger children and boys to have a positive correlation between exposure and approval of sugar, only older children have even a slight positive association between exposure and cavities.

Discussion. While there is a moderately strong positive relationship between viewing candy advertising and eating advertised candy bars, much of the association appears to be spurious. When key control variables such as age and consumption of nonadvertised candies are taken into account, the partial correlation is a modest +.11. Since this analysis procedure produces a conservative estimate that should exclude most of the reverse causal influence, the relationship that does remain is probably indicative of advertising effects on candy eating. This conclusion is bolstered by the similar magnitude of correlation between exposure and total amount of candy consumption per week. There is no evidence that viewing of candy

commercials leads to approval of sugar or to incidence of tooth cavities; most children feel that sugar is not good for them and they typically have about 2 cavities per year, regardless of their advertising exposure patterns. There are no major differences in impact between the subgroups of children; younger students and those with no parental restrictions on snacking are not more susceptible to advertising influence.

This inference of limited consumption effects is based largely on data showing that advertising exposure is just as closely related to eating of candies infrequently advertised on TV as those brands that are heavily promoted. This finding may be interpreted as indicating that some unmeasured factor may be jointly producing exposure and consumption or that those who heavily consume candy in general tend to seek out messages about the candies that are advertised on TV; in either explanation, the effect on candy advertising is discounted. An alternative explanation might posit that advertising does have an impact, but that the effect is generalized to candies that are not frequently promoted on TV as well as the heavily advertised brands. If this is the case, then the conclusion would be that TV ads for candy do have a substantial general impact on child viewers. Without further data, the more conservative inference seems most justified at this point.

In sum, the evidence suggests that Saturday morning candy commercials stimulate children to eat somewhat more candy, but that the influence is neither strong nor restricted to candies most heavily publicized on TV. Indirect effects of advertising upon beliefs about sugar or development of cavities do not occur at all.

ADVERTISING EFFECTS ON GENERAL FOOD CONSUMPTION PATTERNS

While the previous sections of the food survey have examined specific advertising effects on cereal and candy orientations, this final section deals with the impact on consumption of more general kinds of food products. In addition, the effect on asking parents to patronize fast food restaurants is also examined. The predictor variable is not tied directly to measures of exposure to particular advertisements, but relies on the assumption that children are exposed to food advertising in proportion to the total amount of time spent watching television. The Total Exposure Index is composed of items measuring the number of prime-time hours viewed and the extent of watching four teenaged-oriented programs, ten Saturday morning programs, and the evening news. Thus, only the opportunity for exposure to advertising is assessed in this study, actual attention to food ads is not included in the index.

Food consumption. The primary criterion variable is the amount of eating of five foods that are frequently advertised on TV: potato chips, soda pop, hamburgers, chocolate drinks, and cookies. A control index of lightly advertised products is constructed from these corresponding foods: pretzels, ice cream, hot dogs, and cake. Table 11 shows a + .31 correlation between the viewing index and the consumption of heavily advertised foods, the partial correlation controlling grade, sex, status, and consumption of [illegible]. The parallel statistics for the lightly advertised foods are essentially [illegible]. Furthermore, eating of less advertised foods has a very strong + .74 correlation with

eating of highly promoted foods. Thus, when this index is used as a control variable it substantially diminishes the partial correlation between exposure and advertised food consumption to +.12.

The raw cross-tabs between TV watching and eating of individual foods are displayed in Table 36. Among the advertised foods, large differences appear between heavy and light viewers in eating "a lot" of potato chips (74% vs. 51%), pop (64% vs. 44%), hamburgers (68% vs. 53%), chocolate drinks (42% vs. 24%) and cookies (62% vs. 45%). The differences are just as large for the less advertised food products.

The conditional partial correlations in Table 37 show that the exposure-consumption relationship is stronger for girls (r=+.33) than boys (+.20) and for those with snack rules (+.31) than those with no snacking restrictions (+.24).

A secondary measure of consumption asked children to describe their typical after-school snack eating patterns. There is a slight tendency for heavier viewers to report consuming advertised products, with raw and partial correlations of +.06. Table 38 shows that 37% of the heavy watchers vs. 34% of the light watchers eat such frequently promoted foods as cookies, potato chips, and pop. The conditional correlation is much larger for those with no snack rules (r=+.12) than for children with restrictions; other differences are marginal (Table 37).

Food requests. A related item probes how often the child asked their parents to take them to fast-food drive-ins such as McDonalds and Burger King. These two restaurant chains have oriented much of their heavy advertising campaigns toward children, both on Saturday mornings and weekday afternoons and early evenings. The index of television exposure is correlated +.17 with the rate of asking parents to patronize fast-food restaurants, and the fourth-order partial is +.15 (Table 36). In percentage terms, 47% of the heavy viewers compared to 24% of the light viewers request to go to these restaurants "a lot."

In Table 37, the conditional partial correlations show stronger associations for younger (r=+.21) than older children (r=+.11), for lower status (r=+.23) than higher status children (r=+.04), and for those with no snack restrictions (r=+.21) than those restricted by parental rules (r=+.09).

Discussion. The findings are quite similar to pattern found in the candy data. Children most exposed to television tend to eat more foods, both advertised and nonadvertised, than those who are less exposed.

The moderately strong viewing-eating relationship is open to various interpretations because of the equivalent association between viewing and consumption of "control" food products not extensively featured in television advertising. While it is plausible that exposure to ads for certain types of foods might generalize to non-promoted food products, a more cautious inference might be that some contaminating factors are producing both obtained correlations. To adjust the findings for this possible explanation, the correlation between exposure and consumption of advertised foods is partialed on grade, sex, status, snack-rules, and eating of nonadvertised foods. Using

this strict approach, the relationship falls to a very mild level of +.12. Since it is unlikely that heavy eaters of purely advertised foods are motivated to watch more TV than other people, it seems justified to conclude that this minor relationship is evidence of a flow of causality from viewing to eating rather than the reverse sequence.

However, it must be kept in mind that the predictor variable is not specific attention to food ads, but exposure to television programming. While it might be argued that this invalidates the findings because actual exposure to food ads is not measured, a more reasonable conjecture is that a stronger relationship would be obtained if more precise measurement was used.

The impact of advertising on snacking behavior is slight; only a small difference is found between heavy and light viewers in eating of such advertised foods as cookies, potato chips and pop during snacks after school.

There is a substantial tendency for television viewing to be associated with requests for eating at fast-food restaurants. Heavy viewers are twice as likely as light viewers to say that they frequently ask their parents to take the family to such drive-ins as McDonalds and Burger King. It seems likely that most of the association is accounted for by advertising effects, since demographic variables do not reduce the relationship and it is illogical to expect that hamburger eaters watch more television than non-eaters.

The relationship between exposure and food consumption does not consistently differ from one subgroup of children to the next. However, on the criterion variable specifically dealing with snack eating, the association with TV exposure exists primarily for children who have no parental rules about what snacks to eat; it appears that the only children affected by advertising are those who are not restricted in snacking by their parents. Television does seem to affect asking to eat at heavily promoted drive-ins mainly for lower status children.

In conclusion, the research evidence indicates that food commercials on television cause viewers to eat somewhat more of the kinds of foods promoted on TV. A conservative reading of the data suggests that the effect is not strong. There appears to be a more substantial impact on lower status children's requests to parents for trips to drive-in restaurants. It should be observed that advertising produces greater consumption of the types of foods that are not rated as nutritionally desirable, such as cookies, potato chips, soda pop and fast foods. Ads for the most nutritious foods are seldom presented on television, at least during periods of the day when children are the predominant audience. Thus, it was not possible to test whether positive healthful effects might be derived from advertising exposure.

FIGURE 1

DISTRIBUTION OF SAMPLE ACCORDING TO TOWN, SCHOOL GRADE, AND QUESTIONNAIRE FORM

	Total Number	4th grade	5th grade	6th grade	7th grade	Medicine Form A	Nutrition Form B
	N=775	N=118	N=229	N=165	N=263	N=256	N=506
Town:							
Livonia	290	44	41	0	205	159	124
Dearborn	214	48	59	49	58	0	212
Eaton Rapids	147	0	75	72	0	0	144
Lansing	124	26	54	44	0	97	26
Form:							
Medicine (A)	256	0	94	44	118		
Nutrition (B)	506	113	133	118	142		
Nutrition incomplete	13	5	2	3	3		

The main body of the questionnaire was completed by N=775 students. A supplementary section dealing with medicine advertising was completed by N=256 students in the fifth, sixth, and seventh grades in two schools. The remaining children were administered a version of the questionnaire with nutrition advertising questions attached; 13 students were able to finish the main body of the questionnaire but did not complete the nutrition supplement due to lack of time. Data were gathered in these Michigan schools:

Wilson Elementary School, Livonia
Bryant Junior High School, Livonia
Lowrey Elementary School, Dearborn
Fairlane Elementary School, Dearborn
Smith Junior High School, Dearborn
Stout Junior High School, Dearborn
Southeastern Elementary School, Eaton Rapids
Cavanaugh Elementary School, Lansing
Forest View Elementary School, Lansing

TV SURVEY

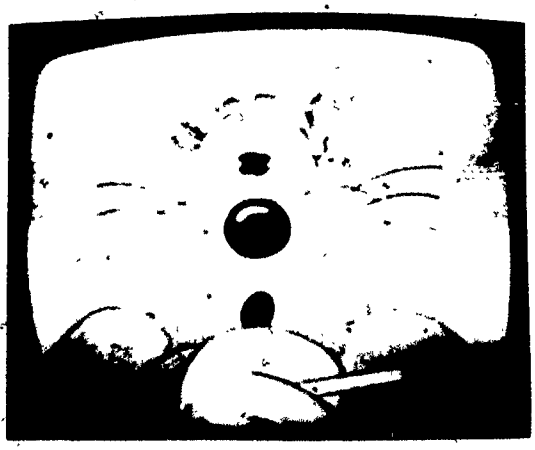
HERE ARE SOME QUESTIONS ABOUT TELEVISION COMMERCIALS. PLEASE TRY TO ANSWER AS MANY AS YOU CAN. JUST CIRCLE THE ANSWER THAT TELLS WHAT YOU THINK OR WHAT YOU DO. IF YOU HAVE ANY TROUBLE, JUST RAISE YOUR HAND AND WE WILL HELP YOU. YOU DO NOT HAVE TO WRITE YOUR NAME ON THIS SURVEY.

Here is a picture from a TV commercial for HERSHEY CHOCOLATE BAR. It shows a little boy watching a policeman eating a Hershey Bar.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

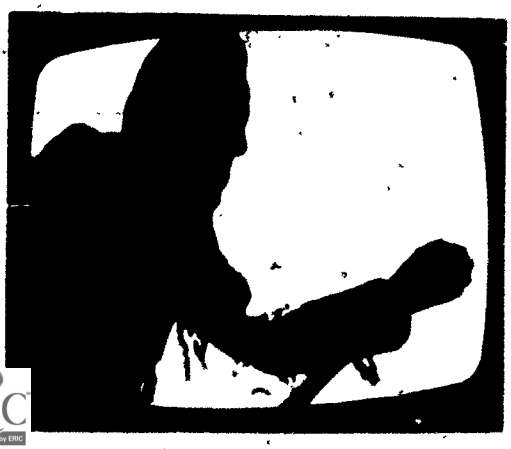
(circle one of these answers)



This is a picture from a TV commercial telling people to stop smoking. It shows a wolf who starts coughing when he tries to blow down the house of the three pigs.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER



This picture shows an Indian paddling his canoe in polluted water. Then he gets out of the canoe and someone throws trash by his feet. He cries because there is so much littering and pollution.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

These pictures tell people that the best way to fight pollution is right at our finger tips. When you see someone making pollution or litter, you should point it out.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

How much do you like this commercial?

VERY MUCH PRETTY MUCH NOT SO MUCH

There is also a commercial where a little boy copies everything his father does "like father like son." When the father sits down by a tree to smoke a cigarette, he looks away and the little boy picks up a cigarette.

When that commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

Several TV commercials tell people that they should make sure and buckle up their seat belts in the car. One shows some eggs in a little toy car that break when the car smashes into another car.

When that commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

In another seat belt commercial, a man is riding while his wife drives. He says that she better fasten her seat belt, or "I won't ever talk to you again because I love you."

When that commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

When you ride in a car, how often do you buckle up your seat belt?

A LOT SOMETIMES ALMOST NEVER

Do you think that seat belts help save people's lives in a car accident?

YES MAYBE NO

Is it a good idea for people to wear seat belts?

YES MAYBE NO

When you get older, will you smoke cigarettes?

YES MAYBE NO

How often do you tell your parents to stop smoking cigarettes?

A LOT SOMETIMES ALMOST NEVER [THEY DON'T SMOKE]

Do you think that smoking cigarettes causes diseases like lung cancer?

YES MAYBE NO

Is it really important for people to stop being litterbugs?

YES MAYBE NO

When you see someone throwing litter on the ground, how often do you tell them to stop being a litterbug?

A LOT SOMETIMES ALMOST NEVER

When you have litter, how often do you throw it into a trash can?

A LOT SOMETIMES ALMOST NEVER

How often do you watch these TV programs? (Make a mark showing whether you watch each one a lot, sometimes, or almost never.)

	A LOT	SOMETIMES	ALMOST NEVER
BUGS BUNNY	☐	☐	☐
ADDAMS FAMILY	☐	☐	☐
SCOOBY DOO	☐	☐	☐
INCH HIGH PRIVATE EYE	☐	☐	☐
I DREAM OF JEANNIE	☐	☐	☐
LASSIE'S RESCUE RANGERS	☐	☐	☐
SPEED BUGGY	☐	☐	☐
STAR TREK	☐	☐	☐
JOSIE AND THE PUSSYCATS	☐	☐	☐
PEBBLES AND BAMM BAMM	☐	☐	☐
NATIONAL NEWS AT 6:30	☐	☐	☐
AMERICAN BANDSTAND	☐	☐	☐
MIDNIGHT SPECIAL	☐	☐	☐
IN CONCERT	☐	☐	☐
SOUL TRAIN	☐	☐	☐

About how many hours do you spend watching television on an average evening, between 8:00 and 11:00? (Circle the number of hours.)

0 ½ 1 1½ 2 2½ 3

RIGHT GUARD: One man shows the other one that his Right Guard Powder Dry deoderant does not stain clothes.
When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

SURE: Man says that Sure deoderant goes on dry. He says try it on your left side and use the spray you like best on the right side. Your left side will convince your right side.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

LISTERINE: Taxi cab driver says that Listerine mouthwash doesn't taste good, but it works. This is important for someone with a people job.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

CERTS: Two girls riding on train talk about how Certs mints keep your breath fresh and has a good clean taste. Then they kiss their boy friends at the train station.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

CLEARASIL: Several kids play catch with tubes of Clearasil skin cream. They say that Clearasil is the most serious kind of blemish medicine you can get without a perscription -- pass it on!

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

How much do you like this commercial?

VERY MUCH PRETTY MUCH NOT SO MUCH

Do you believe that Clearasil is really the most serious kind of blemish medicine you can get without a perscription?

YES MAYBE NO

Write down the names of as many underarm deoderants as you can think of:
(list the brand names, like RIGHT GUARD or SURE)

What are some of the reasons why people use deoderants under their arms?

How much do you worry about offending people with your body odor?

VERY MUCH PRETTY MUCH NOT SO MUCH

How many adults use underarm deoderants?

EVERYBODY MOST ADULTS SOME ADULTS NOBODY

How important is it for people to use deoderant?

VERY IMPORTANT PRETTY IMPORTANT NOT SO IMPORTANT

What are some reasons why people use mouthwash (like Scope and Listerine)?

_____

_____

How many adults use mouthwash?

EVERYBODY MOST ADULTS SOME ADULTS NOBODY

Do people really need to use mouthwash to be popular with their friends?

YES MAYBE NO

How often do you use mouthwash?

A LOT SOMETIMES ALMOST NEVER

How much do you worry about blemishes or pimples on your face?

VERY MUCH PRETTY MUCH NOT SO MUCH

What is the best thing to do to get rid of blemishes?

WASH WITH REGULAR SOAP USE SKIN CREAM (like Clearasil)

How many teenagers use skin cream to get rid of blemishes?

EVERYBODY MOST TEENAGERS SOME TEENAGERS NOBODY

How often do you use skin cream on your face?

A LOT SOMETIMES ALMOST NEVER

How often do you talk with your parents or friends about skin creams?

A LOT SOMETIMES ALMOST NEVER

How often do you talk with your parents or friends about mouthwash?

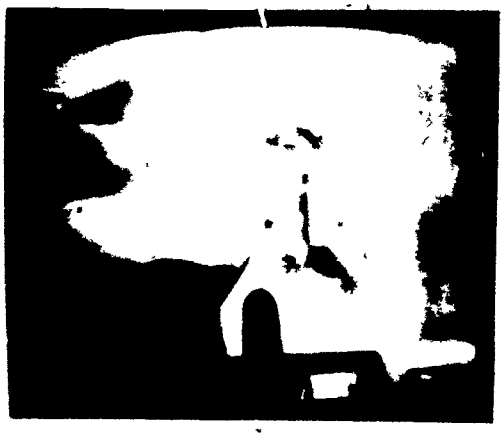
A LOT SOMETIMES ALMOST NEVER

How often do you talk with your parents or friends about deoderants?

A LOT SOMETIMES ALMOST NEVER

Crest and Close-Up are two kinds of toothpaste. Can you think of any difference between these two toothpastes?

NO YES ---------) . How is Crest different from Close-Up?



SNOOPY PENCIL SHARPENER: There is a new commercial showing a boy using the Snoopy pencil sharpener. To make it work, he puts a pencil into a dog-house that Snoopy is sitting on.

How many times have you seen this commercial on TV?

60 50 40 30 20 10 5 1 0

How much do you like this commercial?

VERY MUCH PRETTY MUCH NOT SO MUCH

Do you have one of these Snoopy pencil sharpeners?

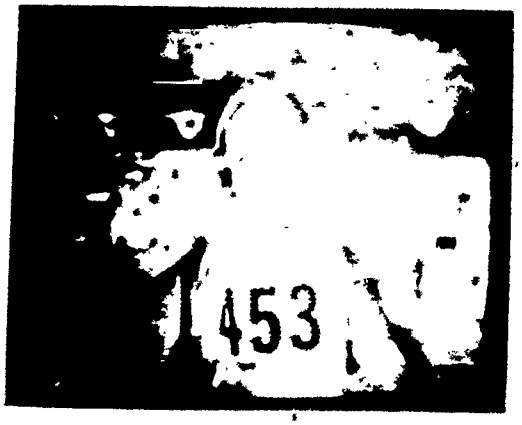
YES NO --------> Do you want to get one?

YES MAYBE NO

KEDS GOLD MEDAL SHOES: This commercial shows a boy running through city streets and in a track race, flashing back and forth. It says that "every kid dreams of winning the great race."

When this commercial comes on TV, how much do you watch it?

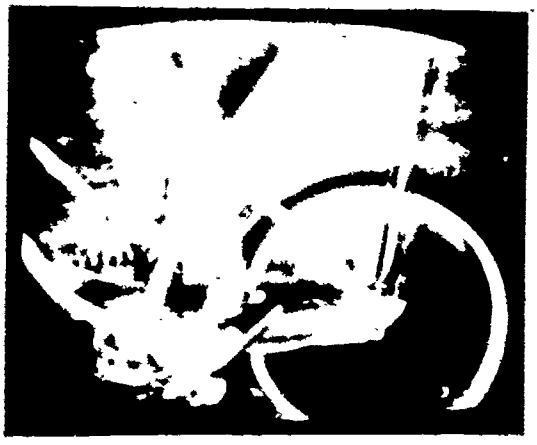
ALWAYS USUALLY SOMETIMES NEVER

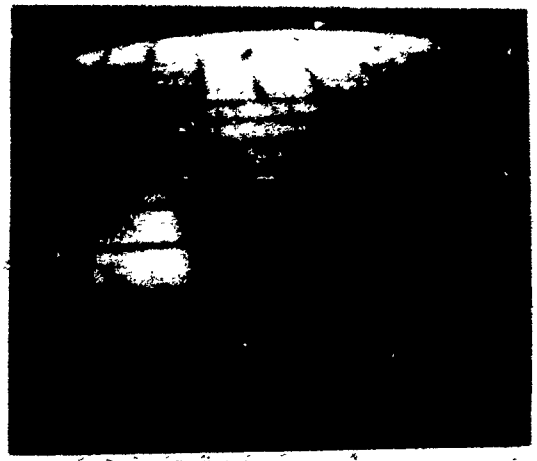


KEDS TAIL LIGHTS SHOES: Another Keds commercial shows boys and girls riding their bikes around town. They are all wearing tail lights shoes.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER





KENNER TOWER AND T-I-P CYCLES: The TIP motorcycles shoot off the tower, bounce off walls, flip upside down, and do wheelies.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

How much do you like this commercial?

VERY MUCH PRETTY MUCH NOT SO MUCH

Do you believe that the TIP cycles really can do all the things that they show in this commercial?

YES MAYBE NO

On Saturday mornings, they show commercials for the VERTIBIRD HELICOPTOR AND RESCUE SHIP. When this VERTIBIRD commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

Have you ever played with the VERTIBIRD?

NO YES -----> Is the real VERTIBIRD better or worse than the one that they show in the commercials?

BETTER ABOUT THE SAME WORSE

In the evenings, there is a TV commercial for CADILLAC cars. The commercial says that the Cadillac gets 12 miles per gallon of gasoline when you drive it in the city. Do you believe that it really gets 12 miles per gallon?

YES MAYBE NO

Some commercials come right in the middle of TV programs. How much does it bother you when they stop the program to show commercials?

A LOT SOMETIMES NEVER

Do you think they should take all the commercials off of TV on Saturday mornings?

YES MAYBE NO

Why do you feel that way about Saturday morning commercials?

_____

_____

Do you think that TV commercials always tell the truth?

YES NO ----------> Which commercial is not true?

_____

Why do you think it isn't true?

_____

Do you think that adults always tell the truth?

YES NO NOT SURE

Do you think that salesmen always tell the truth?

YES NO NOT SURE

Do you think that TV newscasters always tell the truth?

YES NO NOT SURE

Do you think that the kids who have the most toys are the most happy kids?

YES MAYBE NO

Do you think that the most important thing is to have lots of money?

YES MAYBE NO

How often do you buy things so you can show off to your friends?

A LOT SOMETIMES ALMOST NEVER

If you had to choose, would you rather play with a toy from the store or go play at the playground?

PLAY WITH TOY PLAY AT PLAYGROUND DON'T CARE

How important is it to have nice clothes to wear at school?

VERY IMPORTANT PRETTY IMPORTANT NOT SO IMPORTANT

When you are old enough to own a car, which kind would you want to get?

Here are pictures from some PEPSI commercials. They show young people from the "Pepsi Generation" who are "feeling free" and having lots of fun riding bikes, washing cars, and riding baloons.
How much do you like these commercials?

VERY MUCH PRETTY MUCH NOT SO MUCH

Compared to the people in these commercials, is your own life more fun or less fun?

MORE FUN ABOUT THE SAME LESS FUN

When you are sitting around the house, bored and sad, do these commercials make you feel better or worse?

FEEL BETTER ABOUT THE SAME FEEL WORSE

Here are some questions about you and your family:

How old are you? _____years old

Are you a boy or a girl?

BOY GIRL

How well do you do in school--how good are the grades on your report card?

VERY GOOD PRETTY GOOD NOT SO GOOD

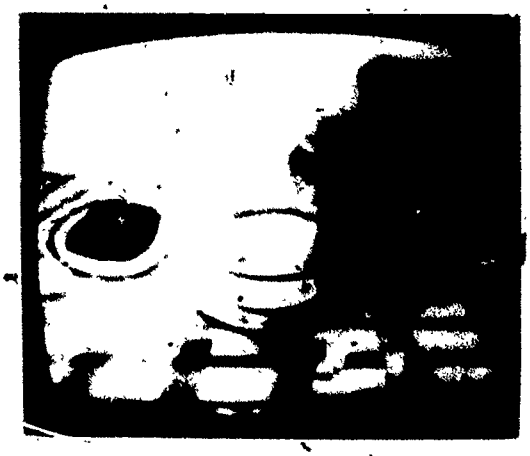
What kind of job does your father or mother have right now--what do they do at work?

_____

_____

HERE ARE PICTURES FROM FOUR CEREAL COMMERCIALS SHOWN ON SATURDAY MORNING.

FOR EACH PICTURE, TELL US HOW MUCH YOU WATCH THAT PART OF THE COMMERCIAL..... EVEN THOUGH THE COMMERCIALS SHOW LOTS OF DIFFERENT THINGS, WE WANT TO KNOW WHETHER YOU WATCH THE PART OF THE COMMERCIAL SHOWN IN THE PICTURE.



POST RAISIN BRAN: Where the man in the box says there is only one thing missing from this breakfast:

How much do you watch this part?

ALWAYS USUALLY SOMETIMES NEVER

TRIX: Where the Trix rabbit is the milkman when the kids find out there is not enough milk for breakfast:

How much do you watch this part?

ALWAYS USUALLY SOMETIMES NEVER

CHEERIOS: Where the shadow of a father and child flying a kite is shown with the breakfast foods:

How much do you watch this part?

ALWAYS USUALLY SOMETIMES NEVER

CINNAMON CRUNCH: Where they show a bowl of Cinnamon Crunch on the breakfast table along with other foods:

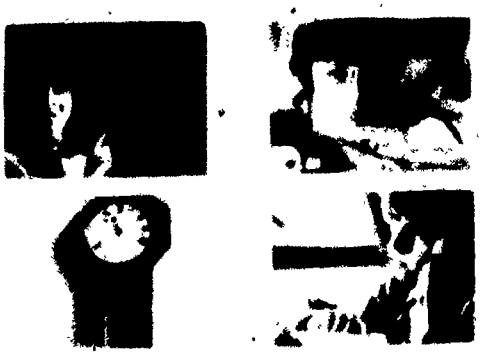
How much do you watch this part?

ALWAYS USUALLY SOMETIMES NEVER

REESE'S PEANUT BUTTER CUP: A man eating a chocolate bar walks down stairs and trips. He crashes into a boy eating peanut butter.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER



EAT BREAKFAST -- DON'T PASS IT UP: When the teacher talks, the boy doesn't have enough energy because he didn't eat a good breakfast. The next day, he goes back upstairs and eats a good breakfast.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

There are lots of commercials for breakfast cereals. When these commercials come on TV on Saturday mornings, how much do you watch them?

ALWAYS USUALLY SOMETIMES NEVER

There are also lots of commercials for candy. When these commercials come on TV on Saturday mornings, how much do you watch them?

ALWAYS USUALLY SOMETIMES NEVER

In the last year, about how many cavities have you had in your teeth?

#_____ CAVITIES
(number)

1. Here is a list of breakfast cereals. (For each one, make a mark showing whether you eat that kind of cereal a lot, sometimes, or almost never.)

	A LOT	SOMETIMES	ALMOST NEVER
ALPHA BITS	☐	☐	☐
WHEATIES	☐	☐	☐
BOO BERRY	☐	☐	☐
QUANGEROOS	☐	☐	☐
SUGAR SMACKS	☐	☐	☐
CHEERIOS	☐	☐	☐
PEBBLES	☐	☐	☐
CORN FLAKES	☐	☐	☐
CAPTAIN CRUCH	☐	☐	☐
KIX	☐	☐	☐
RICE KRISPIES	☐	☐	☐
COCOA PUFFS	☐	☐	☐
RAISIN BRAN	☐	☐	☐

2. How important is it to start your day with a nutritious and balanced breakfast?

VERY IMPORTANT PRETTY IMPORTANT NOT SO IMPORTANT

3. Which kinds of breakfast foods help make you strong and healthy--which ones are good for you to eat? Make a mark showing whether each one is very good for you, pretty good for you, or not so good for you.

	VERY GOOD FOR YOU	PRETTY GOOD FOR YOU	NOT SO GOOD FOR YOU
EGGS AND BACON	☐	☐	☐
DONUTS	☐	☐	☐
ORANGE JUICE	☐	☐	☐
WAFFLES	☐	☐	☐
TOAST	☐	☐	☐
SWEET CEREAL	☐	☐	☐
PLAIN CEREAL	☐	☐	☐
CREAM OF WHEAT	☐	☐	☐
POP TARTS	☐	☐	☐

4. After you see commercials for breakfast cereals on TV, how much do you ask your mother to buy the cereal for you?

A LOT SOMETIMES NEVER

5. When your mother says that you can't have a cereal that you ask for, how much do you argue with her?

A LOT SOMETIMES NEVER

6. When your mother says that you can't have a cereal that you ask for, how much do you get mad at her?

A LOT SOMETIMES NEVER

7. When you come home from school in the afternoon, what do you usually eat for a snack? (Write the names of the things you eat.)

_____ _____ _____

8. How many rules do your parents make about what kinds of snacks you can eat?

LOTS OF RULES SOME RULES NO RULES

9. How much do you ask your parents to take you to drive-in restaurants like McDonalds and Burger King?

A LOT SOMETIMES ALMOST NEVER

10. Most cereal and candy has lots of sugar on it. Do you think sugar is good for you?

YES MAYBE NO

11. In the last week, about how many candy bars have you eaten?

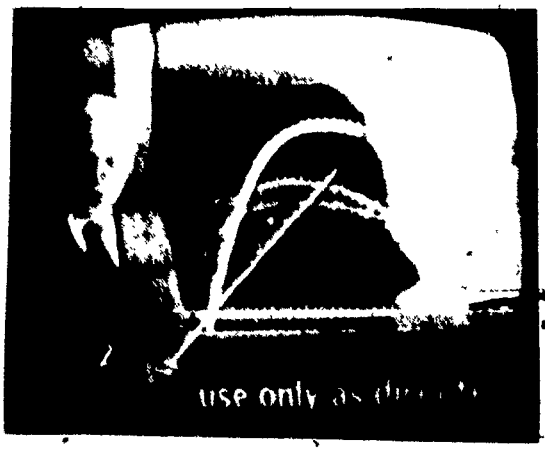
_____ CANDY BARS

12. How often do you eat each of these kinds of candy bars?

	A LOT	SOMETIMES	ALMOST NEVER
SNICKERS	☐	☐	☐
BUTTERFINGER	☐	☐	☐
HERSHEY CHOCOLATE BAR	☐	☐	☐
MILK DUDS	☐	☐	☐
BABY RUTH	☐	☐	☐
KIT KAT	☐	☐	☐
CHOC-O-LITE	☐	☐	☐

How often do you eat these things?

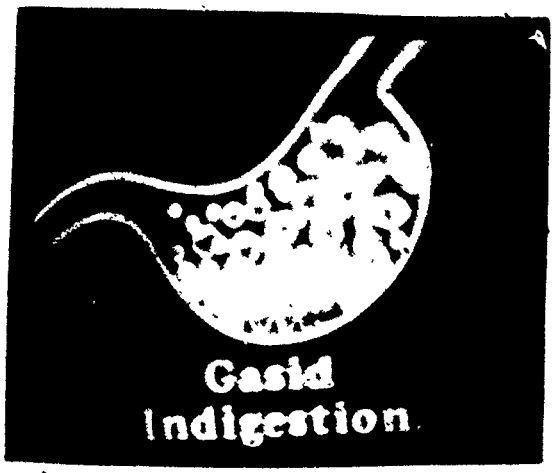
	A LOT	SOMETIMES	ALMOST NEVER
POTATO CHIPS	☐	☐	☐
PRETZELS	☐	☐	☐
ICE CREAM	☐	☐	☐
SODA POP	☐	☐	☐
HOT DOGS	☐	☐	☐
HAMBURGERS	☐	☐	☐
CHOCOLATE DRINKS	☐	☐	☐
CAKE	☐	☐	☐
COOKIES	☐	☐	☐



ANACIN: A graph shows that Anacin works faster than aspirin. The graph is displayed on the outline of a woman's head.

When this commercial comes on TV, how much do you watch it?

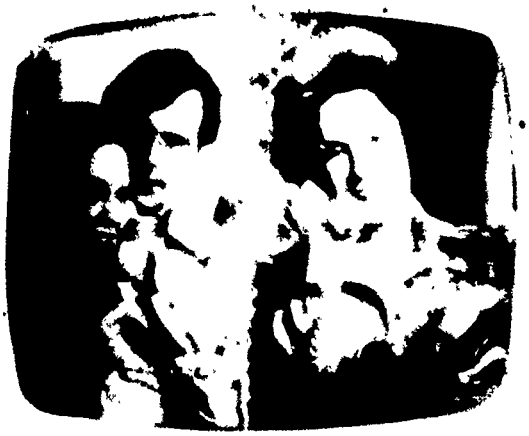
ALWAYS USUALLY SOMETIMES NEVER



DIGEL: This drawing of a person's stomach shows how Digel helps to get rid of Gasid Indigestion and trapped gas.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER



SOMINEX: The man and wife call up her mother to thank her, because the mother told him to use Sominex sleeping pills. Sominex helps him to fall asleep at night.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

PEPTO-BISMOL: The man talks about how Pepto-Bismol can help get rid of stomach aches and indigestion. The drawing shows how it coats the stomach.

When this commercial comes on TV, how much do you watch it?

ALWAYS USUALLY SOMETIMES NEVER

1. How often do you think that people get stomach aches?

A LOT SOMETIMES ALMOST NEVER

2. How often do you think that people get colds?

A LOT SOMETIMES ALMOST NEVER

3. How often do people have trouble falling asleep at night?

A LOT SOMETIMES ALMOST NEVER

4. When people get a stomach ache or a cold, what do they usually do about it?

_____

5. When people get a stomach ache, how much does it help if they take some medicine?

VERY MUCH PRETTY MUCH NOT SO MUCH

6. When people get a cold, how much does it help if they take some medicine?

VERY MUCH PRETTY MUCH NOT SO MUCH

7. When people have trouble falling asleep, how much does it help if they take some sleeping pills?

VERY MUCH PRETTY MUCH NOT SO MUCH

8. When people feel sad, how much does it help them feel better if they take some pill or medicine?

VERY MUCH PRETTY MUCH NOT SO MUCH

9. When people take some medicine for a stomach ache, how long does it usually take for them to feel better?

A FEW MINUTES ONE HOUR A FEW HOURS ONE DAY

10. When people take some medicine for a cold, how long does it usually take for them to feel better?

A FEW MINUTES ONE HOUR A FEW HOURS ONE DAY

11. When people have a problem that bothers them, how long does it usually take for them to solve it?

A FEW MINUTES ONE HOUR A FEW HOURS ONE DAY

12. How often do you worry about getting stomach aches?

A LOT SOMETIMES ALMOST NEVER

13. How often do you worry about catching colds?

A LOT SOMETIMES ALMOST NEVER

14. How often do you get stomach aches?

A LOT SOMETIMES ALMOST NEVER

15. How often do you catch colds?

A LOT SOMETIMES ALMOST NEVER

16. When you get a stomache ache, how much do you take some medicine for it?

ALWAYS USUALLY SOMETIMES NEVER

17. When you get a cold, how much do you take some medicine for it?

ALWAYS USUALLY SOMETIMES NEVER

18. When you take some medicine for a stomach ache, how much does it help you feel better?

ALWAYS USUALLY SOMETIMES NEVER

19. When you take some medicine for a cold, how much does it help you feel better?

ALWAYS USUALLY SOMETIMES NEVER

20. When you get a cold or a stomach ache, how much do your parents want you to take some medicine for it?

ALWAYS USUALLY SOMETIMES NEVER

21. When people have a stomach ache or a cold, what do you think is the best thing for them to do?

_____

22. If you had a cold, how many aspirin should you take to feel better?

_____

23. If you take a lot of medicine, can this medicine make you sick?

YES MAYBE NO

24. Is it OK to take aspirin if you are not really sick?

YES MAYBE NO

25. Here are some kinds of pills and drugs that some people use. For each one, mark whether it is a good thing or a bad thing for people to use: (If you are not sure, write a question mark.)

	GOOD THING	IN BETWEEN	BAD THING
Aspirin	☐	☐	☐
Sleeping pills	☐	☐	☐
"Uppers"	☐	☐	☐
"Downers"	☐	☐	☐
"Dope"	☐	☐	☐
"Grass" or "Pot"	☐	☐	☐

Table 1

TELEVISION VIEWING PATTERNS, BY GRADE, SEX AND SOCIAL STATUS OF CHILD

Viewing measure:	4-5th grade N=347	6-7th grade N=428	Male N=369	Female N=415	High status N=321	Low status N=342
Views "a lot" --						
Bugs Bunny	42%	23%	41%	24%	29%	35%
Addams Family	38%	17%	24%	28%	23%	30%
Scooby Doo	55%	38%	45%	46%	37%	52%
Inch High Private Eye	29%	20%	26%	23%	23%	27%
I Dream of Jeannie	40%	26%	22%	41%	28%	36%
Lassie's Rescue Rangers	23%	12%	18%	16%	14%	18%
Speed Buggy	41%	26%	34%	32%	28%	36%
Star Trek	25%	26%	34%	18%	25%	27%
Josie and the Pussycats	33%	16%	21%	27%	18%	29%
Pebbles and Bamm Bamm	30%	20%	19%	29%	20%	28%
National News at 6:30 p.m.	11%	18%	16%	14%	16%	12%
American Bandstand	20%	23%	17%	26%	20%	23%
Midnight Special	22%	24%	24%	23%	26%	21%
In Concert	22%	34%	32%	26%	29%	28%
Soul Train	19%	16%	14%	20%	17%	20%

Table 1 (continued)

Viewing measure:	4-5th grade	6-7th grade	Male	Female	High status	Low status
About how many hours do you spend watching television on an average evening, between 8:00 and 11:00?						
3 hours	45%	36%	44%	36%	33%	44%
2 1/2 hours	13	16	14	16	16	13
2 hours	16	25	21	21	27	17
1 1/2 hours	11	14	10	15	14	14
1 hour	10	7	7	9	8	8
1/2 hour	4	2	3	3	2	3
0 hours	1	0	1	0	0	1
Mean hours	2.3	2.2	2.4	2.2	2.2	2.3
AVERAGE VIEWING ACROSS TEN SATURDAY MORNING PROGRAMS						
View a Lot	36%	22%	28%	28%	25%	32%
View Sometimes	33	33	31	34	33	32
View Almost Never	31	45	41	38	42	36
AVERAGE VIEWING ACROSS FOUR TEEN-AGE PROGRAMS						
View A Lot	21%	24%	22%	24%	23%	23%
View Sometimes	21	26	21	25	25	23
View Almost Never	58	50	57	51	52	54

Table 2

ATTENTION TO SPECIFIC TV COMMERCIALS, BY GRADE, SEX AND SOCIAL STATUS OF CHILD

Type of commercial:	Amount of viewing:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High status N=321	Low status N=342
Anti-smoking PSAs -- (average of 2 ads)							
	Always	26%	25%	27%	24%	26%	25%
	Usually	27	33	29	31	32	29
	Sometimes	34	34	34	35	34	34
	Never	13	8	10	10	8	12
Anti-littering PSAs -- (average of 2 ads)							
	Always	30%	38%	35%	33%	37%	32%
	Usually	32	30	32	30	32	30
	Sometimes	32	24	27	29	23	31
	Never	6	8	6	8	8	7
Seat belt PSAs -- (average of 2 ads)							
	Always	18%	14%	16%	16%	16%	15%
	Usually	21	25	22	24	24	22
	Sometimes	28	34	32	31	32	30
	Never	33	27	30	29	28	33
Medicine commercials -- (average of 4 ads, N = 256)							
	Always	8%	5%	7%	6%	6%	8%
	Usually	25	15	20	17	15	21
	Sometimes	50	53	54	50	56	49
	Never	17	27	19	27	23	22
Toy commercials -- (average of 3 ads)							
	Always	17%	9%	16%	9%	13%	12%
	Usually	22	20	23	18	22	21
	Sometimes	41	48	43	48	44	45
	Never	20	23	18	25	21	22

Table 2 (continued)

Type of commercial:	Amount of viewing:	4-5th grade	6-7th grade	Male	Female	High status	Low status
Hygiene commercials -- (average of 5 ads)							
	Always	22%	14%	17%	18%	17%	18%
	Usually	24	24	22	25	26	24
	Sometimes	36	45	39	43	41	40
	Never	18	17	22	14	16	18
Candy commercials -- (average of 2 ads)							
	Always	25%	17%	20%	21%	7%	7%
	Usually	24	35	31	29	46	38
	Sometimes	43	41	40	44	28	34
	Never	8	7	9	6	19	21
Cereal commercials -- (average of 4 ads, nutrition part, N = 506)							
	Always	22%	10%	15%	16%	16%	16%
	Usually	24	21	22	24	23	24
	Sometimes	33	40	36	43	40	39
	Never	21	29	27	16	21	21
AVERAGE ACROSS ALL TWENTY-SIX COMMERCIALS							
	Always	20%	14%	17%	18%	16%	16%
	Usually	25	24	24	24	25	25
	Sometimes	38	42	40	42	40	39
	Never	17	20	19	18	19	20

Table 4

LIKING FOR SPECIFIC TV COMMERCIALS, BY GRADE, SEX AND SOCIAL STATUS OF CHILD

Commercial:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High Status N=321	Low Status N=342
These pictures tell people that the best way to fight pollution is right at our fingertips. When you see someone making pollution or litter, you should point it out. (two pictures shown) How much do you like this commercial? N=755						
Very much	24%	26%	29%	20%	27%	24%
Pretty much	47	49	46	51	48	49
Not so much	29	25	25	29	25	27
CLEARASIL: Several kids play catch with tubes of Clearasil skin cream. They say that Clearasil is the most serious kind of blemish medicine you can get without a prescription -- pass it on. (two pictures shown) How much do you like this commercial? N=709						
Very much	3%	3%	2%	3%	3%	3%
Pretty much	23	33	20	35	30	27
Not so much	74	64	78	62	67	70
SNOOPY PENCIL SHARPENER: There is a new commercial showing a boy using a Snoopy pencil sharpener. To make it work, he puts a pencil into a doghouse that Snoopy is sitting on. (two pictures shown) How much do you like this commercial? N=707						
Very much	13%	4%	5%	9%	5%	8%
Pretty much	38	30	34	33	33	36
Not so much	49	66	61	58	62	56

Table 4 (continued)

Commercial:	4-5th grade	6-7th grade	Male	Female	High status	Low status
KENNER TOWER AND T-T-P CYCLES: The TTP motorcycles shoot off the tower, bounce off walls, flip upside down, and do wheelies. (two pictures shown) How much do you like this commercial? N=746						
Very much	13%	4%	14%	3%	7%	8%
Pretty much	30	26	38	19	28	28
Not so much	57	70	48	78	65	64
Here are pictures from some PEPSI commercials. They show young people from the "Pepsi Generation" who are "feeling free" and having lots of fun riding bikes, washing car, and riding baloons. (four pictures shown) How much do you like these commercials? N=755						
Very much	37%	35%	27%	44%	40%	33%
Pretty much	47	52	54	45	47	51
Not so much	16	13	19	11	13	16
AVERAGE ACROSS ALL FIVE COMMERCIALS						
Very much	18%	14%	16%	16%	16%	15%
Pretty much	37	38	38	36	37	38
Not so much	45	48	46	48	47	47

Table 5

CHILDREN'S OPINIONS ABOUT TELEVISION ADVERTISING; BY GRADE, SEX AND SOCIAL STATUS

Opinion item:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High status N=321	Low status N=342
Do you think they should take all the commercials off of TV on Saturday mornings?						
Yes	45%	23%	38%	29%	27%	37%
Maybe	25	33	27	31	31	29
No	30	44	35	40	42	34
Some commercials come right in the middle of TV programs. How much does this bother you when they stop the program to show commercials?						
Bothers a lot	82%	76%	81%	77%	77%	80%
Bothers sometimes	13	22	15	20	20	17
Bothers never	5	2	4	3	3	3
(Here are pictures from the Pepsi commercials. They show young people from the "Pepsi Generation" who are "feeling free" and having lots of fun riding bikes, washing cars, and riding balloons.) When you are sitting around the house, bored and sad, do these commercials make you feel better or worse?						
Feel worse	29%	16%	30%	16%	20%	24%
About the same	50	56	52	53	52	53
Feel better	21	28	18	31	28	23

Table 6

BELIEF IN TELEVISION COMMERCIALS, BY GRADE, SEX AND SOCIAL STATUS OF CHILD

Belief item:		4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High status N=321	Low status N=342
CLEARASIL: Several kids play catch with tubes of Clearasil skin cream. They say that Clearasil is the most serious kind of blemish medicine you can get without a prescription -- pass it on! (two pictures shown) Do you believe that Clearasil is really the most serious kind of blemish medicine you can get without a prescription?							
	Yes	10%	11%	11%	11%	11%	9%
	Maybe	60	62	57	64	63	63
	No	30	27	32	25	26	28
KENNER TOWER AND T-T-P CYCLES: The TTP motorcycles shoot off the tower, bounce off walls, flip upside down, and do wheelies. (two pictures shown) Do you believe that the TTP cycles really can do all the things they show in this commercial?							
	Yes	14%	12%	19%	8%	13%	12%
	Maybe	40	46	39	47	42	45
	No	46	42	42	45	45	43
On Saturday mornings, they show commercials for the VERTIBIRD HELICOPTER AND RESCUE SHIP. Have you ever played with Vertibird? IF YES: Is the real VERTIBIRD better or worse than the one that they show in the commercials? (N=237)							
	Better	18%	12%	19%	10%	14%	17%
	About the same	50	61	52	60	58	53
	Worse	32	27	29	30	28	30

Table 6 (continued)

Belief item:	4-5th grade	6-7th grade	Male	Female	High status	Low status
Do you think that TV commercials always tell the truth? IF NO: Which commercial is not true?						
Yes	29%	19%	25%	22%	19%	27%
No	71	81	75	78	81	73
-- almost all ads	7	12	8	12	11	10
-- cosmetic ad	18	15	11	21	15	18
-- toy ad	7	8	8	8	10	7
-- car ad	3	6	6	3	5	5
-- candy ad	1	1	2	0	2	1
-- drug ad	0	2	1	1	2	1
-- cereal ad	0	1	0	1	0	1
-- store ad	0	1	2	0	1	1
-- restaurant ad	0	1	0	0	0	0
-- other ad	9	10	9	10	9	12
-- none mentioned	26	24	28	22	26	17
IF NO AND MENTIONED AD: Why do you think it isn't true? N = 403						
-- message reality test	15%	26%	17%	25%	24%	23%
-- experience with product	10	11	8	13	12	11
-- other experiences	6	8	7	7	6	8
-- advice from others	1	1	1	1	2	1
-- other reason	10	4	7	6	6	7
-- no reason given	58	50	60	48	50	50

Table 7

PREDICTORS OF BELIEF IN TELEVISION COMMERCIALS

Predictor variable:	Belief item: Commercials tell truth	Believe Clearasil	Believe TTP cycle	Believe Vertibird
Saturday morning exposure index	+.20	+.07	+.10	+.10
Prime-time exposure index	+.08	+.01	+.03	+.04
Hygiene ad attention index	+.06	+.12	+.07	+.07
Toy ad attention index	+.15	+.07	+.22	+.11
Advertising liking index	+.11	+.17	+.17	+.04
Grade in school	-.13	+.04	+.01	-.07
Sex (male/female)	-.04	+.06	-.10	-.04
Scholastic performance	-.10	+.04	-.01	-.01
Social status	-.08	+.03	-.03	+.03

All table entries are correlation coefficients between the predictor variables and each of the belief variables. The "commercials tell truth" item was scored 0=no and 1=yes; the "believe Clearasil" and "believe TTP cycle" items were scored 0=no, 1=maybe, and 2=yes; the "believe Vertibird" item compared actual experience to advertising portrayal, scored 0=worse, 1=same, 2=better. Item wordings are displayed in Table 6.

TABLE 8

PARTIAL CORRELATIONS OF TELEVISION VIEWING AND ADVERTISING RESPONSE VARIABLES WITH DISBELIEF OF ADULT AUTHORITIES

Television predictor variable:	Zero-order correlation	Fourth-order partial
Total amount of television exposure	-.07	-.05
Attention to hygiene and toy ads	-.11	-.09
Disliking for television ads	+.08	+.07
Disbelief of television ads	+.26	+.25
Disbelief of ads in general	+.24	+.23
Disbelief of three specific ads	+.15	+.15

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. The criterion variable is Disbelief of Adult Authorities Index, a sum of three items measuring whether the child believes that adults, salesmen, and newscasters always tell the truth. Fourth-order partials control for grade, sex, social status, and scholastic performance.

TABLE 3

CROSS-TABS BETWEEN DISBELIEF OF COMMERCIALS AND DISBELIEF OF ADULT AUTHORITIES

Authority disbelief item	Believes all commercials: Yes N=182	No N=593
Do you think that adults always tell the truth?		
No	45%	63%
Not sure	42	33
Yes	13	6
Do you think that policemen always tell the truth?		
No	61%	81%
Not sure	34	17
Yes	5	2
Do you think that TV newscasters always tell the truth?		
No	27%	37%
Not sure	35	39
Yes	38	24

TABLE 10

CONDITIONAL PARTIAL CORRELATIONS BETWEEN TELEVISION VIEWING AND ADVERTISING RESPONSE VARIABLES WITH DISBELIEF OF ADULT AUTHORITIES

Television predictor variable:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High Status N=321	Low Status N=342
Total television exposure	-.16	+.04	-.07	-.04	-.07	-.10
Attention to hygiene and toy ads	-.12	-.09	-.11	-.09	-.13	-.12
Disliking for television ads	+.11	+.05	+.03	+.11	+.20	+.03
Disbelief of television ads	+.29	+.22	+.17	+.32	+.28	+.24

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. The criterion variable is Disbelief of Adult Authorities Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, and scholastic performance (excluding control variable when it is a conditional variable).

Table 11

PARTIAL CORRELATIONS BETWEEN PUBLIC SERVICE ANNOUNCEMENT EXPOSURE AND ORIENTATIONS TOWARD SMOKING, LITTERING AND SEAT BELTS

	Zero-order correlation	Fourth-order partial
Belief that smoking causes cancer	-.05	-.05
Frequency of telling parents to stop smoking	+.09	+.10
Personal intention not to smoke	-.12	-.11
ANTI-SMOKING INDEX	-.02	-.02
Disapproval of litterbugs	+.09	+.10
Frequency of telling others to stop littering	+.18	+.19
Personal non-littering behavior	+.05	+.05
ANTI-LITTERING INDEX	+.17	+.18
Belief that seat belts help save lives	+.07	+.08
Approval of seat belts	+.03	+.02
Personal use of seat belts	+.05	+.06
SEAT BELT INDEX	+.06	+.07

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. The predictor variables correspond to the set of criterion variables: Anti-Smoking Exposure Index, Anti-Littering Exposure Index, and Seat Belt Exposure Index, each a product of degree of attention to representative public service announcements times the amount of TV viewing during periods when PSA's are shown. Fourth-order partials control for grade, sex, social status, and scholastic performance.

TABLE 12

CROSS-TABS BETWEEN EXPOSURE TO ANTI-SMOKING PSAs AND SMOKING ORIENTATIONS

Smoking orientation item:		Amount of Exposure: Light N=392	Heavy N=383
When you get older, will you smoke cigarettes?			
	Yes	4%	7%
	Maybe	22	26
	No	74	67
How often do you tell your parents to stop smoking cigarettes?			
	A lot	21%	31%
	Sometimes	18	21
	Almost never	19	15
	They don't smoke	42	33
Do you think that smoking cigarettes causes diseases like lung cancer?			
	Yes	84%	84%
	Maybe	14	13
	No	2	3

TABLE 13

CROSS-TABS BETWEEN EXPOSURE TO ANTI-LITTERING PSAs AND LITTERING ORIENTATIONS

Littering orientation item:		Amount of Exposure: Light N=380	Heavy N=395
Is it really important for people to stop being litterbugs?			
	Yes	94%	97%
	Maybe	4	2
	No	2	1
When you see someone throwing litter on the ground, how often do you tell them to stop being a litterbug?			
	A lot	14%	25%
	Sometimes	51	51
	Almost never	35	24
When you have litter, how often do you throw it into a trash can?			
	A lot	62%	69%
	Sometimes	33	27
	Almost never	5	4

TABLE 14

CROSS-TABS BETWEEN EXPOSURE TO SEAT BELT PSAs AND SEAT BELT ORIENTATIONS

Seat Belt orientation item:		Amount of Exposure: Light N=384	Heavy N=391
When you ride in a car, how often do you buckle up your seatbelt?			
	A lot	24%	24%
	Sometimes	28	30
	Almost never	48	46
Do you think that seat belts help save people's lives in a car accident?			
	Yes	48%	54%
	Maybe	45	38
	No	7	8
Is it a good idea for people to wear seat belts?			
	Yes	67%	69%
	Maybe	31	26
	No	2	5

TABLE 15

CONDITIONAL PARTIAL CORRELATIONS BETWEEN PUBLIC SERVICE ANNOUNCEMENT EXPOSURE AND ORIENTATIONS TOWARD SMOKING, LITTERING, AND SEAT BELTS

PSA variable:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High Status N=321	Low Status N=342
Anti-smoking index	+.17	-.16	-.04	+.01	-.11	+.03
Anti-littering index	+.20	+.16	+.20	+.16	+.20	+.16
Seat belt index	+.13	+.04	+.16	+.01	+.05	+.07

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. Predictor variables are Anti-Smoking Exposure Index, Anti-Littering Exposure Index, and Seat Belt Exposure Index, respectively. Partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, and scholastic performance (excluding control variable when it is a conditional variable).

TABLE 16

PARTIAL CORRELATIONS BETWEEN HYGIENE ADVERTISING EXPOSURE AND HYGIENE ORIENTATIONS

Hygiene orientation variable:	Zero-order correlation	Fourth-order partial	Fifth-order partial
Knowledge about deodorant and mouthwash products	+.06	+.06	+.06
Perceived frequency of people using deodorant, mouthwash and acne cream products	+.30	+.28	+.26
Belief in importance of using deodorant and mouthwash	+.22	+.19	+.18
Belief that skin cream better than soap for acne	+.14	+.13	+.13
Personal concern about body odor and acne	+.20	+.17	+.14
Personal frequency of using mouthwash and acne cream	+.29	+.25	+.23

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. Predictor variable is Hygiene Advertising Exposure Index, a product of the degree of attention to five representative hygiene commercials times the amount of TV viewing during periods when hygiene commercials are shown. Fourth-order partials control for grade, sex, social status and scholastic performance. Fifth-order partials also control for talking about hygiene.

Table 17

CROSS-TABS BETWEEN HYGIENE ADVERTISING EXPOSURE AND HYGIENE ORIENTATIONS

Hygiene orientation item:		Amount of Exposure: Light N=393	Heavy N=392
Write down the names of as many underarm deodorants as you can think of; list the brand names, like Right Guard or Sure:			
	Number named: None	9%	8%
	One	11	10
	Two	16	21
	Three	22	20
	Four	34	31
	Five or more	8	10
What are some of the reasons why people use deodorants under their arms? (open-end; multiple responses coded)			
	To prevent smell	58%	61%
	To keep dry	43%	48%
	So won't stain clothes	12%	6%
	So won't offend others	2%	3%
	Other reason	6%	6%
What are some reasons why people use mouthwash, like Scope and Listerine? (open-end; multiple responses coded)			
	To prevent bad breath	58%	65%
	To have clean breath	25%	21%
	So won't offend others	13%	13%
	To combat germs	7%	8%
	Other reason	5%	5%
Crest and Close-Up are two kinds of toothpaste. Can you think of any difference between these two toothpastes? (open-end; first reason coded)			
	No, no reason	33%	31%
	Yes: physical property	25	25
	Yes: has fluoride	15	15
	Yes: mouthwash attribute	8	6
	Yes: prevents cavities	5	8
	Yes: makes whiter teeth	4	3
	Yes: gives sex appeal	1	0
	Yes: other reason	6	10
	Yes: no reason given	3	2

Table 17 (continued)

Hygiene orientation item:		Amount of Exposure: Light	Heavy
How many adults use underarm deodorants?			
	Everybody	13%	21%
	Most adults	75	70
	Some adults	12	8
	Nobody	0	1
How many adults use mouthwash?			
	Everybody	2%	6%
	Most adults	42	52
	Some adults	55	41
	Nobody	1	1
How many teenagers use skin cream to get rid of blemishes?			
	Everybody	2%	5%
	Most teenagers	44	58
	Some teenagers	52	36
	Nobody	2	1
How important is it for people to use deodorant?			
	Very important	30%	50%
	Pretty important	58	44
	Not so important	12	6
Do people really need to use mouthwash to be popular with their friends?			
	Yes	14%	24%
	Maybe	51	45
	No	35	31
What is the best thing to do to get rid of blemishes?			
	Use skin cream (like Clearasil)	44%	57%
	Wash with regular soap	48	38
	Neither circled	8	5

Table 17 (continued)

Hygiene orientation item		Amount of Exposure: Light	Heavy
How much do you worry about offending people with your body odor?			
	Very much	19%	29%
	Pretty much	31	30
	Not so much	50	41
How much do you worry about blemishes or pimples on your face?			
	Very much	30%	44%
	Pretty much	33	32
	Not so much	37	24
How often do you use mouthwash?			
	A lot	8%	21%
	Sometimes	43	48
	Almost never	49	31
How often do you use skin cream on your face?			
	A lot	10%	21%
	Sometimes	29	31
	Almost never	61	48
How often do you talk with your parents or friends about skin creams?			
	A lot	2%	5%
	Sometimes	13	21
	Almost never	85	74
How often do you talk with your parents or friends about mouthwash?			
	A lot	2%	4%
	Sometimes	11	18
	Almost never	87	78
How often do you talk with your parents or friends about deodorants?			
	A lot	2%	7%
	Sometimes	16	19
	Almost never	82	74

TABLE 18

CONDITIONAL PARTIAL CORRELATIONS BETWEEN HYGIENE ADVERTISING EXPOSURE AND HYGIENE ORIENTATIONS

Hygiene orientation variable:	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High Status N=321	Low Status N=342	Hygiene Talker N=289	Non-Talker N=486
Knowledge about products	+.03	+.08	+.07	+.05	+.08	-.01	[illegible]	+.09
Perceived frequency of use	+.28	+.25	+.29	+.24	+.29	+.27	+.28	+.29
Belief in importance of use	+.20	+.17	+.22	+.18	+.18	+.19	+.24	+.19
Belief that skin cream better	+.15	+.10	+.11	+.14	+.12	+.13	+.10	+.08
Personal concern	+.15	+.12	+.19	+.07	+.15	+.11	+.12	+.16
Personal frequency of use	+.23	+.25	+.25	+.23	+.23	+.25	+.26	+.27

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. Predictor variable is Hygiene Advertising Exposure Index. Partial correlations are computed separately for each continent condition subgroup, while controlling for grade, sex, status, scholastic performance, and talking about hygiene (excluding control variable when it is a conditional variable).

TABLE 19

CROSS-TABS BETWEEN ADVERTISING EXPOSURE REPETITION AND ORIENTATIONS TOWARD MESSAGE AND PRODUCT

Orientation item:	Frequency of exposure to ad				
	None	One/Five	Ten	Twenty/ Thirty	Forty/ Sixty
	N=189	N=181	N=139	N=167	N=100
SNOOPY PENCIL SHARPENER: How much do you like this commercial? N=707					
Very much	2%	6%	9%	6%	15%
Pretty much	7	39	36	43	40
Not so much	91	55	55	51	45
Do you have one of these Snoopy pencil sharpeners? IF NO: Do you want to get one?					
Have or want	11%	16%	20%	22%	33%
Maybe want	14	19	21	21	18
Don't want	75	65	59	57	49

Most of non-response on the first item is due to the 94 children in the "none" exposure category who did not evaluate their liking of the commercial. On the second item, only 14 children owned one of the pencil sharpeners; for the analysis, they were combined with the children who wanted to get one. The distribution of respondents on the exposure variable is collapsed from eight to five categories to provide a stable number of cases.

TABLE 20

PARTIAL CORRELATIONS OF TELEVISION EXPOSURE AND TOY ADVERTISING EXPOSURE WITH MATERIALISTIC ORIENTATIONS

Variables	Zero-order correlation	Fourth-order partial
Preference for material goods, by television exposure	+.24	+.18
Preference for material goods, by toy ad exposure	+.22	+.13

All table entries are computed on N=775 fourth, fifth, sixth, and seventh grade students. Predictor variables are (a) General Television Exposure Index, a sum of the amount of viewing of Saturday morning programs and number of hours viewed during evening prime-time, and (b) Toy Advertising Exposure Index, a product of the degree of attention to three representative toy commercials times amount of viewing of Saturday morning programs. Fourth-order partials control for grade, sex, social status and scholastic performance.

TABLE 21

PARTIAL CROSS-TABS BETWEEN EXPOSURE TO ADVERTISING AND MATERIALISTIC ORIENTATIONS, CONTROLLING GRADE IN SCHOOL

Materialistic orientation item:		Amount of Exposure: Light N=385	Heavy N=390
Do you think that the kids who have the most toys are the most happy kids?			
	Yes	5%	12%
	Maybe	34	33
	No	61	55
Do you think that the most important thing is to have lots of money?			
	Yes	10%	18%
	Maybe	17	22
	No	73	60
How often do you buy things so you can show off to your friends?			
	A lot	2%	6%
	Sometimes	35	41
	Almost never	63	53
If you had to choose, would you rather play with a toy from the store or go play at the playground?			
	Play with toy	8%	11%
	Don't care	57	55
	Play at playground	35	34
How important is it to have nice clothes to wear at school?			
	Very important	2?%	40%
	Pretty important	53	41
	Not so important	21	19
When you are old enough to own a car, which kind would you want to get? (open-ended)			
	Luxury car	25%	29%
	Class car	19	17
	Standard car	22	22
	Compact car	28	28
	Subcompact car	6	4

TABLE 22

CONDITIONAL PARTIAL CORRELATIONS OF TELEVISION EXPOSURE AND TOY ADVERTISING EXPOSURE WITH MATERIALISTIC ORIENTATIONS

	4-5th grade N=347	6-7th grade N=428	Male N=360	Female N=415	High Status N=321	Low Status N=342
Preference for material goods, by TV exposure	+.21	+.18	+.13	+.23	+.14	+.24
Preference for material goods, by toy ad exposure	+.18	+.10	+.14	+.11	+.07	+.15

All table entries are computed on N=775 fourth, fifth, sixth and seventh grade students. Predictor variables are the General Television Exposure Index and Toy Advertising Exposure Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status and scholastic performance (excluding control variable when it is a conditional variable).

Table 23

PARTIAL CORRELATIONS BETWEEN MEDICINE ADVERTISING EXPOSURE AND ORIENTATIONS

Medicine orientation variable:	Zero-order correlation	Fourth-order partial	Sixth-order partial
Perceived frequency of illness in society	+.19	+.19	+.14
Perceived frequency of people using medicine	+.16	+.19	+.14
Perceived frequency of sleeping problems	+.07	+.04	+.02
Belief in efficacy of medicine for others	+.14	+.13	+.05
Belief in efficacy of sleeping pills	+.05	+.03	+.01
Belief in speed of medicine relief for others	+.12	+.13	+.10
Personal concern about becoming ill	+.22	+.19	+.14
Personal frequency of medicine usage	+.17	+.14	+.03
Efficacy of medicine for self	+.22	+.21	+.12
Approval of medicine usage for illness	+.15	+.15	+.12
Approval of aspirin	+.08	+.09	+.08
Approval of aspirin usage if not ill	+.02	+.01	.00
Approval of multiple aspirin usage	+.07	+.05	+.06
Approval of sleeping pills	+.07	+.02	+.01
Approval of illicit drugs	-.05	-.05	-.04
Approval of uppers and downers	+.02	.00	+.01
Approval of dope and grass	-.11	-.09	-.08
Personal frequency of illness	+.15	+.14	----
Parental approval of medicine usage	+.23	+.18	----

All table entries are computed on N=256 fifth, sixth and seventh grade students. Predictor variable is Medicine Exposure Index, a product of the degree of attention to four representative medicine commercials times the amount of viewing television during periods when medicine commercials are shown. Fourth-order partials control for grade, sex, social status and scholastic performance. Sixth-order partials also control for personal frequency of illness and parental approval of medicine usage.

TABLE 24

CROSS-TABS BETWEEN MEDICINE ADVERTISING EXPOSURE AND MEDICINE ORIENTATIONS

Medicine orientation item:		Amount of Exposure: Light N=128	Heavy N=128
How often do you think that people get stomach aches?			
	A lot	15%	23%
	Sometimes	75	65
	Almost never	10	12
How often do you think that people get colds?			
	A lot	27%	40%
	Sometimes	69	53
	Almost never	4	7
How often do people have trouble falling asleep at night?			
	A lot	21%	23%
	Sometimes	57	58
	Almost never	22	19
When people get a stomach ache, what do they usually do about it? (open-ended, multiple responses coded)			
	Take medicine	34%	45%
	Take specific medicine	22%	17%
	Rest and take medicine	6%	11%
	See doctor	6%	7%
	Rest	17%	12%
	Do nothing	8%	2%
When people get a stomach ache, how much does it help if they take some medicine?			
	Very much	13%	14%
	Pretty much	67	70
	Not so much	20	16

TABLE 24 (CONTINUED)

Medicine orientation item:		Amount of Exposure: Light	Heavy
When people get a cold, how much does it help if they take some medicine?			
	Very much	13%	23%
	Pretty much	70	60
	Not so much	17	17
When people have trouble falling asleep, how much does it help if they take some sleeping pills?			
	Very much	22%	18%
	Pretty much	54	53
	Not so much	24	29
When people feel sad, how much does it help them feel better if they take some pill or medicine?			
	Very much	6%	6%
	Pretty much	9	24
	Not so much	85	70
When people take some medicine for a stomach ache, how long does it usually take for them to feel better?			
	A few minutes	17%	34%
	One hour	39	30
	A few hours	31	29
	One day	13	7
When people take some medicine for a cold, how long does it usually take for them to feel better?			
	A few minutes	13%	19%
	One hour	27	34
	A few minutes	28	26
	One day	32	21
When people have a problem that bothers them, how long does it usually take for them to solve it?			
	A few minutes	12%	13%
	One hour	17	22
	A few hours	42	36
	One day	29	29

TABLE 24 (CONTINUED)

Medicine orientation item:	Amount of Exposure: Light	Heavy
How often do you worry about getting stomach aches?		
A lot	5%	9%
Sometimes	24	38
Almost never	71	53
How often do you worry about catching colds?		
A lot	8%	16%
Sometimes	40	41
Almost never	52	43
How often do you get stomach aches?		
A lot	8%	16%
Sometimes	51	49
Almost never	41	35
How often do you catch colds?		
A lot	19%	20%
Sometimes	51	50
Almost never	30	30
When you get a stomach ache, how much do you take some medicine for it?		
Always	9%	11%
Usually	18	19
Sometimes	39	51
Never	34	19
When you get a cold, how much do you take some medicine for it?		
Always	10%	20%
Usually	30	32
Sometimes	47	42
Never	13	6

TABLE 24 (CONTINUED)

Medicine orientation item:		Amount of Exposure: Light	Heavy
When you take some medicine for a stomach ache, how much does it help you feel better?			
	Always	5%	11%
	Usually	24	36
	Sometimes	44	39
	Never	27	14
When you take some medicine for a cold, how much does it help you feel better?			
	Always	5%	12%
	Usually	38	40
	Sometimes	41	39
	Never	16	9
When people have a stomach ache or a cold, what do you think is the best thing for them to do? (open-ended, multiple responses coded)			
	Should take medicine	22%	30%
	Should take specific medicine	5%	6%
	Should rest and take medicine	6%	11%
	Should see doctor	10%	8%
	Should rest	35%	23%
	Should do nothing	3%	2%
If you had a cold, how many aspirin should you take to feel better? (N=239)			
	Three or more	9%	9%
	Two	39	55
	One	43	34
	None	9	2
Is it OK to take aspirin if you are not really sick?			
	Yes	5%	5%
	Maybe	16	13
	No	79	82

TABLE 24 (CONTINUED)

Medicine orientation item:		Amount of Exposure: Light	Heavy
Here are some kinds of pills and drugs that some people use. For each one, mark whether it is a good thing or a bad thing for people to use: (If you are not sure, write a question mark)			
Aspirin (N=254)	Good thing	59%	63%
	In between	35	32
	Bad thing	6	5
Sleeping pills (N=249)	Good thing	11%	9%
	In between	49	51
	Bad thing	40	40
"Uppers" (N=245)	Good thing	6%	7%
	In between	11	16
	Bad thing	83	77
"Downers" (N=244)	Good thing	5%	4%
	In between	9	16
	Bad thing	86	80
"Dope" (N=252)	Good thing	4%	4%
	In between	9	7
	Bad thing	87	89
"Grass" or "Pot" (N=251)	Good thing	8%	6%
	In between	17	9
	Bad thing	75	85

TABLE 25

CONDITIONAL PARTIAL CORRELATIONS BETWEEN MEDICINE ADVERTISING EXPOSURE AND MEDICINE ORIENTATIONS

Medicine orientation variable:	5th grade N=138	6-7th grade N=118	Male N=118	Female N=138	High Status N=102	Low Status N=118
Perceived frequency of illness in society	+.16	+.17	+.33	+.02	+.18	+.10
Perceived frequency of people using medicine	+.15	+.17	+.11	+.19	+.23	+.13
Belief in efficacy of medicine for others	+.01	+.14	-.02	+.13	+.02	+.05
Belief in speed of medicine relief for others	+.11	+.09	+.17	+.05	+.25	-.03
Personal concern about becoming ill	+.15	+.12	+.12	+.14	+.22	+.13
Personal frequency of medicine usage	+.00	+.11	+.07	-.01	+.02	-.02
Efficacy of medicine for self	+.16	+.07	+.16	+.09	+.23	+.08
Approval of medicine usage for illness	-.02	+.31	+.05	+.16	+.24	-.01
Approval of aspirin	+.07	+.08	+.07	+.07	-.03	+.06
Approval of illicit drugs	+.02	-.09	-.10	-.07	-.06	-.03

All table entries are computed on N=256 fifth, sixth, and seventh grade students. Predictor variable is Medicine Advertising Exposure Index. Partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, scholastic performance, personal frequency of illness and parental approval of medicine usage (excluding control variable when it is a conditional variable).

TABLE 25 (continued)

Medicine orientation variable:	High Scholar N=102	Low Scholar N=113	Often Well N=105	Often Sick N=151	Parents Approve N=143	Parents Reject N=113
Perceived frequency of illness in society	+.20	+.11	+.25	+.08	+.21	+.03
Perceived frequency of people using medicine	+.12	+.16	+.16	+.12	+.09	+.24
Belief in efficacy of medicine for others	+.01	+.05	+.03	+.05	+.05	+.09
Belief in speed of medicine relief for others	+.19	+.05	+.15	+.08	+.09	+.14
Personal concern about becoming ill	+.07	+.17	+.27	+.12	+.18	+.05
Personal frequency of medicine usage	+.06	-.01	+.01	+.04	+.00	+.13
Efficacy of medicine for self	+.33	+.02	+.09	+.14	+.09	+.22
Approval of medicine usage for illness	+.31	+.01	+.02	+.17	+.05	+.24
Approval of aspirin	+.18	+.03	+.03	+.09	-.01	+.15
Approval of illicit drugs	-.02	-.04	-.05	-.01	-.03	-.13

See first page of table for description of sample and variables. High Scholar children are those who report that their school grades are "very good," and Low Scholar are those reporting grades as "pretty good" or "not so good." Often Well children are those schoring 3 or less on index of personal illness, and the Often Sick subgroup score 4 or more (index combines two items dealing with frequency of stomach aches and colds, scored "a lot" = 3, "sometimes" = 2, and "almost never" = 1). Those in the Parents' Approve category report that their parents "always" or that their parents "sometimes" or "never" want them to take medicine.

TABLE 26

PARTIAL CORRELATIONS BETWEEN CEREAL ADVERTISING EXPOSURE AND CEREAL ORIENTATIONS

Cereal orientation variable:	Zero-order correlation	Fourth-order partial
Consumption of heavily advertised cereal brands	+.41	+.37
Consumption of lightly advertised cereal brands	+.27	+.24
Frequency of request for cereal purchases	+.32	+.27
Frequency of conflict and anger over cereal denials	+.20	+.13
Approval of sugar	-.03	+.03
Number of cavities in past year	+.09	+.04

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Cereal Exposure Index, a product of the cereal advertisting attention item times the amount of television viewing on Saturday morning when these messages are shown. Fourth-order partials control for grade, sex, social status, and scholastic performance.

TABLE 27

PARTIAL CROSS-TABS BETWEEN CEREAL ADVERTISING EXPOSURE AND CEREAL ORIENTATIONS, CONTROLLING GRADE IN SCHOOL

Cereal orientation item:		Amount of Exposure: Light N=264	Heavy N=242
Here is a list of breakfast cereals. For each one, make a mark showing whether you eat that kind of cereal a lot, sometimes, or almost never.			
Alpha Bits	Eat A lot	8%	15%
	Eat Sometimes	26	31
	Eat Almost never	66	54
Wheaties	Eat A lot	11%	15%
	Eat Sometimes	23	19
	Eat Almost never	66	66
Boo Berry	Eat A lot	6%	16%
	Eat Sometimes	15	22
	Eat Almost never	79	62
Quangeroos	Eat A lot	3%	7%
	Eat Sometimes	5	11
	Eat Almost never	92	82
Sugar Smacks	Eat A lot	13%	25%
	Eat Sometimes	34	38
	Eat Almost never	53	37
Cheerios	Eat A lot	21%	33%
	Eat Sometimes	26	32
	Eat Almost never	53	35
Pebbles	Eat A lot	8%	23%
	Eat Sometimes	22	23
	Eat Almost never	70	54

TABLE 27 (CONTINUED)

Cereal orientation item		Amount of Exposure: Light	Heavy
Corn Flakes	Eat A lot	28%	37%
	Eat Sometimes	34	27
	Eat Almost never	38	36
Captain Crunch	Eat A lot	20%	42%
	Eat Sometimes	29	28
	Eat Almost never	51	30
Kix	Eat A lot	6%	11%
	Eat Sometimes	11	15
	Eat Almost never	83	74
Rice Krispies	Eat A lot	26%	46%
	Eat Sometimes	37	31
	Eat Almost never	37	23
Cocoa Puffs	Eat A lot	13%	25%
	Eat Sometimes	23	21
	Eat Almost never	64	54
Raisin Bran	Eat A lot	23%	34%
	Eat Sometimes	32	26
	Eat Almost never	45	40
After you see commercials for breakfast cereals on TV, how much do you ask your mother to buy the cereal for you?			
	Ask A lot	12%	27%
	Ask Sometimes	51	53
	Ask Never	37	20

TABLE 27 (CONTINUED)

Cereal orientation item:	Amount of Exposure: Light	Heavy
When your mother says that you can't have a cereal that you ask for, how much do you argue with her?		
Argue A lot	14%	20%
Argue Sometimes	32	35
Argue Never	54	45
When your mother says that you can't have a cereal that you ask for, how much do you get mad at her?		
Mad A lot	15%	24%
Mad Sometimes	25	28
Mad Never	60	48
Most cereal and candy has lots of sugar on it. Do you think sugar is good for you?		
Yes	10%	11%
Maybe	38	32
No	52	57
In the last year, about how many cavities have you had in your teeth? (open-ended)		
None	37%	32%
One	9	14
Two	20	23
Three	12	8
Four	7	9
Five or six	8	6
Seven or more	7	8

TABLE 28

CONDITIONAL PARTIAL CORRELATIONS BETWEEN CEREAL ADVERTISING EXPOSURE AND CEREAL ORIENTATIONS

Cereal orientation variable:	4-5th grade N=241	6-7th grade N=255	Male N=232	Female N=264	High Status N=209	Low Status N=220	Snack Rules N=323	No Rules N=171
Consumption of heavily advertised cereal brands	+.41	+.36	+.41	+.33	+.41	+.37	+.29	+.49
Consumption of lightly advertised cereal brands	+.21	+.30	+.28	+.21	+.27	+.27	+.15	+.38
Frequency of cereal requests	+.31	+.26	+.31	+.22	+.28	+.25	+.20	+.36
Frequency of conflict and anger	+.11	+.19	+.23	+.03	+.10	+.16	+.13	+.14
Approval of sugar	+.06	-.02	+.09	-.04	+.00	+.05	+.06	-.01
Number of cavities in past year	+.03	+.06	+.01	+.07	-.01	+.08	+.10	-.03

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Cereal Advertising Exposure Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, and scholastic performance (excluding control variable when it is a conditional variable).

Table 29

PARTIAL CORRELATIONS BETWEEN NUTRITION ADVERTISING EXPOSURE AND NUTRITION ORIENTATIONS

Nutrition orientation variable:	Zero-order correlation	Fourth-order partial
Belief in nutritional value of orange juice	+.11	+.11
Belief in nutritional value of toast	+.22	+.20
Belief in nutritional value of plain cereal	+.13	+.14
Belief in nutritional value of sweet cereal	+.14	+.12
INDEX OF NUTRITIONAL VALUE OF EMPHASIZED FOODS	+.26	+.24
Belief in nutritional value of waffles	+.16	+.15
Belief in nutritional value of Poptarts	+.27	+.22
INDEX OF NUTRITIONAL VALUE OF ADVERTISED FOODS	+.28	+.24
Belief in nutritional value of eggs and bacon	+.04	+.07
Belief in nutritional value of donuts	+.21	+.17
Belief in nutritional value of cream of wheat	+.13	+.16
INDEX OF NUTRITIONAL VALUE OF NONADVERTISED FOODS	+.23	+.23
Belief in importance of nutritious and balanced breakfast	+.25	+.24

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Nutrition Exposure Index, a product of the degree of attention to the nutrition portion of four representative cereal commercials plus attention to a breakfast nutrition PSA times the amount of television viewing on Saturday mornings when these messages are shown. Fourth-order partials control for grade, sex, social status and scholastic performance.

TABLE 30

CROSS-TABS BETWEEN NUTRITION ADVERTISING EXPOSURE AND NUTRITION ORIENTATIONS

Nutrition orientation item:		Amount of Exposure: Light N=253	Heavy N=253
Which kinds of breakfast foods help make you strong and healthy -- which ones are good for you to eat? Make a mark showing whether each one is very good for you, pretty good for you, or not so good for you.			
Eggs and bacon	Very good for you	72%	78%
	Pretty good for you	26	19
	Not so good for you	2	3
Donuts	Very good for you	8%	11%
	Pretty good for you	33	45
	Not so good for you	59	44
Orange juice	Very good for you	81%	84%
	Pretty good for you	13	14
	Not so good for you	6	2
Waffles	Very good for you	23%	35%
	Pretty good for you	63	55
	Not so good for you	14	10
Toast	Very good for you	30%	48%
	Pretty good for you	59	45
	Not so good for you	11	7
Sweet cereal	Very good for you	7%	9%
	Pretty good for you	24	33
	Not so good for you	69	58
Plain cereal	Very good for you	24%	36%
	Pretty good for you	59	50
	Not so good for you	17	14

TABLE 30 (CONTINUED)

Nutrition orientation item:		Amount of Exposure: Light	Heavy
Cream of wheat	Very good for you	47%	60%
	Pretty good for you	37	28
	Not so good for you	16	12
Pop Tarts	Very good for you	12%	29%
	Pretty good for you	41	37
	Not so good for you	47	34
How important is it to start your day with a nutritious and balanced breakfast?			
	Very important	57%	74%
	Pretty important	33	23
	Not so important	10	3

TABLE 31

CONDITIONAL PARTIAL CORRELATIONS BETWEEN NUTRITION ADVERTISING EXPOSURE AND NUTRITION ORIENTATIONS

Nutrition orientation variable:	4-5th grade N=241	6-7th grade N=255	Male N=232	Female N=264	High Status N=209	Low Status N=220	Snack Rules N=323	No Rules N=171
Index of nutritional value of emphasized foods	+.29	+.21	+.28	+.20	+.26	+.21	+.22	+.28
Index of nutritional value of advertised foods	+.22	+.28	+.22	+.26	+.29	+.17	+.28	+.17
Index of nutritional value of unadvertised foods	+.22	+.26	+.24	+.22	+.26	+.22	+.18	+.31
Belief in importance of nutritious and balanced breakfast	+.23	+.25	+.13	+.34	+.29	+.24	+.25	+.20

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Nutrition Exposure Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status and scholastic performance (excluding control variable when it is a conditional variable).

TABLE 32

PARTIAL CORRELATIONS BETWEEN CANDY ADVERTISING EXPOSURE AND CANDY ORIENTATIONS

Candy orientation variable:	Zero-order correlation	Fourth-order partial
Consumption of heavily advertised candy brands	+.29	+.25
Consumption of lightly advertised candy brands	+.30	+.28
Number of candy bars consumed in past week	+.10	+.10
Approval of sugar	-.06	.00
Number of cavities in past year	+.03	-.02

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Candy Exposure Index, a product of the candy advertising attention item plus the degree of attention to two representative candy commercials times the amount of television viewing on Saturday morning when these messages are shown. Fourth-order partials control for grade, sex, social status, and scholastic performance.

TABLE 33

PARTIAL CROSS-TABS BETWEEN CANDY ADVERTISING EXPOSURE AND CANDY ORIENTATIONS, CONTROLLING GRADE IN SCHOOL

Candy orientation item:		Amount of Exposure: Light N=253	Heavy N=253
How often do you eat each of these kinds of candy bars?			
Snickers	Eat A lot	25%	37%
	Eat Sometimes	40	41
	Eat Almost never	35	22
Butterfinger	Eat A lot	16%	21%
	Eat Sometimes	30	38
	Eat Almost never	54	41
Hershey Chocolate Bar	Eat A lot	32%	49%
	Eat Sometimes	42	37
	Eat Almost never	26	14
Milk Duds	Eat A lot	21%	38%
	Eat Sometimes	40	38
	Eat Almost never	38	24
Baby Ruth	Eat A lot	23%	31%
	Eat Sometimes	30	36
	Eat Almost never	47	33
Kit Kat	Eat A lot	26%	39%
	Eat Sometimes	37	32
	Eat Almost never	37	29
Choc-O-Lite	Eat A lot	24%	35%
	Eat Sometimes	32	35
	Eat Almost never	44	30

TABLE 33 (CONTINUED)

Candy orientation item:		Amount of Exposure: Light	Heavy
In the last week, about how many candy bars have you eaten? (open-ended)			
	None	36%	33%
	One	18	16
	Two	15	16
	Three to five	17	16
	Six or more	14	19
Most cereal and candy has lots of sugar on it. Do you think sugar is good for you?			
	Yes	9%	12%
	Maybe	38	33
	No	53	55
In the last year, about how many cavities have you had in your teeth? (open-ended)			
	None	36%	35%
	One	9	14
	Two	20	20
	Three	11	8
	Four	8	8
	Five or six	8	7
	Seven or more	8	8

TABLE 34

CONDITIONAL PARTIAL CORRELATIONS BETWEEN CANDY ADVERTISING EXPOSURE AND CANDY ORIENTATIONS

Candy orientation variable:	4-5th grade N=241	6-7th grade N=255	Male N=232	Female N=264	High Status N=209	Low Status N=220	Snack Rules N=323	No Rules N=171
Consumption of heavily advertised candy brands	+.23	+.28	+.22	+.27	+.24	+.27	+.24	+.28
Consumption of lightly advertised candy brands	+.24	+.32	+.21	+.35	+.36	+.32	+.31	+.27
Number of candy bars consumed in past week	+.07	+.12	+.09	+.11	+.09	+.14	+.15	+.05
Approval of sugar	+.05	-.06	+.04	-.01	-.01	+.01	+.02	-.02
Number of cavities in past year	-.07	+.04	-.03	-.01	-.01	-.02	+.02	-.06

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Candy Advertising Exposure Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, and scholastic performance (excluding control variable when it is a conditional variable).

TABLE 35

PARTIAL CORRELATIONS BETWEEN TELEVISION EXPOSURE AND GENERAL FOOD ORIENTATIONS

Food orientation variable:	Zero-order correlation	Fourth-order partial
Consumption of heavily advertised food products	+.30	+.28
Consumption of lightly advertised food products	+.30	+.28
Consumption of heavily advertised snack food products	+.06	+.06
Requests for heavily advertised fast-food restaurants	+.17	+.16

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Total Exposure Index, a sum of the amount of viewing of Saturday morning and teenage-oriented programs plus number of hours viewed during evening prime-time. Fourth-order partials control for grade, sex, social status, and scholastic performance.

TABLE 36

CROSS-TABS BETWEEN TELEVISION EXPOSURE AND GENERAL FOOD ORIENTATIONS

Food orientation item:		Amount of Exposure: Light	Heavy
How often do you eat these things?			
Potato Chips	Eat A lot	51%	74%
	Eat Sometimes	38	23
	Eat Almost never	11	3
Pretzels	Eat A lot	23%	44%
	Eat Sometimes	40	37
	Eat Almost never	37	19
Ice Cream	Eat A lot	51%	74%
	Eat Sometimes	43	22
	Eat Almost never	6	4
Soda Pop	Eat A lot	44%	64%
	Eat Sometimes	38	24
	Eat Almost never	18	12
Hot Dogs	Eat A lot	38%	55%
	Eat Sometimes	47	34
	Eat Almost never	15	11
Hamburgers	Eat A lot	53%	68%
	Eat Sometimes	40	26
	Eat Almost never	7	6
Chocolate Drinks	Eat A lot	24%	42%
	Eat Sometimes	34	36
	Eat Almost never	42	22
Cake	Eat A lot	28%	49%
	Eat Sometimes	51	34
	Eat Almost never	21	17

TABLE 36 (CONTINUED)

Food orientation item:		Amount of Exposure: Light	Heavy
Cookies	Eat A lot	45%	62%
	Eat Sometimes	38	29
	Eat Almost never	17	9
When you come home from school in the afternoon, what do you usually eat for a snack? Write the names of things you eat. (open-end; first three responses tabulated).			
	Cookies/Chips/Pop	34%	37%
	Cereal/other/none	30	29
	Milk/Fruit/Sandwich	36	34
How much do you ask your parents to take you to drive-in restaurants like McDonalds and Burger King?			
	Ask A lot	24%	47%
	Ask Sometimes	57	38
	Ask Almost never	19	15

TABLE 37

CONDITIONAL PARTIAL CORRELATIONS BETWEEN TELEVISION EXPOSURE AND GENERAL FOOD ORIENTATIONS

Food orientation variable:	4-5th grade N=241	6-7th grade N=255	Male N=232	Female N=264	High Status N=209	Low Status N=220	Snack Rules N=323	No Rules N=171
Consumption of heavily advertised food products	+.29	+.26	+.20	+.33	+.28	+.28	+.31	+.24
Consumption of lightly advertised food products	+.26	+.31	+.22	+.33	+.27	+.28	+.80	+.26
Consumption of heavily advertised snack food products	+.05	+.06	+.08	+.05	+.09	+.07	+.02	+.12
Requests for heavily advertised fast-food restaurants	+.20	+.11	+.13	+.18	+.03	+.23	+.21	+.09

All table entries are computed on N=506 fourth, fifth, sixth and seventh grade students. Predictor variable is Total Exposure Index. The partial correlations are computed separately for each contingent condition subgroup, while controlling for grade, sex, status, and scholastic performance (excluding control variable when it is a conditional variable).