

FIVE CENT CANDY BARS
THE HOW AND THE WHY OF THEIR PURCHASE

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Business and Engineering Administration

May 9, 1940

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THESIS AUTHORIZATION

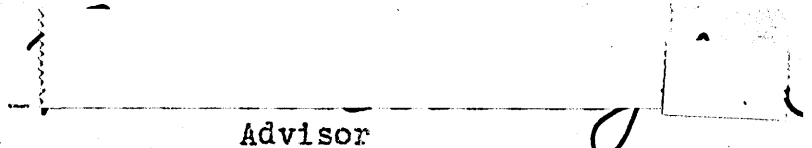
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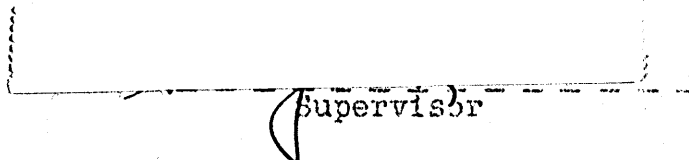
Topic Five Cent Filled Candy Bars -- The How and the Why of
Their Purchase

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Advisor

Signature of the Supervisor, indicating proper registration for credit, and generally satisfactory progress.


Supervisor

Cambridge, Massachusetts
May 9, 1940

Professor George W. Swett
Secretary of the Faculty
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Sir:

In accordance with the requirements for graduation, we herewith submit a thesis entitled FIVE CENT CANDY BARS, THE HOW AND THE WHY OF THEIR PURCHASE.

An opportunity is taken at this time to thank Professor Ross Cunningham, Professor D. M. McGregor, and Professor H. A. Freeman for their assistance with the work of the thesis.

Special thanks are due to Dr. J. Mace Andress of the Wheelock School, Mr. Shipman of the Belmont High School, Mr. Jordon of the Braintree High School, Miss H. Jaeger of the Brown School, and Professor A. Magoun of the Massachusetts Institute of Technology for allowing us to administer interviews to their pupils.

We also want to thank Mr. Robert Singer of the New England Confectionery Company for his cooperation, and we hope that this thesis will be of some value to him.

Sincerely yours,

Peter Graham Park

Nicholas Williamson

TABLE OF CONTENTS

Chapters

I	Conclusions	1
II	Purpose of the Study	5
III	Situation Analysis	7
IV	Methods Employed	9
V	Administration	17
VI	Statistical Analysis	19
VII	Results	23
VIII	Recommendations	33
	APPENDIX	37
	A Bibliography	38
	B Questionnaires	39
	C Basic Tabulation Sheets	47
	D Group Rotation	56
	E Calculations for Results	60

Chapter I

CONCLUSIONS

This summary of the results would ordinarily follow the chapter on results. However, for the readers convenience, it has been placed in this prominent position. It contains the conclusions from the entire work of the thesis. The authors feel that this is the most important part of the report and want the reader to study and assimilate this material before going into the details of the technique and procedure.

1) The most popular type of bar with children in grade school is a filled bar like Milky Way or Skybar. In a slightly older group in high school the same liking for filled bars is found. However when a college group is approached, a decided preference for the hard bars appears. This leads to the conclusion that a change of taste occurs as the buyer grows older. This means that a different type of bar should be designed by the manufacturer for the different age groups to whom he hopes to sell.

2) The figures show that in the college and high school groups the length of time that the buyer has been buying a particular bar is usually over a year. In the grade school group the percentage who having been buying for this length of time is much less. This gives the conclusion that the younger children are not very constant in their buying habits. In the subway group the percentage buying for over a year is less than in the college and high school but more than in the grade school. The conclusion can be drawn, however, that

this is because of the large number who are buying a bar for the first time and are not listing it as a favorite bar as in the question given to the school groups. The difference in the question does not detract from the fact that buyers are likely to stick with one bar for periods over a year in length with only occasional lapses when a new bar attracts their attention.

3) The majority in all of the groups questioned appear to fall into the class that eats from three to one candy bar a week. The next class are those who eat less than a bar a week. The conclusion here is that the majority of candy bar buyers do not eat more than three bars a week and that this is the maximum that a manufacturer can hope to sell to any one buyer in a week's time.

4) The most popular place to buy candy bars is in a drugstore. However, most of those interviewed state that they buy candy bars at just any counter. Although this lack of preference as to where to buy candy is seen, it does not detract from the attraction of the drugstore as many of those stating just any candy counter must buy at drugstores. It is therefore concluded that a drugstore is a very good place to display candy bars.

5) A very interesting result is discovered when the replies in the gradeschool, the high school, the college, and the subway interviews are recorded on the question as to whether they had seen advertisements of the bar that they prefer. These groups are in ascending age classifications and the results give a descending observance of advertisements. From

these results, the conclusion is drawn that an advertising campaign directed toward younger buyers would have the best chance of success.

6) In the grade school sample the advertisements were heard over the radio in the majority of the cases. In fact there is a decided preference for radio with magazines and counter displays tied for second. In the high school group radio takes a poor second to counter displays and in the college group radio does not appear in the first three places. Magazines are very close to counter displays in the college group and are also a close third in the high school group. It appears from these figures that the importance of radio advertising decreases as the age group appealed to increases in age. The standing of counter displays indicates that this method of advertising should not be ignored. Since magazine advertisements are seen by all the groups they also are an important method of reaching the public eye.

7) The filling of the bar and the fact that it is sweet chocolate are the two reasons given most often in all of the groups for liking the bar. These results are in accordance with the popularity of Milky Way and Hershey bars. It may be concluded that in the design of a candy bar these two factors should be considered.

8) Some results were obtained on the accuracy of an observer who tries to determine whether a purchaser has decided on the bar he will buy before reaching the counter by observing the sureness with which he picks up the bar. This method was found to be accurate only seventy-five percent of the time. The conclusion was that this was not an entirely satisfactory

method to use to determine the attitude of a person buying a candy bar.

9) It was discovered in the subway interviews that 66% 8.25% had decided what bar they would buy before reaching the counter. This indicates that some method of impressing the name of the bar on the consumer has been effective. It was not determined whether this method was advertising or merely the goodness of the bar.

10) In the grade school the percentage of students who bought bars for themselves was very high. However, about fifteen percent had the bar bought for them. This indicates that any advertising done for this trade should be primarily directed towards the children themselves. A similar question was asked in the subway group to determine how many people were buying for others. The number of people doing so was negligible.

The conclusion is drawn that advertising should be directed toward the person who will finally eat the bar.

11) The loyalty towards a particular bar was found to be negligible. In one of the high school groups and in some of the subway interviews the question was asked as to what other bars the person bought. In the great majority of cases another bar was sometimes bought. It appears from this that it is foolish to expect that every bar bought by a purchaser will be the same one. However, it is possible to determine the one that he most often buys.

Chapter II

PURPOSE OF THE STUDY

The work on this thesis was done at the suggestion of Mr. Robert Singer, an executive of the New England Confectionery Company. This Company is the manufacturer of "Necco" products and does a large portion of their business in five cent candy bars. They produce quite a number of bars of different types in this nickel field. One of their most difficult problems at the present time is connected with the advertising that is being done for these bars. The company is undecided on how much of the small margin of profit should be devoted to advertising and how much should be given to the dealers in the expectation that they will be more inclined to push the products.

To assist in the making of this decision, the authors were asked to make a survey that might throw some light on the problem. The purpose of the survey was to discover something about the buying habits of the purchasers of five cent candy bars. The information wanted was a study showing exactly how and in what manner the bars were bought. The authors were to find out if the purchaser had determined to buy the bar ahead of time, or whether he was influenced by the counter display. Some indication of just why a particular bar was bought was also desired. If possible, the effect of any advertising was to be discovered. It was felt that if the survey accomplished these purposes, it would greatly assist the Company in making their decision concerning the advertising.

However, in order to evaluate the method, results were to be obtained that would show if the method could be used to advantage on a larger and more complete scale. These results will show the tendencies and give a good indication of what may be expected when the survey is made in a larger field. They also will be of value in developing future questionnaires.

Chapter III

SITUATION ANALYSIS

After the purpose has been defined clearly, the second step in a Marketing Research Survey is to make a thorough analysis of the situation involved. This step is important, for if it is not searchingly covered, there would be a possibility of duplicating the effort of previous studies. It has a second value, in that it reveals methods that might be used advantageously in the present survey.

The first source of information is found in periodicals. The approach to this information is made by consulting the Industrial Arts Index, Reader's Guide, and the library index. All references to the candy industry were found and read to be sure that all available material was examined. A study was made at the same time of books on Marketing Research that mentioned methods of data collection that might apply in the present case. Since the problem being attacked was to investigate the consumer's buying habits, particular emphasis was laid on this aspect. Most of the work done to date approached the candy industry from the manufacturer's and the wholesaler's point of view. The manufacturer's research consisted in the case of Necco of presenting a new bar on a limited and carefully controlled market to see whether its sales indicated a success or failure. This information was obtained from the article "A Lulu or a Dud." The jobber's problem was attacked in the article, "Williamson Researchs The Candy Industry." The study was made to determine how the jobbers could be

helped in their work of distribution and no emphasis was placed on the consumer. There was no indication in the literature that any attempt had been made to determine the pattern habit of the consumers of candy bars. It was probably believed that the large volume of purchasers and the smallness of the unit purchased would make this approach to the consumer impractical.

The second channel of information is to go out in the field and investigate the situation that exists in practice. This part of the work was done by visiting various jobbers and retailers in an effort to determine the facts of the situation. From this study the information on the current state of the business was obtained. A list of the fastest moving items in their stocks was drawn up as aid to the planning of methods to be used in the study.

One thing stood out in this part of the work and that was the lack of system in this branch of the business. The jobbers did not seem to have any orderly inventory that would serve to measure the volume of business transacted, or would serve in any way to anticipate future business. Questions pertaining to seasonal variations in the candy trade were answered with blank stares and muddled answers. The method of ordering new stock was to find a blank space on the shelves and then fill it with new stock.

Chapter IV

METHODS EMPLOYED

A. Observational and personal interview.

The work of this analysis was to discover exactly how a five cent candy bar was purchased. After some discussion, it was decided that a method using an observational technique would be the most accurate. Mr. Wroe Alderson of the Commercial Research department of the Curtis Publishing Company was consulted on the matter, and he believed that this would be a very excellent method of attacking the problem, although warning the authors of the difficulties of getting enough interviews. Mr. Robert Elder at the head of the Marketing Research department at Lever Brothers told the authors that he believed that this method would be far too costly in time for their use. For this reason, it was decided to attack the problem with more than one method, so that the authors would not have to rely completely on the observational technique for data.

The observational technique has certain disadvantages, namely the possibility of an inaccurate observation, and the fact that only a limited amount of information can be obtained. In order to overcome these disadvantages, a follow-up personal interview was devised that would check on the accuracy and also bring in additional information concerning the purchase.

By combining the personal interview with the observation, more accurate results are obtained. Any misinterpretation of the purchaser's actions made by the observer are checked by the interview. At the same time, the interview

is particularly effective as it comes at a time when the purchaser has just finished buying and any reasons that he or she may have are still fresh in mind. In this method there is no memory factor to contend with as long as the interview seeks to find out what was in the persons mind at the time of the purchase. Any questions that do need memory are related to the purchase and are therefore more clearly in the mind of the person interviewed.

Following these ideas a questionnaire was designed for the purchasers of candy bars. The first part was to be filled in by the observer from his own observations, the second part was to contain the answers given by the purchaser on being questioned. The form devised allowed the observer to classify the purchaser under three headings, "Sure, Fairly sure, Unsure." Besides noting this manner of purchasing, the observer was to fill in the time and the date of the interview, the sex and the approximate age of the person observed, and also the particular bar purchased. In the first questionnaire, the interviewer then asked whether the purchaser bought that particular bar "always, usually, or seldom." This was intended to check on the accuracy of the observation. After testing, however, it was decided that a question relating to the state of mind of the purchaser before reaching the counter would be of more benefit. For that reason, the question, "Were you looking for that particular bar (or naming the bar) when you came to the counter?" was substituted. Then a question was asked to discover for how long a time the purchaser had been buying the bar. This was followed by a question asking how often a bar was bought. The last question was "What advertisements

of the bar have you seen?" In the third and final questionnaire, a question relating to what other bars the customer bought was asked as well as the preceding questions. Copies of these questionnaires and the exact wording of the questions may be found in appendix A.

In asking these questions, the authors hoped to find out about the habits of the purchaser of candy bars. They wanted particularly to discover whether the customer made up his mind what bar he wanted before he reached the counter. The questions asking "How long" and "How often" are also designed to find out the habits of the purchaser. In order to discover how many of the purchasers had actually seen advertisements of the bar they bought, the question relating to advertising was asked. Although this gives no proof of the effect of the advertisement on the decision to buy, of the purchaser, it does show the effect of the advertisement on the purchaser himself. There is the logical conclusion that a person who has seen an advertisement is more likely to have it affect his purchase than one who has not.

In selecting the locality for the test, several problems arose. In the first place, it was necessary to find a candy counter that had a large volume of business. Secondly, the counter had to have a large selection of bars, lastly, the necessity of obtaining a sample that would not be restricted to a particular class of people was mandatory. The subway station at Park Street was felt to meet all these conditions and the interviews were all made there. It was felt that another place to conduct interviews would be of benefit.

However, no place that met with the necessary qualifications was found owing to difficulties in the conduct of the work. It was necessary to get the permission of the Metropolitan Sales Corporation to question their customers. This was done with only minor difficulty.

B. Written Questionnaire

While the results obtained using the observational method followed by the personal interview were satisfactory as far as they went, it soon became apparent that the younger age groups were not receiving sufficient consideration. In order to reach the younger age groups, it was necessary to find locations where these methods could be applied for their case. Believing that candy stores in or near schools would be the best place to obtain reliable data, we made a canvas of the neighborhoods of several large schools in Brighton, Watertown, Brookline, and Newton to find stores with volume enough to justify placing an interviewer to carry out the methods. Interviews made with the proprietors of candy counters revealed that their trade was highly irregular with respect to time and that it was impossible to predict with any certainty the hours when their volume would be large enough to obtain interviews. Personal observation verified this quickly enough!

Another method had to be devised to get the required information. It was decided that a questionnaire which could be passed out during a study period would be the logical answer to the problem. Accordingly, a questionnaire was drawn up that would incorporate all the information obtained in the personal interview. The authors were curious to know whether the questionnaire was satisfactory from a psychologist's point of view, so they submitted a copy of the proposed questionnaire to Professor McGregor. The form of the questionnaire was a series of questions which paralleled those in the personal interview. Space was provided for the interviewee to

fill in his own answers. Professor McGregor immediately pointed out that this type of interview taxed the memory of the person interviewed to such a point that the answers would be unreliable. He said that the aided recall method would be far superior, and that the results would be more reliable. The authors pointed out the fact that in using the aided recall method, it would be necessary to provide a list of suggested answers which would aid our subjects in making their replies. In a list like this, there is a possibility on the part of the person being interviewed to check any of the first items on the list because of laziness or desire to get the interview over quickly. This tendency to check anything is said to result from "positioning." Professor McGregor stated that in the type of interview proposed, it had been shown that positioning would have little or no effect on the results.

In order to be sure that our results would not be affected by the positioning of answers, three questionnaires were drawn up. In each of the three cases, the questions were identical but the answers in the lists were rotated and arranged in random order.

The purpose of the question, "Which of the following candy bars do you most often eat?" is to simulate as far as possible the actual act of buying a five cent bar. It serves to remind the person interviewed of the habit pattern through which he goes most often when he buys a bar. The lapse of time since the purchase was made is bridged by means of recalling the name of the bar.

The question "How long have you been buying this bar?"

is related to the "How" purpose of this paper. It establishes the consistency of the buying habit. "How often do you buy this bar?" also serves to check the regularity of the habit. The "Where do you buy this bar?" question is a related part of the how of the purchase. From the answer to this question, we would have a fair indication of how he usually goes about buying the bar.

To determine what might influence his purchase, we believed that advertising might prove to be the key to the "Why" answer we desired. To this end the question, "Have you seen advertisements of this bar?" was asked. Without further confirmation, the answer to this question would have left doubt as to whether the person had been influenced by advertising. A second question was asked to place the advertising. With the name of the bar given, the advertising of that bar could be traced and checked against the answers.

The final question that sought the information of why the person interviewed liked the bar was asked in the hope that one or more significant reasons for liking the bar might stand out. The answers to a question like this are very hard to find, because the person himself is uncertain. Any information obtained from this question would be a bonus and would be an aid in designing questionnaires for further research.

Questionnaires one through three have already been discussed. They differ only in that the answers are jumbled. These were for use in obtaining information from the college age group.

The fourth questionnaire was devised to be used for the

grade school age. It differed from the first two in the addition of a question, "Do you buy this bar for yourself?" The purpose of this question was to find who purchased the candy for this age group and to whom advertising should be directed.

The fifth questionnaire was to be used in the high schools and it was felt that this age group would resent justifiably the idea that someone made their purchases for them, so the question was struck out.

It occurred to us that loyalty to their most frequently purchased bar might not be too consistent, so to the sixth questionnaire the question "Do you buy any other bar?" was added. The answer to this question would indicate that when they could not get their usual purchase, they would substitute another bar.

Chapter V

ADMINISTRATION

Once the interviews were designed and tested, the work of administering them was begun. This work was done by the authors with the aid of an experienced interviewer who was hired by the hour. Before making the subway interviews, it was necessary to obtain the cooperation of the girls tending the stands.

To overcome the objections of these girls, the authors discussed the matter with the immediate superior of the girls. This man was willing that we should work. However, he felt that it would be better for him to call his home office to assure official confirmation. This was done and the Metropolitan Sales Corporation agreed that it was perfectly all right for the authors to question their customers as long as there were no complaints from the customers. For this reason special care was taken to approach the customers only when they had left the stand and to handle the interview in such a manner that there would be no ill will. This did not require more than normal tact as the interviewed persons were usually waiting for a car and willing to give a few moments of their time while waiting. Those leaving the cars were in no great hurry in the main as they had arrived at their destination or near it and there was no necessity to hurry. On the whole the people were most cooperating and willing to give the information to the best of their ability.

The question of the mass interviews that were to be

handed out in the schools was another matter. To do this, it was necessary to obtain permission of someone of authority in the schools. The first person approached by the authors was the superintendent of schools of one of Boston's larger suburbs. This turned out to be a poor start, as it was impossible to get past the secretary, who returned the verdict that our project "smacked of commercialism" and was therefore impossible. The next attempt was made at the Braintree High School. Mr. J. L. Jordon, the principal, was most helpful and gave permission for the interviews to be distributed amongst his students. This was done by the authors who gave a few words of explanation to each class and then requested that the interviews be filled in. The same success was obtained at the Belmont High School, where Mr. Shipman was willing to cooperate.

The college interviews were filled out at the Wheelock School and at the Massachusetts Institute of Technology. At the former school Dr. J. Mace Andress, Professor of Psychology, permitted the distribution of the interviews to his classes and at the latter school, Professor Alexander Magoun gave the authors his permission. The interviews in the fourth, fifth, and sixth grades were made by Miss Jaeger, a teacher at the Brown School in Watertown. The assistance of these teachers was much appreciated by the authors and they were thanked accordingly.

The questionnaires were of such a type that no instruction was necessary save the request to fill out the form to the best of their ability.

Chapter VI

STATISTICAL ANALYSIS

Before any statistical work could be done, it was necessary to test the sample for reliability. This simply means that a test was applied that assured the authors that there would not be distortion because the sample was too small. The test used was one based on the assumption that the reliability of a sample may be determined by its relative consistency and stability. The Group Rotation Method* of testing the sample for reliability was the test applied.

In this method one or more questions are tested and the reliability of the sample is determined by how it meets the test on these questions. In applying this method to the questionnaires, the authors used the favorite bar question and the question relating to whether they had seen advertisements on the college, the high school, and the grade school samples. These two questions cover the "How" and the "Why" of the questionnaires. The same test was used with the interviews made in the subway station. In this case, however, the question, "Were you looking for that bar when you came to the counter?" was used instead of the favorite bar question. The question of whether they had seen advertisements was again used.

In this method the questionnaires are first placed in completely random order by shuffling them together. Then they are divided into ten equal groups. The frequency of

*For a discussion of this method, see Lyndon O. Brown, "Market Research and Analysis", The Ronald Press Company, 1937, pages 319-323.

occurrence of favorable replies to the question in each group is determined and recorded. The next step is to make up a table of differences. This is done by comparing the differences between the sums of different groups with the sums of other groups. Groups 1-5, 2-6, 3-7, 4-8, 5-9, are summed and compared respectively with groups 6-10, 7-1, 8-2, 9-3, 10-4. The next step is to discover the maximum allowable difference and this may be obtained by referring to a table found in "Market Research and Analysis" on page 321. If the allowable differences are greater than those found, the sample may be assumed to have reliability. The four samples were tested, and the results indicated that they had reliability. The work may be seen in Appendix D.

The next step in the analysis of the questionnaires was to edit the replies. The editing was done by throwing out any interviews that had obvious contradictions or impossibilities in them. The replies were then placed in definite classifications so that they would be on the same base and so that there would be fewer classes of answers.

After this was done, it was possible to tabulate the results of the interviews. In doing this, the authors used several key classifications. It was found that the only ones that would be of real interest were those dividing the interviews as to what bar was bought and as to whether they had seen advertisements of the bar or not. The answers to the other questions were recorded under these headings. The basic tabulation sheets of the different samples are in Appendix C.

In order to evaluate these figures, they were changed to

percentages and statistical tests applied. The first test used was one which determined that the differences between two figures could not have occurred by chance. Or rather, that the chance of the difference actually found occurring when drawing "n" observations from a population in which both percentages were identical was of a certain magnitude. To discover what this chance was the following formula was used:

$$X = \frac{p - p'}{\sqrt{\frac{pq}{n} + \frac{p'q'}{n'}}$$

p = Percentage of favorable replies of first result

q = Percentage of unfavorable replies of first result

p' = Percentage of favorable replies of second result

q' = Percentage of unfavorable replies of second result

n = Number of replies in first result

n' = Number of replies in second result

The figure given by this formula is to be called the correlation coefficient in this work. When it comes out to a figure less than ".2" it may be assumed that there are no significant differences between the two percentages. When greater than ".2" the two percentages have a significant difference between them. The value of ".2" gives assurance that there are only five chances in one hundred that the deviation actually found could have occurred just by chance in drawing "n" observations from a population in which the percentages were

equal. A larger value for this coefficient gives assurance that the chances are practically negligible and are not even recorded in statistical works.

To determine limits within which results would be likely to fall, a formula suggested by Professor H. A. Freeman was used. This gave a figure that could be added to a percentage as a plus or minus value. The chances are five in one hundred that in another sample the results would ever exceed these limits. The formula used was as follows:

$$r = 2 \sqrt{\frac{pq}{n}}$$

p = Percentage of favorable replies

q = Percentage of unfavorable replies

n = Number of replies.

This value will be denoted by "r" in this thesis.

Chapter VII

RESULTS

The purpose of this chapter is to summarize the data obtained for the four age groups. The summary is first broken down into age groups and the replies to each question are tested to find the most significant answers. The method by which significance is established is discussed in the preceding chapter. The correlation coefficient which exists between any two percentages is indicated in all examples by the letters x and y . Calculations of the coefficients may be found in the Appendix (E).

A. High School Group1. What bar do you most often eat?

	No. of replies	% replies	
Milky Way	73	27.2	} $x = 4.24$
Nestle's	34	12.8	
Hershey	25	9.3	} $y = 1.31$
-----		-----	
Total replies	268	100	

The difference between Milky Way and the next bar is significant, indicated by the coefficient being greater than 2. Therefore, if the questionnaire were given to another group of the same type, the chances of Milky Way being displaced are practically negligible. About Nestle's and Hershey nothing can be said with any conviction for the difference between the two bars is too small to allow statistical interpretation.

2. How long have you been buying this bar?

	No. of replies	% replies	
More than a year	204	76.1	} $x = 16.9$
Less than a year	46	17.3	
Less than a month	10	3.4	} $y = 5.45$
<hr/>			
Total replies	268	100	

The results for this question prove that the members of this group have been eating their favorite bar for more than a year. This proves them to be loyal over a period of time in their eating habits.

3. How often do you buy a candy bar?

	No. of replies	% replies	
Three a week to one a week	153	57.0	} $x = 8.15$
Less than one a week	65	24.2	
One a day to four a week	25	9.3	} $y = 4.66$
<hr/>			
Total replies	268	100	

These results indicate that the majority of buyers in this group buy one to three candy bars a week. In the minority group there is an appreciable number who buy less than one bar a week as contrasted with those who buy one to four bars a week.

4. Where do you buy your candy bar?

	No. of replies	%replies	
Any candy counter	109	41.5	} $x = 0.45$
Drugstore	104	39.6	
Grocery	40	15.2	} $y = 6.52$
<hr/>			
Total replies	268	100	

The results here indicate that high school students have no particular place where they buy their candy bars.

5. Have you seen advertisements of this bar?

Seventy-two percent or 193 out of 268 students interviewed stated that they had seen advertisements. The use of the formula obtained from Professor Harold A. Freeman of the Economics department for calculating the percent error on a given percentage using the total number of responses, proves that seventy-two is accurate within $\pm 5.48\%$.

6. Places where advertising was seen or heard.

	No. of replies	% replies	
Counter displays	98	29.3	} $x = 2.98$ } $y = 0.91$
Radio	65	19.4	
Magazines	56	16.7	
<hr/>			
Total replies	332	100	

The advertising media to which a significant number of students were most susceptible was counter displays. The difference between radio and magazines media is not significant.

7. Why do you like this bar?

	No. of replies	% replies	
Filling of the bar	74	24.7	} $x = 0.75$ } $y = 2.12$
Sweet chocolate	66	22.1	
It is chewy	46	15.4	
<hr/>			
Total replies	299	100	

No one reason for liking a candy is outstanding among high school students. Filling of the bar and sweet chocolate are tied for first place. There is a significant difference, however, between these two reasons and the chewiness of the bar. Preference for a bar is based therefore on the first two reasons.

B. Combined College Group

1. What bar do you most often eat?

	No. of replies	% replies
Hershey	53	30.4
Nestle's	24	13.8
Milky Way	20	11.5
<hr style="border-top: 1px dashed black;"/>		
Total replies	174	100

$$\left. \begin{array}{l} 30.4 \\ 13.8 \end{array} \right\} x = 3.82$$

$$\left. \begin{array}{l} 13.8 \\ 11.5 \end{array} \right\} y = 0.65$$

The college group showed a definite preference for Hershey bars, over all other bars. The difference between Nestle's and Milky Way is not significant. However, it is interesting to note at this point that Hershey and Nestle's bars are very similar in that they are solid bars so that the two can be considered together, and thus indicate a decided preference among college students for solid bars.

2. How long have you been buying this bar?

	No. of replies	% replies
More than a year	131	75.2
Less than a year	31	17.8
Less than a month	2	1.5
<hr style="border-top: 1px dashed black;"/>		
Total replies	174	100

$$\left. \begin{array}{l} 75.2 \\ 17.8 \end{array} \right\} x = 13.3$$

$$\left. \begin{array}{l} 17.8 \\ 1.5 \end{array} \right\} y = 5.36$$

These figures indicate that this group has been loyal to their favorite bar for more than a year.

3. How often do you buy a candy bar?

	No. of replies	% replies
Less than one a wk.	78	44.7
Three a wk. to one a wk.	77	44.2
More than one a day	5	2.9
<hr style="border-top: 1px dashed black;"/>		
Total replies	174	100

$$\left. \begin{array}{l} 44.7 \\ 44.2 \end{array} \right\} x = 0.95$$

$$\left. \begin{array}{l} 44.2 \\ 2.9 \end{array} \right\} y = 10.0$$

The important buying habit of this group falls between "less than one bar a week" and "three a week to one a week". The coefficient does not indicate enough difference between the two to state which one is significant. The group certainly does not as a whole eat more than this amount.

4. Where do you buy your candy bar?

	No. of replies	% replies	
Drugstore	88	54	} $x = 2.36$
Any candy counter	67	41.1	
Subway stand	5	3.1	} $y = 9.34$

The figures indicate that college students prefer to buy their candy bars in drugstores.

5. Have you seen advertisements of this bar?

Fifty-eight and a half percent or 102 out of 174 students in this group have seen advertisements. This figure when checked by Professor Freeman's formula shows that it is correct $\pm 7.58\%$. In order to get a more accurate indication of this figure a larger sample would have to be taken.

6. Places where advertising was seen or heard.

	No. of replies	% replies	
Counter displays	58	30.2	} $x = 1.88$
Magazines	42	21.8	
Street car cards	37	19.3	} $y = .60$

Total replies	192	100	

Nothing can be told from this result as to which advertising media most influences this group.

7. Why do you like this bar?

	No. of replies	% replies	
Sweet chocolate	56	23	} $x = 0.33$ } $y = 1.52$
Nut center	53	21.8	
Energy content	40	16.4	

Total replies	243	100	

There is no reason that stands out in these results which would give any indication of what there is about a candy bar that appeals to this group.

C. Grade School Groups

1. What bar do you most often eat?

	No. of replies	% replies	
Milky Way	21	22.1	} $x = 0.94$ } $y = 1.28$
Hershey	16	16.8	
Sky Bar	10	10.5	

Total replies	95	100	

The grade school children show no outstanding preference for a particular bar. It is interesting, however, to note here that by adding the Milky Way replies with those of Sky Bar, both soft filled bars, the two together would show a significant preference for their liking filled bars.

2. How long have you been buying this bar?

	No. of replies	% replies	
More than a year	33	34.3	} $x = 1.54$ } $y = 0.51$
Less than a month	23	24.2	
Less than a week	20	21.1	

Total replies	95	100	

With this data it is impossible to state with certainty the length of time the grade school group have been buying their favorite bar.

3. How often do you buy a candy bar?

	No. of replies	% replies	
Three a week to one a wk.	56	59.0	} $x = 3.96$
Less than one a week	30	31.6	
One a day to four a week	8	8.4	} $y = 4.17$
----- Total replies	95	100	

The results in this case indicate that grade school children eat at least one bar a week to three a week. The fact that 31.6% buy less than one a week is probably the result of parents' influence.

4. Where do you buy your candy bar?

	No. of replies	% replies	
Any candy counter	48	50.5	} $x = 2.7$
Drugstore	30	31.6	
Grocery	18	19.0	} $y = 2.03$
----- Total replies	95	100	

The grade school group evidently do not care where they get their candy bars. However, it is well to note here that drugstores have a significant standing when children want to buy candy.

5. Have you seen advertisements of this bar?

Sixty-five and three tenths percent or 62 out of 95 grade school students claim to have seen advertisements. This figure when tested by use of Professor Freeman's formula reveals that is right within ± 9.75 . A larger sample would set this figure more accurately.

6. Places where advertising was seen or heard.

	No. of replies	% replies	
Radio	23	31.1	} $x = 2.38$
Magazines	13	14.9	
Counter displays	11	14.9	} $y = 0$
<hr/> Total replies	74	100	

Radio is the advertising media to which children are most sensitive.

7. Why do you like this bar?

	No. of replies	% replies	
Filling	24	25.5	} $x = 0.86$
Sweet chocolate	19	20.2	
Don't know	18	19.2	} $y = 0.92$
<hr/> Total replies	94	100	

No one reason for liking a candy bar is outstanding.

D. Combined Subway Group

1. How long have you been buying this bar?

	No. of replies	% replies	
More than a year	63	48.5	} $x = 6.72$
For the first time	17	13.1	
Less than a month	13	10	} $y = 0.77$
<hr/> Total replies	131	100	

The most significant answer to this question is that the older group of candy eaters have been eating their favorite candy bar for more than a year.

2. How often do you buy this candy bar?

	No. of replies	% replies	
Three a week to one a wk.	67	51.5	} $x = 5.5$
Less than one a week	26	20.0	
One a day to four a week	23	17.7	} $y = 0.46$

The majority of the subway group buys one to three bars of candy a week as indicated by the coefficient test. It is impossible to tell what the buying habits of the minority of this group is.

E. Questions Not Common to all Questionnaires

1. In order to test the effectiveness of the use of the observational method as applied to consumers of five cent candy bar in order to learn their buying habits, the observer observed the actual purchase of a bar as has been described. The data the observer put down was a notation of whether the buyer appeared to be sure, fairly sure, or unsure when he looked over the counter to select his bar. The check on the observation was contained in the personal interview, by asking the buyer if he had been looking for that bar. If the person interviewed had said "Yes", and the observer had said either "sure" or "fairly sure" for the person, he could have been considered to be correct in his judgment of the person's intentions. He would, also, be correct if the person had answered "No" and he had said the person seemed to be unsure. The results from the tabulation on this question are as follows:

Observation	Answer	Number of answers
Sure	Yes	46
Fairly sure	Yes	29
Unsure	No	<u>23</u>
		98

It is apparent that the observer was correct in 98 cases out of 131 or in 74.8% of the total cases. This figure was checked by Professor Freeman's formula for determining percent error in a given case. The check indicates that this figure is

correct within $\pm 7.58\%$.

2. It was possible to determine from the "Were you looking for this bar?" how many buyers had already made up their minds before they got to the counter as to what they intended to buy. The total of the "Yes" replies to this question is 87, or 66.4% of the people interviewed. The check on this answer indicates that it is right within $\pm 8.25\%$.

3. The question was asked on the interviews given in the grade school of whether the children bought the bars for themselves. 78 out of 95 answered they did buy the bar for themselves. The percentage is 82.2, correct within $\pm 6.72\%$. This indicates that advertising should be directed to the children themselves.

4. The same question was asked in the subway interviews to find out whether parents bought candy for their children to be sure the "kiddies" were not getting trash on their own "hook". These results indicate that 94.6%, $\pm 3.95\%$, were making their purchases for themselves.

5. The question was asked on some of the subway interviews and also in the questionnaire administered at the Belmont High School as to whether the person interviewed ever bought any other bar. The results of these interviews indicate that 65.2%, $\pm 10.0\%$, of the persons in the subway group did buy other bars and in the Belmont High School, 97.5%, $\pm 3.35\%$.

Chapter VIII

Recommendations

The important part of the purpose of this report was to discover a method or methods for determining the conditions existing in the market for five-cent candy bars. The emphasis of the work was placed on an approach to the consumer. As a result of the work, the authors believe that they may, with no little degree of certainty, criticize and evaluate this method of obtaining data with the view to making recommendations to any one who may wish to further pursue the study.

On the basis of the work completed, it is recommended that the observational technique be abandoned in future studies of this problem. It is too wasteful of time and money to pay for the results obtained. The measure of its effectiveness based upon the figures obtained by checking the accuracy of the observers show that it is only 75% accurate which means that only 75% of the cost produces reliable results. In addition to this the amount of information that may be obtained is limited.

The personal interview technique which was used in conjunction with the observational served to lift the limitations of the first method. It also was more accurate. Its main drawback is its expense. This method is not recommended for future work

The written interview cannot be sincerely recommended for use in future surveys of this nature. The main difficulty with this technique is in finding groups sufficiently large

and in obtaining consent to administer the questionnaire. The minute that commercialism connected with the work comes to the attention of the persons whose cooperation is required, there is an immediate refusal.

In the course of the work of preparing this report the authors made calls on jobbers and retailers. These visits revealed an opportunity for a different approach to the subject. The use of figures obtained from these sources by the installation of a controlled inventory system in a few key spots would give a permanent and up to date source of information. It would be necessary to design an inventory system similar to the type used in a manufacturing plant for control of parts. The store keeper would then have a day to day record of what bars were sold, and market investigators could use these figures to determine trends in popularity of the different bars. The system would have to be simple and easy to keep, for the store keeper would be lax in cooperating if the work were complicated. These key spots would also offer an ideal place to experiment with counter displays and the effects of the changes in this form of advertising would be directly tied to the sales in the running inventory. The cost of such a system would be low for the store keeper is trying to sell candy anyway. Extra compensation would have to be given to insure his interest in maintaining the inventory. Competitive advertising success could also be measured by checking the sales when a new campaign was started.

The authors recommend, therefore, that a study be made from this approach. The main effort should be directed to

the design of a perpetual inventory system. This could incorporate the use of a card on which a record could be entered whenever replenishments were made to the candy counter from storage. It might even be possible to design a bin for storage and the records kept on the supply in the bins. Careful selection of the control locations for the system would give a reasonable assurance that the entire market would be covered.

If such a system could be designed, it is also recommended that the shop keeper be asked to note the habits of customers who come into his store often enough for him to recognize. In case of sudden shifts in buying habits made by his patrons, he could find reasons for the variations by asking questions. The replies received from several key points would serve to interpret radical changes in buying habits.

This criticism of the methods used in no way depreciates the value of the data obtained. The criticism is against the sense of the methods for obtaining more information. The results already obtained may be used to make specific recommendations.

The authors have certain recommendations that pertain particularly to the advertising of a candy bar. They believe that the first step should be to improve upon the product until the manufacturer is sure that his bar will stand up under the bright light of advertising. A good bar once bought will continue to be purchased for a long time. This is shown by the large percentage of those interviewed who have been buying a particular bar for over a year. At the same time, it is

shown in the results that most people eat other bars than their favorite and are willing to try a new bar. For this reason a manufacturer should have no fear of offering a new bar to the market.

It is recommended that advertising be directed to those purchasers who are most likely to eat the bar. From the studies of this thesis for instance it would be advisable to direct advertisements of filled bars to children in the grade schools. Advertisements of hard bars should be directed to an older group as they seem to prefer the bars of this type.

Advertising over the radio is extremely good when directed to children. They appear to pay particular attention to this form of advertising. Counter displays are also very effective and it is suggested that more advertising of this kind be done.

Because of the large number of people who state that they buy candy bars in drugstores, a particular effort should be made to have good displays in these stores.

It is suggested that more advertising be done on the benefits of the candy. The public should be urged to eat candy every day. Most of the buyers of candy bars at the present time eat anywhere from one to three bars a week. Advertising of this kind should increase the consumption per week and therefore increase the sales of all companies.

APPENDIX

Appendix A
BIBLIOGRAPHY

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Appendix B
QUESTIONNAIRES

CANDY QUESTIONNAIRE #1

Please check your answers to the following questions in the space provided.

1. What is your name? _____
2. Which five cent candy bar in the following list do you most often eat? Check one. If you never eat candy bars, do not bother to fill out rest of questionnaire.

<input type="checkbox"/> Delicious	<input type="checkbox"/> Forever Yours	<input type="checkbox"/> Dreams
<input type="checkbox"/> Hershey	<input type="checkbox"/> Baby Ruth	<input type="checkbox"/> Charleston Chew
<input type="checkbox"/> Milky Way	<input type="checkbox"/> Canada Mints	<input type="checkbox"/> Three Musketeers
<input type="checkbox"/> Old Nick	<input type="checkbox"/> Mounds	<input type="checkbox"/> Sky Toffee
<input type="checkbox"/> Nestle's	<input type="checkbox"/> Welch's Fudge	<input type="checkbox"/> Sky Peps
<input type="checkbox"/> Nestle's Semi-Sweet	<input type="checkbox"/> Welch's Coconut	<input type="checkbox"/> Clark Bars
<input type="checkbox"/> Oh Henry	<input type="checkbox"/> Mr. Goodbar	<input type="checkbox"/> Schraffts Cream Bar
<input type="checkbox"/> Chocolate Pep	<input type="checkbox"/> Krackel	<input type="checkbox"/> Schraffts Cream Almond
<input type="checkbox"/> Sky Bar	<input type="checkbox"/> 5th Avenue	<input type="checkbox"/> Mondae
<input type="checkbox"/> Bolster	<input type="checkbox"/> Mars Almond	<input type="checkbox"/> Paidae

If you do not find your favorite bar listed, write its name in here.

3. How long have you been buying this bar? Less than a week? _____
Less than a month? ___ Less than a year? ___ More than a year? _____
4. How often do you buy this bar? (Write number of times in the proper space) _____ a day _____ a week _____ a month
5. In what type of store do you most often buy this bar?
 Drugstore Grocery Just any candy counter
 Subway Stand Cigar Counter Restaurant
6. Have you seen or heard any advertisements of this bar? ___ Yes ___ No
7. Where have you seen or heard this advertisement?
 On the radio In newspapers In the air
 In movies On Billboards Counter displays
 In magazines On street car cards
8. The following reasons have been advanced for liking candy bars. Which one do you think fits your case?
- | | | |
|---|---|--------------------------------------|
| <input type="checkbox"/> Filling of the bar | <input type="checkbox"/> Because it is nutritious | <input type="checkbox"/> It is big |
| <input type="checkbox"/> Sweet chocolate | <input type="checkbox"/> For its energy content | <input type="checkbox"/> It is chewy |
| <input type="checkbox"/> Bitter chocolate | <input type="checkbox"/> Nut center | <input type="checkbox"/> Don't know |

Any other reason? _____

CANDY QUESTIONNAIRE #2

Please check your answers to the following questions in the space provided.

1. What is your name? _____
2. What five cent candy bar in the following do you most often eat?
If you never eat candy bars, do not bother to fill out the rest of the questionnaire.

<input type="checkbox"/> Luscious	<input type="checkbox"/> Mr. Goodbar	<input type="checkbox"/> Oh Henry
<input type="checkbox"/> Clark Bar	<input type="checkbox"/> Welch's Coconut	<input type="checkbox"/> Nestle Semi-Sweet
<input type="checkbox"/> Sky Peps	<input type="checkbox"/> Welch's Fudge	<input type="checkbox"/> Nestle
<input type="checkbox"/> Sky Toffee	<input type="checkbox"/> Mounds	<input type="checkbox"/> Old Nick
<input type="checkbox"/> Three Musketeers	<input type="checkbox"/> Canada Mints	<input type="checkbox"/> Milky Way
<input type="checkbox"/> Charleston Chew	<input type="checkbox"/> Baby Ruth	<input type="checkbox"/> Hershey
<input type="checkbox"/> Dreams	<input type="checkbox"/> Forever Yours	<input type="checkbox"/> Schraffts Cream
<input type="checkbox"/> Mars Almond	<input type="checkbox"/> Bolster	<input type="checkbox"/> Schraffts Cream Almond
<input type="checkbox"/> 5th Avenue	<input type="checkbox"/> Skybar	<input type="checkbox"/> Mondac
<input type="checkbox"/> Krachel	<input type="checkbox"/> Chocolate Pep	

If you do not find your favorite bar, please write its name in here

3. How Long have you been buying this bar? Less than a week ___
Less than a month ___ Less than a year ___ More than a year ___
4. How often do you buy this bar? (Write number of times in the proper space) ___ a day, ___ a week, ___ a month.
5. In what type of store do you most often buy this bar?
 Drugstore Cigar counter Restaurant
 Grocery Subway stand Just any candy counter
6. Have you seen or heard any advertisements of this bar? ___ Yes, ___ No
7. Where have you seen or heard this advertisement?
 On the radio In newspapers In the air
 In magazines On billboards Counter displays
 In the movies On streetcar cards
8. The following reasons have been advanced for liking candy bars.
Which one do you think fits your case?
 Filling of the bar Because it is nutritious
 Sweet Chocolate Nut center
 Bitter Chocolate It is chewy
 It is big For its energy content
 Don't know
- Any other reason _____

CANDY QUESTIONNAIRE #3

Please check your answers to the following questions in the space provided.

1. What is your name? _____
2. What five cent candy bar in the following list do you most often eat? If you never eat candy bars, do not bother to fill out the rest of the Questionnaire.

<input type="checkbox"/> Luscious	<input type="checkbox"/> Canada Mints	<input type="checkbox"/> Clark bar
<input type="checkbox"/> Oh Henry	<input type="checkbox"/> Mr. Goodbar	<input type="checkbox"/> Nestle semi-sweet
<input type="checkbox"/> Chocolate Pep	<input type="checkbox"/> Krackel	<input type="checkbox"/> Nestle
<input type="checkbox"/> Skybar	<input type="checkbox"/> 5th Avenue	<input type="checkbox"/> Old Nick
<input type="checkbox"/> Bolster	<input type="checkbox"/> Dreams	<input type="checkbox"/> Milky Way
<input type="checkbox"/> Forever yours	<input type="checkbox"/> Charlestown Chew	<input type="checkbox"/> Hershey
<input type="checkbox"/> Baby Ruth	<input type="checkbox"/> Mars Almond	<input type="checkbox"/> Schraffts Cream bar
<input type="checkbox"/> Mounds	<input type="checkbox"/> Three Musketeers	<input type="checkbox"/> Schraffts Cream
<input type="checkbox"/> Welch's Fudge	<input type="checkbox"/> Sky Toffee	<input type="checkbox"/> Almond
<input type="checkbox"/> Welch's Cocoanut	<input type="checkbox"/> Sky Pep	<input type="checkbox"/> Mondae

If you do not find your favorite bar, please write its name in here

3. How long have you been buying this bar? Less than a week _____
Less than a month ____, Less than a year ____, More than a year _____
4. How often do you buy this bar? (Write number of times in the proper space) ____ a day, ____ a week, ____ a month
5. In what type of store do you most often buy this bar?
 Drugstore Cigar counter Restaurant
 Grocery Subway stand Just any candy counter
6. Have you seen or heard any advertisements of this bar? ____ Yes, ____ No
7. Where have you seen or heard this advertisement?
 On the radio In the air On billboards
 In Magazines Counter displays On streetcar cards
 In the movies In newspapers
8. The following reasons have been advanced for liking candy bars. Which one do you think fits your case?
 Filling of the bar Because it is nutritious
 Sweet chocolate Nut center
 Bitter chocolate It is chewy
 It is big For its energy content
 Don't know

Any other reason _____

Please check your answers to the following questions in the space provided.

1) Are you a girl ___? A boy ___? What grade are you in? _____

2) Which five cent candy bar in the following list do you most often eat? Check one. If you never eat candy bars, do not bother to fill out the rest of the questions.

- | | | |
|--|--|---|
| <input type="checkbox"/> Delicious | <input type="checkbox"/> Forever Yours | <input type="checkbox"/> Dreams |
| <input type="checkbox"/> Hershey | <input type="checkbox"/> Baby Ruth | <input type="checkbox"/> Charleston Chew |
| <input type="checkbox"/> Milky Way | <input type="checkbox"/> Canada Mints | <input type="checkbox"/> Three Musketeers |
| <input type="checkbox"/> Old Nick | <input type="checkbox"/> Mounds | <input type="checkbox"/> Sky Toffee |
| <input type="checkbox"/> Nestle's | <input type="checkbox"/> Welch's Fudge | <input type="checkbox"/> Sky Peps |
| <input type="checkbox"/> Nestle's Semi-Sweet | <input type="checkbox"/> Welch's Coconut | <input type="checkbox"/> Schraffts Cream Bar |
| <input type="checkbox"/> Oh Henry | <input type="checkbox"/> Mr. Goodbar | <input type="checkbox"/> Schraffts Cream Almond |
| <input type="checkbox"/> Chocolate Pep | <input type="checkbox"/> Krackel | <input type="checkbox"/> Clark Bar |
| <input type="checkbox"/> Sky Bar | <input type="checkbox"/> 5th Avenue | <input type="checkbox"/> Mondae |
| <input type="checkbox"/> Ecster | <input type="checkbox"/> Mars Almond | <input type="checkbox"/> Paidae |

If you do not find your favorite bar listed, write its name in here.

3) Do you buy this bar for yourself? Yes ____, No ____.

4) How long have you been buying this bar? Less than a week ___? Less than a month ___? Less than a year ___? More than a year ___?

5) How often do you buy this bar? (Write number of times in the proper space.) ___ a day, ___ a week, ___ a month.

6) In what type of store do you most often buy this bar?
 Drugstore Grocery Just any candy counter
 Subway Stand Restaurant

7) Have you seen or heard any advertisements of this bar? ___ Yes, ___ No.

8) Where have you seen or heard this advertisement?
 On the radio In newspapers In the air
 In magazines On billboards Counter displays
 In the movies On Streetcar cards

9) The following reasons have been advanced for liking candy bars. Which one do you think fits your case?

- | | |
|---|---|
| <input type="checkbox"/> Filling of the bar | <input type="checkbox"/> Because it is nutritious |
| <input type="checkbox"/> Sweet chocolate | <input type="checkbox"/> Nut center |
| <input type="checkbox"/> Bitter chocolate | <input type="checkbox"/> It is chewy |
| <input type="checkbox"/> It is big | <input type="checkbox"/> For its energy content |
| <input type="checkbox"/> Don't know | |

Any other reason _____

CANDY QUESTIONNAIRE X 5

Please check your answers to the following questions in the space provided.

- 1) Are you a girl ___? A boy ___? What grade are you in? _____
- 2) Which five cent candy bar in the following list do you most often eat? Check one. If you never eat candy bars, do not bother to fill out the rest of the questions.

<input type="checkbox"/> Delicious	<input type="checkbox"/> Forever Yours	<input type="checkbox"/> Dreams
<input type="checkbox"/> Hershey	<input type="checkbox"/> Baby Ruth	<input type="checkbox"/> Charleston Chew
<input type="checkbox"/> Milky Way	<input type="checkbox"/> Canada Mints	<input type="checkbox"/> Three Musketeers
<input type="checkbox"/> Old Nick	<input type="checkbox"/> Mounds	<input type="checkbox"/> Sky Toffee
<input type="checkbox"/> Nestle's	<input type="checkbox"/> Welch's Fudge	<input type="checkbox"/> Sky Peps
<input type="checkbox"/> Nestle's Semi-Sweet	<input type="checkbox"/> Welch's Coconut	<input type="checkbox"/> Schraffts Cream Bar
<input type="checkbox"/> Oh Henry	<input type="checkbox"/> Mr. Goodbar	<input type="checkbox"/> Schraffts Cream Almond
<input type="checkbox"/> Chocolate Pep	<input type="checkbox"/> Krackel	<input type="checkbox"/> Clark Bar
<input type="checkbox"/> Sky Bar	<input type="checkbox"/> 5th Avenue	<input type="checkbox"/> Mondae
<input type="checkbox"/> Bolster	<input type="checkbox"/> Mars Almond	<input type="checkbox"/> Paidae

If you do not find your favorite bar listed, write its name in here.

~~3) Do you buy this bar for yourself? Yes ____, No ____.~~

4) How long have you been buying this bar? Less than a week ___? Less than a month ___? Less than a year ___? More than a year ___?

5) How often do you buy this bar? (Write number of times in the proper space.) ___ a day, ___ a week, ___ a month.

6) In what type of store do you most often buy this bar?
 Drugstore Grocery Just any candy counter
 Subway Stand Restaurant

7) Have you seen or heard any advertisements of this bar? ___ Yes, ___ No.

8) Where have you seen or heard this advertisement?
 On the radio In newspapers In the air
 In magazines On billboards Counter displays
 In the movies On Streetcar cards

9) The following reasons have been advanced for liking candy bars. Which one do you think fits your case?

<input type="checkbox"/> Filling of the bar	<input type="checkbox"/> Because it is nutritious
<input type="checkbox"/> Sweet chocolate	<input type="checkbox"/> Nut center
<input type="checkbox"/> Bitter chocolate	<input type="checkbox"/> It is chewy
<input type="checkbox"/> It is big	<input type="checkbox"/> For its energy content
<input type="checkbox"/> Don't know	

Any other reason _____

CANDY QUESTIONNAIRE #6

Please check your answers to the following questions in the space provided.

- 1) Are you a girl ___? A boy ___? What grade are you in? _____
- 2) Which five cent candy bar in the following list do you most often eat? Check one. If you never eat candy bars, do not bother to fill out the rest of the questions.

- | | | |
|--|--|---|
| <input type="checkbox"/> Delicious | <input type="checkbox"/> Forever Yours | <input type="checkbox"/> Dreams |
| <input type="checkbox"/> Hershey | <input type="checkbox"/> Baby Ruth | <input type="checkbox"/> Charleston Chew |
| <input type="checkbox"/> Milky Way | <input type="checkbox"/> Canada Mints | <input type="checkbox"/> Three Musketeers |
| <input type="checkbox"/> Old Wick | <input type="checkbox"/> Mounds | <input type="checkbox"/> Sky Toffee |
| <input type="checkbox"/> Nestle's | <input type="checkbox"/> Welch's Fudge | <input type="checkbox"/> Sky Peps |
| <input type="checkbox"/> Nestle's Semi-Sweet | <input type="checkbox"/> Welch's Coconut | <input type="checkbox"/> Schraffts Cream Bar |
| <input type="checkbox"/> Oh Henry | <input type="checkbox"/> Mr. Goodbar | <input type="checkbox"/> Schraffts Cream Almond |
| <input type="checkbox"/> Chocolate Pep | <input type="checkbox"/> Krackel | <input type="checkbox"/> Clark Bar |
| <input type="checkbox"/> Sky Bar | <input type="checkbox"/> 5th Avenue | <input type="checkbox"/> Mondae |
| <input type="checkbox"/> Bolster | <input type="checkbox"/> Mars Almond | <input type="checkbox"/> Paidae |

If you do not find your favorite bar listed, write its name in here.

- 3) How long have you been buying this bar? Less than a week ___? Less than a month ___? Less than a year ___? More than a year ___?
- 4) How often do you buy this bar? (Write number of times in the proper space.) ___ a day, ___ a week, ___ a month.
- 5) In what type of store do you most often buy this bar?
 Drugstore Grocery Just any candy counter
 Subway Stand Restaurant
- 6) Have you seen or heard any advertisements of this bar? ___ Yes, ___ No.
- 7) Where have you seen or heard this advertisement?
 On the radio In newspapers In the air
 In magazines On billboards Counter displays
 In the movies On streetcar cards
- 8) The following reasons have been advanced for liking candy bars. Which one do you think fits your case?
 Filling of the bar Because it is nutritious
 Sweet chocolate Nut center
 Bitter chocolate It is chewy
 It is big For its energy content
 Don't know
- Any other reason _____
- 9) Do you ever buy any other bar? ___ Yes, ___ No.

Date _____ Time _____ Sex _____ Age _____ Place _____

Bar _____

Sure _____ Fairly Sure _____ Usual _____

Were you looking for? _____ Yes _____ No _____

For yourself? Yes _____ No _____

How long? _____

How often? Day _____ Week _____ Month _____

What advertisements? _____

Date _____ Time _____ Sex _____ Age _____ Place _____

Bar _____

Sure _____ Fairly Sure _____ Usual _____

Were you looking for? _____ Yes _____ No _____

For yourself? Yes _____ No _____

How long? _____

How often? Day _____ Week _____ Month _____

What advertisements? _____

Date _____ Time _____ Sex _____ Age _____ Place _____

Bar _____

Sure _____ Fairly Sure _____ Usual _____

Were you looking for? _____ Yes _____ No _____

For yourself? Yes _____ No _____

How long? _____

How often? Day _____ Week _____ Month _____

What advertisements? _____

Appendix C
BASIC TABULATION SHEETS

4th, 5th, & 6th grades	Milky Way	Hershey	Nestles	Old Nick	Bolster	Sky Bar	Oh Henry	Mounds	Canada Mint	Less than	Totals
Seen adv.	10	9	8	4	4	10	4	2	1	10	62
Less than week	2	2		1	2	2	3	1		3	15
Less than month	4	3	2	2		1				4	16
Less than year		2	3			1	1		1	1	9
More than year	4	2	4	1	1	6		1		2	21
More than one a day					1						1
One a day-four a week	2	1	1							1	5
Three a week-one a week	7	6	5	1	3	5	2	2		5	36
Less than one a wk.	1	2	3	3		5	2		1	3	20
Drugstore	2	5	4	1	2	2	2		1	3	22
Subway											0
Grocery	2	1	3	2		1	2				11
Restaurant											0
Any candy counter	6	3	2	1	2	7		2		7	30
Radio	4	2	4	2	1	3	3			4	23
Magazines	2	3	3			2	1			2	13
Movies											0
Newspapers	2	2	1	1				1			7
Billboards		3								1	4
Street car cards	1	2			1			1	1	2	8
In the air	1					6				1	8
Counter displays	2	1	2	1	2	1	1			1	11
Filling	4				3	3				5	15
Sweet chocolate	2	3	6				1			1	13
Bitter chocolate											0
It is big			1			1				1	3
Don't know	3	1	1	2		2				3	12
Energy content	1	2	1			2					6
Nut center		1								1	2
It is chewy		2		2			2	2	1	1	10
Other reasons						1	1				2
Buy bar yourself?											
Yes	8	8	7	4	1	7	3	2	1	9	50

4th, 5th, 6th grades	Milky Way	Hershey	Nestles	Old Nick	Bolster	Sky Bar	Oh Henry	Mounds	Canada Mints	Less than	Totals
Not seen adv.	11	7	0	1	5	0	1	0	3	5	33
Less than week	2				1		1		1		5
Less than month	2	2							1	2	7
Less than year	4	3			1					1	9
More than year	3	2		1	3				1	2	12
More than one a day											0
One a day-four a week	1	1								1	3
Three a week to one a week	6	3		1	5		1		2	2	20
Less than one a week	4	3							1	2	10
Drugstore	4	2			2						8
Subway											0
Grocery	3	1			1				1	1	7
Restaurant											0
Any candy counter	4	4		1	2		1		2	4	18
Filling	5				2					2	9
Sweet chocolate		4								2	6
Bitter chocolate											0
It is big	1										1
Don't know	1				1		1		2	1	6
Energy content		2			1						3
Nut center				1							1
It is chewy	3	1			1						5
Buy bar yourself?											
Yes	8	6		1	5				3	5	28

Combined High School groups	Milky Way	Nestles	Sky Bar	Hershey	Oh Henry	Baby Ruth	Charlestown Chew	Old Nick	Mounds	Forever Yours	Bolster	Canada Mints	Clark Bar	Welchs	Mr Goodbar	Totals
Seen adv.	55	27	16	21	9	8	5	17	11	5	2	5	2	4	6	193
Less week																0
Less month	2			1				1		1					1	6
Less year	4	6	4	3	1	2		1	2	3					1	27
More year	49	21	12	17	8	6	5	15	9	1	2	5	2	4	4	160
More than one a day	8	2	1									1				12
One a day-four a week	7	3	1	1	3		1	3		2					1	22
Three a week-one a week	32	14	11	9	2	5	4	11	8	3	2	1	2	2	4	110
Less than one a week	8	8	4	9	4	3	4	3	3			2		2	1	47
Drugstore	15	13	5	9	7	3		7	4	1	1	1	1	2	1	74
Subway		2	1					1								4
Grocery	10	6	4	1		1			1			2	1	1		27
Restaurant	2									1						3
Any candy counter	28	6	6	11	2	3	1	9	6	3	2	1		1	4	83
Radio	29	6	5	1	6	1	1	3	10	3						65
Magazines	13	7	3	8	5	8	1	5			1	4			1	56
Movies				1												1
Newspapers	9	12	2	1	1	3	1				1				1	31
Billboards	7	4	3	1	1	2		2				1	1	1	2	25
Street car cards	12	6	1	6	1	2		4	1		2	1		2		38
In the air	3		15													18
Counter displays	30	13	5	17	4	5	3	10	1	2	1	1	2		4	98
Filling	19		11	1	1	3		5	8	5	1			3		57
Sweet chocolate	11	19	3	11	1		1	3		1					3	53
Bitter chocolate		2							1							3
It is big	1														1	2
Energy content	8	6	1	5	1	2		1	1		1	1	1		1	29
Don't know	7	3		1	1	1	1	5				2	2		1	20
Nut center		1		1	3	2		5		1						13
It is chewy	10		1	1	4	2	3	6	2	2	1					32
Other reasons	7	1		5				1	3	1		2				20

Combined High School groups	Milky Way	Nestle's	Sky Bar	Hershey	Oh Henry	Baby Ruth	Charlestown Chew	Old Nick	Mounds	Forever Yours	Bolster	Canada Mints	Clark Bar	Welchs	Mr Goodbar	Totals
Not Seen adv.	18	7	1	4	4	2	11	6	2	2	3	3	1	1	4	69
Less than week																1
Less than month	1	1				1							1			3
Less than year	5	2			2		5	1	1	1					1	19
More than year	11	3	1	4	3	2	5	5	1	1	2	2			3	44
More than one a day						1				1	1	1				4
One a day-four a week	1									1		1				3
Three a week-one a week	16	2		3	2	3	5	2	2		2	1		1	4	43
Less than one a week	1	2	1	1	2		6	4				1				18
Drugstore	9	2		2	3	1	4	1			3	1	1		3	30
Subway	1		1													2
Grocery	4	2	1				1	3	1						1	13
Restaurant										1						1
Any candy counter	6	3		2	1	1	7	2	1	1		1	1			26
Filling	6		1		2		2	1		1	3		1			17
Sweet chocolate	3	4		3			2								1	13
Bitter chocolate																0
It is big					1	1										2
Energy content	2	1														3
Don't know	2	2					2	1	3			1	1		1	13
Nut center	1			1	1			1							2	6
It is chewy	3				1		9	1								14
Other reasons					1		1									2

Out of 268 interviews, 6 said they never ate candy.

Combined College groups	Milky Way	Nestles	Hershey	Sky Bar	Oh Henry	Baby Ruth	Clark	Mounds	Old Nick	Less than two bars	Total
Seen adv.	12	20	28	7	7	8	0	6	2	12	102
Less than week											0
Less than month	1										1
Less than year	1	3	4	3	1	1		1		3	17
More than year	9	17	24	4	6	7		5	2	9	83
More than one a day		3								1	4
One a day-four a week					1	1					2
Three a week-one a week	4	11	13	5	3	5		3	2	4	50
Less than one a wk.	7	6	15	2	3	2		3		7	45
Drugstore	4	11	19	5	2	5		5		4	55
Subway		1			1					1	3
Grocery								1		1	2
Restaurant											0
Any candy counter	8	9	6	2	4	3			1	5	8
Radio	2	2	2	2	4	5		3		1	12
Magazines	5	8	14	2	4	5		1		3	42
Movies			1								1
Newspapers	1	8	3							2	14
Billboards	2	6	8		4	1		1	1		23
Street car cards	4	11	12	3				2	1	4	37
In the air				4						1	5
Counter displays	5	13	19	1	3	5		1	2	9	58
Filling	6			4	1	5		6	1	3	26
Sweet chocolate	3	11	15		1					2	32
Bitter chocolate		2	1								3
It is big					1						1
Don't		1	1	1						1	4
Energy content	2	8	9	1		3			1	2	26
Nut center		1	4		3	1			1	1	11
It is chewy	5				4	3			1	2	15
Other reasons	2	2	4	1	1	1					11

Combined College groups	Milky Way	Nestle	Hershey	Sky Bar	Oh Henry	Baby Ruth	Clark	Mounds	Old Nick	Less than two bars	Totals
Not seen adv.	8	4	25	0	3	1	3	1	0	18	63
Less than week											0
Less than month										1	1
Less than year	2	1			1	1	2			7	14
More than year	6	3	25		2		1	1		10	48
More than one a day			1								1
One a day-four a week										1	1
Three a week-one a week	5	1	11		7	1	2			6	27
Less than one a wk.	3	3	12		2		1	1		11	33
Drugstore	3	2	14		2	1	3	1		7	33
Subway	1		1								2
Grocery	1										1
Restaurant											0
Any candy counter	3	3	11		1					11	29
Filling	3						2	1		7	13
Sweet chocolate	2	2	15		1					4	24
Bitter chocolate		1	1					1			3
It is big	1										1
Don't know		1	3				1			4	9
Energy content	2		8		1	1				2	14
Nut center			3		1						4
It is chewy	3				1					4	8
Other reasons											0

Out of 174 interviews, 9 said they never ate candy.

Subway Group	Hershey	Nestle's	Welch's	Sky Bar	Milky Way	Dreams	Schrafft's	Baby Ruth	Mars	Waleco Cocoanut	Forever Yours	Oh Henry	Monday	Old Nick	Jolly Jack	Necco Chocolate Peppermints	Mounds	Terry Thinmints	Mr Goodbar	Sky Toffie	Powerhouse	Necco Wafers	Bolster	Necco Luncheon	Butterfingers	Less than two	Totals
Seen adv.	10	9	6	7	5	2	1	4	3	0	0	2	1	1	1	1	1	0	0	2	2	2	0	0	0	3	63
Sure, yes	4	4	2	2	1	0	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	2	0	0	0	1	22
Sure, no	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fairly sure, yes	3	2	3	1	1	1	1	1	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	18
Fairly sure, no	1	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7
Unsure, yes	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	4
Unsure, no	2	3	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	12
First time	0	1	0	0	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5
Two-three times	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Less than a month	1	0	4	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
One-three months	1	0	1	2	0	1	1	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	6
Three months-a year	0	2	0	0	1	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	1	2	0	0	0	32	
Over a year	8	6	1	1	3	0	0	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6	
No answer	0	0	0	3	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
More than one a day	0	1	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
One a day-4 a week	1	2	0	0	2	0	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	8
Three a week-1 a wk.	7	3	3	6	1	2	1	3	1	0	0	0	0	0	0	0	1	0	0	2	2	0	0	0	1	39	
Less than one a wk.	2	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10	
No answer	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
For yourself, yes	10	9	5	6	4	2	1	4	3	0	0	1	1	1	1	1	1	0	0	2	2	2	0	0	0	2	59
For yourself, no	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
Other bars, yes	6	4	0	2	4	0	0	3	2	0	0	0	0	1	1	1	1	0	0	1	1	0	0	0	2	30	
Other bars, no	3	4	5	0	1	0	1	1	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	16
No answer	1	1	1	5	0	2	0	0	1	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	1	17	

Less than two:
 Tootsie Roll
 Gum-ee Bar
 Welch's five stars
 Chuckler
 Planters Peanut Bar

Subway Group	Hershey	Nestle's	Welch's	Sky Bar	Milky Way	Dreams	Schrafft's	Baby Ruth	Mars	Waleco Cocoanut	Forever Yours	Oh Henry	Monday	Old Nick	Jolly Jack	Necco Chocolate Peppermints Mounds	Terry Thinmints	Mr Goodbar	Sky Toffie	Powerhouse	Necco Wafers	Bolster	Necco Luncheon	Butterfingers	Less than two	Totals
Not seen adv.	5	3	5	2	3	6	5	1	2	4	3	1	2	2	2	2	1	2	2	0	0	2	2	2	8	67
Sure, yes	2	1	1	1	2	0	2	0	2	0	1	1	0	1	1	1	0	1	0	0	2	0	1	1	3	24
Sure, no	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6	
Fairly sure, yes	0	1	3	0	0	0	0	1	0	2	1	0	0	0	0	0	1	1	0	0	0	0	1	1	11	
Fairly sure, no	2	0	0	1	0	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	8	
Unsure, yes	0	1	0	0	1	0	2	0	0	1	1	0	2	0	1	0	0	0	0	0	0	0	0	2	8	
Unsure, no	0	0	0	0	1	3	1	0	0	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	11	
First time	0	0	1	0	0	4	0	0	0	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	2	12
Two-three times	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	1	6	
Less than a month	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	1	6	
One-three months	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Three months-a year	0	0	2	0	1	0	0	1	1	2	0	1	0	1	1	0	1	2	0	0	1	1	1	0	6	
Over a year	4	2	1	2	1	0	4	0	1	2	1	0	0	1	1	2	1	2	0	0	1	1	1	3	31	
No answer	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	
More than one a day	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
One a day-four a wk.	1	1	0	1	0	1	2	0	0	2	2	0	0	2	0	0	1	0	0	0	1	0	1	1	2	15
Three a wk-one a wk.	1	1	4	1	0	0	1	1	2	1	2	0	0	0	1	2	1	2	0	0	1	1	1	1	4	28
Less than one a week	3	1	0	0	2	3	1	0	0	1	1	0	2	0	1	0	0	0	0	0	0	1	0	0	2	16
No answer	0	0	1	0	1	1	1	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	7
For yourself, yes	5	3	5	2	3	5	5	1	2	4	3	1	2	2	2	1	2	2	0	0	2	2	1	1	7	64
For yourself, no	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	
Other bars, yes	0	0	3	1	1	2	1	1	2	4	1	1	0	1	0	0	1	1	0	0	0	0	1	5	26	
Other bars, no	2	2	0	1	1	2	2	0	0	0	2	0	2	1	2	1	1	1	0	0	1	0	0	1	14	
No answer	3	1	2	0	1	2	2	0	0	0	2	0	2	1	2	1	1	0	0	0	1	2	1	2	27	

Less than two:
 Tootsie Roll
 Gum-ee Bar
 Welch's Five Stars
 Chuckles
 Planters Peanut Bar

Appendix D

RESULTS OF GROUP ROTATION ON COMBINED COLLEGE INTERVIEWS

GROUPS	NUMBER EATING HERSHEY	NUMBER WHO HAVE SEEN ADVERTISEMENTS
1.	7	8
2.	5	12
3.	7	12
4.	4	12
5.	5	8
6.	4	9
7.	9	9
8.	3	11
9.	9	9
10.	5	9

TABLE OF DIFFERENCES FOR HERSHEY REPLIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Groups	Frequency of Occur- rence	Groups	Fre- quency of Oc- currence	Differ- ence of Occur- rence	Small- est % of Oc- currence	Allow- able dif- ference of Occurrence
I 1,2,3,4,5	28	6,7,8,9,10	30	2	32.9	13
II 2,3,4,5,6	25	7,8,9,10,1	33	8	29.4	13
III 3,4,5,6,7	29	8,9,10,1,2	29	0	34.1	13
IV 4,5,6,7,8	25	9,10,1,2,3	33	8	29.4	13
V 5,6,7,8,9	30	10,1,2,3,4	28	2	35.3	13

TABLE OF DIFFERENCES FOR THOSE WHO HAVE SEEN ADVERTISEMENTS

I 1,2,3,4,5	52	6,7,8,9,10	47	5	55.3	14
II 2,3,4,5,6	53	7,8,9,10,1	46	7	54.1	14
III 3,4,5,6,7	50	8,9,10,1,2	49	1	57.8	14
IV 4,5,6,7,8	49	9,10,1,2,3	50	1	57.8	14
V 5,6,7,8,9	46	10,1,2,3,4	53	7	54.1	14

RESULTS OF GROUP ROTATION ON COMBINED HIGH SCHOOL INTERVIEWS

GROUPS	NUMBER EATING MILKY WAY	NUMBER WHO HAVE SEEN ADVERTISEMENTS
1.	9	19
2.	9	20
3.	3	16
4.	7	16
5.	7	20
6.	6	16
7.	8	15
8.	7	17
9.	6	18
10	12	21

TABLE OF DIFFERENCES FOR MILKY WAY REPLIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Groups	Frequency of Occurrence	Groups	Frequency of Occurrence	Difference of Occurrence	Smallest % of Occurrence	Allowable difference of Occurrence	
I	1,2,3,4,5	35	6,7,8,9,10	29	6	22.3	13
II	2,3,4,5,6	32	7,8,9,10,1	32	0	24.6	13
III	3,4,5,6,7	31	8,9,10,1,2	33	2	23.7	13
IV	4,5,6,7,8	35	9,10,1,2,3	39	4	26.9	15
V	5,6,7,8,9	34	10,1,2,3,4	40	6	26.2	15

TABLE OF DIFFERENCES FOR THOSE WHO HAVE SEEN ADVERTISEMENTS

I	1,2,3,4,5	91	6,7,8,9,10	87	4	67	15
II	2,3,4,5,6	88	7,8,9,10,1	90	2	67.7	15
III	3,4,5,6,7	83	8,9,10,1,2	95	12	64.0	15
IV	4,5,6,7,8	84	9,10,1,2,3	94	10	64.6	15
V	5,6,7,8,9	86	10,1,2,3,4	92	6	66.0	15

RESULTS OF GROUP ROTATION ON COMBINED 4,5,6 GRADES INTERVIEWS

GROUPS	NUMBER EATING MILKY WAY	NUMBER WHO HAVE SEEN ADVERTISEMENTS
1.	4	6
2.	1	7
3.	1	6
4.	1	6
5.	3	3
6.	2	7
7.	2	4
8.	1	7
9.	3	5
10.	4	4

TABLE OF DIFFERENCES FOR MILKY WAY REPLIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Groups	Fre- quency of Oc- currence	Groups	Fre- quency of Oc- currence	Differ- ence of Occur- rence	Small- est % of Oc- cur- rence	Allow- able dif- ference of Occur- rence	
I	1,2,3,4,5	10	6,7,8,9,10	12	2	22.2	12
II	2,3,4,5,6	8	7,8,9,10,1	14	6	17.8	12
III	3,4,5,6,7	9	8,9,10,1,2	13	4	20.0	12
IV	4,5,6,7,8	9	9,10,1,2,3	13	4	20.0	12
V	5,6,7,8,9	11	10,1,2,3,4	11	0	24.5	12

TABLE OF DIFFERENCES FOR THOSE WHO HAVE SEEN ADVERTISEMENTS

I	1,2,3,4,5	28	6,7,8,9,10	27	1	60	15
II	2,3,4,5,6	29	7,8,9,10,1	26	3	58	15
III	3,4,5,6,7	26	8,9,10,1,2	29	3	58	15
IV	4,5,6,7,8	27	9,10,1,2,3	28	1	60	15
V	5,6,7,8,9	26	10,1,2,3,4	29	3	58	15

RESULTS OF GROUP ROTATION ON SUBWAY INTERVIEWS

GROUPS	SEEN ADVERTISEMENTS	WERE YOU LOOKING FOR THAT BAR WHEN YOU CAME TO THE COUNTER, YES
1.	3	12
2.	11	9
3.	4	6
4.	10	9
5.	4	8
6.	7	8
7.	8	5
8.	3	9
9.	7	9
10.	6	7

TABLE OF DIFFERENCES FOR THOSE WHO HAVE SEEN ADVERTISEMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Groups	Frequency of Occurrence	Groups	Frequency of Occurrence	Difference of Occurrence	Smallest % of Occurrence	Allowable difference of Occurrence	
I	1,2,3,4,5	32	6,7,8,9,10	31	1	47.6	12.2
II	2,3,4,5,6	36	7,8,9,10,1	27	9	41.5	12.2
III	3,4,5,6,7	33	8,9,10,1,2	30	3	46.4	12.2
IV	4,5,6,7,8	32	9,10,1,2,3	31	1	47.6	12.2
V	5,6,7,8,9	29	10,1,2,3,4	34	5	44.5	12.2

TABLE OF DIFFERENCES FOR THOSE WHO WERE LOOKING FOR THE BAR

I	1,2,3,4,5	44	6,7,8,9,10	38	6	58	12.2
II	2,3,4,5,6	40	7,8,9,10,1	42	2	61.5	12.2
III	3,4,5,6,7	36	8,9,10,1,2	46	10	55.5	12.2
IV	4,5,6,7,8	39	9,10,1,2,3	43	4	60	12.2
V	5,6,7,8,9	39	10,1,2,3,4	43	4	60	12.2

Appendix E

CALCULATIONS FOR RESULTS

A. High School Group

1.	$p = 27.2$ $q = 72.8$ $n = 268$	$p' = 12.8$ $q' = 87.2$ $x = 4.24$
	$p = 12.8$ $q = 87.2$ $n = 268$	$p' = 9.3$ $q' = 90.7$ $y = 1.31$
2.	$p = 76.1$ $q = 23.9$ $n = 268$	$p' = 17.3$ $q' = 82.7$ $x = 16.9$
	$p = 17.3$ $q = 82.7$ $n = 268$	$p' = 3.4$ $q' = 96.6$ $y = 5.45$
3.	$p = 57.0$ $q = 43.0$ $n = 268$	$p' = 24.2$ $q' = 75.8$ $x = 8.15$
	$p = 24.2$ $q = 75.8$ $n = 268$	$p' = 9.3$ $q' = 90.7$ $y = 4.66$
4.	$p = 41.5$ $q = 58.5$ $n = 263$	$p' = 39.6$ $q' = 60.4$ $x = 0.45$
	$p = 39.6$ $q = 60.4$ $n = 263$	$p' = 15.2$ $q' = 84.8$ $y = 6.52$
5.	$p = 72$ $q = 28$	$n = 268$ $r = 5.48\%$
6.	$p = 29.3$ $q = 70.7$ $n = 332$	$p' = 19.4$ $q' = 80.6$ $x = 2.98$
	$p = 19.4$ $q = 80.6$ $n = 332$	$p' = 16.7$ $q' = 83.3$ $y = 0.91$
7.	$p = 24.7$ $q = 75.3$ $n = 299$	$p' = 22.1$ $q' = 77.9$ $x = 0.75$

$$\begin{aligned} p &= 22.1 \\ q &= 77.9 \\ n &= 299 \end{aligned}$$

$$\begin{aligned} p' &= 15.4 \\ q' &= 84.6 \\ y &= 2.12 \end{aligned}$$

B. Combined College Group

$$\begin{aligned} 1. \quad p &= 30.4 \\ q &= 69.6 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 13.8 \\ q' &= 86.2 \\ x &= 3.82 \end{aligned}$$

$$\begin{aligned} p &= 13.8 \\ q &= 86.2 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 11.5 \\ q' &= 88.5 \\ y &= 0.65 \end{aligned}$$

$$\begin{aligned} 2. \quad p &= 75.2 \\ q &= 24.8 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 17.8 \\ q' &= 82.2 \\ x &= 13.3 \end{aligned}$$

$$\begin{aligned} p &= 17.8 \\ q &= 82.2 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 1.5 \\ q' &= 99.5 \\ y &= 5.36 \end{aligned}$$

$$\begin{aligned} 3. \quad p &= 44.7 \\ q &= 55.3 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 44.2 \\ q' &= 55.8 \\ x &= 0.95 \end{aligned}$$

$$\begin{aligned} p &= 44.2 \\ q &= 55.8 \\ n &= 174 \end{aligned}$$

$$\begin{aligned} p' &= 2.9 \\ q' &= 97.1 \\ y &= 10.0 \end{aligned}$$

$$\begin{aligned} 4. \quad p &= 54 \\ q &= 46 \\ n &= 163 \end{aligned}$$

$$\begin{aligned} p' &= 41.1 \\ q' &= 58.9 \\ x &= 2.36 \end{aligned}$$

$$\begin{aligned} p &= 41.1 \\ q &= 58.9 \\ n &= 163 \end{aligned}$$

$$\begin{aligned} p' &= 3.1 \\ q' &= 96.9 \\ y &= 9.34 \end{aligned}$$

$$\begin{aligned} 5. \quad p &= 58.5 \\ q &= 41.5 \end{aligned}$$

$$\begin{aligned} n &= 174 \\ r &= 7.58\% \end{aligned}$$

$$\begin{aligned} 6. \quad p &= 30.2 \\ q &= 69.8 \\ n &= 19.2 \end{aligned}$$

$$\begin{aligned} p' &= 21.8 \\ q' &= 78.2 \\ x &= 1.88 \end{aligned}$$

$$\begin{aligned} p &= 21.8 \\ q &= 78.2 \\ n &= 192 \end{aligned}$$

$$\begin{aligned} p' &= 19.3 \\ q' &= 81.7 \\ y &= .60 \end{aligned}$$

$$\begin{aligned} 7. \quad p &= 23 \\ q &= 77 \\ n &= 243 \end{aligned}$$

$$\begin{aligned} p' &= 21.8 \\ q' &= 78.2 \\ x &= .33 \end{aligned}$$

$$\begin{aligned} p &= 21.8 \\ q &= 78.2 \\ n &= 243 \end{aligned}$$

$$\begin{aligned} p' &= 16.4 \\ q' &= 83.6 \\ y &= 1.52 \end{aligned}$$

C. Grade School Group

- | | | |
|----|--------------------------------------|--|
| 1. | $p = 22.1$
$q = 77.9$
$n = 95$ | $p' = 16.8$
$q' = 83.2$
$x = .94$ |
| | $p = 16.8$
$q = 83.2$
$n = 95$ | $p' = 10.5$
$q' = 89.5$
$y = 1.28$ |
| 2. | $p = 34.3$
$q = 65.7$
$n = 95$ | $p' = 24.2$
$q' = 75.8$
$x = 1.54$ |
| | $p = 24.2$
$q = 75.8$
$n = 95$ | $p' = 21.1$
$q' = 78.9$
$y = 0.51$ |
| 3. | $p = 59$
$q = 41$
$n = 95$ | $p' = 31.6$
$q' = 68.4$
$x = 3.96$ |
| | $p = 31.6$
$q = 68.4$
$n = 95$ | $p' = 8.4$
$q' = 91.6$
$y = 4.17$ |
| 4. | $p = 50.5$
$q = 49.5$
$n = 95$ | $p' = 31.6$
$q' = 68.4$
$x = 2.70$ |
| | $p = 31.6$
$q = 68.4$
$n = 95$ | $p' = 19$
$q' = 81$
$y = 2.03$ |
| 5. | $p = 65.3$
$q = 34.7$ | $n = 95$
$r = 9.75\%$ |
| 6. | $p = 31.1$
$q = 68.9$
$n = 95$ | $p' = 14.9$
$q' = 85.1$
$x = 2.38$ |
| 7. | $p = 25.5$
$q = 74.5$
$n = 94$ | $p' = 20.2$
$q' = 79.8$
$x = .86$ |

D. Subway Group

- | | | |
|----|---------------------------------------|--|
| 1. | $p = 48.5$
$q = 51.5$
$n = 131$ | $p' = 13.1$
$q' = 86.9$
$x = 6.72$ |
| | $p = 13.1$
$q = 86.9$
$n = 131$ | $p' = 10$
$q' = 90$
$y = 0.77$ |

$$\begin{array}{ll}
 2. & p = 51.5 & p' = 20 \\
 & q = 48.5 & q' = 80 \\
 & n = 131 & x = 5.50
 \end{array}$$

$$\begin{array}{ll}
 & p = 20 & p' = 17.7 \\
 & q = 80 & q' = 82.3 \\
 & n = 131 & y = 0.46
 \end{array}$$

E. Questions not Common to all Questionnaires

$$\begin{array}{ll}
 1. & p = 74.8 & n = 98 \\
 & q = 25.2 & r = 7.58\%
 \end{array}$$

$$\begin{array}{ll}
 2. & p = 66.4 & n = 131 \\
 & q = 33.6 & r = 8.25\%
 \end{array}$$

$$\begin{array}{ll}
 3. & p = 82.2 & n = 95 \\
 & q = 17.8 & r = 6.72\%
 \end{array}$$

$$\begin{array}{ll}
 4. & p = 94.6 & n = 131 \\
 & q = 5.4 & r = 3.95\%
 \end{array}$$

$$\begin{array}{ll}
 5. & p = 65.2 & n = 86 \\
 & q = 34.8 & r = 10.0\%
 \end{array}$$

$$\begin{array}{ll}
 6. & p = 97.5 & n = 123 \\
 & q = 3.5 & r = 3.35\%
 \end{array}$$