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# AN ANALYSIS OF EXPOSURE TO NON-NETWORK TELEVISION ADVERTISING 

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## QUALIFICATIONS

I am a staff Economist with the FTC. I received my Ph.D. in economics from the University of Chicago in June, 1978. My dissertation, "The Distribution of Advertising Within An Industry", was written under the supervision of Lester Telser. It examined the determinants of household purchases of advertised brands in four industries. The study required the use of trade sources of advertising data to construct measures of household exposure to advertising. The study used simultaneous equation techniques to separate household demand for and firm supply of advertising messages.


#### Abstract

Summary This study analyzes the patterns of exposure to spot television advertising of children and adults. The study matches data on spot advertising aired over approximately 260 local stations, both independents and network affiliates, with data on the station's audience during the period when the advertisement was broadcast. Using this data, it is possible to construct a measure of exposure to advertising which takes into account both the length of the ad and the number of people who saw it. This measure is gross impressions, or minutes of advertising times the number of people in the audience.

Using the gross impressions measure, the study analyzes the distribution of children's advertising exposure across different product classes. May is analyzed as a typical month, but data for the other months studied (February, July, and November) support the same conclusions. All data are for 1977. The study focuses on advertising to all children 2 to 11 , since the data indicate differences in advertising exposure of younger and older children are insignificant.

Most of the advertising seen by children is advertising for a wide variety of products grouped in "other" categories. However, certain individual products clearly stand out in the extent to which their advertising is directed to children.


In particular, advertising for toys and presweetened cereals accounts for $11.2 \%$ of children's exposure to advertising in May. Toy advertising predominates; children's exposure to spot toy advertising is roughly twice their exposure to presweetened cereals. The concentration of advertising for these products on child audiences is even more apparent when attention is restricted to times when children constitute a relatively large fraction of the audience. The share of total exposure to advertising accounted for these products rises steadily as the fraction of children in the audience increases, reaching $30.4 \%$ when children constitute at least $50 \%$ of the viewing audience.

Other highly sugared products also constitute a significant fraction of children's total exposure to advertising --10.3\% in May. However, children are significantly exposed to advertising for many of these products only because they are generally heavily advertised products, and not because they are particularly heavily advertised to children. As the percentage of children in the viewing audience increases, the share of total exposure accounted for by other highly sugared products increases only slightly at best, and in several cases, declines.

The study also demonstrates that much of children's exposure to advertising occurs during times when children
constitute a relatively large fraction of the audience. When children are at least $20 \%$ of the actual viewing audience (compared with $15.5 \%$ of the potential viewing audience in the markets analyzed), they receive $57.8 \%$ of their total exposure to advertising; when they are at least $30 \%$ of the audience, they receive $47 \%$ of their total exposure; and when they are at least half the audience, they receive $23 \%$ of their total exposure to advertising. By constrast, the vast majority of adult exposure to advertising occurs during times when children are less than $20 \%$ of the audience- $-86.7 \%$ in May. Adult exposure to advertising when children are at least half the audience constitutes only $2.33 \%$ of total adult exposure to advertising.

The study also analyzes differences and similarities in the patterns of exposure of children and adults to advertising of different product classes. Apart from the large "other" classes, there are substantial differences. However, most of the differences is due to differences in their exposure to advertising for toys and presweetened cereals. Knowledge of the distribution of advertising exposures of adults is sufficient to explain only $54 \%$ of the variation in children's exposure to spot television advertising in the 22 individual product classes considered, but it is sufficient to explain 92\% of the variation in the 20 classes other than toys and
presweetened cereals. There is weaker evidence that exposure patterns for candy and cakes, pies and pastries may also differ for children and adults.

Examining differences in advertising exposure of children and adults within a product class leads to the same conclusion. While total exposure of adults is greater than exposure of children in every product class, toys and presweetened cereals direct a distinctly larger fraction (46\% and 43\%, respectively) of their total advertising impressions to children than do other products. Since children are only 15.5\% of the potential viewing audience, the concentration of these products on children is apparent. Bicycles and candy deliver over $30 \%$ of their total exposures to children, while sugared gum and cakes, pies, and pastries complete the list of products delivering over $20 \%$ of their total imnrescinnc to children.

Overall, combining the four months, $15.4 \%$ of total spot advertising impressions are impressions to children. Thus, children are not, on the average, more heavily exposed to spot advertising than are adults. However, certain products do direct relatively more of their advertising to children than adults.
I. GENERAL DESCRIPTION 1/
A. The data base.

To analyze non-network advertising seen by children, I obtained 1977 data on advertising aired on different stations and the aū̃ience of those stations. Advertising data were obtained from Broadcast Advertiser's Reports, Inc. From: this data, estimated expenditures and length of advertisements were calculated for each of approximately 267 television stations located in 75 of the largest U.S. television markets. According to Arbitron Television estimates, there are $159,928,100$ persons $2+$ in television households in these markets, and $24,798,200$ children 2-11. Thus, children are $15.51 \%$ of the potential audience in these cities. ${ }^{2 /}$

Advertising data were accumulated separately for each of 17 dayparts (specified periods of time on specified days). For each daypart on each station we, therefore, have estimates of total advertising expenditures, and total minutes of advertising for each of 26 different product classes. Product class definitions were provided by the Federal Trade Commission, Bureau of Consumer Protection. The data include only spot advertising--advertising sold by and aired only on a local station (either a network affiliate or an independent), as distinct fron advertising sold by the network and aired on all"stations cary o the network program. Calculations
were made separately for four months--February, May, July, and November. The data are based on monitoring of each station for one week out of the month. All of the tables in this $r$ report will, therefore, report the total for one week out of each month, for 1977.

For eleven of the dayparts for each station, advertising data could be matched with data on the average quarter hour audience of the station. It is assumed that the average quarter hour audience actually saw each ad, regardless of when the ad ran within a daypart. On the average, this assumption is of course true, but there may be considerable variation within a daypart. In each of the months, audience estimates were unavailable for some of the dayparts; advertising in these dayparts accounts for approximately $16 \%$ of total advertising minutes, and $15 \%$ of total advertising expenditures. In omitting these dayparts from the analysis of viewing advertising, we implicitly assume that the distribution of exposure to advertising is the same as in all other dayparts combined. 3 /

It is important to emhasize the special meaning of a daypart in this study. A daypart is a specified period of time, on a specified day of the week, on a specified station. Thus, in a city in which five stations are monitored from 8:30 a.m. to 1:00 p.m. on Saturday, there would be five
dayparts (one for each station). Dayparts are thus close to a concept of programs, except that a daypart on a station will typically include several different programs (since more than one program may be shown in the specified time period). Appendix A shows the standard time periods which are used by Arbitron; for example, 8:30 a.m. to 1:00 p.m. is the daypart for Saturday morning.

Where we discuss certain audience characteristics-- e.g., an audience composed on $50 \%$ or more children--it may be that one station's daypart may qualify, while another station daypart for the same time period may not. Thus, in selecting samples based on audience composition, each station's audience data for each daypart was treated separately.
B. Gross impressions as a measure of exposure to advertising.

To examine children's exposure to advertising, we need a measure which takes into account both the amount of advertising time and the size of the audience at the time the ad was broadcast. One such measure is gross impressions, defined as minutes of advertising times the number of people in the audience. Thus, two thirty seconds ads seen by 1,000 children produce 1,000 gross impressions of children. Note that gross impressions take no account of the difference between reach (the number of people who see an ad at least once) and frequency (the number of times an ad is seen by the average person). Thus, one thousand gross impressions could be one
minute of advertising seen by one thousand people, or it could be 500 minutes of advertising seen only by two people. However, the question of reach and frequency is not central to our present concerns. Gross impressions do allow comparison across product classes of the relative emphasis on different population groups and on the intensity of advertising campaigns. This is the manner in which gross impressions will be used throughout this analysis. Gross impressions were computed separately for persons aged twelve and older, children 2 to 11 , children 2 to 5 , and children 6 to 11. II. THE DISTRIBUTION OF ADVERTISING SEEN BY CHILDREN ACROSS PRODUCT CLASSES.
A. Children's exposure to advertising in all dayparts Every advertisement will produce at least some gross impressions to children, because nearly any audience includes at least a few children. In order to determine what product advertising is disproportionately directed to children, it is necessary to consider the distribution of gross impressions to children across product classes. Estimates of this distribution for children 2 to 11 during May, 1977 are presented in Table l. Table entries give the gross impressions to children for each product class as a percentage of all gross impressions of children. The data for May are fairly typical of the data for other months. I shall discuss only May in detail, noting how the other months differ where it is

Table 1

Percent Distribution of Gross Impressions of Children 2-11: May, 1977

| -PRCDUCT CIASS | ALL DAYPARIS | DAYPARTS WITH CRID (2-11) ALDIENCE EDUAL TO OR MORE THRN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | 308 | 508 |
| Regular and Casual Footwear | . 323 | . 419 | . $46 \%$ | . 53 \% |
| Desserts and Dessert Ingredients | . 12 | . 06 | . 04 | . 02 |
| Ice Cream and Sherberts | . 27 | . 18 | . 14 | . 09 |
| Cakes, Pies and Pastries | 2.03 | 2.86 | 3.10 | 3.78 |
| Fruit Juices | .14 | . 04 | . 03 | . 02 |
| Appetizers, Snacks and Nuts | . 29 | . 22 | . 19 | . 14 |
| Eighly Sugared Cereals | 3.74 | 6.28 | 7.29 | 10.25 |
| Other Cereals | 2.06 | 1.34 | 1.51 | 2.22 |
| Fresh Fruits | . 26 | . 25 | . 28 | . 24 |
| Raisins | -- | -- | -- | -- |
| Canned Fruits | . 01 | . 00 | . 00 | -- |
| Cookies | . 04 | . 02 | . 01 | . 01 |
| Crackers | . 08 | . 03 | . 00 | . 00 |
| Candy | 2.23 | 3.33 | 3.55 | 3.92 |
| Regular Gm | 1.66 | 2.09 | 2.03 | 1.59 |
| Sugarless Gum | . 72 | . 94 | . 94 | . 38 |
| Regular Carbonated Soft Drinks | 2.51 | 2.24 | 1.96 | . 92 |
| Diet Carbonated Soft Drinks | . 07 | . 06 | . 04 | . 01 |
| Mon-Carbonated Soft Drinks | 1.46 | 1.56 | 1.62 | 1.91 |
| Other Food and Beverages | 8.05 | 4.77 | 4.10 | 2.96 |
| Toothpaste and Toothbrushes | . 58 | . 57 | . 47 | . 23 |
| Ganes, Tbys and Hobbycrafts | 7.42 | 12.50 | 14.73 | 20.14 |
| Bicycles | . 84 | 1.38 | 1.57 | 1.60 |
| Restaurants and Drive-Ins | 6.48 | 6.62 | 6.73 | 7.70 |
| Other "Local" Advertising | 26.31 | 22.64 | 21.22 | 18.32 |
| All Other Non-Food Advertising | 33.33 | 29.60 | 27.99 | 23.00 |
| TVTAL | $\begin{array}{r} 100.00 \% \\ \times(2,167,980) \\ \hline \end{array}$ | $\begin{aligned} & 100.00 \% \\ & *(1,253,945) \end{aligned}$ | $\begin{gathered} 100.00 \% \\ *(1,026,317) \end{gathered}$ | $\begin{array}{r} 100.00 \% \\ *(504,372) \end{array}$ |
| Note: Gross impressions advertising times age in the sudienc give the percentag indicated age prod not add to 100 \& du *Total Gross. Impressio | re defined the number of measured i of gross in ced by each to rounding s in thousands | as the numb children in thousand pressions product cl errors. | of minute the indic Table ent children s. Column | of ted ies the may |

relevant. Similar tables for February, July, and November are presented in Appendix B.

The first column of the table presents the results of the analysis when all stations and all dayparts (for which audience data is available) are included in the sample. It is immediately apparent that no one or two products dominate spot advertising. The 23 s.pecific product classes listed in table 1 account for only $32 \%$ of children's exposure to advertising. Nearly $68 \%$ of gross impressions to children are for other foods, other local advertising, and all other products. $4 /$ We do not know the detailed product class distribution of the ads in these broad classes. A brief inspection of Broadcast Advertiser's Reports listing of the brands included in these categories 5 f for a few different markets suggests that the products emcompass. many of the thousands of brands in hundreds of different product classes which are advertised on television.
B. Exposure when children are a large fraction of the audience.

To focus more clearly on advertising during those periods when children constitute a large fraction of the audience, the analysis was repeated for three different groups of dayparts and stations, defined by the percentage of children in the audience exceeding a specified value. The analysis was repeated for percentages of children in the audience of at
least 20 percent, thirty percent and 50 percent. The results of these separate analyses are reported in the remaining columfs of Table 1.

By considering only subsets of the total number of stations and dayparts available, we of course lose some of the the gross impressions to children which are due to their exposure to advertising in the omitted dayparts. However, this reduction is not proportional to the reduction in the size of the sample.

A large fraction of the gross impressions to children are produced during those times when children constiture a sizable percentage of the audience, a fact which is demonstrated in Table 2. $57.8 \%$ of gross impressions to children occur during dayparts when children constiture at least $20 \%$ of the audience. When children are at least $30 \%$ of the audiience, $47.3 \%$ of total gross impressions to children are produced, and when children are at least half the audience, gross impressions are still $23.3 \%$ of total gross impressions to children. By constrast, very few adult gross impressions are produced during these dayparts. When children are at least $20 \%$ of the audience, adult gross impressions are only 13.3\% of total adult gross impressions in all dayparts, and when children are half the audience or more, adult gross impressions amount to only $2.3 \%$ of adult gross impressions
EFFECTS OF Fustricting THE SAMPLE

in all dayparts. The percentages for other months are slightly higher than in May, but the pattern is very similar.6_/ Thus, the large majority of adult gross impressions occur during dayparts when children constitute less than $20 \%$ of the total viewing audience.
C. Other advertising when the child audience is relatively large.

As we consider dayparts with progressively larger fractions of children in the audience, the fraction of gross impressions to children accounted for by the "other" categories declines, but remains quite large. Even when children are over half the audience, slightly over $44 \%$ of total gross impressions are due to these "other" categories.

It is not clear why other advertising should be such a large fraction of the total. Part of the answer may be the use of daypart averages for the audience data. A daypart may span two hours per day for five days, or more. Within a daypart, there may be some shows with large fraction of children in the audience, and others with a small fraction. Those shows with few children may account for most of the "other" advertising, but the use of the daypart average audience attributes the same child audience to all shows, and hence all ads, within the daypart. Given that the fraction of children in the average -†er hour exceeds 50\%, however, it is hard to believe that this accounts for all of the difference. Evidently,
a large fraction of the spot advertising in programs with high percentage of children is advertising for a wide variety of products.
D. Trends for individual product classes as the share of children in the audience increases.

Table 1 also reveals the relative amounts of advertising for the individual products listed in the table. Toys are the most heavily advertised single product, followed closely by restaurants and drive ins. However, as the sample is restricted to dayparts with a high percentage of children in the audience, toy gross impressions account for a rapidly increasing fraction of total gross impressions. In contrast, gross impressions for restaurants are a relatively constant fraction of the total. The table thus suggests that toy advertising tends to be concentrated in dayparts with a high fraction of children, while restaurants and drive-in advertising is more uniformly distributed across the day.

The most dramatic increase in the fraction of total gross impressions accounted for by a single product class as the percentage of children in the audience increases is that for sugared cereals. Sugared cereals account for $3.74 \%$ of total gross impressions to children, but 10.25\% of the total in dayparts where children comprise at least half of the audience. The fracti $-+t r i b u t a b l e ~ t o ~ o t h e r ~ c e r e a l s ~ a l s o ~ . ~$
increases, suggesting that advertising for both types of cereal is concentrated in dayparts with a relatively large child-audience. Sugared cereals ads are more concentrated, since the percentage increase is somewhat larger than for other cereals.

The other products accounting for appreciable fractions of the total gross impressions to children are regular carbonated soft drinks; candy; cakes, pies, and pastries; sugared gum; and noncarbonated soft drinks. Among these products, regular carbonated soft drinks appear to be important only because these products are heavily advertised in general. They are not particularly advertised to children, as indicated by the sharp decline in the fraction of gross impressions attributable to them as the fraction of children in the audience increases. The other products also increase slightly in those dayparts with a large fraction of children in the audience, but to much less significant extent that in the case of toys or presweetened cereals.
E. Toy and Sugared product advertising summarized.

These trends are summarized in Table 3. The fraction of children's exposure to advertising accounted for by highly sugared products $7 /$ rises consistently and significantly as the percentage of children in the audience increases. The table also reveals that this increase is due primarily to the

the sharp increase in sugared cereal advertising as the fraction of children in the audience rises. There is an upward trend for other highly sugared products, but it is somewhat erratic. When dayparts with at least $30 \%$ children are compared with those having at least $50 \%$ children, the fraction of gross impressions accounted for by other highly sugared products actually declines slightly. Thus, advertising for highly sugared products taken as whole is concentrated in those dayparts when children constitute a high fraction of the audience. Much of this concentration is due to the much higher concentration of presweetened cereal advertising in these dayparts.

Toy advertising also increases sharply as the relative size of the child audience increases. Indeed, the percentage increase in the share of gross impressions accounted for by toys is second only to the percentage increase in the share of gross impressions accounted for by presweetened cereals. Taken together, toys and highly sugared products account for $21.49 \%$ of all gross impressions of children. When we restrict our attention to dayparts with at least $50 \%$ children in the audience, these products account for $42.63 \%$ of the gross impressions delivered to children.
F. Comparisons with other months.

May is, in many respects, a fairly typical month. In each of the months studied, the share of gross impressions to
children is largest for toys, restaurants, and presweetened cereals. Toys and presweetened cereals always show sharp increases in the share of gross impressions they account for as the relative size of the child audience increases, while restaurants and drive ins do not. The share of gross impressions accounted for by highly sugared products increases appreciable as the percentage of children in the audience increases; as in May, this trend in the other months is largely due to the increase in presweetened cereal advertising.

However, there are some differences in the other months analyzed. They are summarized in tables 4, 5 and 6. The February (Table 4) and July (Table 5) data confirm the impression in the May data that most of the apparent concentration of highly sugared product ads in dayparts with a high percentage of children is due to the strong concentration of sugared cereal advertising in those dayparts. Indeed, in the July, the percentage of gross impressions accounted for by other sugared products actually declines as the percentage of children in the audience increases. However, in February and July, toys and highly sugared products account for a somewhat smaller fraction of all gross impressions directed to children in any of the samples than was the case in May. The total share of gross impressions attributable to toys plus highly sugared products is also lower in February and July: $15.5 \%$ for all stations and all dayparts,


11 in Thousands
$-15-$

2-11 in Thousands
$-16-$
versus $21.49 \%$, for May. This difference persists in all of the samples. About half of the difference. is due to lower toy advertising in these months. As the fraction of children in the audience is increased, the February and July totals appear to be much lower than the corresponding totals for May. This difference is almost entirely due to lower toy advertising in February and July.

By far, the most dramatic differences appear in November (Table 6). With all dayparts included, toys and highly sugared products account for $36.54 \%$ of total gross impressions to children, considerably more than the $21 \%$ for May. Indeed, toy advertising alone accounts for a larger fraction of gross impressions in November than do toys plus highly sugared products in the other months analyzed. Gross impressions for highly sugared products are a smaller fraction of the total than in any other month, evidently due to the fact that these ads are displaced by toy ads in the period preceeding the Christmas season. The increase in highly sugared product advertising when children are a large fraction of the audience is entirely due to the increase of sugared cereal advertising; the fraction of gross impressions accounted for by other highly sugared products declines as the relative size of the child aduience increases. Noy 'er is unique in that gross impressions for toys and highly. -d products amount to more than
half of the total gross impressions to children when children are at least $20 \%$ of the audience. When we consider only dayparts with more than $50 \%$ children in the audience, these products account for $72.86 \%$ of the total gross impressions to children. Toys alone account for $64.52 \%$ of the total.

Table 7 illustrates changes in the proportion of gross impressions to children accounted for by all food products, in all months studied. While this proportion increases very slightly (except in November, where toy advertising predominates), the increase is far less than the increase in the proprotion accounted for by highly sugared food products. Thus, as the percentage of children in the audience increases, advertising for other food products declines, but advertising for highly sugared food products increases substantially. G. Viewing by Young Children (2-5)

So far, we have considered only advertising seen by children aged 2 to 11 . Table 8 summarizes the percent distribution of gross impressions by product classes for young children (2 to 5), and compares them to all children (2 to 11) The table reveals that exposure to advertising is quite similar for young children and all children. Considering all stations and all dayparts, young children see slightly more advertising for sugared cereals ( $3.90 \%$ vs. $3.74 \%$ ), slightly
TABLE 7
PERCENT OF GROSS IMPRESSIONS OF CHILDREN 2-11 FOR FOOD AND NON-FOOD ADVERTISING


less advertising for sugared products in total (13.82\% vs. 14.07\%), and slightly more toy advertising. (7.87\% vs. 7.43\%). Overall, young children are slightly more heavily exposed to toy and highly sugared product advertising than are all children. ( $21.69 \%$ vs. $21.49 \%$ ). These differences, however, are quite unremarkable. It seems safe to conclude that there are essentially no differences in the spot advertising exposure patterns of younger and older children.

This conclusion is bolstered when we consider the correlation between gross impressions to younger and older children in each product class. Taken as a whole, the correlation (across product class) of gross impressions to young children and gross impressions to older children is .9988. The square of the correlation coefficient is a measure of the percentage of the variation in gross impressions to young children which can be accounted for by gross impressions to older children. This value is .9977, indicating that $99.77 \%$ of the variation in gross impressions to younger children can be explained by knowledge of the gross impressions to older children. This indicates very little difference in the two distributions.

Part of the high correlation may be due to the fact that we have three large catchall categories, which neressarily account for large fractions of total gross impressions for both younger and older children. However, if we exclude these
categories from the calculation the correlation is still .9946, indicating that $98.93 \%$ of the variation in the other categories for younger children can be explained by knowing gross impressions in these categories for older children. Thus, it seems clear that the exposure patterns of younger and older children are essentially identical. III. ADVERTISING EXPOSURE FOR CHILDREN AND ADULTS

## A. Comparing the percentage distributions

So far, I have considered only advertising exposures of children. It is also of interest to compare the advertising exposure of children to the exposure of adults, and to determine whether, and if so, how they differ. Such a comparison is presented for May, 1977 in Table 9.

It is apparent that there are some differences in the advertising exposure patterns of children and adults. Adults see a somewhat larger proportion of their advertising in the "other" categories--other foods and beverages, other local advertising, and all other advertising. Since the bulk of this advertising is presumably advertising for primarily adult products, this not surprising. Adults also see a substantially smaller proportion of gross impressions for toys and for presweetened cereals. In fact, these are the only major differences. While the precise percentages for other product classes are of course not identical, the differences are generally small..

## Table 9

Distribution of Advertising Exposure for Children and Adults, May 1977


It should be noted that there is not necessarily any similarity in the advertising exposure patterns of children and ađ̃ults. In the extreme, if children and adults watched completely different shows, and completely different products were advertised in those shows, we would find that products in adult shows accounted for $0 \%$ of childrens exposures, and vice versa. On the other hand, if adults and children always viewed exactly the same shows, then the percentage distribution would be identical. Reality, as usual, lies between these extremes. Given the audience composition varies, our task here is to assess the degree to which advertisers of some products exploit those differences to produce disproportionate exposure of either children or adults to the advertising for their products.
B. Correlation analysis of the distributions.

We can again calculate correlation coefficients to assess the true similarity of the distributions. The correlation between gross impressions to children and gross impressions to adults across all of the product classes is .9832 , implying that $96.68 \%$ of the variation in one distribution can be explained by knowledge of the other. Taken as a whole, the distribution are thus quite similar.

However, a large part of this apparent similarity is due to the large, catchall "other" categories. Exçluding
these categories causes the correlation to fall to . 7381, implying that only $54.48 \%$ of the variation in one distribution $\mathrm{i}^{\mathrm{s}}$ explained by the other distribution. Thus, apart from the "other" categories, it seems clear that the distributions of gross impressions to children and adults are quite different. ${ }^{\text {/ }}$
C. The source of the overall differences

The main reason that the correlation is so low is the pronounced differences in the exposure of children and adults to ads for toys and highly sugared cereals. If we exclude these categories ( in addition to the "other" categories), the correlation for the remaining 20 individual product classes rises dramatically, to .9612. For these 20 categories, $92.39 \%$ of the variation in children's exposure to spot advertising can be explained by variations in exposure of adults to spot advertising for those same products. Thus, apart from toys and presweetened cereals, the exposure to spot advertising of children and adults is quite similar.

It is, of course, possible to further increase the correlation by excluding additional product categories where the percentage of gross impressions to children and adults differs. In particular, if candy is excluded from the analysis the correlation for the remaining 19 categories implies that $95.51 \%$ of the variation in one distribution is explained by
the other. If cakes, pies, and pastries are then excluded, 97.44\% of the variation in one distribution is explained by the other. There is, unfortunately, no rigorous test to determine whether or not the correlation is significantly different from one (if the correlation were one, the percentage distribution would be identical). What we would like to do is to determine the set of product classes for which the distribution for children and adults do not differ signficantly. There is no rigorous way to do this. But the large increase in the correlation when toys and presweetened cereals indicates that the exposure patterns for these categories are clearly different for children and adults. The smaller increases in the correlation coefficient when candy, and then cakes, pies and pastries are excluded from the analysis provides weaker evidence that exposure to advertising of these products for children and adults also differs. D. Comparing exposure in a given product class.

So far, we have focused only on the percentage distributions of gross impressions across different product class. We turn now to an analysis of gross impressions to all persons, children and adults, within a product class. Such an analysis can help to confirm the differences noted in the percentage distributions across product classes.

Recall that the percentage of children in the potential audience in the 75 markets studied here is 15.51\%. If differences in exposure to advertising to children and adults reflect only differences in their representation in the potential audience, then gross impressions to children should also be approximately $15 \%$ of gross impressions to all persons.

The data for the months studied confirm this hypothesis. For May, gross impressions to children 2-11 are 13.53\% of total gross impressions to persons $2+$; thus gross impressions to children are a slightly smaller fraction of gross impressions to all persons than are children as a fraction of the potential audience. In this respect, May is slightly atypical. In February, gross impressions to children are 16.93\% of gross impressions to all persons, in July the figure is 15.04\%, and in November, it is 15.79\%. Summing the totals across the four months included in the analysis, $15.42 \%$ of gross impressions to all persons are gross impressions to children. This is approximately the same as children's share of the potential audience. On the average, then, children do not receive greater exposure to spot television advertising, compared to adults.

There are, of course, significant differences in the percentage of gross impressions to all persons accounted for by children across product class. However, for all product
classes, gross impressions to children are less than gross impressions to adults. For toys and sugared cereals, gross impressions to children are always over $40 \%$ of total gross impressions from spot advertising to all persons, and generally are over $45 \%$. If we add the four months together and calculate the percentage of gross impressions to children as a fraction of total gross impressions to all persons for the product class, the percentage is $46.32 \%$ for sugared cereals, and $43.38 \%$ for toys. Thus, children receive relatively greater exposure to advertising for these product cetegories, compared to their share of the potential audience.

Other products generally deliver smaller fractions of their gross impressions to children. Bicycles and candy deliver more than $30 \%$ of their gross impressions to children ( $36.01 \%$ and $31.97 \%$, respectively). The other products delivering over $20 \%$ of their gross impressions to children are cakes, pies and pastries ( $22.88 \%$ ); and sugared gum ( $2199 \%$ ). Unfortunately, there is no rigorous statistical test available to determine precisely which products are significantly above the percentage expected on the basis of children's share of the potential audience. It seems clear that toys and sugared cereals are significantly higher than this expected percentage. Bicycles and candy are also quite high, but more questionable. And there is only weak evidence that cake, pies and pastries, and sugared gum are significantly different from the overall average.

Footnotes

1/ A more detailed discussion of the data sources and the methodology employed in the preparation of this analysis can be found in Appendix A. The detailed product class definitions are given in Appendix C.

2/ The 75 cities account for $77.87 \%$ of the number of persons $\overline{2}+$ in U.S. television households.

The estimates of the potential audience are probably underestimates of the potential audience actually available. This is because the audience data used in this report are based on the "total survey area", which emcompasses:ra larger geographic area than the "area of dominant influence", which is the concept of the television market on which the potential audience estimates used here are based. The reason for this difference is that the total survey areas for different cities may overlap. For example, people living in the New York area may be able to receive Philadelphia stations. They are, therefore, included in the total survey area for Philadelphia. Because of this overlap, population figures for the total survey area cannot be added without double counting a sizeable number of people.

3/ Audience data for the missing dayparts is simply not $\bar{r} e p o r t e d$ as daypart averages by Arbitron. The principal reason for this is the enormous variation in the program content of these times. For example, Saturday and Sunday evening (5-8 p.m. eastern time) are omitted. These times are often dominated by sports events, which vary considerably in audience, -end at varying times, and are followed by variable programs. The usefulnes of an average quarter hour audience for such potentially disparate audiences is questionable at best. A complete list of the dayparts with no audience data is contained in Appendix $A$.

There is no reason to believe that the missing dayparts in any way bias the results. In addition to Saturday and Sunday evening, we are missing data for time before 7:00 a.m., after la.m. 2 Saturday and Sunday before 8:30 a.m., and Sunday 8:30-1 p.m. Viewing by children is unlikely to be very significant in most of these periods.
4/ In November, the corresponding figure is approximately $\overline{5} 5 \%$. In February and July, the figure is approximately $76 \%$.

5/ Broadcast Advertisers Reports, Inc., Computer Analysis of Spot TV. Data by Brand and Product Class within Markets for February, May July and November, 1977.

6/ Tables analogous to Table 2 for the other months are presented in Appendix .

7/ For purposes of this analysis, highly sugared products are considered to be the following: Desserts and Ingredients; Ice Cream and Sherberts; Cakes, Pies, and Pastries; Sugared Cereals; Raisins; Canned Fruits; Cookies, Candy; Sugared Gum; Regular Carbonated Soft Drinks; and Noncarbonated Soft Drinks.

8/ It is clearly appropriate to exclude the "other" categories in the calculation of the correlation coefficient. First, the "other" categories are far larger than the indiridual categories, and are therefore given large influence in the value of the coefficient. This difference in size, however, is an artifact of the product class definitions. If all products were defined at the same level of detail, exclusion would not be appropriate. It is the difference in the scale of the class definitions which justifies exclusion of the "other" categories. Second, what we are really interested in is comparing adults and children in the 23 more detailed product classes. Other products were aggregated into a catchall category precisely because they are of far less interest. Consequently, the test of similarity should be based on the product categories where we are most interested in similarities.

Appendix A

Data Sources and Methodology.
A. Audience Data

Audience estimates were collected from Arbitron Television Daypart Audience Summary volumes for February, May, July, and November, 1977. Except for July, Arbitron surveys 211 U.S. television markets in each of these months. The July survey includes only the top 75 markets. While Arbitron surveys some markets in othe rmonths as well, these months were selected to maximize the amount of audience data which could be matched with advertising.

Arbitron reports estimates of the average quarter hour viewing audience for each station in 18 different dayparts (specified hours during specified days). Data were collected for the 11 dayparts indicated in Table Al. These provide the maximum possible number of non-overlapping dayparts. Because the viewing audience of a given station may vary considerably from hour to hour, it is important to retain as much detail as possible; therefore the smallest possible dayparts for which Arbitron provides summary audience estimates were selected. While it would be possible to use audience data at a finer level of detail, the increased uncertainty in numbers based on a smaller sample and the enormous cost and complexity of using more detail dictated reliance on the readily available and widely used daypart summaries.

|  | Table Al <br> Daypart Definitions |  |
| :---: | :---: | :---: |
|  |  |  |
|  | Eastern \& Pacific | Central \& Mountain |
| Monday-Friday | 7.00A -9.00A | Same |
|  | 9.00A -Noon | Same |
|  | Noon -4.30P | Noon - 3.30p |
|  | $4.30-6.00 \mathrm{P}$ | $3.30-5.00 P$ |
|  | $6.00-7.30 \mathrm{P}$ | $5.00-6.30 P$ |
|  | 7.30P -8.00P | $6.30 \mathrm{P}-7.00 \mathrm{P}$ |
|  | 11.00P-11.30P | 10.00-10.30P |
|  | 11.30P -1.00A | 10.30p- Midnight |
| Saturday | 8.30A -1.00P | Same |
| Saturday \& Sunday | 1.00P -5.00P | 1.00P-4.00P |
| Sunday-Saturday | 8.00P-11.00P | 7.00P-10.00P |

Despite the occasional sacrifice of coverage, non-overlapping dayparts must be used to avoid double counting exposure to advertising, which would occur if overlapping dayparts were combined in any way.

Audience data were collected for each of the 11 dayparts for all stations which were monitored by Broadcast Advertisers Report, Inc. Data used were the projected audience ( in thousands) in the total survey area in the following categories: TV households, Persons 2+, Men 18+, Women 18+, Total Teens (12-17), Children 2-11, and children 6-11. The total survey area (TSA) is comprised of those counties in which approximately $98 \%$ of the net weekly circulation of home market commercial stations occurs. Because we are interested in advertising seen by children wherever they live, these audience estimates are more appropriate than those for the more geographically restricted area of dominant influence or metro rating area.

In three cities in the Mountain time zone (Denver, Phoenix, Salt Lake City), estimates of the audience data were computed from more detailed Time Period Averages for the Noon to 3:30PM daypart. The daypart summaries report only a Noon -4:30 daypart for these cities, which overlaps the 3:30-5:00PM daypart. To avoid this problem, estimates of the average quarter hour audience between Noon and 3:30 were
computed as follows:
Estimates of the average quarter hour audience in each half hour component of the daypart were taken from the weekly Proframming, Time Period Averages, Monday-Friday section of the Arbitron Market Summary volume including each of the cities.

When several different shows aired in a given half hour, the four week average for the time period was used. Daypart audience estimates for each station in each month were then defined as the unweighted average of the audience estimates in the component half hours. This procedure is appropriate since each half hour estimate is based on the same number of quarter hours. Estimates of the audience in each demographic segment were computed independently. Because the half hour by half hour data does not include a separate estimate of the number of persons $2+$, persons $2+$ for the daypart was defined as the sum of the daypart audience estimates of Men 18+, Women 18+, Total teens, and children 2-11.

Audience data were copied from the books to a computer coding form by clerks, who also added the station's call letters, and code numbers for the city, daypart, time zone, and month. Clerks also typed the data into the computer at remote terminals. To insure accuracy of the final data set, a computer progran was used to determine whether or not certain relationships were satisfied. In particular, the audience of persons $2+$ should equal the sum of the audience
of men 18+, Women 18+,. Teens (12-17), and children 2-11. Also, the audience of children $2-11$ should be greater than or equal to the audience of children 6-11, and the number persons $2+$ should be greater than or equal to the number of TV households. $1 /$ The program also checked to be sure that the data for all dayparts was collected and entered, and checked to be sure that the same number of stations was present in each daypart in a city. Whenever this computerized edit revealed any problems, all data for the observation were checked against the Arbitron books, and necessary corrections were entered at the terminal. Thus, coding errors and typing errors were checked simultaneously rather than separately. A separate command procedure, which checked the data at the terminal, was used to identify errors in spelling of station call letters and errors in time zone codes. Because the inequality tests for the accuracy of the data on TV households and children 6-1l are weak, the final data for these two variables was proofread against the coding sheets. Any inconsistencies were checked against the books.

Once the data set passed all these tests, command procedures were used to enter additional data on the station at the terminal. A variable was added to indicate whether the station had an Sl Satellite, an S2 Satellite, or no Satellite, $2 /$ as indicated by the Arbitron reports. All audience data include the audience of any satellite. A variable was
added to indicate whether a station was on the air less time than other stations in a daypart, again as indicated in the Arbitron books, This variable also indicated those stations which-were not on the air during a daypart; i.e., those stations for which Arbitron does not report the station at all during a daypart. Variables were added to indicate a stations' network affiliation ( $A B C, N B C, C B S$, or Independent), and whether the station broadcasts on a UHF or VHF frequency. Finally, because the city codes used for the audience data differed from those used by BAR, the BAR city codes were also added to each record.
B. Advertising

Basic advertising data were obtained from Broadcast Advertisers Reports, Inc. BAR collects data on advertising aired by monitoring 268 stations in 75 of the largest U.S. television markets for one week out of each month. The FTC was provided with copies of the Monthly Detail Tape for four months-February, May, July, and November. This tape contains one record for each of the spot commercials 4/ aired during the monitored week. The record includes the time and date on which the commercial ran, the station which aired it, the length of the ad, the brand advertised, the BAR product class to which the brand is assigned, and an estimate of the price of the ad. All data except the price are obtained from BAR's
audio tape monitoring of the station. Prices are provided by a leading national advertising agency and represent the average price paid by the agency for commercials on a given station at a given time purchased for all of its clients.

Because the 4 months of data include approximately 1.5 million commercials, it was necessary to aggregate the data, thereby reducing the number of records to more manageable proportions. Therefore, the data were aggregated to produce one record for each of 17 dayparts for each station monitored. Thus, the final data set includes 4,556 records for each month. In addition to information identifying city, station, daypart, and month, each record includes the number of advertisements, the total length of ads, and the estimated expenditure on ads in each of 28 product classes. Definitions for 25 product classes were provided by the Bureau of Consumer Protection of the FTC. Two of these classes were subdivided, and public service advertisements were added as a separate product class. Detailed product class definitions are included in Appendix C. Computer programming for the aggregation was done by John Hamilton, a computer specialist with the Bureau of Economics. Copies of the programs used are included in Appendix E.

For purposes of aggregating the data, 17 different dayparts were defined. The initial basis for these definitions was the 11 dayparts for which audience data were available, listed in Table Al. Six additional dayparts were defined
cover all other times. These dayparts are listed in Table A2. When an ad was broadcast at a time at which 2 dayparts adjoin, it was classified in the later daypart. Thus, an ad broadcast at Noon is included in the Noon-4:30 daypart.

To insure accuracy of the aggregation program, it was run on the first 2,000 records for one month. These records were then printed out and aggregated by hand. Comparision of the results confirmed the program's reliability. C. Merging the Data Sets

When the advertising and audience data sets were each in their final form, the two data sets were merged. Observations on the same station and same daypart from each data set were matched. Then a data set was created which combined audience and advertising data for each daypart on each station in a single observation. A separate data set was created for each of the available months. Data sets were merged using the standard IBM SORT/MERGE utility program. All further processing used this combined data set. Stations and dayparts for which BAR reported no advertising were excluded.
D. Analysis of the Data

The data was analyzed using a computer software package known as the Statistical Analysis System, Version 76.5 5/ SAS programs were written by the author, and copies are included in Appendix E. The observations were sorted by daypart, and

Table A2

|  | Eastern \& Pacific | Central \& Mountain |
| :---: | :---: | :---: |
| Sunday-Saturday | After 1:00 AM | After Midnight |
| Saturday \& Sunday | Before 8:30 AM | Same |
| Monday-Friday | Before 7:00 AM | Same |
| Sunday | 8:30-1:00 PM | Same |
| Saturday \& Sunday | 5:00-8:00 PM | 4:00-7:00 PM |
| Saturday \& Sunday | 11:00-1:00 AM | 10:00-Midnight |

then each data item of interest subtotaled for each daypart. When it was necessary to combine dayparts, subtotals for the component dayparts were simply added together, rather二 than averaging the audience data to create estimates of the average audience over the entire daypart. In some parts of the analysis, certain record were excluded. For example, the tables showing advertising during dayparts where children compromise $50 \%$ or more of total persons in the audience were constructed by deleting all observations with a smaller fraction of children before comouting the subtotals.

## Footnotes

1/ In some cases, Arbitron reports that the number of TV households is greater than the number of persons viewing a station. This is apparently due to homes which report that the set is on, but no one is watching it. There were 105 such cases in the data collected for this study, out of 11,649 observations.

2/ A satellite station is essentially a repeater of the parents' broadcasts. S1 Satellites duplicate the parents' programming in its entirety. S2 satellites may run different programming. Apart from news, editorials and public service programming, an Arbitron S2 Satellite in the top 50 markets (based on either households in the area of dominant influence or prime time rankings) can differ from parent station programming in no more than an average of 34 quarter hours per week. For other markets, such programming can differ for no more than an average of 20 quarter hours per week. The sample includes 2 stations with Sl satellites and 5 stations with S2 satellites. There are approximately 260 stations in each month.

3/ In one market, Springfield-Champaign-Decauter, BAR monitors the satellite rather than the parent station in May, July and November. The audience data used for these ads is that for parent plus satellite.

4/ Spot commercials are those sold directly by the station, which air on that station only. They differ from network commercials, which are sold by the network and air on all stations carrying the programs in which they are included.

5/ Instructions for the use of this package can be found in A User's Guide to SAS 76, by Anthony J. Barr, James H. Goodnight, John P. Sall, and James T. Helwig, Published by SAS Institute, Inc., Raliegh, N.C. 1976.

## Appendix B

## Additional Summary Tables

Table B-1

Percent Distribution of Gross Impressions of Children 2-5: May, 1977

| PRODUCT CLASS | ALI DAYPARTS | DAYPARIS WITH CHILD (2-11) AUDIENCE ELUAL TO OR MDRE THAN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | 308 | 508 |
| Regular and Cosual Footwear | . 318 | . $40 \%$ | . $44 \%$ | . $51 \%$ |
| Desserts and Dessert Ingredients | . 10 | . 05 | . 03 | . 02 |
| Ice Cream and Sherberts | . 28 | . 17 | . 15 | . 11 |
| Cakes, Pies and Pastries | 2.08 | 2.79 | 2.99 | 3.64 |
| Fruit Juices | . 13 | $j 05$ | . 03 | . 03 |
| Appetizers, Snacks and Nuts | . 31 | . 22 | . 19 | . 16 |
| Highly Sugared Cereals | 3.90 | 6.27 | 7.22 | 10.05 |
| Other Cereals | 1.11 | 1.39 | 1.55 | 2.26 |
| Fresh Fruits | . 28 | . 26 | . 27 | . 24 |
| Raisins | -- | -- | -- | -- |
| Canned Fruits | . 01 | . 00 | .00 | -- |
| Cookies | . 04 | . 03 | . 02 | . 01 |
| Crackers | . 06 | . 03 | . 00 | . 00 |
| Candy | 2.14 | 3.06 | 3.27 | 3.69 |
| Regular Gum | 1.46 | 1.78 | 1.71 | 1.42 |
| Sugarless Gum | . 63 | . 80 | . 78 | . 31 |
| Regular Carbonated Soft Drinks | 2.29 | 1.96 | 1.71 | . 84 |
| Diet Carbonated Soft Drinks | . 07 | . 06 | . 04 | . 01 |
| Non-Carbonated Soft Drinks | 1.52 | 1.55 | 1.62 | 1.95 |
| Other Food and Beverages | 7.99 | 4.66 | 4.03 | 3.07 |
| Toothpaste and Toothbrushes | . 53 | . 49 | . 40 | . 21 |
| Games, Toys and Hobbycrafts | 7.87 | 12.71 | 14.78 | 20.40 |
| Bicycles | . 80 | 1.27 | 1.44 | 1.52 |
| Restaurants and Drive-Ins | 6.23 | 6.39 | 6.50 | 7.46 |
| Other "Local" Advertising | 27.14 | 24.04 | 22.62 | 18.74 |
| All Other Nan-Food Advertising | 32.71 | 29.57 | 28.17 | 23.33 |
|  | $100.00 \%$ | $100.00 \%$ | $100.00 \%$ | 100.008 |
| $\cdots$ - | * 8008,592$)$ | * (489,035) | * (407,960) | * $(213,966)$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 100 d due to rounding errors.
..*Total Gross Impressions in thousands.
5594
CTS OF FLis'tricting The SAMPLE
February, 1977

. Table B-3

Percent Distribution of Gross Impressions of Children 2-11: February, 1977

| Procuct class | ALL DAYPARTS | DAYPARTS WITH CHID (2-11) AUDIENCE EXUAL TO OR MCRE ITRN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | 30\% | 50\% |
| Pegular and Casual Footwear | . 028 | . 028 | . 024 | . 008 |
| Desserts and Dessert Ingredients | . 17 | . 10 | . 06 | . 05 |
| Ife Cream and Sherberts | . 30 | . 22 | -. 19 | . 02 |
| Cakes, Pies and Pastries | 1.67 | 1.97 | 2.16 | 2.34 |
| Fruit Juices | . 21 | . 15 | . 16 | . 05 |
| Appetizers, Snacks and Nuts | . 31 | . 22 | . 16 | . 05 |
| Eighly Sugared Cereals | 3.35 | 5.07 | 6.16 | 9.00 |
| Other Cereals | . 90 | 1.07 | 1.18 | 1.65 |
| Fresh Fruits | . 26 | . 26 | . 31 | . 47 |
| Raisins | -- | -- | -- | -- |
| Canned Fruits | . 01 | . 01 | . 01 | . 00 |
| Cookies | . 16 | . 20 | . 24 | . 39 |
| Crackers | . 03 | . 01 | . 01 | . 01 |
| Candy | 3.38 | 4.83 | 5.38 | 5.54 |
| Pegular Gum | 1.43 | 1.54 | 1.49 | 1.30 |
| Sugarless Gm | . 11 | . 16 | . 16 | . 07 |
| Regular Carbonated Soft Drinks | . 76 | . 65 | . 58 | . 32 |
| Diet Carbanated Soft Drinks | . 46 | . 29 | . 18 | . 09 |
| Non-Carbanated Soft Drinks | . 27 | . 20 | . 13 | . 04 |
| Other Food and Beverages | 7.82 | 5.21 | 4.35 | 2.51 |
| Toothpaste and Toothbrushes | . 60 | . 61 | . 56 | . 14 |
| Games, Toys and Hobbycrafts | 4.14 | 6.21 | 7.53 | 11.37 |
| Bicycles | -- | -- | -- | -- |
| Pestaurants and Drive-Ins | 4.85 | 4.59 | 4.55 | 4.70 |
| Other "Local" Advertising | 23.95 | 20.72 | 19.86 | 15.06 |
| All Other Nan-Food Advertising | 44.84 | 45.69 | 44.56 | 44.82 |
| TQTAL - * | 100.009 $(3,195,362)$ | $\left\{\begin{array}{l}100.008 \\ (2,061,421)\end{array}\right.$ | 100.008 <br>  <br> $(1,633,808)$ | $100.00 \%$ $(8.88,607)$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 100 ; due to rounding errors.
*Total Gross Impressions, in theusands.

Table B-4

Percent Distribution of Gross Impressions of Children 2-5: February, 1977

| PRCOUCT CIASS | ALI DAYPARIS | DAYPARTS WITH CHID (2-11) AUDIENCE EQUAL TO OR MORE THAN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | $30 \%$ | $50 \%$ |
| Regular and Casual Footwear | . 024 | . 028 | . 028 | . 004 |
| Desserts and Dessert Ingredients | . 16 | . 09 | . 05 | . 04 |
| Ioe Cream and Sherberts | . 27 | . 20 | -. 16 | . 02 |
| Cakes, Pies and Pastries | 1.70 | 1.96 | 2.15 | 2.42 |
| Pruit Juices | . 18 | . 13 | . 14 | . 06 |
| Appetizers, Snacks and Nuts | .33 | . 22 | . 16 | . 07 |
| gighly Sugared Cereals | 3.58 | 5.22 | 6.29 | 8.92 |
| Other Cereals | . 98 | 1.13 | 1.25 | 1.71 |
| Fresh Fruits | . 27 | . 26 | . 30 | . 43 |
| Raisins | -- | -- | -- | -- |
| Canned Fruits | . 02 | . 01 | . 01 | . 00 |
| Coakies | . 18 | . 23 | . 27 | . 42 |
| Crackers | . 04 | . 02 | . 01 | . 01 |
| Candy | 3.14 | 4.33 | 4.77 | 4.95 |
| Regular Gum | 1.32 | 1.37 | 1.30 | 1.12 |
| Sugarless Gum | . 10 | . 13 | . 13 | . 06 |
| Regular Carbonated Soft Drinks | . 70 | . 57 | . 49 | . 28 |
| Diet Carbonated Soft Drinks | . 44 | . 27 | . 17 | . 09 |
| Non-Carbonated Soft Drinks | . 27 | . 18 | .11 | . 04 |
| Other Food and Beverages | 7.67 | 5.02 | 4.07 | 2.54 |
| Toothpaste and Toothbrushes | . 53 | . 51 | . 45 | . 12 |
| Ganes, Toys and Hobbycrafts | 4.35 | 6.28 | 7.56 | 11.16 |
| Bicycles | -- | -- | -- | -- |
| Restaurants and Drive-Ins | 4.73 | 4.56 | 4.58 | 4.84 |
| Other "Local" Advertising | 24.48 | 21.64 | 20.87 | 15.94 |
| All Other Non-Food Advertising | 44.55 | 45.65 | 44.69 | 44.76 |
| TOTAL | $\begin{gathered} 100.00 \% \\ *(1,182,927) \end{gathered}$ | $\left\{\begin{array}{l} 100.00 \% \\ (795,415) \end{array}\right.$ | $\begin{aligned} & \hline 100.00 \% \\ & *(637,659) \end{aligned}$ | $\begin{array}{r} 100.00 \frac{8}{8} \\ *(367,048) \end{array}$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 100 due to rounding errors.


Table B-6
PERCANT DISTRIBUTION OF GROSS IMPRESSIONS FOR GHILDREN 2-11: July, 1977

| PRODUCT CIASS | ALI DAYPARTS | DAYPARTS WITH GHIDD (2-11) ALDIENCE ELALL TO OR MORE THAN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | $30 \%$ | $50 \%$ |
| Regular and Casual Footwear | . 0.18 | . 028 | . 038 | . 028 |
| Desserts and Dessert Ingredients | . 14 | . 09 | . 07 | . 03 |
| Ice Cream and Sherberts | . 45 | .35 | . 23 | . 09 |
| Cakes, Pies and Pastries | . 23 | . 33 | . 37 | . 55 |
| Fruit Juices | . 08 | . 03 | . 02 | . 01 |
| Appetizers, Snacks and Nuts | . 34 | . 20 | . 11 | . 06 |
| Highly Sugared Cereals | 4.51 | 7.34 | 8.98 | 12.20 |
| Other Cereals | . 91 | 1.20 | 1.42 | 1.85 |
| Fresh Fruits | . 14 | . 12 | . 10 | . 05 |
| Raisins | . 00 | -- | -- | -- |
| Canned Fruits | -- | -- | -- | -- |
| Cookies | . 13 | . 13 | . 12 | . 13 |
| Crackers | . 07 | . 03 | . 02 | . 01 |
| Candy | 1.31 | 1.98 | 2.16 | 2.34 |
| Regular Gm | 2.33 | 1.45 | 1.32 | . 70 |
| Sugarless Gum | . 68 | . 70 | . 57 | . 20 |
| Regular Carbonated Soft Drinks | 2.93 | 2.55 | 2.21 | 1.28 |
| Diet Carbanated Soft Drinks | . 17 | . 11 | . 07 | . 02 |
| Non-Carbonated Soft Drinks | 1.55 | 1.57 | 1.47 | 1.70 |
| Other Food and Beverages | 6.54 | 3.90 | 2.92 | 1.88 |
| Toothpaste and Toothbrushes | . 67 | . 60 | . 49 | . 35 |
| Games, Toys and Hobbycrafts | 2.97 | 4.85 | 6.20 | 9.79 |
| Bicycles | . 01 | -- | -- | -- |
| Restaurants and Drive-Ins | 7.21 | 7.40 | 7.81 | 9.57 |
| Other "Local" Advertising | 29.43 | 27.02 | 25.95 | 23.52 |
| All Other Non-Food Advertising | 38.19 | 38.05 | 37.38 | 33.63 |
| TOTAL | $\begin{aligned} & 00.008 \\ & (2,202,472,000 \end{aligned}$ | $\begin{gathered} 100.008 \\ (1,317,177,000 \end{gathered}$ | $\begin{gathered} 100.008 \\ (996,701,000) \\ \hline \end{gathered}$ | $\begin{gathered} 100.008 \\ (434,907,000) \\ \hline \end{gathered}$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audicnce, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 100 s due to rounding errors.

Table B-7
PERCENT DISTRIBUTION OF GROSS IMPRESSIONS FOR CHIIDREN 2-5: July 1977

| PROOUCT CLASS | ALL DAYPARTS | DAYPARTS WITH CHID (2-11) AUDIENCE EQUAL TO OR MDRE THAN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | $30 \%$ | $50 \%$ |
| Regular and Casual Footwear | . 028 | . 028 | . 038 | . 038 |
| Desserts and Dessert Ingredients | . 13 | . 09 | . 07 | . 03 |
| Ice Cream and Sherberts | . 41 | . 29 | . 28 | . 06 |
| Cakes, Pies and Pastries | . 24 | . 34 | . 38 | . 54 |
| Pruit Juices | . 07 | . 03 | . 02 | . 01 |
| Appetizers, Snacks and Nuts | . 34 | . 20 | . 13 | . 07 |
| Highly Sugared Cereals | 5.09 | 7.80 | 9.47 | 12.43 |
| Other Cereals | 1.00 | 1.30 | 1.53 | 1.96 |
| Fresh Fruits | . 15 | . 13 | . 12 | . 06 |
| Raisins | . 00 | -- | -- | -- |
| Canned Fruits | -- | -- | -- | -- |
| Cookies | . 14 | . 13 | . 13 | .14 |
| Crackers | . 07 | . 03 | . 02 | . 02 |
| Candy | 1.40 | 2.02 | 2.18 | 2.38 |
| Pegular Gum | 1.33 | 1.40 | 1.24 | . 70 |
| Sugarless Gum | . 66 | . 67 | . 53 | . 23 |
| Regular Carbonated Soft Drinks | 2.88 | 2.48 | 2.14 | 1.27 |
| Diet Cartorated Soft Drinks | . 17 | . 12 | . 07 | . 02 |
| Nar-Carbonated Soft Drinks | 1.56 | 1.55 | 1.47 | 1.71 |
| Other Food and Beverages | 6.25 | 3.90 | 2.95 | 2.04 |
| Toothpaste and Toothbrushes | . 66 | . 59 | .49 | .36 |
| Games, Toys and Hobbycrafts | 3.35 | 5.15 | 6.52 | 10.01 |
| Bicycles | . 01 | -- | -- | -- |
| Restaurants and Drive-Ins | 7.59 | 7.88 | 8.30 | 9.92 |
| Other "Iocal" Advertising | 29.47 | 27.27 | 26.22 | 23.58 |
| All Other Non-Food Advertising | 37.00 | 36.62 | 35.82 | 32.41 |
| TOTAL | $\begin{aligned} & 100.008 \\ & (657,171,000) \end{aligned}$ | $\begin{gathered} 100.00 \% \\ (418,574,000) \end{gathered}$ | $\begin{gathered} 100.00 \% \\ (996,701,000) \end{gathered}$ | $\begin{gathered} 100.008 \\ (434,907,000) \end{gathered}$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 100: due to rounding errots.
Table B.
EFFECTS OF RESTRICTING THE SAMPLE

*:y 1228 dayparts have no audience data, and are therefore excluded.

Table B-9

Percent Distribution of Gross Impressions of Children 2-11: November, 1977

| PRODUCT CLASS | ALL DAYPARIS | DAYPARTS WITH CHILD (2-11) ALDIENCE EQUAL TO OR MDRE THAN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 208 | 308 | 50\% |
| Regular and Casual footwear | . 408 | . $45 \%$ | . 417 | . 253 |
| Desserts and Dessert Ingredients | . 12 | . 06 | . 04 | . 01 |
| Ice Cream and Sherberts | . 05 | . 03 | : . 02 | . 01 |
| Cakes, Pies and Pastries | . 44 | . 49 | . 48 | . 68 |
| Fruit Juices | . 18 | . 09 | . 05 | . 01 |
| Appetizers, Snacks and Nuts | . 25 | . 13 | . 11 | . 08 |
| Highly Sugared Cereals | 2.19 | 3.37 | 4.05 | 5.61 |
| Other Cereals | . 62 | . 65 | . 66 | . 71 |
| Fresh Fruits | . 10 | . 08 | . 07 | . 01 |
| Raisins | . 15 | . 06 | . 02 | . 00 |
| Canned Fruits | . 10 | . 03 | . 03 | . 00 |
| Cookies | . 03 | . 01 | . 01 | . 01 |
| Crackers | . 02 | . 00 | . 00 | -- |
| Candy | . 91 | 1.08 | 1.03 | . 67 |
| Regular Qum | . 89 | 1.07 | 1.03 | . 90 |
| Sugarless Gum | . 42 | . 37 | . 29 | . 06 |
| Regular Carbonated Soft Drinks | 1.05 | . 71 | . 46 | . 12 |
| Diet Carbonated Soft Drinks | . 67 | . .43 | . 36 | . 05 |
| Non-Carbonated Soft Drinks | . 30 | . 31 | . 29 | . 33 |
| Other Food and Beverages | 7.62 | 3.94 | 2.66 | 1.16 |
| Toothpaste and Toothbrushes | . 29 | . 24 | .17 | . 02 |
| Games, Toys and Hobbycrafts | 30.31 | 46.24 | 52.95 | 64.52 |
| Bicycles | . 34 | . 50 | . 51 | . 38 |
| Pestaurants and Drive-Ins | 4.76 | 4.44 | 4.51 | 4.88 |
| Other "local" Advertising | 23.24 | 17.10 | 14.40 | 8.27 |
| 111 Other Non-Fbod Advertising | 24.56 | 18.12 | 15.43 | 11.28 |
| - TOTAL |  | $\begin{aligned} & 100.00 \% \\ & (1,929,409) \end{aligned}$ | $\begin{gathered} 100.00 \% \\ \star(1,520,018) \end{gathered}$ | $\begin{array}{\|c} 100.00 \% \\ *(788,446) \end{array}$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated qge in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to $100 \&$ due to rounding errors.
?

Table B-10
Percent Distribution of Gross Impressions of Children 2-5: November, 1977

| PROOUCT CIASS | ALL DAYPARTS | DAYPARTS WITH CHID (2-11) ALDIENCE EXVAL TO OR MDFE THRN |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | $20 \%$ | 308 | 50\% |
| Regular and Casual Footwear | . $38 \%$ | . $41 \%$ | . $37 \%$ | . 248 |
| Desserts and Dessert Ingredients | . 12 | . 05 | . 04 | . 01 |
| Ioe Cream and Sherberts | . 05 | . 03 | : . 02 | . 01 |
| Cakes, Pies and Pastries | . 47 | . 51 | . 50 | . 67 |
| Fruit Juices | . 20 | . 10 | . 06 | . 02 |
| Appetizers, Snacks and Nuts | . 25 | . 14 | . 12 | . 09 |
| Eighly Sugared Cereals | 2.42 | 3.56 | 4.19 | 5.59 |
| Other Cereals | . 65 | . 67 | . 67 | . 69 |
| Fresh Fruits | . 11 | . 08 | . 06 | . 01 |
| Raisins | . 13 | . 05 | . 02 | . 00 |
| Canned Fruits | . 09 | . 03 | . 03 | . 00 |
| Cookies | . 04 | . 01 | . 01 | . 01 |
| Crackers | . 02 | . 00 | . 00 | -- |
| Candy | . 84 | . 95 | . 89 | . 61 |
| Regular Gom | . 79 | . 92 | . 88 | . 79 |
| Sugarless Gum | . 37 | . 31 | . 24 | . 06 |
| Fegular Carbonated Soft Drinks | . 95 | . 63 | . 39 | . 11 |
| Diet Carbonated Soft Drinks | . 64 | . 39 | . 33 | . 05 |
| Non-Carbonated Soft Drinks | . 32 | . 31 | . 30 | . 36 |
| Other Food and Beverages | 7.36 | 3.80 | 2. 59 | 1.17 |
| Toothpaste and Toothbrushes | . 26 | . 21 | . 15 | . 02 |
| Ganes, Toys and Hobbycrafts | 31.04 | 45.42 | 51.45 | 62.65 |
| Bicycles | . 31 | .43 | .43 | . 35 |
| Restaurants and Drive-Ins | 4.59 | 4.35 | 4.42 | 4.80 |
| Other "Iocal" Advertising | 23.62 | 28.03 | 15.56 | 9.20 |
| All Other Non-Food Advertising | 24.01 | 18.59 | 16.29 | 12.51 |
| TQTA | $\begin{gathered} 100.00 \% \\ \star(1,068,250) \\ \hline \end{gathered}$ | 100.008 $*(701,105)$ | $\begin{gathered} \hline 100.008 \\ *(568,446) \\ \hline \end{gathered}$ | $\begin{gathered} 100.00 \% \\ *(317,632) \end{gathered}$ |

Note: Gross impressions are defined as the number of minutes of advertising times the number of children of the indicated age in the audience, measured in thousand. Table entries give the percentage of gross impressions of children of the indicated age produced by each product class. Columns may not add to 2001 due to rounding errors.

## Appendix C

## PRÓDUCT CLASS CODES

## BAR <br> BEALES

A131

D121 22
F115 2
F122A 7
F122B 8
F133 3
F142A 9
F142B 10
F142C 11
F162 4
Fl63A 12
F163B 13
F172 5
F211A 14
F211B 15
F211C 16
F212 6
F221A 17
F221B 18
F223 19
F300 20
G440 24
G450 23
V234
25
8888 - 21
9999
27

FOOTWEAR
DENTAL SUPPLIES
DESSERTS AND DESSERT INGREDIENTS
HIGHLY SUGARED CEREALS
OTHER CEREALS
ICE CREAM
FRESH FRUIT
RAISINS
CANNED FRUIT
CAKES, PIES AND PASTRIES
COOKIES
CRACKERS
FRUIT JUICES
CANDY
REGULAR GUM
SUGARLESS GUM
APPETIZERS, SNACKS AND NUTS
REGULAR CARBONATED BEVERAGES
DIET CARBONATED BEVERAGES
NON-CARBONATED BEVERAGES
BEER, WINE AND MIXERS

## BICYCLES

TOYS, GAMES AND HOBBYCRAFTS
RESTAURANTS AND DRIVE-INS
ALL OTHER FOOD AND BEVERAGES
ALL OTHER NON-FOOD PRODUCTS 3703

BRANDS WITHIN THOSE PRODUCT CLASSES
WHICH DIFFER FROM BAR＇S PRODUCT CLASSES
F122
FFAHKEN EEFEY EEEEFAL＋
117
F1EZ FOST FOOLI HOHEYEOAES OT

F12も GFIMS E SMILES CEFEFL＋ 07
F122 COCOR FUFFS EEFERL＋ 07
F12己 KELLOGG FOGG＋AFFLE JACKE OT
FIE2 EOUKIE CFISF CEFEFIL＋ 07
F1E2 GFH EFUHCH FEANUTEUTTEF CEFEFL 07
FiE2 GAFH DFUHCH＋UHFIOUS CEFEFL 07
F1E2 KELLGGG FOGI＋COEOA KEISF 07
F12e KELLDGG FGOLI＋SUGAFE FFOETED FLFKES 07
F12こ KELLOGG FDOITEUGAF SMACKG 07
F122 KELLOGG FOOL＋SUGAR COF：H FOFS 07
FiE2 FOST FOOLI FEEELES 07
F1き2 GENEF：HL MILLE＋MONSTEF CEFEFLG 07

F1E2 CEAEY COW CEFEFL＋ 07
F1EE GFFH EFUMOHFFUHEH ERUNCH 07
FIZ2 FOST FOOLI＋FLFHF EITS 07
FI2 FOST FOGI＋SUFEF EUGAF GRISF 07
FIE2 TEIX CEFEFL＋ 07
FIzE COCO WHEHTS CEFERL＋ 07
F1e2 GAFH EFUHEH CEEDHEHEEFFY EEFEFIL 07
F12e KELLOGG FOGITFFOGT LUOFS OT
Fies GAFH EFUHEH FEEGLAF CEFEFL 07

F12 LUEFY CHAFM EEFEFL + of


FIE己 KELLOGG FOQGIFFOSTEL MINI WHEATS OT
Fize FGST FOULI＋SUFEF OFAHIGE EFISF 07
F122 KELLOGG FOOLTFFGETED RICE 07

F122 KELLOGG FOIG＋FLL ERHN EEEEFL 07
FIEz KELLOGG FOGITHLL EEFHEEFAH EUGS OT
F12こ FFUIT EFUTE CEFEFL＋ 07
FIz2 GFFN CRUHEH CENCHEREY CELEFMTETTE CROT
F122 CHEEFIOS EEFEAL＋ 08
FIE2 H－GIHSTHMT OHTMEAL + OS

F12こ JIM LAHMY INETAHT GFITEt OS
FIEて EUC WHERTS OEFEAL＋0G
FIEZ DUREF FOGG＋DUICK GEITS OE
Fieて KELLOGG FOMIFFEODUCT 19 OE
FIEC KELLOGG FOMOTGOR FLAKES IS
F1E2 KELLOGF FOUOTRFISIN ERHM O\＆
F122 KELLOGG FOGO＋FICE KEISFIE OS
F122 KELLOGG FOOD＋SPECIALK $K 8$
F12こ KIX CEFEFL＋0\＆
F1EZ KELLOGG FGOI＋UAEIGUE CEFEALS OG
F122 GUAKEF FGGQ＋IHSTAHT OATMEAL 0
F122 LIFE CEREAL＋0T
FIE2 MATURE UALLEY FGOATGEGNOLA CEEEFAL MO
FI22 HAEISCO FGOLI SHEEEILED WHEAT TS
F1Z2 FOST FOGLI＋GFFFE NUTS OTM
F122 FOST FGOLI＋FRISIN EFRAN OA
F122 OUAKER FODITGATS O8
F122 FOST FGOU＋GF：AFE NUTE FLAKES O．
F122 CHEERIOS CINHAMN NUT CRL＋ 08

## L(-5

J. Howard Beales, III Ph.D. Economist<br>Bureau of Economics Federal Trade Comission<br>Washington; D.C. 20580<br>November 24, 1978

Morton Needelman, Esq.
Presiding Officer
Children's Advertising Rulemaking
Federal Trade Commission
Washington, D.C. 20580
Dear Mr. Needelman:
The material enclosed is a verbatin statement of testimony that I wish to have included in the record of the Children's Advertising Rulemaking proceeding.

I wish to present my views orally at the legislative hearings scheduled for San Francisco (January 15 to January 26, 1979) or Washington, D.C. (January 29 to Eebruary 23, 1979). I wili be available to testify on any of these dates.

I have searched my files and have found no unpublished or otherwise not publicly available studies or surveys in my possession, control or custody which support, contradict or otherwise pertain to issues raised in my testimony.

Sincerely,

J. Howard Beales, III

Economist


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AFGHNAY FOGG+COATIES
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GALEFHO MEGOUEH FGOLI+CGOKIES
MAMBS COOKIES+
12
FFEIHOFEF: EAKEF:Y + GOKIES
FICHE FOOGI+FRZH COOKIE DOUOH
12
FFEIHOFER 12
FFEIHOFEF EHKEFY+CGOKIEESGRES
12
MFS GODO FRZH COOKIES+
12
MOMSTEF COORIES+
12
KEEELEF EAKEFY'FUGGE CGUEFEG COOKIE 12
HELHWAY CODKIESOF WAYHE +
12
KEEELEF EAKEFY+FFUIT CREFM COOKIES 12
KEEELEF EAKEFY+RICH CHIF COORIES 12
KEEELEF EAKEFY+100 COOKIES
GUHSHINE EAKEFY +CHIFAFGGS COOKIES 12
KEEELER EAKEEY+CHOC SFLITS COOKIES 12
CIAEE COOKIES+
12
GRANGMAS FGOLI+COOKIES 12
CAMFEELL FOGIT SGIJF TOFFEF: 13
NAEISCO FGGITCHICKEH H ESKT CRCKE 13
KEEELEF EAKEEY+EIT DF EGTH 13
HAEISOO FGOLITRISEUITS SNACKS 13
HAEISCO FOOGICIF IN A CHIF CEACKER 13
HAEISCO FDOCIFFEEMIUM SGLTINES 13
HAEISCO FOOLTFITZ CERCKEES
SEEELEFTSHINLIGS CEACKERS 12
YEG YILLAGE EISCUITS+ 13
SUHSHIHE EAKEFY+HI HO CERCKEES 12
MHEISCO FOGGICHEESE SUIEL CECKRS 12
MASTEF EAKEFY+HHOLE FYE CEACEEFS 13
HHEISCO FODII WHEGT THINS
HAEISGO FGOO E ESOET CFACKEES
SUMGHIHE EAKEFY + EFACKERS 13
NAEISCO FGGII [IIXIES CEACKERE 13
NAEIECO FOOG EACON N IIP CEACKEFS 13
TEMIERESS SRFCKERS + I 13
KEEELER EFKEFY+TOHHHOUSE CEACIEFS 12
FEFFEFIIGE FAFM + CERCKEFS 12
HAEISCO FGOGTGEAHAM CFACEEFS 13
STH GUEMIIE CRNDY EAR + 14
EUTTEFFIMGEF CRMDY BAR + 14
HEFSHEY FDOLI EAHOY EAR 14
EEFSCHS CAHOY + 14
WILLY WOHEA CAMDY+SUPEE SCEHCHEOOHFS 14
FACEF CHEHS CAHOY $+\quad 14$
HOLLONAY CAHEM M MILK DUASESLO FOKES 14
TOGTEIE FGLL CAHDYTTGGTSIE FGF LIFGF 14
KEAFT FGOLI MARSHARLLOHS
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FOREVEF YOURE CGIIIY RAF+ $\quad 14$
YOEK FEFFEFRHINT FATTIES+ 14
GOOD FLEMTY CAHDY + IU 14
TURTLE CRHNO +
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FETEF FRUIL CANLIM+HHISTLE FOFS
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MOM S CAHDIES+FLRIN/FEGNUT
Fご1 HESTLE FGDII CFEUNEH ERF ..... 14
F211 EIT O HOHEY CENCIY＋ ..... 14
F211 FIEHRFDSGN MIMTS＋ ..... 14
Fご1 MIKE＊IKE CANDY＋ ..... 14
Fご1 THIX GFHEIY EFFT ..... 14
F211 TOITEIE FOLL GHHOM＋TOATEIE FOFS ..... 14
Fこ11 KERFT FGOLI COANDM ..... 14F211Fき11
NESTLE FGIDCI＋100000 CFAFIM EFF： ..... 14
FGLO C：HHEIY＋ ..... 14
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FETEF FAUL CFAN［IY＋HLMGMD JOY1
FETEF FFIIL C：HH［IY＋MOUNDS ..... 14
YOUFE EHEHLY EFHCIY＋ ..... 14
KEHEKLE EAHEIY EAFE＋ ..... 14
CISNEY EHRIIY＋ ..... 14FEESE FGOLI CFFUHC：HY FHT ETTE CUFS
14MESTLE FGO［I＋C：HOCOLITE EAFE ..... 14
TOOTSIE POLL CANCIU FLGUDP
TOOTSIE POLL CANCIU FLGUDP TOOTEIE FOLL CFNNGYFLFUDE EOLLE ..... 14
FHLLY CAHAY EAR + ..... 14
MHFS ERHCIY＋MRES EAF ..... 14
THFEE MUSEETEEF EANDY＋ ..... 14
TGOTEIE FGLL CFNDY T TOTEIE FOLLS ..... 14
TGFFG C：RNDY＋ ..... 14
GHIERELIELLI ERNDY＋ ..... 14
FFUIT TAFFY CANDY＋ ..... 14
WHITMAN EFHDY＋ ..... 14
SNAF E EAHDY＋ ..... 14
FEEGE FGIGIFEFNIT EUTTEF CUFG ..... 14
TGFFIFAY CFH［IY＋ ..... 14
EOUNTY COCOAHIT CHOY BAP + ..... 14
EUITTEF－MIT C：RNLYY ..... 14
ELAFE EAHEM EAFESt ..... 14
CHCIEUEY C：HNDY＋ ..... 14
CHDHKY CANCIY＋ ..... 14
HOLLGNAY CAHIM＋MILK duOS ..... 14
FA＇Y［IAY C：ANDY＋ ..... 14
KIT KAT CANDY＋ ..... 14
STAFEURET CAHDY＋ ..... 14
SKITTLES FFUIT CHEH CHDY＋ ..... 14
GLADIE CRMCIY＋ ..... 14
HEFSHEY FGOD＋CFHDY KISSES ..... 14
CAF：AMELLO C：ANDY＋ ..... 14
KINGS CAHDY＋ ..... 14
JUMIOF MIHTS CAHDY＋ ..... 114
FEL CAHDY＋ ..... 1,4
SUMMIT CFHDY ERR＋ ..... 14
MALTESAR C：AHDY＋ ..... 14
EFEEFTH SAUEFS MINTS＋ ..... 14
MAFES CAMCIY＋ERUHCH ERRS ..... 14
TOOTSIE FGLL C：AHAY＋UAEIOUS ..... 14
CAMIMGEMT CFMNY＋ ..... 14
FEITHSCHILE CANDY＋ ..... 14
MILKSHAKE CFHIY＋ ..... 14
LIFE SAUEF FIITS＋LIFESUES\＆LOLLIFGFS ..... 14
LIFE SFUERS FIITS＋LIFE SFUEFS ..... 14
ZERO CFHILY E：AFI＋ ..... 14

F211
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FGUEF HOUSE CAMDY eAF：
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HEGTLE FOGG＋FEALLY CREAMY CHOG：EAF 14

FETEF FRUL CAMCY＋EARAUELLE 14
OH HEMEY CANOY + 14
GOOEEFS CAMLY＋\＆ERISINETTES 14
HEATH CAHDY＋ 14
WGELI SEFIES CRHEIY EAR＋ 14
SQUAFE SHOGTER CFHDY $+\quad 14$
FHAGEUEH CAHDY $+\quad 14$
LIFE GRUERS FOTSHLOLLIFGFS 14
HESTLE FGGO＋HAGMESS GAHOY EAR 14
AFTEF 8 ［IIMNER MINTS＋ 14
CHAELESTOH CHEN CAHDY $+\quad 14$
FEFFEGN CANDY + ． 14
EALLAED E EGNEER CANDY $+\quad 14$
MAEFEG CRHLIY COHES＋ 14
FETEF FRUL CFHEY＋MOUHLISEFLMOMO JOY
ME：GOGDEAE CRMOY＋
HOW\＆LATEF CAHOY＋
CLOSETTE CAMDY＋ 14
CHEFEY ELUSSOM CAHDY＋I4
MAFATHON CAMOY EAR +14
TOUTEIE FOLL CAHAY＋TOOTEIE RLSUFOFS 14
WFIGLEY TIMA＋JFRIOUS IS
FEESHEM－UF GUA＋ 15
EEECHHUT GUA－FEPPEFMIHTSEFEFRMIMT
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FFEEEIENT GUM＋ 15
EUEELE YUM EUEELE GUM＋ 15
LIFE SAUEFS FITS＋GUA IS
WEIGLEY GUH＋SFEFRMINT IS
EIG FEG CHEHING GUM＋－ 15
CHICLETS GUM＋ 15
GUGFELGAF EUEELE GURT＋ 15
EUEELICIOUS EUEELE FUM＋
［IEHTYHE GUATUREIOUS
WFIGLEY GUM＋，UIICI FEUIT IE
EFROIORA GUA＋ 15
GFFIZE EUEELE GUM＋ 15
EMOOTH A JUICY EEL GUM＋ 15
TEI［IENT FRGDUCTS＋SGFLS GUACMIBTS 1E
CAREFEEE GUllt 16
TEI LIEHT FFOMUCTS＋EGRLS GUM 16
GUGAFLESS GUM EALLS + iE
UELAMINTS SGF FEEE MINTS＋ 16
GREIT＋SUGFELESS GUM IG
HCTIOM GUM SUGARLESS IG
HIFES FOGT EEEFTFEGULGF 17
Fぞと1 ［IF：FEFFEF EEU＋FEGULRR ..... 17
F221 MF：FIEE SOFT［IFIAK＋EEGULFR ..... 17F221
KING COLA EEVEFAFIE + ..... 17
EAREELHEAI ROGT EEEFITREGULAF ..... 17
EANADA DFY + REGULAR ..... 17
C \％EEUEFAGES＋ ..... 17
GHASTA EEVEFAGE＋FEGULAR ..... 17
COGF COLA＋ ..... 17
HIFES FGOT EEEF＋\＆CRUSH EEU ..... 17
CEUSH EEU + ..... 17
COGA COLA＋SGFRITE ..... 17
SCHUEFFES EEUEEAGES＋ ..... 17
CANFIELG EEUTREGIILAR ..... 17
MUG OLI FSHN ROOT EEER＋ ..... 17
COCA EOLF EEUEFAGE CO＋LOCRL ETTLERS ..... 17
EAFE EEVERAGES＋EEGULAR ..... 17
EIG EEEI SOFT DRINK ..... 17
F221 EUEELE UF EEUEFRGE＋ ..... 17
F221 FOYFL EROWH COLA CO UHETOUS ..... 17
F221 GGFTOH CLUE EEVERAGES＋EEGULAE ..... 17
F221 FEPSI COLf＋ ..... 17
FE21 ［IALIS FOGT EEEFEFEGULAR ..... 17
F221 FANTA EEVEFRGES＋ ..... 17
F221 FHYGO EEV FREGULFR ..... 17F221
FGYAL EEOMA EEVIEEGULAR ..... 17
SEVEH UF EEUEFAGE＋EEGULAF ..... 17
F2で1 SOUIFT EEUEFFFEESFREGULAR ..... 17
F221 ELUE SFAFKLE EEU＋\＆CATON EEV ..... 17
F221 EFIARGALE COLGA ..... 17
F221 FFANKS EEV＋REGULAF： ..... 17
F221 GEAFG EEVTREGULAR ..... 17
F221
H TEEAT EEUERAGE + ..... 17
TFIFLE COLA＋ ..... 17
FROSTIE FOOT BEER＋ ..... 17
17F221SFFITE EEVEFFGE＋FEGULAF：
17F221TEEM SOFT［AEINK＋
17F2て1JOLLY GOOI EEUEEAGE FEEGULAF：
17F221WHITE FOCK EEUEFGGES＋
SUI LIROF EEUEFAGE＋ ..... 17F221
LIUNELE COLA EEVEF：AGE＋ ..... 17Fごこ1
HEHI EEUEERGES＋ ..... 17F221F221F22＇1F221
F2z1
$\begin{array}{ll}\text { MOUNTAIN OEN SOFT［IFINK＋} & 17 \\ \text { FEFGI CO INC＋UAF SOFT LIFN }\end{array}$
FEFEI CO INC＋UAF SOFT LIEN
17
CRUSH EEU FEEGULAF 17
［IGIELE COLA EEU \＆EUEELE UF EEU 17
WELC：H＋EUGH
17

Fこと1
Fこ21
Fごご
Fごき1
Fごぎ1
F2こ1
Fごて
F221
Fここ1
F221
Fごき1
Fご21
Fご1
Fこど1
Fごて
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Fごで1
Fごで1
F221
Fごで1
F221
Fごころ
F22こ
F223
F223
Fごる
F2＇23
Fこ23
Fごでる
Fこころ
Fごころ
F223
Fこ23
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AMin 21, 1979
Yorton Negdelman )rh.
Presiding Officer
Children's Advertising
TRR NO. 215-60
Eunice Dickerson
Legal and Public Records

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Please add to LL-52 the attached letter dated March 15, 1979, with its attached corrected copies of tables from J. Howard Beales, III.

Please add to LL-53 the attached page 17 and Table XVII.
Please add to \(I \mathrm{~L}-55\) the attached errata sheets for the testimony of Dr. Martin Block.

EXHIBITS-SEQUENCE

Case No. \(0 / 5-60\)

Commission)
Respondent) EXHIBITS
Marked for Identification Only
Withdrawn
Identified and Rejected
Not Used
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IT Physical Exhibit - File Symbol R.S. 11-28-78.
Description \(\mathscr{T} R \angle L-52\)
Beanies Phys. Exh-A
APPENDICES D.E
Location - Section ___ Shelf ___ _ _ _ _
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J. Howard Beales, III Ph.D.
Economist
Bureau of Economics
Federal Trade Commission
Washington, D.C. 20580
March 15, 1979

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Morton Needelman, Esq.
Presiding Officer
Children's Advertising Rulemaking
Federal Trade Commission
Washington, D.C. 20580
Dear Mr. Needelman:
Errors crept in to three of the tables included in my submis-
sion for the Children's Advertising Rulemaking Record. Cor-
rected copies of the tables involved are attached. The error
involved only total number of gross impressions to children
in the different samples; the calculated percentages in the
tables are all correct.
I regret this error and any inconvenience it may cause.
Sincerely,

```

```

J. Howard Beales, III Economist

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\(\mathrm{JHB} / \mathrm{mb}\)
Attachments


-16-
TABLE 6
PERCENT OF GROSS IMPRESSIONS OF CHILDREN 2-11 FOR SUGARED PRODUCTS AND TOYS

\section*{November, 1977}

*Number of Gross Impressions to Children 2-11 in Thousands
-17-
5620```

