DOCUMENT RESUME

ED 181 474 CS 205 372

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TITLE The Effects of Televised Advertising on Mother-Child Interactions at the Grocery Store.
PUB DATE Aug 79
NOTE 22p.; Paper presented at the Annual Meeting of the Association for Education in Journalism (62nd, Houston, TX, August 5-8, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Children; *Childrens Television; Consumer Economics; Interaction; Interaction Process Analysis; *Parent Child Relationship; Parent Role; *Television Commercials; *Television Research; Television Viewing
IDENTIFIERS *Advertising; *Media Effects

ABSTRACT

One hundred mother/child dyads were involved in a study to provide empirical evidence on parent/child interaction in grocery stores and on the contributions of Saturday morning television commercials to those interactions and to the purchase of candy and cereals. Data were collected in 15 supermarkets in two midwestern cities. First, the mother/child dyads were unobtrusively observed during the purchase of candy and cereal. After the observation, children were interviewed concerning the frequency of their exposure to Saturday morning television while mothers responded to a written questionnaire about their children's reactions to television advertising. The results indicated that children took the initiative for purchases of candy and cereal a majority of the time and that regardless of who initiated the interaction, the other party would likely comply with the request. Amount of exposure to Saturday morning television immediately prior to a shopping trip was the only statistically significant predictor of whether children would initiate a product request. (FL)

The Effects of Televised Advertising on Mother-Child Interactions at the Grocery Store

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Presented to the Theory and Methodology Division, Association for Education in Journalism Convention, Houston, Texas, 1979. This research was supported by a public participation grant from the Federal Trade Commission to the Center for Public Representation, Madison, Wisconsin. In addition to the two authors of this paper, Gerald Thain, University of Wisconsin-Madison Law School, served as co-principal investigator on the research project. Two research consultants to the project, Mark Miller and Ronald Faber, University of Wisconsin-Madison, School of Journalism and Mass Communication, worked on the grant project and contributed to this study.

The Effects of Televised Advertising on Mother-Child Interactions at the Grocery Store

A major source of anecdotal information about the effects of televised advertising on children are mother-child interactions at grocery store cereal counters. We often sympathize with mothers because they have to deny sweet cereals to screaming children and we sympathize with children because they are persuaded by television to purchase products only for the premiums or the promise of a sweet taste. The present study was designed to provide empirical evidence on parent-child interactions in grocery stores and on the contribution of Saturday morning television advertising to those interactions and purchases of candy and cereal.

The study also attempted to deal with two important methodological issues in media research which often limit conclusions about television effects. The first involved measurement of children's behavioral reactions to advertising messages in a naturalistic setting. Often researchers are forced to choose between the two, accepting attitudinal or paper and pencil responses to avoid the unrealism of the laboratory or using the laboratory to make the assessment of actual behaviors possible. The second issue concerns the causal relation between television viewing and behavior. Advocating that media research needs to deal with causal relations is hardly novel; however, the pervasiveness of television and the

logic of mutual causality in most media-behavior relationships makes this assessment truly difficult. This study attempted to control the time order of this relationship, which is at least one prerequisite for making causal interpretations.

Several specific indicators of the impact of televised advertising were included in the study as well as attempts to answer questions about the relationships between viewing television and a behavioral response to television messages. To describe mother-child interactions in grocery stores, we observed: (1) who initiated product purchases; (2) the frequency of favorable and unfavorable responses to initial statements by both mother and child; (3) the reasons given for the original product suggestion or for the denial of a product; (4) the frequency of conflict in the form of raised voices and/or verbal aggression; and (5) the number of products purchased in relation to the number requested.

At least three previous studies provide some evidence relating to these descriptions. In a survey of mothers and children, Atkin (1975) reported that one-third of both samples reported that the child "often" asks for breakfast cereals after seeing the cereal commercials on television. Further, half of the children and one-third of the mothers reported that denying cereal request "sometimes" resulted in mother-child conflict and child unhappiness.

While these data provide some evidence about the frequency and nature of requests, it is often difficult to know precisely what behaviors the attitudinal statements represent. Two previous attempts to unobtrusively

observe grocery store interactions between mothers and children (Wells and LoSciuto, 1966; Atkin, 1978) found that a majority of chi''en attempted to influence purchases and that children were often successful in obtaining their desired choice. These studies provide descriptive information about grocery-store interactions; however, they did not attempt to relate observed behaviors to children's media experiences. While the magnitude of child domination in these purchases has been demonstrated, the impact of television commercials on the results can only be assumed.

One recent study measured children's experiences with television as well as grocery store behavior (Galst and White, 1976). The researchers found a relationship between the number of purchase influence attempts and the amount of home television viewing ($r=.31$, $p<.05$), and between influence attempts and an experimentally determined preference for commercials over regular television programs (.52, $p<.01$). It is important to note, however, that this study was conducted with 41 Montessori nursery school students and that arrangements were made with mothers to allow researchers to follow them through the grocery store. The possible biases of these two aspects of the study suggest that the results should be interpreted cautiously.

The present study unobtrusively observed mother-child gorcery store interactions about the purchase of cereals and candy, and determined the frequency of child television viewing in personal interviews after the observations. Of special interest was the amount of television viewing that immediately preceeded the shopping trip. This particular method had the following advantages: (1) it allowed an unobtrusive evaluation of natural behavior; (2) the sample consisted of mother-child pairs from neighborhood

stores in many different areas; and (3) the interviews with children after the purchase provided information about the relationship between television viewing and the store interaction. The interview after the purchase also provided time to question mothers about their attitudes toward television advertising, their attempts to control their children's diet, and their estimates of the time and attention their children give to Saturday morning television.

Methods

Data were collected in 15 supermarkets in Madison, Wisconsin, and Lansing, Michigan. First, mother-child dyads were unobtrusively observed in supermarkets during the purchase of candy and cereals. After that observation, children were personally interviewed concerning the frequency of their exposure to Saturday morning television while mothers responded to a written questionnaire about their child's reaction to Saturday morning television advertising.

Exactly 100 different mother-child pairs were observed during July and August, 1978. Eighty-four percent of the observations were for cereal purchases and the remainder were for candy.[1] Approximately half of the observations (47 percent) were on Saturday afternoon between noon and 4 p.m. The other observations occurred with equal frequency on the other days of the week between mid-afternoon and early evening. Observations were purposely divided between Saturday and the rest of the week to test for the immediate vs. delayed impact of Saturday morning television on subsequent shopping trips.

Children in the sample were between 3 and 13 years old. The mean age

of the sample was 7.53 years (s.d.=2.81). Forty-six percent were male and 54 percent were female. Five black children were the only minority children observed. An approximation of socio-economic status of the family was obtained by coding the occupation of the principal wage earner on the Hatt-North Occupational Prestige Scale.[2] The scale divides occupations into percentile ratings with a mean rating of 69.8. The mean rating in this sample was 76.1 (s.d.=20.8), indicating a slightly higher than average SES rating for the aggregate sample.

In some cases mothers were shopping with more than one child. An older sibling was present 17 percent of the time and a younger sibling in 35 percent of all cases. In these cases, the first child to either inititate a request or respond to a mother's initiative for a purchase was selected for observation. Tests for the effects of sibling presence on the variables measured showed no differences between those children shopping with or without brothers and sisters.

The observers were 15 college students at the University of Wisconsin-Madison and Michigan State University. Pretesting of the observation method showed that it was possible to observe and listen to mother-child interactions from several feet away without alerting the shoppers. A mother-child dyad was observed only if they stopped to consider a purchase.[3]

The primary responsibilities of the observers included recording the initial comments about the purchase, any reasons given for selections or denials, conflict over purchases, and actual product choices. The initial comment was first coded as a child demand or request for a product, or an invitation or direction by the mother to purchase the product. The response was coded as a yes or no by the respondent (either child or mother) or an attempt by either to divert the initiative by selecting a different brand.

Second, any rationale given by the child for his or her selection was written down verbatim as well as any rationale given by the mother for denying a child initiative. Third, the presence of any arguing in the form of raised voices and/or verbal agression was noted. A raised voice was defined as speech louder than the initial level of speaking, and verbal aggression was defined as an abusive personal attack on the other during the interaction. Finally, the number of products requested as well as the number actually purchased was recorded along with the actual brand names.

At this point, the interviewers walked up to the mother and introduced themselves as researchers from their respective universities. They explained they were working on a project about television advertising and said they would like to ask their child some questions about television. The mother was then asked to complete a questionnaire about television advertising.

The first set of questions for the children dealt with the amount of television they had watched that morning (if interviewed on a Saturday morning) and about the amount of Saturday morning television they usually watch. In both cases, they were asked to indicate whether they watched each of ten popular Saturday morning shows. These ten questions were then combined to form two indexes of viewing; one for viewing immediately prior to the shopping trip and one for viewing in general. The interviewer then showed each child pictures from six popular Saturday morning commercials and asked "When this commercial comes on TV, how much do you watch it... usually, sometimes, or never?"

The interviewer then said, "I noticed that you picked (name of cereal or candy). Why did you want to get this kind?" Responses to this question were recorded verbatim and later categorized. Finally, the interviewer

asked about the child's age, grade in school, and then recorded the child's sex.

The questionnaire for the mothers included items about the following topics: (1) the amount of impact that cereal and candy commercials have on their children; (2) the amount of time their children spend watching Saturday morning television; (3) the amount of attention their children give to television advertising; (4) the frequency with which they talk to their children about the content of food commercials; (5) the strictness of their rules for eating sweets; and (6) the number of times they yield to their children's requests for cereals and candy when they are in the store. At the end of the questionnaire, mothers were asked to indicate the specific occupation of the head of the household.

Results

Children were responsible for initiating 58 percent of all grocery store interactions about the purchase of cereal and candy. Of those initiations, 32 percent were child demands and the rest were requests. Children of both sexes, all ages, and different levels of socio-economic status were equally likely to initiate the interactions.

Thirty-eight percent of the initiations were by the mother; 18 percent invitations by the mother for the child to select a brand, 16 percent directions for the child to select the brand that she had chosen, and 4 percent actual choices by the mother with no consultation with the child. The remaining 4 percent of the initiations were simultaneous comments by both mother and child concerning the purchase.

The majority of mother and child responses to initial comments were affirmative. Mothers said yes to 55 percent of child requests and demands. Twenty-one percent of the requests or demands were not allowed

by mothers and 11 percent were diverted with suggestions for other products. The remainder of the child initiations were simply ignored.

In those cases where the mother invited a selection by the child, 70 percent of the children went ahead and selected a brand. The remainder would not make a selection and the mother subsequently made a selection for the child. In the cases where the mother directed that a particular brand be chosen, there was almost unanimous agreement from the children, with only two children either declining the selection or attempting to divert the mother's selections to a different brand. There were no child responses to the few cases where mothers actually chose the product.

A reason for selecting a particular product was given by 38 percent of the children. The modal rationale was simply that the product "tasted good" or " I like it" (40 percent of those expressing a reason). There were only isolated cases (between 2 and 4 children) of the other reasons coded which included mentions of a/sugar or sweet taste, nutritional value, television advertisements, and premiums.

An argument over which product would be purchased occurred in 14 percent of the interactions. The approximate mean length of the arguments was 16 seconds. In 10 percent of the interactions there were raised voices and in 7 percent there was verbal aggression.

The mean number of products requested or demanded by children was 1.6 (range=1-5, s.d.=.90). Sixty-two percent of those making a demand or request, however, chose only one product. The mean number of products actually purchased was 1.5 (range=1-5, s.d.=.91), indicating that almost the same number of products were purchased as were requested.

Thirty-eight percent of the children observed in the stores had

watched some Saturday morning television before coming to the store. There was no relationship between whether children watched Saturday morning television and the probability of their initiating a request or demand for a product vs. the mother initiating the purchase (X^2=.836, df=1, n.s.).

An index of the amount of Saturday morning television viewing the same morning of the shopping trip was computed for comparison with the frequency of child initiated requests and demands.[4] There was a significant relationship between the frequency of viewing and product initiation (t=1.69, df=36, p<.05) such that those children watching more Saturday morning television before the shopping trip were more likely to demand or request a product than those who watched relatively less Saturday morning television.

Three other measures of exposure to television (general Saturday morning television exposure, exposure to Saturday morning advertising, and mother's estimates of the number of hours their children spent watching Saturday television) showed no statistically significant relationship with frequency of child initiations at the grocery store. The mean values for these exposure measures, however, were all ordered in the same direction. Those children initiating interactions had higher viewing scores on each of the three exposure measures.

Mothers of the observed children were very likely to express the opinion that cereal and candy commercials had a strong impact on their children. Exactly half of the mothers interviewed said that the commercials had a strong impact, 46 percent said moderate impact and 4 percent mentioned a weak impact. None of the mothers chose the "no impact" option.

Mothers estimated that their children spent 2.01 hours watching

Saturday morning television (s.d.=1.19, n=100). There were no substantial relationships between this viewing estimate and demographic characteristics of the children; however, there was a tendency for older children to watch more ($r=-.19$, $p<.10$). The mother's viewing estimate was also significantly correlated with the other three viewing measures ($r=.25$, $p<.05$, with exposure to programs before shopping; $r=.36$, $p<.05$, with general exposure to Saturday morning programming, and $r=.39$, $p<.05$, with recognition of Saturday morning advertising).

Mothers also reported that children pay close attention to advertising on Saturday morning programs: Sixty-four percent said their children pay close attention to the ads, 30 percent said some attention, and only 2 percent said not much attention. The remainder of the mothers said they had no basis for judging attention level.

When asked whether they ever discussed the content of food commercials with their children, the majority of mothers (60 percent) said they did occasionally. Only 16 percent said they never discussed the commercials and 24 percent said they frequently did.

The majority of mothers fell at the midpoint of the question asking them about the strictness of their rules for eating sweet foods. Sixty-four percent said the rules for their children were "in between" being strict and lenient. Twenty-eight percent reported being strict and 8 percent said they were lenient.

A final question asked mothers how often they said yes to their children's grocery store requests for cereals and candy. The majority, 61 percent, said they yielded to some requests, 27 percent said not very often and 12 percent said most of the time.

There were several significant relationships between the various questions posed to mothers in the grocery stores. The frequency of mothers yielding to their children's requests for candy and cereal was related to several other statements. First, higher exposure to Saturday morning television (as reported by mothers) was related to the frequency with which mothers said yes to child requests for products ($r=.27$, $p<.05$). Saying yes to child requests was also related to more lenient rules about eating sweets ($r=.42$, $p<.05$) and to less frequent discussions with children about the content of food commercials ($r=.24$, $p<.05$). Mothers were also more likely to yield to older children ($r=.25$, $p<.05$) and to males ($r=.17$, $p<.10$; male coded as 1, female coded as 2).

Mothers reporting a strong influence of advertising on their children were likely to say that their children paid the most attention to television advertising ($r=.45$, $p<.05$). Interestingly, mothers of children paying the closest attention to advertising were also the ones who were mostly likely to be strict about eating sweet foods ($r=.19$, $p<.10$), although this relationship was not as strong as the one between the amount of influence and attention level.

Only one of the questions asked of mothers was related to any aspect of the interaction which preceeded a product choice. Closer attention to television commercials (as reported by mothers) was slightly related to the frequency of child initiated vs. mother initiated choices ($r=.17$, $p<.10$, child initiation coded as 1, mother initiation coded as 2).

Discussion

These unobtrusive observations of grocery-store interactions indicated that children take the initiative for purchases a majority of the time, and that regardless of who initiates the interaction, the other

will likely comply with the request. The most likely reason for a child to select a particular brand was simply that it "tasted good" or because they "liked it." Conflict over the purchases occurred in 14 percent of the interactions.

Amount of exposure to Saturday morning television immediately prior to a shopping trip was the only statistically significant predictor of whether children would initiate a product request. Three other indicators of exposure to television and to Saturday morning commercials showed a similar pattern of relationship to child initiation although the relationships were not statistically significant. Merely knowing whether a child watched television before the shopping trip was insufficient information to predict the child's interaction at the store.

Interviews with mothers in the stores indicated they had several concerns about the likely impact of Saturday morning commercials on their children and that they felt their children paid considerable attention to commercial appeals. Mothers were likely to discuss food commercials with their children only occasionally and were likely to yield to only some requests for cereal and candy purchases in the store. The frequency with which mothers yielded to their children's requests was related to higher exposure to Saturday morning television, more lenient rules about eating sweets, and to less frequent discussions with children about food commercials. Yielding to the requests was also more frequent for boys and older children. Those reporting that advertising had a strong influence on their children were also more likely to say that their children paid close attention to the commercials.

The most striking finding seems to be that children initiate a substantial number of product choices and that exposure to television programming before the shopping trip increases the probability of the

requests being made. These particular findings are especially interesting in that many of the biases and alternative explanations which often limit the interpretation of media effects studies have in some way been dealt with in this research. Possibly the most important aspect of this study is that the dependent variable -- children's behavioral reaction to television -- was an unobtrusive behavioral measure of children's actions as they naturally occurred. The various observations made of children in the stores did not depend on children's ability to remember past behaviors or their ability to understand written or verbal questions and provide a written or verbal response. Further, there was little possibility that children were trying to please an interviewer or that their responses were in other ways affected by the presence of the interviewer.

A second issue which often limits the validity of conclusions drawn from media effects studies is the determination of causality. In several cases it is reasonable to assume that children are affected by sources other than television and that they then choose television messages that are consistent with information from other sources. Concerning the effects of television violence, for example, it is often proposed that aggressive children choose violent programs rather than violent programs causing aggressive behavior.

In this study, however, the determination of causality seems a little more certain. First, it seems unreasonable to assume that children watch more Saturday morning television advertising because of their prior interest in candy or cereals. That assertion would assume that children are very purposive and active in their selection of the amount and type of television programming they choose to watch; a conclusion not supported by other research in this area. Second, in this particular study, children's behavior prior to the grocery store interactions was also measured. This determination established a time order for watching television and

behavioral reactions which is at least one prerequisite for causal interpretations. The research did not, however, eliminate all other possible explanations for children's behavior in the grocery store. In summary, the significant relationship found between the frequency of viewing Saturday morning television and the frequency of initiating requests for products in the grocery store is based on the observation of actual behaviors and is consistent with a causal interpretation.

Despite the fact that statistically significant results were obtained in this study, the sample size of mother-child dyads is relatively small which may indicate some instability in the descriptive data reported. In many cases, for example, 10 percent may represent only a few observations. There is some opportunity, however, for comparison of these data with similar observations from previous research (Atkin, 1978). While this one previous study did not measure amount of television exposure for those children observed or ask mothers about their children's reactions to television advertising, the mother-child observation procedures were very similar to the present study and the number of observations reported was quite large (n=516).

If the percentages in the two studies were similar, then the validity of the descriptive conclusions and especially the relationship between television viewing and initiation of requests would be enhanced. A comparison of the two studies does in fact show that the percentages are quite similar (Table 1). Some differences, however, are probably worth noting. In the original study by Atkin, 46 percent of the children initiating an interaction made a demand for the product, whereas only 21 percent in the recent study demanded a choice. A similar difference in the reverse direction occurred for the percentage of children requesting a product. It is certainly reasonable to expect that one of the specific comparisons between the two studies would be off by this much, although it is still

possible that children are making fewer demands for cereals in 1978 than they were in 1973-74 (data in the Atkin study were collected in 1973-74 and reported in 1978). Of the thirteen remaining comparisons, eight are within five percentage points of each other, two are within ten percentage points, and two others are twelve and seventeen points apart. Overall, this comparison suggests that there has been little, if any, change in children's participation in grocery store purchases and that we can place greater confidence in the descriptive results of this study. Furthermore, and perhaps more importantly, we can have more confidence in the relationship between television viewing and grocery store interactions, a relationship that until this study had never been examined.

Even though the two studies show few differences in the nature of the interactions, a more informal comparison of the two studies suggests that fewer children are shopping with their parents now than were five years ago. Although no exact quantitative comparisons are possible, it was quite a bit more difficult to find mother-child pairs in the stores today than in the past. In the present study, there were only slightly more than two observations per hour. In the previous attempt, approximately twice the time effort gained five times the number of subjects. An interesting question that perhaps should be posed to mothers is why they are shopping without their children. It is possible that children may be left home to avoid the types of interactions we were most interested in observing, although a greater number of working mothers and the increased availability of child care are equally reasonable explanations.

In summary, it appears that commercials in Saturday morning programs are successful. Increased exposure during that time period is related to increased initiative in purchasing products. In other words, television advertising aimed at child audiences works, a finding which is hardly novel,

especially to those who produce and economically depend on these messages. What this finding does indicate is that the ultimate purchase in the majority of cases depends on an interaction between mother and child -- an interaction which in some cases involves conflict and which is most often resolved with mothers yielding to the demands and requests of their children.

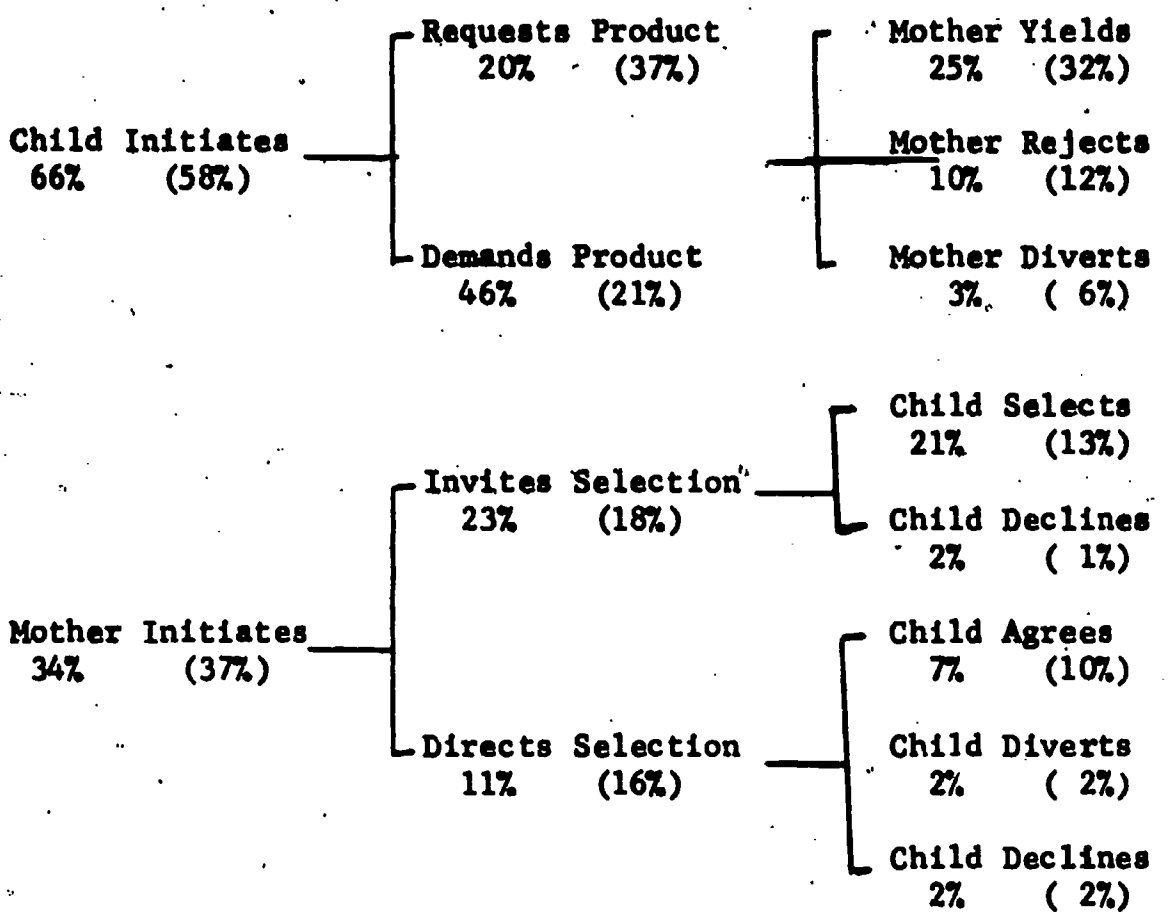
The magnitude of conflict, however, is not great. Little argument can be made that a majority of shopping purchases end in parent-child aggression or that in a large number of cases mothers are forced to yield to children made unruly by television advertising. While the conflict is not present in extremely large numbers, it is present. Fourteen percent of the interactions in this study (and between 19 and 30 percent depending on age in the Atkin study) resulted in raised voices or verbal aggression. It could reasonably be argued that this percentage is not trivial, and in fact, this percentage would translate into thousands of mother-child conflicts every day.

There also appears to be little evidence that children request cereals because of premiums. Only a couple of children in this study mentioned premiums, although it is possible they could have been considering the premiums without verbally indicating they were influencing their purchases. Children also do not mention nutrition as a reason for desiring certain products. This information suggests that overall, this purchase is relatively simple, requires little thought and is fairly routine. Children even seem to have ideas about the purchase before arriving at the various counters. Considering the infrequent discussions between mother and child about food commercials and the less than strict rules that most mothers have about eating sweet foods, it seems reasonable to conclude that a substantial portion of children's information if not all

of their information about candy and cereal comes from television. This would likely be even more accurate for information about specific product brands.

TABLE 1

Comparison of 1973-74 Grocery Store Observation Data (Atkin, 1978) with Present Study Results[1] (current study results are those percentages in parentheses)



[1]Some of the percentages for the present study were recalculated to allow comparison with Atkin's data and therefore may not correspond to those reported in the results section of this paper. All of the figures in this table are calculated as a percentage of the entire sample rather than as a percentage of each of the subsamples moving from left to right.

FOOTNOTES

1. Since only sixteen percent of the observations were made at the candy counter, the observations for both candy and cereal were combined in all of the analyses. While the number of observations for candy purchases does not allow statistical comparisons between the two types of products, it did not appear that there were any important differences between the two. The one very obvious difference was the relatively few mother-child pairs that stopped at the candy counter to consider a purchase. From our experience it does not appear that the purchase of candy at the candy counter in grocery stores is typically a joint venture between mother and child. In retrospect, it may have been better to observe interactions at the check-out counter where candy is sold in smaller units than at the candy counter where it is mostly sold in large quantities.

2. The Hatt-North Occupational Prestige Index is described in The Handbook of Research Design and Social Measurement by Delbert C. Miller (New York: David McKay, Inc., 1970).

3. It should be noted that mother-child pairs passing by the counters without stopping were not included in the research. If anything, this should have produced a conservative bias in the data by decreasing the variance in the type of people that were observed in the study. If those that did not stop represent more strict mothers and children that watch less television than those observed in the study, their exclusion from the study should only limit the probability of finding significant results by limiting the amount of variation in the measures.

4. The index of Saturday morning television viewing was constructed as a weighted additive index of children's exposure to each of ten popular Saturday morning television programs. It was not computed as a simple additive index because many of the programs on the list overlapped and children's exposure to the programs was, therefore, sometimes negatively correlated. The weights for the programs were the factor score coefficients from a factor analysis of the ten shows where a one-factor solution was forced on the data. The weights for each of the shows were as follows: Hong Kong Phooey (-.04); Superfriends (.05); Scooby's Laff-A-Lympics (.08); Bugs Bunny/Road Runner (.06); Think Pink Panther (-.03); Krofft Supershow (.07); Baggy Pants and Nitwits (.29); Batman/Tarzan (.04); Secrets of Isis (.60); Fat Albert (.06).

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