

## DOCUMENT RESUME

ED 116 784

PS 008 206

AUTHOR Atkin, Charles K.  
 TITLE The Effects of Television Advertising on Children. Report No. 2: Second Year Experimental Evidence. 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-CB-346  
 PUB DATE Jun 75  
 NOTE 59p.; For other reports, see PS 008 205-209 and PS 008 380

EDRS PRICE MF-\$0.76 HC-\$3.32 Plus Postage  
 DESCRIPTORS Age Differences; \*Elementary Education; \*Incidental Learning; \*Intentional Learning; Sex Differences; Sex Role; Socialization; \*Television Commercials; \*Television Research; Television Viewing  
 IDENTIFIERS \*Television Advertising and Children Project

## ABSTRACT

This report, the second in a series of six reports on television advertising and children, presents the results from a series of experimental studies designed to test children's intentional and incidental learning from television commercials. A total of 400 elementary school students of varying socioeconomic status participated in the study, with 50 second-third graders and 50 fourth-fifth graders in each experimental condition. The children viewed stimulus tapes containing children's news, entertainment, and advertising content and then circled answers on a questionnaire read by an experimental assistant. The content of the commercials was manipulated across conditions, with subjects seeing different video or audio versions of an ad (some subjects were exposed to a particular commercial and others not exposed). The questionnaire measured several cognitive, affective, and behavioral intention variables for each of nine experimental advertising manipulations. The manipulations were; (1) occupational sex role socialization, (2) recreational sex role socialization, (3) adolescent hygiene socialization, (4) learning about health from public service announcements, (5) learning appropriate medicine usage, (6) hero-figure endorsements, (7) sex of announcer's voice, (8) comparative message strategy, and (9) message repetition. The findings for each manipulation are presented, and the differential impact of each manipulation is considered within age and sex subgroups of children. (JMB)

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EFFECTS OF TELEVISION ADVERTISING  
ON CHILDREN --

SECOND YEAR EXPERIMENTAL EVIDENCE

Charles Atkin

REPORT #2

TV ADVERTISING  
AND CHILDREN  
PROJECT

PS 008206

THE EFFECTS OF TELEVISION ADVERTISING ON CHILDREN:

SECOND YEAR EXPERIMENTAL EVIDENCE

-- FINAL REPORT --

June, 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, Jack Wakshlag, Nancy Richardson, and Deborah Keller.

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## ABSTRACT

Results are presented from a series of experimental studies designed to test children's intentional and incidental learning from television commercials. Experiments One through Five examine the role of commercials in socializing pre-adolescents to various sex role attitudes and personal health practices. Experiments Six through Nine focus on the persuasive impact of certain advertising message strategies and source attributes. Differential impact of each manipulation is considered within age and sex subgroups of children.

Four versions of a 15-minute experimental stimulus tape contained children's news, entertainment, and advertising content. The tapes began and ended with a brief "In the News" segment, each featuring one commercial. The main portion of the tape presented an abbreviated "Speed Buggy" cartoon accompanied by five more commercials. The content of the commercials was manipulated across the four experimental conditions, with Ss seeing differing video or audio versions of an ad (or with some Ss exposed to a particular commercial and others not exposed). Some of the message were specially produced, while others were taped off the air and manipulated in presentation of the Ss.

Ss were 400 elementary school students in Lansing and East Lansing, Michigan. The schools represented varying socio-economic neighborhoods. In each experimental condition, there were 50 second-third graders and 50 fourth-fifth graders. Ss viewed the stimulus tape in randomly assigned groups of 10-15, and then circled answers on a questionnaire read by an experimenter assistant. There were several cognitive, affective and behavioral intention variables measured for each of nine experimental advertising manipulations. Here are the major findings:

(1) OCCUPATIONAL SEX ROLE SOCIALIZATION -- The occupational role portrayed by a lady giving a testimonial in an ordinary eyeglass advertisement was varied across three versions of the commercial: one group saw her dressed as a court judge, another saw her performing as a computer programmer, a third group saw her as a technician repairing TV sets, and the control group saw no eyeglass commercial. Ss who were exposed to a particular occupational model were more likely to select that occupation as appropriate for women.

(2) RECREATIONAL SEX ROLE SOCIALIZATION -- The sex of children portrayed playing with a traditionally male-oriented racing car set was varied in two versions of a standard toy commercial: one group saw two girls playing with the racing cars and the other half saw two boys in this role. There was little impact of this manipulation; Ss in the female model condition who perceived the

actors to be girls were far more likely to feel that girls should appropriately play with racing cars; they were slightly more desirous of playing with the toy themselves.

(3) ADOLESCENT HYGIENE SOCIALIZATION -- One group of Ss viewed a currently aired acne cream commercial while a control group did not see the ad. Those in the exposed group scored moderately higher than the control group on each dependent variable: worrying about facial blemishes, liking of the advertised product and interest in buying it, and belief of specific advertising claims of efficacy. More than half of the Ss said that they had never seen the ad on TV at home; this subgroup was highly influenced by the message, while there was almost no impact on Ss who had previously viewed the commercial.

(4) LEARNING ABOUT HEALTH FROM THE PSA -- One group viewed a half-minute cartoon message emphasizing that sugar consumption produces cavities and may eventually cause teeth to fall out; the control group did not see this PSA. Exposed subjects were clearly affected along several dimensions: they tended to believe that sugar causes cavities and makes teeth fall out, were more worried about getting cavities, and more often felt that sugar was not good for them. Viewers were slightly more likely to say that they would eat less sugar in the future.

(5) LEARNING APPROPRIATE MEDICINE USAGE -- The verbal script of a standard headache remedy commercial was altered to emphasize moderation in usage. Half heard conventional claims of speedy headache relief, while the others also heard the qualification that the medicine should be taken only "when you really need it" and that one shouldn't take "too many" pills for a headache. The qualified ad was just as effective in terms of brand awareness and acceptance of relief claims. There was a slight tendency for Ss hearing the qualified message to say that people shouldn't take pills for mild headaches and that they would personally take less pills for headache relief.

(6) HERO-FIGURE ENDORSEMENT -- In a commercial promoting a cookie product, the spokesman was dressed either in ordinary street clothes or in an astronaut uniform. The group viewing the ordinary spokesman were slightly more likely to want to eat the cookies than Ss exposed to the astronaut hero figure; there was no difference in the intention to ask parents to purchase the product.

(7) GEX OF ANNOUNCER VOICE -- In a headache remedy commercial, half of the Ss heard the message announced by a male and the other half by a female voice. Recall of the product was slightly higher in the female announcer condition. Belief of the claim and intention to use the product did not differ according to announcer voice.

(8) COMPARATIVE MESSAGE STRATEGY -- One version of a chocolate bar commercial employed a conventional "one-sided" strategy of describing positive attributes of the product in isolation, while a "two-sided" version included favorable comparisons with a competing brand along dimensions of size and nutrition. Ss in the two-sided condition were somewhat more likely to learn about the two attributes of the advertised product. Although many two-sided subjects mistakenly thought that they had seen an ad sponsored by the competing brand, they were no more likely to prefer the competitor; Ss receiving the one-sided message liked each candy brand about as well as the two-sided Ss.

(9) MESSAGE REPETITION -- In the blemish cream experiment, half of the exposed Ss saw the commercial once and half saw it presented twice several minutes apart on the tape. Those in the double exposure condition were more likely to remember the brand name of the product and to worry about blemishes than those exposed once, but did not express any greater liking for the product, intention to buy it, or belief in effectiveness claims.

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## INTRODUCTION AND RESEARCH QUESTIONS

The typical American child views at least 10,000 advertising messages on television each year. Since little is publicly known about the consequences of this extensive exposure, a series of experiments were designed to test some effects of TV commercials on elementary school children. Five experiments examine the role of commercials in socializing pre-adolescents to various sex role attitudes and personal health practices; four experimental studies focus on the persuasive impact of certain advertising message strategies and source attributes. The investigation also considers the differential impact of each manipulation within age and sex subgroups of children.

These laboratory studies are one facet of a larger project exploring children's responses to TV advertising along a number of social and psychological dimensions. Several of the research problems studied here are also under investigation in field surveys utilizing questionnaires administered to children and interviews conducted with parents. Due to space constraints, these other findings will not be described in the present paper, nor is it feasible to review the theoretical or substantive literature relating to each experiment.

From a theoretical perspective, TV commercials have the potential for powerfully affecting children. Under certain circumstances, children can acquire a wide range of new ideas and behaviors from advertisement viewing. This is a consequence of both intentional and incidental learning via observation of televised models and processing of direct appeals. The child's level of cognitive development is a key variable in this learning process. Older children have a more sophisticated ability for processing, structuring and storing incoming information; thus, they have a greater capacity for learning from advertising messages. On the other hand, younger children possess less knowledge and fewer established beliefs and attitudes; they are more likely to encounter information that is novel, and are more susceptible to creation of new affective orientations or change of weakly formed views. Therefore, either older children or younger children may be most strongly affected, depending on the specific situation.

Two basic research issues are posed in this investigation: (a) whether children can learn socially relevant beliefs and attitudes while acquiring product and brand orientations from advertising messages, and (b) whether attitude change propositions, primarily developed from research using non-commercial messages and adult samples, are applicable to our understanding of TV advertising's effect on child audiences. The next two sections of the paper briefly present specific research questions in each of these areas.

Socialization research questions. The first set of experimental studies assesses the influence of TV commercials in creating or changing children's orientations toward female work and play roles and toward health and hygiene

practices. There are five research questions, numbered in order of data presentation:

- (1) OCCUPATIONAL SEX ROLE SOCIALIZATION -- How does the portrayal of counter-stereotypical female occupational models affect children's attitudes about appropriate female work roles?
- (2) RECREATIONAL SEX ROLE MODEL SOCIALIZATION -- Can the portrayal of girls playing with traditional male toys influence children's attitudes about appropriate female recreational roles?
- (3) ADOLESCENT HYGIENE SOCIALIZATION -- To what extent do older children use TV commercials for personal hygiene products to learn about normative teenage hygienic behavior?
- (4) LEARNING ABOUT HEALTH FROM THE PSA -- How much influence does the public service announcement have on children's views about health practices, such as the link between sugar consumption and dental problems?
- (5) LEARNING APPROPRIATE MEDICINE USAGE -- Can qualifying statements emphasizing restricted usage in conventional medicine commercials affect children's orientations about proper circumstances and dosages for medicine-taking?

Persuasion technique questions. The other experiments test the effectiveness of some common persuasion strategies involving source credibility, message appeals, and frequency of presentation. These questions are studied:

- (6) HERO-FIGURE ENDORSEMENT -- Are children more influenced when a product testimonial is presented by a celebrity rather than an ordinary spokesman?
- (7) SEX OF ANNOUNCER VOICE -- What is the relative authoritativeness of a male vs. female commercial announcer for child audiences?
- (8) COMPARATIVE MESSAGE STRATEGY -- Is a "two-sided" message which explicitly compares a product to a competing brand more effective with children than the conventional "one-sided" description of positive product attributes?
- (9) MESSAGE REPETITION -- Does the repeated presentation of a commercial produce more favorable cognitive and affective impact on children than a single presentation of the message?

Child characteristics. The primary analyses are concerned with the main effects of the manipulations on all viewers. Several types of interactions by viewer characteristics are also examined. In each experiment, developmental differences in response are assessed across two age levels to determine whether older or younger children are most influenced. Differential effects on boys and girls are also analyzed, particularly in the three experiments involving sex role manipulations. Finally, prior attitudes or previous home exposure to commercials are introduced into the analysis in four experiments to isolate conditions of maximal effects.



## BASIC METHODS

Those elements of the experimental method that are common to all of the studies in this series will be described in this section. Description of the unique characteristics of the various manipulations will then be presented separately for the nine experiments in sequence, accompanied by the findings and implications of each study.

Experimental subjects. Ss are 400 elementary school students drawn from four elementary schools in the Lansing area. Half of the students are second and third graders, and half are in fourth and fifth grades; in the interaction analyses, these two age subgroups are used to designate the younger vs. older Ss. There are 222 girls and 178 boys in the sample.

The schools were chosen to represent both working and middle class neighborhoods in the inner city and suburban areas of Lansing and East Lansing. Almost every student in the selected grades in each school participated in the experiment, with their parents' written permission (See Figure 9).

Experimental stimulus tapes. Four versions of a 15-minute experimental videotape contained children's news, entertainment and advertising content. Each tape began and ended with a brief "In the News" segment; both newscasts featured one commercial embedded between the introduction and main segment of the news story. The central portion of the stimulus tape presented an abbreviated "Speed Buggy" cartoon accompanied by five additional commercials. Two commercials preceded the Saturday morning cartoon, two more were placed midway through the cartoon, and one was shown at the end. The composition of each stimulus tape is outlined in Figure 8.

The content of the commercials was manipulated across the four experimental tapes. For five experiments, an "experimental" version of an advertisement was shown on two of the tapes while the other two tapes contained a "control" version depicting a conventional portrayal of the commercial. Two experiments merely presented an "experimental" commercial on two tapes and displayed an unrelated commercial in the corresponding time slot on the other two tapes. The occupational sex role manipulation featured different portrayals on three of the tapes; the fourth tape was used for a second showing of the Clearasil advertisement in the message repetition experiment.

Experimental procedures. The stimulus tapes were played on a normal television monitor viewed by groups of 10-15 Ss. All students from a given classroom were tested simultaneously. Half of the class was randomly selected to view one version of a tape in a spare room in the school, while the other half watched a different version in their classroom. The experimental assistant explained that the class must be subdivided into two viewing groups because there were too many students to watch a single TV set.

One of the four stimulus tapes was randomly selected for showing to each group. The tapes were played on a videotape machine hidden behind the TV monitor. After the subjects were settled in chairs scattered in front of the monitor, the tape was begun. While the subjects viewed the tape, two assistants

remained in the back of the room to maintain order. Subjects were generally attentive and well-behaved during the playing of the stimulus tape. However, the lack of diversion in the experimental room did constrain the latitude of alternative activities ordinarily available at home. This factor may have artificially heightened attention to the commercials.

At the end of the tape, Ss remained in the viewing room and received a 10-page questionnaire containing multiple-choice questions dealing with the advertising and news topics. One assistant read aloud each question and the accompanying response categories, while the other assistant circulated around the room to aid those having difficulties. Ss merely circled the response choice that applied to them. On some items, the response of "not sure" was available, and the assistant encouraged doubtful Ss to circle that answer.

The questionnaire began with two pages of items assessing reactions to the news programming. The next seven pages dealt with advertising. First, children were asked to recall which commercials they had seen: "There were also some TV commercials shown in the program. Which things did they want you to buy in the commercials you saw today?" This was followed by a list of eight products, including three products not shown on the stimulus tape. For each one, students were asked "Did you see this commercial?" and they could indicate "yes," "no," or "not sure." This was followed by sets of items relating to each of the experimental commercials, tapping cognitive and affective responses to products, practices, and portrayals in the commercial messages. One page of the questionnaire containing facial blemish questions was not used with the second and third graders because the subject matter was considered inappropriate for such a young age-group (Survey in Appendix A).

**Analysis.** Two basic types of statistics were used to describe the relationships between each experimental condition and the dependent variables. The tables of data present the percentage distribution of answers on each item in separate columns by condition. This allows an examination of the absolute levels of response and the exact pattern of differences between the experimental and control groups. Chi-square tests of significance were computed between the groups.

A more efficient form of data presentation is the correlation coefficient between the independent and dependent variables. The manipulation is considered as a dummy variable, assigning the control condition a value of 0 and the experimental condition a value of 1. The dependent variables are assigned scores of 0, 1, 2, etc., from the bottom response category to the top category presented in the table. Thus, if the group viewing the experimental version scores higher than the control group on a dependent variable, there is a positive correlation; the size of the coefficient represents the strength of association (or degree of difference between the two groups). This statistic provides a concise and sensitive summary figure to describe the impact of the manipulation. Furthermore, the correlation coefficients can be compared directly with each other and can be translated into a "variance accounted for" calculation. These features make the coefficient a valuable tool for describing the differential effects of the manipulation within age and sex subgroups. A conditional correlation can be computed between experimental condition and

dependent variable for the older children and for the younger children, in addition to the correlation across the total sample. This representational form is more efficient and interpretable than a two-way analysis of variance table. In terms of statistically significant relationships, a correlation of  $r=+.08$  reaches the  $p<.05$  level of significance for the overall sample of 400; subgroup correlations must be greater than  $r=+.12$  to be significant.

### (1) OCCUPATIONAL SEX-ROLE SOCIALIZATION

In the first experiment, a conventional testimonial advertisement provided the setting for manipulating the occupational role portrayed by a female offering an endorsement for eyeglasses. The 35-year-old lady was featured in three different versions of the commercial: in one condition, she was dressed as a court judge; another showed her performing as a computer programmer; and a third variation presented here as a technician repairing TV sets. A no-job condition did not include this commercial.

Each experimental version opened with a middle-range camera shot of the model in her working environment: the "judge" sat at a large desk holding a legal volume in a book-filled chamber; the "programmer" sat at a computer terminal console in a modern office; and the "TV technician" was fixing a television set in an equipment-cluttered shop. In each version, the model introduced herself and identified her occupation. As the camera zoomed closer, she emphasized the occupation by linking it to eyeglasses: "You'd be surprised how important good vision is for a judge's (computer programmer's/TV technician's) job." As she described the value of good eyesight, a short-range shot allowed a closer view of her occupational attire: judge robe, clerical pantsuit, or repair smock. See Figure 1 for the three commercial storyboards.

According to random assignment, four groups of subjects saw one of these three occupational portrayals or viewed an acne cream commercial in that time slot on the stimulus tape. Thus, a basic experimental vs. control group design exists for each of three different occupational models. Subjects exposed to one particular portrayal can be compared to all subjects not exposed to that version; the hypothesis can be tested three times.

In the post-viewing measurement, Ss rated whether six job classifications were appropriate for women to occupy. They were asked which jobs they thought that "women might work in." The students were instructed to circle as many or as few jobs as they wished. The list began with two polar-opposite warm-up jobs, "teacher" and "truck driver." Then came the three key occupations portrayed in the experimental commercial, followed by "doctor" to gauge any generalized learning effects from the professional judicial portrayal. Table 1 presents the proportions of Ss in each condition who felt that women might occupy each job category.

Effect of judge portrayal. Fully 51% of the Ss exposed to the judge model thought that the judicial occupation was appropriate for women, compared to 27% in the no-job condition and about one-third in the other two occupational conditions. Combining the three non-judge treatments into an overall control condition, there is a highly significant difference of 20 percentage points between subjects exposed and not exposed to the judicial model. This difference

can be represented as a correlation coefficient of  $r=+.18$ , using exposure vs. non-exposure as a dummy predictor variable.

Analyses of differential impact within subgroups of the sample indicate that the older Ss are primarily affected, with  $r=+.32$  for the fourth-fifth grade subgroup and  $r=+.03$  for the second-third graders. There is also a strong interaction effect by sex of Ss, as girls ( $r=+.24$ ) are much more influenced than boys ( $r=+.06$ ). In percentage terms, 57% of the girls viewing the judge portrayal selected the judicial occupation as female-appropriate, compared to 31% in the control condition; the difference for boys was only 39% vs. 31%.

Effect of computer programmer portrayal. Among those exposed to the programmer model, 62% deemed this occupation as acceptable for women. While this rate is somewhat higher than found in the no-job and judge treatments, Ss viewing the TV technician also scored 62%. There is a non-significant 8 percentage point spread between the programmer condition and the overall control condition, and a dummy correlation of  $r=+.07$ . More impact occurs among older Ss ( $r=+.11$ ) than younger Ss ( $r=+.04$ ). There is no difference in effect between the boys and girls.

Effect of TV technician portrayal. The technician model had a very minor impact, as only 36% of the exposed Ss selected this as a possible occupation for females. This rate is somewhat higher than the 26% in the no-job group, but it exceeds the proportion in the overall control condition by just 5 percentage points. The correlation coefficient is  $r=+.05$ , with a larger impact recorded in the older subgroup ( $r=+.08$ ) than the younger subgroup ( $r=+.01$ ), and more influence on boys ( $r=+.11$ ) than girls ( $r=.00$ ).

Other effects. As expected, there is no consistent difference among the four conditions on appropriateness ratings of teacher and truck driver. There is a significant tendency for Ss viewing the judge model to feel that females might work as doctors. While 60% of the Ss in the other three conditions chose doctor, 74% of those exposed to the judge made that choice. There are no differences in experimental impact within the age and sex subgroups on doctor ratings.

Discussion. Across three replications, the basic pattern of findings consistently demonstrates incidental learning of non-stereotypic female occupational roles. Children viewing a commercial featuring a woman in an atypical work role more often think that adult women might occupy that job. Averaging the results of the three sub-experiments, 50% of the students exposed to an occupational model feel that it is female-appropriate. This compared to an average appropriateness rating of 35% in the "pure" control group that did not see any occupational model commercial. A further point of comparison can be drawn by examining ratings of students exposed to a model in an occupation other than the one under consideration; this broader control group scores an average of 40%. These averages are based on three differing types of jobs ranging along the occupational status scale from professional to working class.

The results are clearest in the case of the female judge, which is probably the most distinctive portrayal, the most prestigious occupation, and the job most divergent from conventional stereotype. The impact on the computer programmer model might have been limited by the perception that women now occupy similar clerical roles; thus the portrayal did not represent an obvious counter-stereotype. The restricted impact of the female TV technician may be explained by the fuzzy "technician" concept. This unfamiliar label was applied in order to avoid using the sexist "repairman" term. Perhaps more conclusive evidence would have been obtained if the manipulation had involved jobs better recognized and understood by the young subjects.

The impact of these occupational presentations is not uniform within the sample studied. In each sub-experiment, the older students in fourth and fifth grades were more influenced than the second and third graders. In fact, there were almost no effects detected with the younger students. This is probably due to their limited capacity for processing the peripheral occupational information embedded in the commercial, and their inability to comprehend occupational classifications. Interactions by sex of subject show mixed evidence, as girls were more strongly influenced in one case and boys in another. It appears that either sex can be affected by this type of material.

There are an interesting pair of findings regarding the generalization of learning beyond the specific occupation depicted in the commercial. Those who saw the female judge were also more likely to feel that women can be doctors. This suggests that there is some transfer of learning from one high-status profession to another; seeing a woman in the unusual judicial role apparently makes the prospect of a female doctor more tenable. Evidence of a more general transfer process comes from the analysis of experimental Ss' ratings of occupations other than the one specifically shown to them, which are slightly higher than the ratings of the "pure" control Ss who saw no occupation portrayed. For instance, those who viewed the advertisement with a female TV technician more often thought that any of the listed occupations were appropriate than did the non-exposed control group. Thus, exposure to one non-stereotypic depiction apparently has some effect on conceptions of occupations not viewed.

Although the magnitude of effects discovered in this study are not spectacular, it must be emphasized that the students were shown only one brief commercial which centrally focused on the product rather than the characteristics of the model. Certainly repeated exposure to a variety of atypical female occupational roles over many months would have a more dramatic impact on children's acquisition of sex role orientations.

## (2) RECREATIONAL-PLAY SEX ROLE MODEL

The sex of children portrayed playing with a traditionally male-oriented racing car set was varied in two versions of a standard toy commercial. One group saw two girls playing with the racing cars and the other group saw two boys in this role. These play models were of the same age, race, and social class, and were dressed in conventional school attire. Two models of each sex were used in order to reduce bias from idiosyncratic attractiveness of a particular model.

After an opening shot of the Tyco Pro-Racer box, the commercial showed a long shot of two nine-year-olds sitting at the race track layout. They each placed their racing car on the track and began the race as the announcer described the action. The middle portion of the ad featured exciting racing footage from various angles, interspersed with shots of the children shifting their manual gear-box controls. At the end, a close-up portrayed one child of the pair admiring the winning car while the announcer recommended that viewers "get yours today." See Figure 2 for commercial storyboard.

In the post-test, Ss were asked six questions relating to this commercial: recall of the ad, identification of brand name, recognition of the models' sex, approval of girls playing with toy racers, personal desire to play with racing cars, and likelihood of actually requesting the racing set as a gift.

Perceived sex of model. A major problem arises in examining how Ss perceived the sex of the female models. Table 2 shows that those viewing the male-model condition almost universally identified model sex accurately. However, just 41% of the Ss exposed to the female-model condition recognized that they were girls; females and older Ss were marginally more accurate in this perception.

Due to the misperception of the models' sex, further analyses were conducted within the female-model condition; the right hand column in Table 2 displays responses of the 81 Ss who realized that the models were girls, dropping the 119 Ss who either thought the models were boys or weren't sure of the sex.

Recall. There are no differences between the two experimental groups on recall of the commercial or correct identification of the brand name (Table 2). In each case, the older and female subgroups learned this information slightly better in the female-model condition, while the younger and male Ss were more often correct when viewing male models. Those who realized that they were watching girl models were substantially more likely to remember the ad and brand.

Approval. The key dependent variable was the attitude whether "girls should play with toy racing cars." There is a minor difference in the predicted direction (Table 2); treating male- vs. female-model condition as a dummy predictor, there is a correlation of  $r=+.05$  with the approval rating. The influence is stronger for boy Ss ( $r=+.09$ ) than among girls ( $r=+.02$ ), with little difference between older and younger Ss.

Much more dramatic effects are found for those Ss who correctly perceived that the models were girls: 40% of them said that girls should play with the toy, double the rate for the other Ss.

Desire. The two items tapping desire to play with and possess the racing toy yield no clear difference by experimental condition. Treatment correlates  $r=-.03$  with the degree to which they would "like to play with those toy racing cars" and  $r=+.05$  with plans to "ask your parents to buy toy racing cars for you." The effect does not interact with age or sex categories on either measure.

The dominant determinant of toy preference is sex of subject: 72% of the boys vs. 24% of the girls in the sample wanted "very much" to play with the toy, and 48% of the boys vs. 7% of the girls indicated they would ask for it.

The impact of the female-model condition is somewhat greater among those with accurate sex perceptions. Female Ss who recognized that the models were girls were especially likely to want to play with the toy.

Discussion. It is difficult to assess the effectiveness of this technique in broadening recreational sex role perspectives because many students inaccurately perceived the sex of the female models. Considering this perception measure as a manipulation check, the stimulus apparently failed to convey the message that the children were girls. On the other hand, this evidence of misperception provides valuable insight into the selectivity of Ss' expectations regarding likelihood of boys vs. girls playing with racing cars (the male orientation is reflected in the lack of positive response to an item asking whether girls should play with toy cars, as only one-fourth of the sample replied affirmatively: 16% of the male Ss and 32% of the females said "yes").

Since the male-model condition represents the status quo in television commercials, Ss viewing this portrayal can be considered as a control group for examining the impact of the female-model variation. Any inferences about the effects of introducing counter-stereotypical female play roles depend on whether one examines the total group in the female-model condition or focuses only on the subgroup that perceived accurately.

The most conservative test requires that the total group of female-model Ss be analyzed. In this case, any lack of difference between the two treatments can be partially attributed to a "weak" manipulation. Nevertheless, some tentative conclusions can be drawn. First, those exposed to an atypical female play model are equally able to remember the commercial and the brand name of the toy. (For those concerned that this counter-stereotyping technique would detract from the cognitive effectiveness of a message, this finding may be comforting; for those hoping for a greater visibility by using this approach, the results are not encouraging). In sum, awareness of an advertisement and brand does not appear to be influenced. Second, there are slight indications that the portrayal of girls in a non-stereotypical play role tends to increase approval of female participation in that form of recreation, especially among boys. Third, this technique does not seem to affect the desirability of the toy among either sex; portrayal of girls in this play role neither inhibits the desire of boys nor increases the preferences of girls. (Again, the first finding may be comforting but the second finding is discouraging to those seeking to widen girls' recreational interests.)

Considering only the subset of students who realized that the models were girls, the differences are greater. These Ss displayed somewhat greater recall, much greater approval of girls playing with the toy, and slightly more preference for the toy. Thus, the portrayal of this form of anti-stereotype does produce more positive cognitive and affective impact. However, these differences may be partially due to self-selection of more attentive

and attitudinally favorable Ss into the accurately perceiving subgroup: for instance, students who previously felt that girls should play with racing toys might have been more likely to recognize that the play models were girls. The validity of this argument is somewhat weakened by the finding that neither girls nor older children were over-represented in the subgroup with accurate perceptions.

In conclusion, the results suggest that use of atypical female play role portrayals don't have any negative effects in terms of reducing recall or favorability toward the product. There is limited evidence that positive influence occurs along both the cognitive and affective dimensions, although the findings are less clear on this point.

### (3) ADOLESCENT HYGIENE SOCIALIZATION

In the absence of direct experience and interpersonal advice, pre-adolescents may use television commercials to learn about many aspects of teenage role behavior, such as normative hygienic practices. This study examines the impact of an off-the-air acne cream commercial on the older fourth and fifth grade students. Half of these Ss were exposed to the advertisement, while the other half served as a non-viewing control group.

The commercial selected for this test dealt with Clearasil, an acne medicine used by many teenagers. The video track portrays several lively youths using the cream and tossing the tube from one person to another. The basic theme is repeated three times by the young actors: "Clearasil is the most serious kind of blemish medicine you can get without a prescription. Pass it on." The announcer also states that Clearasil "goes right on acne pimples to dry up and help heal them . . . drinks up excess oil in other places, too." This commercial is frequently shown during television programs oriented toward teenage audiences. The commercial storyboard is presented in Figure 3.

The measuring instrument dealt with several types of effects: concern about facial blemishes, knowledge of methods to combat blemishes, beliefs about the qualities of the product, and desirability of the product. Since learning from the commercial should be greater for those Ss who were previously unfamiliar with the message, amount of home viewing of this advertisement was also measured. The younger children in the sample were not asked these questions because they were several years away from the adolescent period when acne problems occur.

Concern. Ss were asked whether they "worry about blemishes or pimples on your face." Table 3 shows that those who saw the ad are more likely to report such a concern: 33% worry "a lot," compared to 22% of the non-exposed group. The correlation between treatment and the dependent variable is  $r=+.10$ , with a slightly stronger relationship for girls than boys.

Knowledge. The next item asked what should be done "to get rid of skin blemishes." Three-fourths of the experimental group selected the "skin cream" option, compared to half of the control Ss (Table 3). Conversely, the control group chose the "regular soap" option twice as often as the exposed Ss,



and many more said they were "not sure." This highly significant difference is reflected in a correlation of  $r=+.20$ . Both sexes are equally affected.

Desire. The Clearasil commercial has a clear impact on both liking for the product and intention to buy it. In response to "how much do you like Clearasil," equally small proportions in each group said "very much" but far more experimental Ss reported "pretty much." Similarly, responses to "do you think that you would buy Clearasil" differ mainly in the second "maybe" category. The treatment correlation is  $r=+.14$  with the first measure, and  $r=+.17$  with the other measure. Girls are more influenced on the liking measure, and boys are more affected on intention to buy.

Belief. Acceptance of the two claims made in the commercial is also substantially greater in the experimental group. Almost twice as many exposed Ss as non-exposed Ss believe that "Clearasil is the most serious kind of blemish medicine" while the belief that "Clearasil really dries up pimples" is much stronger in the exposed group. These significant differences are represented by correlations of  $r=+.19$  and  $r=+.17$ , respectively. Girls are more affected on the first variable and boys are influenced the most on the second measure.

Previous exposure. The home exposure measure asked, "When you are watching television at home, how often do you see commercials for Clearasil?" Since only a few Ss had seen Clearasil commercials "a lot," they were combined with the large number who had viewed these ads "sometimes" to create a home viewing subset of 83 Ss. The remaining 117 Ss had "never" seen any of these commercials on their home television.

On each of the six dependent variables, the previously exposed Ss are negligibly affected by the experimental manipulation. The home viewing Ss in the experimental group differ little from the home viewing Ss in the control group. On the other hand, there are highly significant effects for the subset of Ss who had not seen any Clearasil ads at home; those in the control group score substantially lower than those in the experimental condition on all measures. This pattern of interactions can be most efficiently presented with correlation coefficients between treatment and dependent variable within each subset of Ss:

<u>r between treatment and:</u>	<u>Exposed at Home</u>	<u>Previously Unexposed</u>
Concern about pimples	+01	+16
Knowledge about skin cream	+02	+28
Liking for Clearasil	-.07	+28
Intent to buy Clearasil	-.08	+27
Believe serious medicine claim	+02	+30
Believe dry pimple claim	+02	+25

Discussion. Exposure to this acne cream commercial has a consistent and strong impact on the pre-teens along several dimensions. The effects on concern, knowledge, desire, and belief are substantial for this particular product. These findings indicate that television commercials dealing with such a

teenage hygiene practice serves as an important source of cognition and affect for young people anticipating this new life-cycle role.

The commercial has almost no impact on those students who had previously viewed similar ads at home. This null effect could be expected, since the brief experimental exposure yields no new informational or persuasive stimuli for a child who might have seen the message dozens of times before the experiment.

The impact on previously unexposed students is especially dramatic. Their initial contact with the content in the acne cream commercial provides potentially useful material attuned to anticipated needs. Thus, they are highly susceptible to influence from this novel message.

This evidence demonstrates how television commercials for hygienic products can function as a crucial socialization agent for a child entering adolescence. Youths facing the personal problems of the teenage years often obtain little interpersonal guidance from parents or peers, so they may rely on advertising for information on sensitive or taboo topics.

#### (4) LEARNING ABOUT HEALTH FROM THE PSA

This experiment tests the impact of a non-commercial message urging that children reduce consumption of sugar. Half of the Ss viewed the public service announcement, while the other half were not exposed. The control group saw an unrelated acne cream commercial during that time slot on the stimulus tape.

The half-minute cartoon message depicts an entertaining debate between a tongue and a tooth. While the tongue argues that sugary things are fun to eat, the tooth points out that it will get cavities since "sugar can ruin teeth." The tooth also suggests that sugar can cause teeth to fall out: "Think of your teeth, tongue . . . because if you don't, we're going to leave you." The tongue finally agrees to consume less sugar, because it's a case of "give up some sugar or give up some teeth." This public service announcement is one of a series produced by On Second Thought, a consumer group in Washington, D.C. The PSA is being aired in many markets around the country, but it had not been shown on stations viewed by the Ss. See Figure 4.

The post-questionnaire asked five questions about sugar and cavities: beliefs about the health value of sugar and sugar's contribution to cavities and tooth loss, concern about cavities, and future sugar consumption intentions.

Beliefs. The first item asked Ss whether "sugar is good for you." While most thought that sugar was bad, there is a significantly higher percentage of negative answers in the group exposed to the anti-sugar PSA than the control group (Table 4). The correlation of exposure treatment with this belief is  $r=+.13$ ; the impact on male Ss ( $r=+.22$ ) is substantially greater than the impact on females ( $r=+.02$ ). Younger students are slightly more influenced than older ones.

A subsequent pair of items specifically measured beliefs about the dental effects of sugar. Table 4 shows that somewhat more experimental than control Ss thought that "sugary things make cavities," a correlation of  $r=+.06$ . In this case, influence is greater on girls ( $r=+.09$ ) than boys ( $r=+.01$ ), with older Ss learning slightly more than young. For the more dramatic claim that "your teeth might fall out" if too much sugar is eaten, the effect of the message is highly significant. Half of the exposed group agreed with this statement, compared to one-third of the control group. The dummy correlation of  $r=+.19$  is somewhat stronger for male Ss ( $r=+.26$ ) than for females ( $r=+.14$ ), and slightly stronger for younger than older Ss.

Concern. Before responding to those two questions linking sugar to tooth problems, the Ss were asked how much they were "worried about getting cavities." The dental PSA has a clear impact on this concern about tooth decay, as three-fourths indicated that they were "very much" worried. This is 14 percentage points higher than the control group, and the difference is represented by a mild correlation of  $r=+.11$ . The impact of the treatment is greater on the younger Ss ( $r=+.16$ ) than the older subgroup ( $r=+.06$ ), with little difference in response between the sexes.

Behavioral intent. Ss were also questioned about their future sugar consumption plans. Most felt that they would eat fewer sugary foods; the experimental Ss are slightly more likely than control Ss to promise a reduction in sugar intake. The non-significant difference is reflected in the small correlation of  $+0.05$  between treatment and intention. Any effect is limited to younger Ss ( $r=+.09$ ), as there is no relationship in the older group. Boys are slightly more influenced than girls in the sample.

Discussion. The anti-sugar PSA had a positive impact on each dependent measure in the study, including several strong effects. Averaging across the three belief items, Ss who viewed the message score about 13 percentage points higher than those not exposed. Although most children previously recognized that sugar can be harmful, exposure to this single PSA appears to have a considerable impact on this set of beliefs.

The message also serves to intensify the children's concern about dental cavities. Despite a potential ceiling effect due to widespread worry about tooth decay, the experimental Ss were clearly influenced by the mild threat posed in the cartoon message. Finally, there is a modest tendency for exposed students to indicate that they will eat fewer sugary foods; of course this verbal report may not reflect actual behavior, and any change in behavior might be very temporary.

The evidence shows that boys are much more affected than girls in this sample. Perhaps boys are less conscientious about the issue of sugar and dental problems; they had a less developed orientation toward the harmfulness of sugar, probably due to less intensive parental training on this topic. Thus, boys may have been more susceptible to influence from a message theme perceived as relatively novel. This explanation would also apply to younger children, and the pattern of findings indicates somewhat greater impact on second and third graders than the older subgroup.

In sum, this evidence demonstrates the effectiveness of a typical public service announcement for children. Obviously the impact of PSAs varies according to the topic of the message and quality of presentation, but the particular example studied here is fairly representative. This experiment illustrates the potential for non-commercial persuasive messages to influence child audiences.

#### (5) LEARNING APPROPRIATE MEDICINE USAGE

The typical commercial for a medical product portrays the benefits of the medicine without emphasizing moderation in usage. Recently, some advertisements have begun to specify limitations in the circumstances and amount of medicine usage; however, these qualifications are generally unobtrusive and limited to a few products.

Since children may use medicine commercials as a source of information about appropriate medicine-taking behavior, this experiment seeks to determine the impact of a message recommending moderation in usage. The audio track of a standard off-the-air Bufferin commercial was redubbed by an announcer in two versions: the basic original script and a modified script emphasizing restricted usage. The video portion of the commercial remained unchanged.

The original script version presented conventional claims of speech headache relief, demonstrating that "by the time most of Bufferin is going to your headache, most of plain aspirin is still in your stomach." The commercial ends with an audio and video reminder that Bufferin is "faster to your headache." These same elements were also used in the modified version. The only difference occurs in the middle of the script, where the original presentation restates that "Bufferin gives you fast relief for your headache - and this difference can be important." In the qualified usage script, that statement is replaced by this recommendation: "But remember - only use Bufferin when you really need it - and don't take too many Bufferin tablets." Thus, the revised message warns viewers that the headache remedy should not be used unless it is genuinely necessary and that the amount of dosage should be limited. (Figure 5).

The experiment seeks to demonstrate that the message of moderation can be communicated without damaging the persuasive effectiveness of the commercial. Half of the children served in the control group that watched the conventional version of the commercial, while the other half were exposed to the modified experimental version.

In the post-viewing questionnaire, five items tapped the dependent variables: recall of the commercial, acceptance of the rapid relief claim, intention to use the product, appropriate circumstances for usage, and appropriate dosage.

Recall. Table 5 presents data showing that most of the Ss in each condition remembered the commercial. The non-significant difference results in a negligible correlation of  $r=+.04$  between treatment and recall; the experimental group actually retained the commercial at a slightly higher rate. There is no interaction by sex, while the younger Ss ( $r=+.10$ ) are affected more than the older Ss ( $r=-.02$ ).

Belief. The impact of the primary efficacy claim is measured by an item asking if "Bufferin works faster than plain aspirin." There is no difference between the groups viewing the original and modified versions of the commercial (Table 5), as the correlation is  $r=-.01$ . The modified script is mildly more effective for younger ( $r=+.03$ ) than older children ( $r=-.05$ ), and for girls ( $r=+.05$ ) than boys ( $r=-.07$ ).

Desire. One item asked Ss if they would "take some Bufferin" for a headache. The distribution of answers between the two groups is again nonsignificant, correlating  $r=+.02$ . As on the previous measure, the qualified treatment has a positive impact on the girls ( $r=+.08$ ) and a negative effect on boys ( $r=-.04$ ). There is no differential response by age group.

Appropriate usage. To measure the impact of the discretionary usage aspect of the qualified recommendation, an item asked if "people should take a pill if they have just a little headache." There is a very slight tendency for the Ss viewing the qualified version to say "no," but the difference is far from significant. The correlation between treatment and the restricted usage response is  $r=+.03$ . This learning effect is limited to the younger Ss ( $r=+.06$ ) and females ( $r=+.06$ ), as there is no relationship in the other subgroups.

The impact of the cautionary dosage statement was assessed by this question: "If you had a headache, how many Bufferin should you take to feel better?" The students could circle any number from 0 to 8; the analysis combines the categories above 2. Table 5 shows that 64% of the experimental Ss vs. 55% of the control Ss would take less than two tablets. Those hearing the qualified version of the script would consume an average of 1.37 Bufferin, compared to 1.49 tablets in the group hearing the conventional script. Neither difference achieves statistical significance. The correlation is  $r=+.06$  between treatment and the restricted usage response. The older Ss are slightly more influenced than the younger, while no differential influence occurs by sex.

Discussion. The headache remedy commercial emphasizing moderation in usage had minor effects on the critical dependent variables involving appropriate circumstances and amounts of medicine-taking. Those exposed to the version recommending the Bufferin be used in restricted situations and quantities were somewhat more likely to feel that fewer tablets should be consumed; however, they were only marginally more likely to feel that pill-taking should be limited to serious headaches.

The lack of dramatic impact is understandable, considering the weak nature of the manipulated stimulus. The two versions of the message differed by just one brief sentence inserted within a rather sedate and ordinary commercial that was not designed to attract children's attention. A more forceful qualification repeated frequently within a range of medicine advertisements would undoubtedly have a more significant effect. Such information could exert an important socializing influence on young people, especially those who receive little parental training regarding medicine usage.

The references to usage restrictions did not reduce the persuasive influence of the commercial. Students who heard the qualified script remembered the commercial, accepted the primary efficacy claim, and intended to use the product to the same degree as those hearing the conventional script. This experiment illustrates the potential for responsible advertisers to teach children about proper medicine usage while persuading viewers to select the advertised product.

#### (6) HERO-FIGURE ENDORSEMENT

A number of persuasion researchers have studied the relative effectiveness of the same message attributed to either a high or low credible source. The persistent finding that source credibility makes an important difference has led companies to search for commercial personalities perceived as competent, trustworthy, and/or dynamic. In children's advertising, program hosts and characters are considered to be influential, although industry codes limit this practice. This experiment examines whether a product endorsement by a highly attractive celebrity would be more influential than a testimonial by an ordinary spokesman.

Two versions of a Nabisco Creme Wafer Sticks commercial were specially produced, manipulating the attire of the endorser. In one version, a 25-year-old man was dressed in ordinary street clothes while promoting the cookie product. In the experimental condition, the same man delivered the same message dressed in an astronaut uniform. This visual portrayal was reinforced by the voice-over announcer, who introduced the endorser as "astronaut Alan Collins." The endorsement passage also referred to his astronaut status: "If you're like me you'll go for the sweet chocolate taste in Creme Wafer Sticks. They add that extra something an astronaut likes -- they're deliciously cocoa-coated." The endorsement by the man in ordinary attire was identical except for the astronaut reference. In the background, a 12-foot world globe rotated slowly to highlight the astronaut's role. It also provided a plausible backdrop for the control version, since the announcer's introduction was ambiguous enough to relate to both conditions: "In this great big world of ours there are lots of places to go and exciting things to eat, like cocoa-coated Creme Wafer Sticks." After the testimonial passage, the announcer read "Creme Wafer Sticks, cocoa-coated by Nabisco" while the camera zoomed to a close shot of the man holding the package of cookies. See Figure 6.

The following variables were measured after viewing the stimulus tape: recall of the commercial, desire to eat the product, and intention to request that parents buy the product. As a credibility validation, another item asked "How much do you like astronauts who fly in space?" Surprisingly, only 25% of the sample said they liked astronauts "very much," with 35% indicating "pretty much" and 40% "not so much!" The 123 Ss in the astronaut condition who liked astronauts at least "pretty much" are examined separately in supplementary analyses on each dependent measure.

Recall. The version portraying the astronaut figure is remembered at about the same rate as the control version presenting the ordinary man (Table 6). There is clearly a positive impact on the younger Ss ( $r=+.14$ ), while the

older Ss are less likely to recall the astronaut than the regular man ( $r=-.07$ ). No differential response is obtained by sex. The right-hand column in Table 6 shows the results for the subset of Ss who like astronauts: these Ss remember the astronaut commercial at a somewhat higher rate than Ss who don't like astronauts.

Desire. The students were not enthusiastic about the prospect of eating this type of product: less than one-third said "very much" in response to "how much would you like to eat some Nabisco Creme Wafer Sticks?" There is slightly more desire in the control condition (Table 6), with a correlation of  $r=-.05$  between treatment and liking. There is no difference by condition among the younger subgroup, while the older Ss ( $r=-.10$ ) seem to be influenced more by the ordinary man than the astronaut. No sex differences are found.

Again, those in the experimental group who like astronauts are positively affected, but the difference is not great. Since the overall experimental group scores slightly lower than the control group on desire while the pro-astronaut subset of Ss is scoring slightly higher, this means that those experimental Ss who aren't favorable toward astronauts are expressing considerably less preference for the product. For instance, 29% of the control group wants to eat the cookies, compared to 32% of the pro-astronaut experimental Ss and 22% of those with a non-positive attitude toward astronauts.

Intent. A hypothetical question asked if "you think you will ask" parents to buy the cookies on the next trip to the food store. There is no difference by condition: the correlation is  $r=+.01$ . The two age groups do not respond differently to the manipulation: boys ( $r=+.07$ ) more often indicate that they will ask after viewing the astronaut while girls ( $r=-.03$ ) react in the opposing direction. The Ss who view astronauts positively are moderately more likely to express an intention to ask than the other Ss; again the Ss not favorable toward astronauts score substantially below the control Ss.

Discussion. The results show that a product testimonial by an astronaut model is no more successful than the same endorsement by an ordinary spokesman, across the overall sample. There was little difference between the experimental and control conditions on recall of the commercial or preference for the product.

The main explanation for this lack of impact by such a celebrity character is the finding that astronauts are not held in universally high esteem by the children in the sample. Fully two-fifths of the students didn't really like astronauts, despite conventional wisdom that spacemen are attractive to and respected by young people in our society. The subset of Ss who did like astronauts were positively influenced by the astronaut endorsement to a moderate degree; however, those who were not favorable toward astronauts were negatively influenced by the testimonial from this source. The contrasting pattern of findings essentially cancels out, so that the overall experimental group does not differ from the control group.

The findings lend some support to the hypothesis that a source perceived as highly credible will be more influential for children. One problem is that a large minority didn't regard astronauts favorably, so this particular source

had no more credibility for the total group than did the ordinary spokesman. Furthermore, many of those who did have positive attitudes toward astronauts may not have transferred that evaluation to this situation. Even children may realize that astronauts are competent to endorse some products but not others that are irrelevant to their experience. Thus, an astronaut might be seen as credible in promoting a space toy or a food product used on space trips, but not so credible for ordinary cookies.

While these findings indicate that the source of a commercial message does make a difference to children, it may be difficult to identify sources who are universally perceived as highly credible. When a societal hero-figure such as an astronaut is not widely liked by children, what other potential celebrities might be more successful? Perhaps any well-known individual or category of persons will incur liabilities in a substantial subset of the audience. Thus, the use of celebrities to deliver testimonials may produce no more success than using the typical anonymous product spokesman. Finally, the results suggest that children are not overly susceptible to influence by seemingly attractive sources; apparently they evaluate the product somewhat independently of the qualities of the source.

#### (7) SEX OF ANNOUNCER VOICE

This experiment compares the relative effectiveness of a male vs. female announcer presenting a commercial message. The audio script of a Bufferin commercial was delivered by either an adult man or woman while the original off-the-air video track was portrayed. In this simple manipulation, half of the Ss viewing the ad heard the male voice, while the other half of the viewers listened to a female voice.\*

The questionnaire contained several items designed to tap the impact of announcer sex: recall of the commercial, acceptance of product effectiveness claim, and intention to use the product, along with perception of the announcer's sex.

Perceived sex of announcer. As in the recreational sex role experiment, a majority of the Ss in the female condition weren't aware that the announcer was a woman. Table 3 shows that 47% thought that the female announcer was a woman, while most of the others incorrectly identified the announcer as a man. This misperception tends to complicate the analysis; the primary comparisons between the two experimental groups will be supplemented by a special assessment of the subset of 93 Ss who correctly identified the female announcer's voice. Girls and boys in the sample were equally inaccurate in perceiving

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\* This experiment was conducted in tandem with another experimental manipulation where the original Bufferin script was compared to an altered version that emphasized moderation in usage. Thus, the video presentation of the Bufferin commercial was accompanied by four audio versions: male announcer/original script; male announcer/modified script; female announcer/original script; female announcer/modified script. Since no treatment interactions were expected, the two male conditions and the two female conditions were combined for purposes of analysis in the present experiment. See Figure 5 for the storyboard of the Bufferin commercial.



sex, while the older Ss were almost twice as able as younger Ss to recognize the sex of the announcer.

Recall. Ss exposed to the female announcer are slightly more able to remember seeing the Bufferin commercial (Table 3). The correlation between the female voice treatment and commercial recall is  $r=+.07$ , with a stronger relationship among younger Ss ( $r=+.15$ ) than younger Ss ( $r=-.02$ ). There is no differential recall between boys and girls. Those Ss who realized that the announcer was female are slightly more likely to recall the ad.

Belief. One item asked whether Ss accepted the announcer's claim that "Bufferin works faster than plain aspirin." Although the Ss in the male announcer condition said "yes" slightly more often, those in the female announcer condition said "maybe" at a much greater rate (Table 3). Combining these two response categories, there is a 10 percentage point advantage to the female condition. In correlational terms, treatment and belief are positively associated ( $r=+.05$ ). There is little difference in announcer impact by age group, but a clearly greater effect occurs for boys ( $r=+.15$ ) than for girls ( $r=-.04$ ). The subset of Ss correctly perceiving announcer sex react the same as the inaccurate Ss.

Desire. Verbal intention to "take some Bufferin" for a headache did not differ by experimental condition. The negligible correlation of  $r=+.02$  is a bit higher in the male and younger subgroups. Examining the Ss with accurate perception, the overall distribution of answers is neither more nor less positive than the other Ss.

Discussion. The pattern of findings in this study indicates that the female announcer is at least as effective as the male announcer. Results on the recall, belief, and desire measures each show a slight superiority for the female voice. The impact doesn't differ by age level; surprisingly, boys seem to be more influenced than girls by the female announcer.

Of course, most voice-over announcers on television commercials are men. Children have been conditioned to expect announcers to be male, as reflected by the misperception of the sex of the voice in the female condition. This lack of accurate perception does not appear to be a critical shortcoming of the experiment, since there is little difference between the responses of those who recognized the female voice and those who did not.

The evidence suggests that children are not more positively influenced by the typical male voice in commercials, despite the conventional wisdom that male announcers are the most effective in presenting advertising messages. Apparently a female announcer can be as credible or more credible, although the generality of this conclusion must be demonstrated in other contexts. Furthermore, the effectiveness of a female announcer need not be restricted to girls; indeed, the findings here suggest that boys are somewhat more receptive. This experiment indicates that the conventional reliance on the male announcer in commercials is not empirically justified; perhaps it is time to broaden the role that women play in television advertisements.

## (8) COMPARATIVE MESSAGE STRATEGY

Adult-oriented commercials increasingly rely on comparative "two-sided" messages which mention competing brands, drawing explicit comparisons with the advertised brand along several advantageous dimensions. The conventional "one-sided" strategy describes the positive attributes of the product in isolation, ignoring the competition. Persuasion research shows that the comparative two-sided approach may be more effective under certain circumstances: when the audience is highly informed or sophisticated regarding the issue, aware of the opposing side, favorable toward the opposing side, and/or likely to be exposed to opposing messages in the future. These conditions often exist in the case of heavily advertised products familiar to the public, especially for secondary brands in a market dominated by one or two leaders.

Since children can become quite sophisticated about certain types of products, are continuously exposed to messages about a variety of brands, and frequently have favorite brand choices, the two-sided message strategy may be applicable. The product selected was candy bars: many children are knowledgeable and sophisticated about this topic, see dozens of advertisements each week, and have established preferences for certain brands. In the sub-market of milk chocolate candy bars, Hershey tends to overshadow Nestles in both popularity and advertising. Therefore, the Nestles product would seem to meet all the criteria appropriate for a two-sided message.

Two versions of a Nestles commercial were specially produced. The common elements of the message portray a group of children on a playground holding Nestles bars while swinging, sliding, climbing, and talking. The critical manipulation comes during the middle of the commercial, when the size and nutritional attributes of the candy bar are described. In the one-sided version, the announcer says, "Nestles is the big chocolate bar with eight essential vitamins," as the video displays a drawing of the "big" package, followed by a picture of the bar with a sign saying "8 vitamins." See Figure 7 for storyboard.

The middle portion of the two-sided appeal favorably compared Nestles to Hershey along these two dimensions. The announcer said, "Nestles bar is big-ger than the Hershey bar: Nestles has eight essential vitamins and Hershey has five vitamins." During the first half of the statement, the drawing of a Nestles bar was shown next to a slightly smaller drawing of a Hershey bar; then the two bars were pictured with signs identifying the respective number of vitamins. (These two comparisons are fictitious; the size and nutrition dimensions were chosen because they are not used in TV commercials.)

The post-viewing measurement sought to determine consequences for both brands with these items: recall of a commercial for each brand, desire for each brand, force-choice preference between the two brands, and knowledge about the two attributes described in the advertisement.

Recall. Table 8 shows that the Nestles commercial is remembered by most Ss in each condition. The non-significant difference is reflected in a correlation coefficient of  $r=+.02$  between recall and one-sided vs. two-sided treatment. There is greater recall in the two-sided condition for older Ss ( $r=+.07$ ), while treatment makes little difference for younger Ss ( $r=-.02$ ).

The mention of Hershey in the two-sided message generated widespread perception that a Hershey commercial was presented: 49% of these Ss replied "yes" when asked if they had seen a Hershey ad, compared to 15% in the condition where Hershey was not mentioned. The correlation of  $r=+.35$  does not differ by grade level.

Desire. A pair of items asked, "How much would you like to eat" each kind of candy. There is a slight tendency for Ss in the one-sided condition to indicate a greater liking for Nestles (Table 8). However, they also display a slightly greater liking for Hershey than the two-sided Ss. The correlations with treatment are  $r=-.04$  and  $r=-.06$ , respectively. The forced-choice item yields no difference in the direction of preference between the two candy bars, with the two-sided group less likely to indicate that they "don't care." An index of desire for Nestles was constructed by adding the liking for Nestles and preference for Nestles items. This overall desire index has a negligible correlation of  $r=-.02$  with treatment; there is a null relation for younger Ss ( $r=+.01$ ) and a slightly negative relationship for older Ss ( $r=-.05$ ).

Knowledge. The first knowledge question asked, "How big is a Nestles Chocolate Bar?" There is only a marginal difference between the two conditions, with 12% of the two-sided Ss vs. 10% of the one-sided Ss indicating "very big." On the other hand, a large difference occurs on the item asking, "Do you think that Nestles Chocolate Bars have lots of vitamins?" More than half of the Ss exposed to the comparative vitamin statement responded positively on the vitamin measure, compared to less than two-fifths of the group which heard the statement in isolation. An index of these two items correlates  $+.11$  with treatment, with no difference within the age groupings.

Discussion. The findings show that the two-sided presentation contributed to increased cognitive effects, but had no advantage on the affective dimension. Furthermore, the explicit comparison with a competing brand gave many Ss the mis-impression that they had actually seen a commercial for that brand.

The key dependent variable, desire for the advertised product, was not affected by the manipulation. While this might be due to highly stable candy preferences that the children had acquired after consuming countless chocolate bars, the relative preference item showed that almost half of the Ss didn't care which brand they ate. Furthermore, Ss in both conditions were much more favorable toward Nestles than Hershey, despite a presumed Hershey advantage in popularity. Thus, it appears that both messages were successful in producing desire for Nestles among the Ss, with no appreciable difference in effectiveness.

Many advertisers are concerned that mentioning an opposing brand gives "free advertising" for the competition. Since half of the Ss viewing the comparative message mistakenly thought that they had seen a Hershey commercial, these fears seem to be well grounded. However, it should be noted that liking for Hershey was actually less strong in the group exposed to the comparative advertisement than those seeing the commercial that didn't mention Hershey.

While many viewers may recall the opposing brand used as a reference point in a two-sided message, the findings suggest that some may be negatively impressed by the unfavorable comparison. It is possible that the major impact of a two-sided approach is in decreasing liking for the competing brand rather than increasing liking for the advertised brand.

Children did learn more about attributes of the brand from a comparative than one-sided presentation. This primarily occurred for the nutrition statement that was more novel to the Ss; the candy bar size claims may have been ineffectual due to easy validation against experience with the product. Perhaps more dramatic differences could have been obtained if the knowledge questions asked about relative rather than absolute size and nutritional value. These results tentatively indicate that a comparative statement facilitates learning of information in children.

Persuasion theory would lead to the expectation that older children are more likely to be influenced than younger children, since they are generally more knowledgeable and sophisticated. The lack of differential effects by age group may be explained by the nature of the product; even seven-year-olds have extensive experience with consumption and evaluation of candy bars.

The evidence in this experiment is somewhat inconclusive regarding the applicability of this message strategy to advertising and children. While the unconventional two-sided message appears to have no liabilities, the effectiveness of this approach seems to be limited to cognitive learning. More research is needed to determine whether brand preferences can also be influenced.

#### (9) MESSAGE REPETITION

This final experiment tests the impact of repeated exposure to an advertising message. Among the older Ss viewing an acne cream commercial, half saw the advertisement a single time while the other half saw it presented twice several minutes apart on the tape. The Ss in the single-exposure condition viewed an unrelated commercial in the later time slot on the stimulus tape.

The commercial selected for this test dealt with Clearasil, an acne medicine used by many teenagers. The video track portrays several lively youths using the cream and tossing the tube from one person to another. The basic theme is repeated three times by the young actors: "Clearasil is the most serious kind of blemish medicine you can get without a prescription. Pass it on." The announcer also states that Clearasil "goes right on acne pimples to dry up and help heal them . . . drinks up excess oil in other places, too." This commercial is frequently shown during television programs oriented toward teenage audiences. See Figure 3 for commercial storyboard.

The measuring instrument dealt with several types of effects: recall of the commercial, concern about facial blemishes, knowledge of methods to combat blemishes, beliefs about the qualities of the product, and desirability of the product. Since learning from repeated exposure should be greater for those Ss

who were previously unfamiliar with the message, amount of home viewing of this advertisement was also measured. The younger children in the sample were not asked these questions because they were several years away from the adolescent period when acne problems occur.

Recall. Slightly over half of the Ss in the single-exposure condition remembered seeing the Clearasil commercial, compared to 94% of those in the repeated-exposure condition (Table 1). Single vs. double exposure correlates  $r=+.45$  with recall: the treatment effect is much stronger for boys ( $r=+.64$ ) than for girls ( $r=+.28$ ).

Concern. Ss were asked whether they "worry about blemishes or pimples on your face." Table 9 shows a mild tendency for those exposed twice to report this concern; the correlation between treatment and the dependent variable is  $r=+.10$ . There is no difference in impact for boys, while a fairly strong effect occurs among girls ( $r=+.20$ ).

Knowledge. The Ss in the double-exposure condition were no more likely to cite skin cream as the best method "to get rid of skin blemishes." The correlation is slightly negative ( $r=-.03$ ), with no differential effect by sex.

Desire. Repetition has little impact on liking for the product or intention to buy it. In response to "how much do you like Clearasil," just 6% of the once-exposed Ss vs. 10% of the twice-exposed Ss said "very much." This is represented by a slightly positive correlation of  $r=+.05$ . On the other hand, responses to "do you think that you would buy Clearasil" show a slightly lower rate of desire in the twice-exposed group, with a correlation of  $r=-.05$ . On each measure, the girls are positively influenced ( $r=+.16$  and  $r=+.05$ , respectively) and the boys are negatively affected by repetition ( $r=-.05$  and  $r=-.15$ ).

Belief. Similarly, repetition has no clear impact on acceptance of the two claims made in the commercial. While 20% of the single-exposure Ss vs. 26% of the double-exposure Ss agreed that "Clearasil is the most serious kind of blemish medicine," those viewing the repeated presentation were more likely to display outright disagreement (Table 9). The correlation is  $r=-.05$  between treatment and this measure. The belief that "Clearasil really dries up pimples" is accepted at a 26% rate in the single-exposure condition and 32% in the double exposure condition, with little outright disagreement in either group. The correlation for this measure is  $r=+.04$ . Boys and girls do not differ in response on the first measure; on the second item, repetition has a moderately strong effect on girls ( $r=+.28$ ) and a negative impact on boys ( $r=-.20$ ).

Previous exposure. The home exposure measure asked, "When you are watching television at home, how often do you see commercials for Clearasil?" Since few Ss had seen Clearasil commercials "a lot," they were combined with the large number who had viewed these ads "sometimes" to create a home viewing subset of 47 Ss. The remaining 53 Ss had "never" seen any of these commercials on their home television.

Those who were previously exposed were just as influenced by the repetition manipulation as the non-exposed Ss on the recall, concern, knowledge, desire, and belief measures. The pattern of correlations with each of these five sets of dependent variables is almost identical for each subset of Ss, indicating that prior experience with the commercial is not an interacting factor affecting response to the stimulus.

Discussion. The findings show that repeated exposure to a commercial message has very little impact on Ss beyond greater recall. Those exposed twice to the advertisement were far more likely to remember seeing it than those exposed only once, and they were mildly more concerned about the blemish problem. On the remaining variables, no clear pattern of effects emerged.

On several measures, the girls were influenced much more than boys by the repeated presentation. The main exception is on recall, where a ceiling effect existed because so many girls recalled the ad in both conditions. One likely explanation is that girls are more interested and involved in skin blemish problems, and therefore more responsive to the manipulation.

The most surprising finding was the ineffectiveness of repetition in producing a more favorable attitude toward the skin cream product. The social psychological literature on repeated message exposure has demonstrated a positive relationship between exposure frequency and affect. While that evidence has been derived primarily with novel stimuli, analysis of Ss who had not previously seen the product advertised shows no greater impact than among Ss who were familiar with the message. Perhaps the acne product is so closely associated with the aversive condition of skin problems that pre-adolescents find it unappealing, regardless of the number of times they see it advertised. Some indirect support for this argument comes from the finding that Ss are much more likely to indicate an intention to buy the skin cream than to say that they like it; despite a negative evaluative rating, they will use it if necessary.

The lack of impact of the repeated exposure may also be due to the restricted range of the manipulation, which consisted of a single vs. double presentation of the message. Comparisons between one, two, three, four, five, ten, and twenty exposures might produce more significant differences. Another factor limiting the effectiveness of repetition may be the nature of the commercial itself, which contained a thrice-repeated claim and little visual variation. Thus, a single exposure to such an internally redundant message might have yielded the same effect as multiple exposures to a more complex and informative message.

One inference that is tentatively suggested by these data is that children may respond differently to repetition than do adults. Perhaps a higher frequency of exposure is necessary to produce a significant impact on young viewers with limited cognitive capacity. Future research should explore the effectiveness of multiple exposures to determine the number of repetitions needed to increase the impact of a message on children.

00020

OCCUPATIONAL SEX ROLE MODEL

TV TECHNICIAN



Hello, I'm Helen Ritchie and I'm a TV technician. You'd be surprised how important good vision is in a TV technician's job. I just can't afford to make mistakes because of poor eyesight. I wear glasses because I need them. Maybe you should too.

COMPUTER PROGRAMMER



Hello, I'm Helen Ritchie and I'm a computer programmer. You'd be surprised how important good vision is for a computer programmer's job. I just can't afford to make mistakes because of poor eyesight. I wear glasses because I need them. Maybe you should too.

COURT JUDGE



Hello, I'm Helen Ritchie and I'm a judge. You'd be surprised how important good vision is for a judge's job. I just can't afford to make mistakes because of poor eyesight. I wear glasses because I need them. Maybe you should too.

FIGURE 2

RECREATIONAL-PLAY SEX ROLE MODEL

GIRL ACTORS



Pro-racing -- fun for everyone. Get together with your friends to drive your Pro-Racers around the track.

The rapid cars race around and round with thrills and spills for everyone.

Four on the floor... you control the speed. The best pro-racer wins.

Pro-Racer is fun -- get yours today.

BOY ACTORS



00032



FIGURE 3

TEENAGE HYGIENE SOCIALIZATION



Clearasil is the most serious kind of blemish medicine you can get without a prescription. Pass it on.

Clearasil is the most serious kind of blemish medicine you can get without a prescription. Pass it on.

Clearasil vanishing formula or regular tinted goes right on acne pimples to dry up and help heal them.... drinks up excess oil in other places too.



Clearasil is the most serious kind of blemish medicine you can get without a prescription. Pass it on.

ANTI-SUGAR PUBLIC SERVICE ANNOUNCEMENT



1. **BOX AND DRINK:** Hey! Hey! Let us in! Let us in! Let us in!



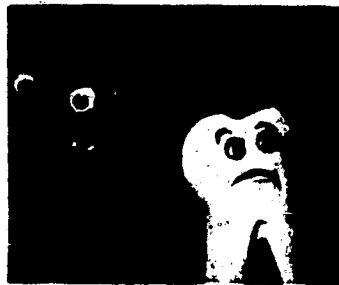
2. **TONGUE:** Hey! Open up! Let 'em in! C'mon, c'mon, don't mess with me!



3. I can lick anyone in the place.



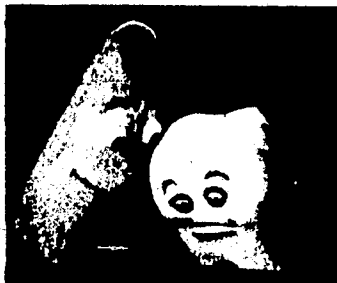
4. **TOOTH:** Oh, hold your tongue, tongue! Your taste for sweets is killing me!



5. **TONGUE:** Whatsamatter, killjoy?



6. **TOOTH:** Listen, eating sugary things may be fun for you,



7. but it's cavities for me! I'm the one the dentist drills on!



8. Boy, are you stupid!



9. **TONGUE:** I am not! I got four C's this year!



10. **TOOTH:** Yeah, four C's. Candy, Cake, Cookies and Crummy teeth!



11. Sugar can ruin teeth!



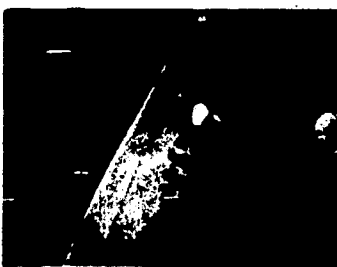
12. **TONGUE:** But I like sugar!



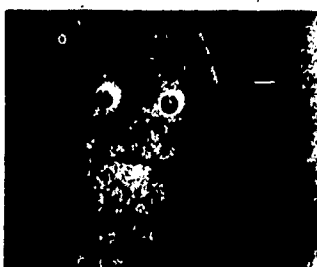
13. **TOOTH:** Selfish, selfish. You know, you're not the only one who lives in this mouth.



14. Think of your teeth, tongue. Because if you don't, we're going to leave you!



15. **TONGUE:** Leave me?



16. **TOOTH:** All alone ... in a big, dark, empty mouth.



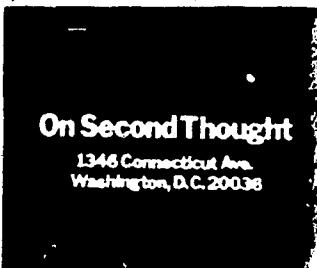
17. **TONGUE:** You mean it's "Give up some sugar, or give up some teeth?"



18. Wow! I know what I'm going to do!



19. **(TO CAMERA):** How about you?



20. **(SILENT)**

On Second Thought

1346 Connecticut Ave.  
Washington, D.C. 20036

MEDICINE USAGE QUALIFICATIONS

CONVENTIONAL SCRIPT

No headache seems small when it's yours. That's why the difference between Bufferin and plain aspirin can be important. This illustrates by the time most of Bufferin is going to your headache, most of plain aspirin is still in your stomach.

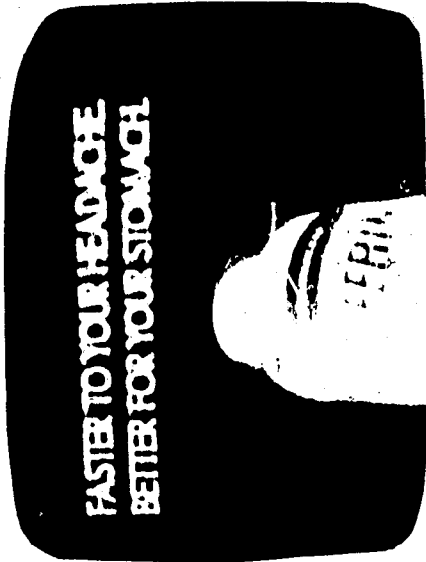


Yes, Bufferin gives you fast relief for your headache -- and this difference can be important.

Bufferin -- faster for your headache.

RESTRICTED USAGE SCRIPT

No headache seems small when it's yours. That's why the difference between Bufferin and plain aspirin can be important. This illustrates by the time most of Bufferin is going to your headache, most of plain aspirin is still in your stomach.



But remember -- only use Bufferin when you really need it -- and don't take too many Bufferin tablets.

Bufferin -- faster for your headache.

HERO FIGURE ENDORSEMENT

ASTRONAUT ATTIRE



In this great big world of ours there are lots of places to go and exciting things to eat, like cocoa-coated Creme Wafer Sticks.

As astronaut Alan Collins says:

"If you're like me you'll go for the sweet chocolate taste in Creme Wafer Sticks. They add that extra something an astronaut likes -- they're deliciously cocoa-coated"



Creme Wafer Sticks, cocoa-coated by Nabisco.

ORDINARY ATTIRE



"If you're like me you'll go for the sweet chocolate taste in Creme Wafer Sticks. They add that extra something that I like -- they're deliciously cocoa-coated"



FIGURE 7

COMPARITIVE MESSAGE STRATEGY

TWO-SIDED MESSAGE



Nestlé's is the big chocolate bar with eight essential vitamins to help you grow big and strong.

Nestlé's bar is bigger than the Hershey bar. Nestlé's has eight essential vitamins and Hershey has five vitamins to help you grow big and strong.

ONE-SIDED MESSAGE



Eat Nestlé's

Eat Nestlé's

00037

Figure 8

COMPOSITION OF FOUR EXPERIMENTAL STIMULUS TAPES

TAPE A

In the News - Introduction  
Toy Racing Car Ad - Male Models  
In the News - Main Segment  
Eyeglass Ad - Female Judge Model  
Cartoon - First Segment  
Cookie Ad - Astronaut Model  
PSA - Sugar and Cavities  
Cartoon - Second Segment  
Medicine Ad - Female Voice/Qualified  
In the News - Introduction  
Candy Ad - One-sided Strategy  
In the News - Main Segment

TAPE B

In the News - Introduction  
Toy Racing Car Ad - Male Models  
In the News - Main Segment  
Eyeglass Ad - Female Technician Model  
Cartoon - First Segment  
Cookie Ad - Ordinary Model  
PSA - Sugar and Cavities  
Cartoon - Second Segment  
Medicine Ad - Male Voice/Qualified  
In the News - Introduction  
Candy Ad - Two-sided Strategy  
In the News - Main Segment

TAPE C

In the News - Introduction  
Toy Racing Car Ad - Female Models  
In the News - Main Segment  
Eyeglass Ad - Female Programmer Model  
Cartoon - First Segment  
Cookie Ad - Astronaut Model  
Clearasil Ad - Single Showing  
Cartoon - Second Segment  
Medicine Ad - Female Voice/Original  
In the News - Introduction  
Candy Ad - One-sided Strategy  
In the News - Main Segment

TAPE D

In the News - Introduction  
Toy Racing Car Ad - Female Models  
In the News - Main Segment  
Clearasil Ad - First Showing  
Cartoon - First Segment  
Cookie Ad - Ordinary Model  
Clearasil Ad - Second Showing  
Cartoon - Second Segment  
Medicine Ad - Male Voice/Original  
In the News - Introduction  
Candy Ad - Two-sided Strategy  
In the News - Main Segment

FIGURE 9

SCHOOLS AND LOCATIONS OF EXPERIMENTAL SUBJECT POOL

<u>School</u>	<u>Location</u>	<u>Number of Ss</u>
St. Thomas Elementary School	915 Alton, East Lansing (suburban middle and working class)	N=170
Lewton Elementary School	2000 Lewton Avenue, Lansing (urban middle class)	N=128
Main Street Elementary School	1715 Main Street, Lansing (inner city working class)	N=62
Michigan Avenue Elementary School	1019 Michigan Avenue, Lansing (inner city working class)	N=40
		<hr/> Total N=400

Table 1

EFFECT OF OCCUPATIONAL SEX ROLE PORTRAYALS ON ATTITUDES

Occupational Attitude:	Sex Role Portrayal:				
	<u>Court Judge</u> N=100	<u>Computer Programmer</u> N=100	<u>Television Technician</u> N=100	<u>No Job Portrayed</u> N=100	
Here is a list of jobs that adults have. Which ones do you think that women might work in?					
Teacher .....	95 %	100 %	97 %	95 %	
Truck Driver .....	10 %	8 %	15 %	8 %	
Judge .....	<u>51 %</u>	30 %	36 %	27 %	$X^2=12.2$ $p=.001$
Computer Programmer ...	46 %	<u>62 %</u>	62 %	53 %	$X^2=1.8$ $p=.18$
TV Technician .....	37 %	30 %	<u>36 %</u>	26 %	$X^2=.6$ $p=.42$
Doctor .....	74 %	60 %	67 %	54 %	$X^2=5.8$ $p=.02$

Table entries are the proportion of all subjects who selected each occupational category. The significance tests are computed between the specific experimental condition corresponding to the occupation portrayed (underlined) vs. the overall control condition combining the three remaining conditions.

00040



Table 2

## EFFECT OF RECREATIONAL SEX ROLE PORTRAYAL ON RECALL, APPROVAL, AND DESIRE

Dependent measure:	Male Models N=200	Female Models N=200		
<b>Did you see this commercial?: Racing Cars</b>				
Yes	76%	78%	(83%)	$X^2 = .3$
No/Not sure	24	22	(17)	$p = .84$
<b>One of the commercials on the TV was for toy racing cars. What was the name of the racing cars?</b>				
Tyco	75%	77%	(81%)	$X^2 = .5$
Mattel/Not sure	25	23	(19)	$p = .78$
<b>Do you think that girls should play with toy racing cars?</b>				
Yes	22%	27%	(40%)	$X^2 = 1.2$
Maybe	32	31	(22)	$p = .55$
No	46	42	(38)	
<b>How much would you like to play with those toy racing cars?</b>				
Very much	47%	44%	(51%)	$X^2 = 1.1$
Pretty much	23	27	(27)	$p = .58$
Not so much	30	29	(22)	
<b>If it was Christmas or your birthday, do you think you would ask your parents to buy toy racing cars for you?</b>				
Yes	24%	28%	(28%)	$X^2 = 3.7$
Maybe	19	25	(30)	$p = .16$
No	57	47	(43)	
<b>Who were the kids playing with the racing cars -- were they girls or boys?</b>				
Boys	96%	45%		$X^2 = 127.8$
Girls	0	41	(100%)	$p = .001$
Not sure	4	14		

Percentages in parentheses represent data from the N=81 Ss in the female-model condition who accurately perceived that the models were girls. Chi-square statistics are computed between the two original experimental groups.

00941

Table 3

## EFFECT OF HYGIENE COMMERCIAL ON KNOWLEDGE, BELIEFS, CONCERN, AND DESIRE

Dependent measure:	Exposure Condition:		
	Exposed to Ad N=100	Not Exposed N=100	
How much do you worry about blemishes or pimples on your face?			
	A lot	33%	22%
	Sometimes	38	44
	Never	29	34
			$\chi^2=3.0$ p=.21
What is the best thing to do if you want to get rid of skin blemishes?			
	Use skin cream	74%	52%
	Wash with soap	16	31
	Not sure	10	17
			$\chi^2=10.4$ p=.01
One kind of skin cream is Clearasil. How much do you like Clearasil?			
	Very much	8%	8%
	Pretty much	41	23
	Not so much	51	69
			$\chi^2=7.8$ p=.02
If you had skin blemishes, do you think that you would buy Clearasil?			
	Yes	20%	17%
	Maybe	63	47
	No	17	36
			$\chi^2=9.4$ p=.01
Do you think that Clearasil is the most serious kind of blemish medicine that you can get without a prescription?			
	Yes	23%	12%
	Maybe	51	45
	No	26	43
			$\chi^2=8.0$ p=.02
Do you think that Clearasil really dries up pimples?			
	Yes	29%	20%
	Maybe	64	61
	No	7	19
			$\chi^2=7.3$ p=.03

Table 4

## EFFECT OF ANTI-SUGAR PSA MESSAGE ON BELIEFS, CONCERN, AND INTENTION

<u>Dependent measure:</u>	Exposure Condition:		
	<u>Exposed to PSA</u> N=200	<u>Not Exposed</u> N=200	
<b>Most cereal and candy has lots of sugar on it. Do you think that sugar is good for you?</b>			
No	80%	66%	$X^2 = 10.6$ $p = .01$
Maybe	13	25	
Yes	7	9	
<b>How much are you worried about getting cavities in your teeth?</b>			
Very much	74%	60%	$X^2 = 10.2$ $p = .01$
Pretty much	12	23	
Not so much	14	17	
<b>Do you think that sugary things make cavities in your teeth?</b>			
Yes	89%	80%	$X^2 = 14.0$ $p = .001$
Maybe	4	16	
No	7	4	
<b>If you eat too many sugary things, do you think that your teeth might fall out when you get older?</b>			
Yes	50%	33%	$X^2 = 14.3$ $p = .001$
Maybe	34	39	
No	16	28	
<b>From now on, are you going to eat more sugary things or less sugary things, or the same as now?</b>			
Less	59%	53%	$X^2 = 1.3$ $p = .52$
Same	37	43	
More	4	4	

Table 5

## EFFECT OF MEDICINE USAGE QUALIFICATION ON RECALL, BELIEF, DESIRE AND USAGE NORMS

Dependent measure:	Recommended Usage:		
	Qualified Script N = 200	Original Script N = 200	
<b>Did you see this commercial: Bufferin</b>			
Yes	89%	86%	$X^2 = .8$ $p = .37$
No/Not sure	11	14	
<b>Do you think that Bufferin works faster than plain aspirin?</b>			
Yes	48%	46%	$X^2 = 1.8$ $p = .40$
Maybe	38	43	
No	14	11	
<b>If you had a headache, would you take some Bufferin?</b>			
Yes	48%	44%	$X^2 = 1.7$ $p = .44$
Maybe	28	34	
No	24	22	
<b>Most people take a pill like Bufferin when they have a bad headache. Do you think that people should take a pill if they have just a little headache?</b>			
No	59%	56%	$X^2 = .3$ $p = .87$
Maybe	26	28	
Yes	15	16	
<b>If you had a headache, how many Bufferin should you take to feel better?</b>			
None	5%	3%	$X^2 = 3.9$ $p = .28$
One	59	52	
Two	30	38	
Three or more	6	7	

00011

Table 6

EFFECT OF HERO-FIGURE ENDORSEMENT ON RECALL AND DESIRE

<u>Dependent measure:</u>	Spokesman Attire:			
	<u>Ordinary Clothes</u> N=200	<u>Astronaut Uniform</u> N=200		
<b>Did you see this commercial: Nabisco Creme Wafer Sticks</b>				
Yes	56%	58%	(63%)	$\chi^2 = .2$
No/Not sure	44	42	(37)	$p = .68$
<b>If you were going to eat a snack, how much would you like to eat some Nabisco Creme Wafer Sticks?</b>				
Very much	29%	28%	(32%)	$\chi^2 = 2.8$
Pretty much	32	26	(30)	$p = .24$
Not so much	39	46	(38)	
<b>The next time you are in the food store with your parents, do you think you will ask them for some Nabisco Creme Wafer Sticks?</b>				
Yes	20%	17%	(23%)	$\chi^2 = 2.83$
Maybe	34	41	(40)	$p = .24$
No	46	42	(37)	

The proportions displayed in parentheses are for those Ss in the astronaut condition who indicated that they like astronauts (N=123). The chi-square statistics are computed between the two overall conditions.

Table 7

## EFFECT OF ANNOUNCER SEX ON RECALL, BELIEF, AND DESIRE

Dependent measure:	Announcer Sex:			
	Male Voice N=200	Female Voice N=200		
Did you see this commercial: Bufferin				
Yes	85%	90%	(93%)	$\chi^2 = 2.4$
No/Not sure	15	10	( 7 )	$p = .30$
Do you think that Bufferin works faster than plain aspirin?				
Yes	49%	45%	(45%)	$\chi^2 = 14.5$
Maybe	34	48	(46 )	$p = .001$
No	17	7	( 9 )	
If you had a headache, would you take some Bufferin?				
Yes	45%	47%	(43%)	$\chi^2 = .3$
Maybe	31	30	(36 )	$p = .87$
No	24	23	(21 )	
Do you remember if the person talking about Bufferin in the commercial was a man or a woman?				
Man	91%	40%		$\chi^2 = 121.9$
Woman	3	47	(100%)	$p = .001$
Not sure	6	13		

The proportions indicated in parentheses are for those Ss in the female voice condition who recognized the voice was a woman (N=93). Chi-square statistics are computed between the two overall conditions.

Table 8

## EFFECT OF COMPARATIVE MESSAGE STRATEGY ON RECALL, KNOWLEDGE, AND DESIRE

Dependent measure:	Message strategy:		
	Two-Sided N=200	One-Sided N=200	
<b>Did you see this commercial: Nestles Chocolate Bar</b>			
Yes	93%	92%	$\chi^2 = .1$
No	7	8	$p = .75$
<b>Did you see this commercial: Hershey Chocolate Bar</b>			
Yes	49%	15%	$\chi^2 = 38.8$
No	51	85	$p = .001$
<b>If you were going to eat a snack, how much would you like to eat a Nestles Chocolate Bar?</b>			
Very much	73%	76%	$\chi^2 = .8$
Pretty much	16	16	$p = .68$
Not so much	11	8	
<b>If you were going to eat a snack, how much would you like to eat a Hershey Chocolate Bar?</b>			
Very much	59%	65%	$\chi^2 = 1.8$
Pretty much	27	23	$p = .41$
Not so much	14	12	
<b>Would you rather eat a Nestles Bar or a Hershey Bar?</b>			
Nestles	39%	35%	$\chi^2 = 1.5$
Don't Care	44	50	$p = .47$
Hershey	17	15	
<b>How big is a Nestles Chocolate Bar?</b>			
Very big	12%	10%	$\chi^2 = .5$
Pretty big	73	73	$p = .80$
Not so big	15	17	
<b>Do you think that Nestles Chocolate Bars have lots of vitamins?</b>			
Yes	53%	37%	$\chi^2 = 12.7$
Maybe	11	22	$p = .002$
No	36	41	

Table 9

## EFFECT OF MESSAGE REPETITION ON RECALL, BELIEF, CONCERN, AND DESIRE

<u>Dependent measure:</u>	Number of presentations:		
	<u>One</u> N=50	<u>Two</u> N=50	
<b>Did you see this commercial: Clearasil</b>			
Yes	54%	94%	$\chi^2=20.8$ p=.001
No/Not sure	46	6	
<b>How much do you worry about blemishes or pimples on your face?</b>			
A lot	26%	40%	$\chi^2=2.4$ p=.30
Sometimes	49	32	
Never	30	28	
<b>What is the best thing to do if you want to get rid of skin blemishes?</b>			
Use skin cream	74%	74%	$\chi^2=.7$ p=.69
Not sure	18	14	
Wash with soap	8	12	
<b>One kind of skin cream is clearasil. How much do you like Clearasil?</b>			
Very much	6%	10%	$\chi^2=.8$ p=.66
Pretty much	42	40	
Not so much	52	50	
<b>If you had skin blemishes, do you think that you would buy Clearasil?</b>			
Yes	20%	20%	$\chi^2=.7$ p=.70
Maybe	66	60	
No	14	20	
<b>Do you think that Clearasil is the most serious kind of blemish medicine that you can bet without a prescription?</b>			
Yes	20%	26%	$\chi^2=3.4$ p=.19
Maybe	60	42	
No	20	32	
<b>Do you think that Clearasil really dries up pimples?</b>			
Yes	26%	32%	$\chi^2=.7$ p=.70
Maybe	68	60	
No	6	8	



APPENDIX A

SURVEY QUESTIONNAIRE

**Note: Advertising portion begins  
on third page of questionnaire.**

TELEVISION SURVEY

1. AFTER THE END OF THE CARTOON, THERE WAS A NEWS PROGRAM ABOUT THE PRESIDENT AND HIS TAPE RECORDINGS. HOW MUCH OF THE STORY DID YOU WATCH?

- A ALL OF IT
- B MOST OF IT
- C SOME OF IT

2. HOW MUCH DID YOU LIKE THIS NEWS STORY?

- A VERY MUCH
- B PRETTY MUCH
- C NOT SO MUCH

3. HOW MUCH WERE YOU INTERESTED IN FINDING OUT WHAT THE PRESIDENT DID WITH THE TAPE RECORDINGS?

- A VERY MUCH
- B PRETTY MUCH
- C NOT SO MUCH

00050

QUESTIONS ABOUT THE NEWS

1. WHAT IS THE NAME OF THE PRESIDENT OF THE UNITED STATES?

A GERALD FORD

B RICHARD NIXON

C NOT SURE

2. CONGRESS WANTED THE PRESIDENT TO GIVE THEM TAPE RECORDINGS OF HIS CONVERSATIONS IN THE WHITE HOUSE. WHAT DID HE GIVE TO THEM?

A TAPE RECORDINGS

B WRITTEN TRANSCRIPTS

C NOT SURE

3. DID THE PRESIDENT MAKE A SPEECH ON TELEVISION TO TELL WHAT HE WAS DOING ABOUT THE TAPES?

YES

NO

NOT SURE

4. WHAT DOES IT MEAN WHEN SOMETHING IS EDITED?

A SOME PARTS ARE LEFT OUT

B SOME PARTS ARE ADDED ON

C NOT SURE

5. WAS THE CONGRESS SATISFIED WITH THE MATERIAL THAT THE PRESIDENT GAVE THEM?

YES

NO

NOT SURE

1. WHO CAN READ THE TRANSCRIPTS THAT THE PRESIDENT GAVE OUT?

- A EVERYBODY
  - B JUST CONGRESSMEN
  - C NOT SURE
- 

THERE WERE ALSO SOME TV COMMERCIALS SHOWN IN THE PROGRAM. WHICH THINGS DID THEY WANT YOU TO BUY IN THE COMMERCIALS YOU SAW TODAY?

DID YOU SEE THIS COMMERCIAL?

- |                               |            |           |                 |
|-------------------------------|------------|-----------|-----------------|
| 1. KELLOGGS RICE KRISPIES     | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 2. BUFFERIN                   | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 3. NABISCO CREME WAFER STICKS | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 4. CLEARASIL SKIN CREAM       | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 5. NESTLES CHOCOLATE BAR      | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 6. TYCO RACING CARS           | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 7. MATTEL VERTIBIRD           | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |
| 8. HERSHEY CHOCOLATE BAR      | <u>YES</u> | <u>NO</u> | <u>NOT SURE</u> |

00052

1. ONE OF THE COMMERCIALS ON THE TV PROGRAM WAS FOR TOY RACING CARS. WHAT WAS THE NAME OF THE RACING CARS?

A MATTEL

B TYCO

C NOT SURE

2. WHO WERE THE KIDS PLAYING WITH THE RACING CARS -- WERE THEY GIRLS OR BOYS?

A GIRLS

B BOYS

C NOT SURE

3. DO YOU THINK THAT GIRLS SHOULD PLAY WITH TOY RACING CARS?

YES

MAYBE

NO

4. HOW MUCH WOULD YOU LIKE TO PLAY WITH THOSE TOY RACING CARS?

A VERY MUCH

B PRETTY MUCH

C NOT SO MUCH

5. IF IT WAS CHRISTMAS OR YOUR BIRTHDAY, DO YOU THINK THAT YOU WOULD ASK YOUR PARENTS TO BUY TOY RACING CARS FOR YOU?

YES

MAYBE

NO

1. IF YOU WERE GOING TO EAT A SNACK, HOW MUCH WOULD YOU LIKE TO EAT A NESTLES CHOCOLATE BAR?

- A VERY MUCH
- B PRETTY MUCH
- C NOT SO MUCH

2. IF YOU WERE GOING TO EAT A SNACK, HOW MUCH WOULD YOU LIKE TO EAT A HERSHEY CHOCOLATE BAR?

- A VERY MUCH
- B PRETTY MUCH
- C NOT SO MUCH

3. WOULD YOU RATHER EAT A NESTLES BAR OR A HERSHEY BAR?

- A NESTLES
- B HERSHEY
- C DON'T CARE

4. HOW BIG IS A NESTLES CHOCOLATE BAR?

- A VERY BIG
- B PRETTY BIG
- C NOT SO BIG

1. DO YOU THINK THAT NESTLES CHOCOLATE BARS HAVE LOTS OF VITAMINS?

YES

NO

NOT SURE

2. IN THE LAST FEW WEEKS, ABOUT HOW MANY HERSHEY CHOCOLATE BARS HAVE YOU EATEN?

0

1

2

3

4

5

6

7

8

MORE THAN 8

3. THERE WAS ALSO A COMMERCIAL FOR BUFFERIN. DO YOU THINK THAT BUFFERIN WORKS FASTER THAN PLAIN ASPIRIN?

YES

MAYBE

NO

4. DO YOU THINK THAT BUFFERIN IS BETTER FOR YOUR STOMACH THAN PLAIN ASPIRIN?

YES

MAYBE

NO

5. IF YOU HAD A HEADACHE, WOULD YOU TAKE SOME BUFFERIN?

YES

MAYBE

NO

6. MOST PEOPLE TAKE A PILL LIKE BUFFERIN WHEN THEY HAVE A BAD HEADACHE. DO YOU THINK THAT PEOPLE SHOULD TAKE A PILL IF THEY HAVE JUST A LITTLE HEADACHE?

YES

MAYBE

NO

7. IF YOU HAD A HEADACHE, HOW MANY BUFFERIN SHOULD YOU TAKE TO FEEL BETTER?

0

1

2

3

4

5

6

7

8

MORE THAN 8

00055

1. DO YOU REMEMBER IF THE PERSON TALKING ABOUT BUFFERIN IN THE COMMERCIAL WAS  
A MAN OR A WOMAN?

- A MAN
- B WOMAN
- C NOT SURE

2. IF YOU WERE GOING TO EAT A SNACK, HOW MUCH WOULD YOU LIKE TO EAT SOME  
NABISCO CREME WAFER STICKS?

- A VERY MUCH
- B PRETTY MUCH
- C NOT SO MUCH

3. THE NEXT TIME YOU ARE IN THE FOOD STORE WITH YOUR PARENTS, DO YOU THINK YOU  
WILL ASK THEM TO BUY NABISCO CREME WAFER STICKS?

- YES                      MAYBE                      NO

4. HERE IS A LIST OF DIFFERENT JOBS THAT ADULTS HAVE. WHICH ONES TO YOU THINK  
THAT WOMEN MIGHT WORK IN? (CIRCLE THE JOBS WHERE WOMEN MIGHT WORK.)

- A TEACHER
- B TRUCK DRIVER
- C JUDGE
- D COMPUTER PROGRAMMER
- E DOCTOR
- F TV TECHNICIAN

00056



1. HOW MUCH DO YOU WORRY ABOUT BLEMISHES OR PIMPLES ON YOUR FACE?

A A LOT

B SOMETIMES

C NEVER

2. WHAT IS THE BEST THING TO DO IF YOU WANT TO GET RID OF SKIN BLEMISHES?

A WASH WITH REGULAR SOAP

B USE SKIN CREAM (LIKE CLEARASIL)

C NOT SURE

3. ONE KIND OF SKIN CREAM IS CLEARASIL. HOW MUCH DO YOU LIKE CLEARASIL?

A VERY MUCH

B PRETTY MUCH

C NOT SO MUCH

4. IF YOU HAD SKIN BLEMISHES, DO YOU THINK THAT YOU WOULD BUY CLEARASIL?

YES

MAYBE

NO

5. DO YOU THINK THAT CLEARASIL IS THE MOST SERIOUS KIND OF BLEMISH MEDICINE THAT YOU CAN GET WITHOUT A PRESCRIPTION?

YES

MAYBE

NO

6. DO YOU THINK THAT CLEARASIL REALLY DRIES UP PIMPLES?

YES

MAYBE

NO

00057

1. MOST CEREAL AND CANDY HAS LOTS OF SUGAR ON IT. DO YOU THINK THAT SUGAR IS GOOD FOR YOU?

YES

MAYBE

NO

2. HOW MUCH ARE YOU WORRIED ABOUT GETTING CAVITIES IN YOUR TEETH?

A VERY MUCH

B PRETTY MUCH

C NOT SO MUCH

3. DO YOU THINK THAT SUGARY THINGS MAKE CAVITIES IN YOUR TEETH?

YES

MAYBE

NO

4. IF YOU EAT TOO MANY SUGARY THINGS, DO YOU THINK THAT YOUR TEETH MIGHT FALL OUT WHEN YOU GET OLDER?

YES

MAYBE

NO

5. FROM NOW ON, ARE YOU GOING TO EAT MORE SUGARY THINGS OR LESS SUGARY THINGS, OR THE SAME AS NOW?

A MORE

B LESS

C SAME AS NOW

1. WHEN YOU ARE WATCHING TELEVISION AT HOME, HOW OFTEN DO YOU SEE COMMERCIALS FOR HERSHEY CHOCOLATE BARS?

A A LOT

B SOMETIMES

C NEVER

2. WHEN YOU ARE WATCHING TELEVISION AT HOME, HOW OFTEN DO YOU SEE COMMERCIALS FOR CLEARASIL?

A A LOT

B SOMETIMES

C NEVER

3. HOW MUCH DO YOU LIKE ASTRONAUTS WHO FLY IN SPACE?

A VERY MUCH

B PRETTY MUCH

C NOT SO MUCH

4. HOW OLD ARE YOU?

\_\_\_\_\_ YEARS OLD

5. ARE YOU A BOY OR A GIRL?

BOY

GIRL

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