# Education programs for increasing milk-drinking among women, a pilot study 

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# Educational Programs For 

## Increasing Milk Drinking

## Among Women

A Pilot Study

Mississippi State University
AGRICULTURAL EXPERIMENT STATION
CLAY LYLE, Director

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## ACKNOWLEDGEMENT

The authors wish to express appreciation to the Home Demonstration Agents of the Mississippi Atension Service who cooperated in this report and to the individual women who participated.

# Educational Programs for Increasing Milk-Drinking Among Women* 

A PILOT STUDY

By DOROTHY DICKINS and VIRGINIA FERGUSON

The purpose of this study was to determine the relative effectiveness of four types of education programs for increasing milk drinking among women.

Approximately two-thirds of the homemakers interviewed in a previous study made in two typical small cities and two villages in Mississippi stated that they did not usually drink milk as often as once a day. Two-fifths had not drunk any during the week preceding the interview. In the same study it was found that the total consumption of milk products was higher in those families in which the homemaker was a daily milk drinker. ${ }^{1}$

Milk is a leading source of calcium and an important contributor of riboflavin and high quality protein. It also provides other vitamins, minerals, carbohydrates, and fats. When fluid milk or its equivalent in other forms is omitted from the day's meals or used only in small

[^0][^1][^2]amounts, calcium and sometimes riboflavin are likely to fall below amounts recommended for good nutrition. ${ }^{2}$
Most techniques for increasing milk consumption have been centered on increased sales or on the family rather than on a special group of consumers. A type of study which seemed to hold great possibilities for providing insight into the present problem was one developed by the social scientist Kurt Lewin. Preliminary studies made by him and his co-workers include a comparison of a lecture method for changing food habits with a method of group decision and that of group decision with a request. ${ }^{3},{ }^{4},{ }^{5}$.

> Scope of Study

Six Mississippi urban Home Demonstration clubs were chosen for experimentation in the present study. They were visited in January and again in February, 1958. As a total of only 79 women par ticipated, it was decided to try the same methods again in six different clubs in February and March, 1959. A total of 146 women were included in all. The number participating in individual clubs is shown in the Appendix, Section I.
For the purposes of this report, the women of each two clubs in which the same method was employed are considered as one group. Methods used, locations of clubs, and number in the groups were as follows:

| Method | Locations of clubs | Number of women <br> in method group |
| :--- | :--- | :---: |
| Lecture* | Tupelo; Yazoo City | 19 |
| Lecture-Request* | Columbus; Greenwood | 27 |
| Discussion* | Tupelo; Vicksburg | 33 |
| Discussion-Decision* | Columbus; Yazoo City | 27 |
| Tasting only | Columbus; Jackson | 22 |
| Control | Tupelo; Yazoo City | 18 |
|  |  | Total: |

## The Four Methods, "Tasting Only", and Control

On the first visit to a Home Demonstration club meeting, a staff member of the Home Economics Department of the Mississippi Experiment Station distributed a short questionnaire to the women present, including members and guests. They were instructed to write down "just the honest truth" concerning quantities of various kinds of fluid milk they had drunk during the preceding week whether or not they felt that they should drink more, and if so, why they did not. ${ }^{6}$
Procedures then varied in the clubs according to methods as follows:
Lecture: The Experiment Station staff member gave a talk or "lecture". It concerned (1) the principal components of milk; (2) why women need it; (3) the fact that recent dairy products consumption studies show that Mississippi women are not getting enough; (4) objections to milk given in interviews; and (5) suggestions as to how milk-drinking habits can be improved. ${ }^{7}$
Chilled samples of three types of milk -homogenized milk, liquefied dried milk, and a half-and-half mixture of homogenized and liquefied dried-were then served to all women desiring to taste them. Those who had not drunk any of the par-

[^3][^4]ticular type of milk being served in the preceding six months were especially urged to try a sample.

After the tasting session, the women completed a second form stating facts they had learned about milk and other impressions of the program.

Lecture-Request: The procedure described above was followed also in the LectureRequest clubs. After completion of the second form, however, the Experiment Station home economist made a "request" asking those who didn't usually drink any milk at all to try to begin, and those who were already drinking a little to increase.
Discussion: In the discussion clubs the home economist gave a brief introduction consisting of the first four parts of the lecture. She then encouraged members with milk-drinking problems to discuss them, and others to suggest solutions. She contributed to the discussion herself by bringing out points not mentioned by the women. ${ }^{8}$

[^5][^6][^7]Milk samples were distributed for tasting and forms completed concerning what had been learned about milk.

Discussion-Decision: The procedure followed in the Discussion-Decision clubs was the same as in the Discussion clubs. In these clubs, however, an additional question was added to the second questionnaire in which the women were asked to check the amount of milk each would try to drink per day in the future. Categories available for checking were as follows: 1 pint ( 2 cups); $3 / 4$ pint ( $11 / 2$ cups); $1 / 2$ pint ( 1 cup); one small fruitjuice glass ( $1 / 2$ cup); or none.

The home economist finally suggested that an increase in milk-drinking be made a club goal or project. Women in both clubs voted to do this.

Tasting only: In these clubs the first form was filled out as in the "program" clubs. The "demonstration" for the meeting, however, was presented by the home agent or club program leader on a subject not pertaining to milk. The Experiment Station home economist then served the three milk samples.

Control: There was no program concerning milk or tasting of samples in the Control clubs. After the preliminary form was completed, regularly - scheduled demonstrations not pertaining to milk were given by the home agent.

All of the clubs were visited by the same Experiment Station staff member. At none of the clubs was there a statement made that there were plans for a revisit or checkup of any kind in the future.

Second Month: The following month clubs were revisited and the women asked to complete a form which included a question concerning quantities of milk drunk during the preceding week. The women were cautioned as they had been before replying to questions at the first meeting to write down just the "honest truth." They were asked whether or not they had made any changes in their milk-
drinking habits during the preceding month, and if they had, to describe them. They stated whether or not the previous month's club meeting had had any effect on their making changes, and about how long they thought changes would last.

In addition, they gave certain basic information about themselves and their families, such as age, education, family size, income, and source of fresh milk supply.

Women who had completed forms at the first month's meetings who were not present at the second meetings were visited in their homes. Those present at the second meetings only were excluded from the study.

## Description of Women in the Clubs

All participants were white women living in or within the immediate vicinity of six Mississippi cities. All but four (3 percent) had attended high school at least. ${ }^{9}$ There were variations among the groups, however, in education, age, family size and income. (See Tables $1-3$ in the Appendix.)

There were relatively more women in the Lecture, the Discussion, and the Control groups who had had college training. The Discussion - Decision group had fewest with college training. The Lecture and Lecture-Request clubs had relatively more older women; the Control group relatively more younger. Families of women in the Discussion and Control groups had highest incomes. Lowest incomes were found among those in the

[^8]Discussion - Decision group.
Milk was obtained by purchase by almost all of the women in the study ( 95 percent) as would be expected in urban clubs. Urban clubs were used in this particular study since one purpose was to determine the effect of the programs on the market for milk.

## Quantities of Milk Drunk and Attitudes <br> Before Programs were Conducted

Quantities of milk reported by the 146 women as having been drunk during the week preceding the first meetings ranged from none whatever to 30 cups. ${ }^{10}$
Sixteen percent reported that they had not drunk any during the week; 41 percent had drunk from one to six cups; 27 percent, from seven to 13 cups; and 16 percent, 14 cups or more.
Milk-drinking habits were better among these club women than among those in cross-section samples interviewed previously by the department. However, as shown above, over one-half had drunk an average of less than one cup per day. ${ }^{11}$
There was variation among the method groups in quantities reported for the week before these first meetings, as well as in replies to the question, "Do you think you should drink more milk than you do?", as shown in Table 1. These questions were asked before the lectures and discussions in the program clubs.

Averages for the week ranged from 4.9 cups per person in the Lecture group to 8.4 cups in the "Tasting only" group. The majority stated that they thought that
they should drink more milk, although a large proportion, especially in the Discussion - Decision group, did not feel a need for increasing.

Reasons given most frequently for not drinking more were a dislike of milk and preference for other beverages, principally coffee. Many wrote that milk was fattening (or that they were trying to reduce); that it caused constipation or allergies. Other statements made were: "Don't think of it"; "Don't take the time"; "Expensive"; "Use in cooking".

## Facts Learned About Milk, First Meeting

On the questionnaire distributed after the programs at the first meetings, the following percentages in the respective groups stated that they had learned something about milk that they had not already known: Lecture, 79; Lecture-Request, 67; Discussion, 42; Discussion - Decision, 56. It is interesting to note that in the two program groups where there were most older women (Lecture and Lecture-Request), more "new things" had been learned.

In telling what they had learned and other impressions of the program, about

[^9]${ }^{1 \mathrm{i}}$ The minimum amount of milk recommended by nutritionists for adult women per day is two cups, part of which can be obtained in cheese, ice cream and in cooked dishes containing milk. Information concerning consumption of these foods was not obtained in this study.

Table 1. The average number of cups of milk reported as having been drunk during the week preceding the first meetings and percentages of members who felt that they should drink more, classified by method group.

| Method groups | Amount drunk past week | "Think that I should drink more" |
| :---: | :---: | :---: |
|  | Average | Percent |
| Lecture ( $\mathrm{N}=19$ ) | 4.9 cups | 74 |
| Lecture-Request ( $\mathrm{N}=27$ ) | 6.0 cups | 56 |
| Discussion ( $\mathrm{N}=33$ ) | 5.8 cups | 70 |
| Discussion-Decision ( $\mathrm{N}=27$ ) | 5.9 cups | 26 |
| Tasting only ( $\mathrm{N}=22$ ) | 8.4 cups | 46 |
| Control ( $\mathrm{N}=18$ ) | 6.7 cups | 61 |
| Total ( $\mathrm{N}=146$ ) | 6.2 cups | 55 |

rable 2. Percentage change in total number of cups of milk drunk by the women during the two eport weeks; and average number cups drunk the second report week, classified by method groups.

| Method groups | Comparison of the total cups drunk during the week preceding second meeting with that preceding the first** | Average per member second. report week |
| :---: | :---: | :---: |
| Lecture ( $\mathrm{N}=19$ ) --a------ | 12 percent increase | 5.5 cups |
| Cecture-Request $(\mathrm{N}=27)$ | - 16 percent increase | 7.0 cups |
|  | 33 percent increase | 7.8 cups |
| Discussion ${ }^{\text {dions }}$ Necision $(\mathrm{N}=27)^{*}$ | 29 percent increase | 7.6 cups |
| Tasting only ( $\mathrm{N}=22$ ) | 9 percent increase | 9.2 cups |
| Control ( $\mathrm{N}=18$ ) | 3 percent decrease | 6.4 cups |

*Two members of this group stated that the drinking glasses which they had used the second neek were large glasses. These were counted at $11 / 4$ cups instead of one cup as were the others, assumed to be ordinary glasses.
**According to statistical tests, there is a significant relationship at the $1 \%$ level of increase in otal cups between the two discussion, two lecture and two non-program methods.
one-third made general statements such is, "more about the importance of milk, hat I should drink more milk, etc." Comnents concerning the mixing of dry and whole milk were next in frequency. Facts earned about dried milk-that it is high in food value, tastes good, etc.-were itated by about 16 percent of the women -by more in the Lecture and LectureRequest clubs than in the others.

From three to six women in each of he program groups expressed surprise it the statement made that so few women drink milk. A number made complimentary comments concerning the lecture or the discussion.

## Goals Set By Individuals in The Discussion-Decision Group

At the conclusion of the first meeting over three-fourths of the Discussion-Decision group members checked that they would try to drink in the future a higher quantity of milk than that reported for the preceding week. For the group as a whole, the intended future increase in total cups was 57 percent compared with that drunk the previous week.
Comparison of Quantities of Milk Drunk During the Second and First Report Week

The percentage change in total number of cups of milk drunk by the women during the two report weeks is shown in Table 2.

Overall increases in the four program groups ranged from 12 to 33 percent. Members of the "Tasting only" group, as a whole, increased 9 percent; those in the Control group made a slight decrease. Increase in total cups, compared with the week before the first meeting, was greatest in the Discussion and DiscussionDecision groups, approximately two cups per member.

It is interesting to compare results in the Lecture group with those in the Discussion group. The percentages who stated before the programs that they thought that they should drink more milk were about the same in the two groups. A much higher proportion of Lecture group members stated that they had learned something about milk at the meeting. Yet, overall increase was almost three times greater in the Discussion group than in the Lecture.
"Decisions" made by Discussion-Decision group members to drink certain quantities of milk in the future did not affect them to the extent that they increased more than women of the group limited to discussion only. In fact, proportionate increase in the Discussion - Decision group was slightly less. Over half (57 percent) of the members of this group did not drink as much milk during the week preceding the second club meeting as the quantity checked one month before.

Table 3. Percentages of members in each of the six method groups who increased and decreas amounts of milk drunk during the second report week as compared with the first, and mean cu increased and decreased.

| Method groups | Percent of women who increased | Percent of women who decreased* | Mean cups increased by those who increased | Mean cup decreased those who decreased |
| :---: | :---: | :---: | :---: | :---: |
| Lecture ( $\mathrm{N}=19$ ) --------- 37 |  | 37 | 5.9 | 4.3 |
| Lecture-Request $\left(\mathrm{N}_{2}=27\right)$Discussion $(\mathrm{N}=33)$ | ------- 41 | 30 | 5.5 | 3.0 |
|  | ---- 52 | 18 | 4.6 | 2.5 |
| Discussion-Decision ( $\mathrm{N}=27$ )-- |  | 15 | 4.3 | 3.8 |
| Tasting only ( $\mathrm{N}=22$ ) -------- | ------ 45 | 36 | 4.0 | 2.9 |
| Control ( $\mathrm{N}=18$ ) | ------- 22 | 39 | 4.8 | 3.3 |

*The remaining percentage of women drank the same quantity during the second report we as during the first.

## Comparison of Number of Individuals Increasing and Decreasing

In all groups there were individual members who drank less milk the second week than the first, those who drank the same quantity, and those who drank more. In Table 3 are shown the percentage of members of the various groups who increased and decreased, and average amount.

A relatively higher percentage of women in the two types of discussion groups increased amounts of milk drunk during the second report week. A relatively lower percentage decreased in these groups.

In the Lecture group, the average number of cups increased by those increasing was highest (5.9), but the average decreased by those decreasing (4.3) was also highest. Exactly the same number of women drank more milk as drank less. Another fact to be noted is the low percentage of women in the Control group who increased quantities the second period.

## Types of Milk in Which Changes Occurred

While this study is concerned primarily with increases in the drinking of fluid milk in general, members were asked to specify at both meetings quantities of particular kinds they had drunk. The relative percentages of the various types consumed are shown in Table 4 in the Appendix.

In all four program groups the propo tion which was whole milk was low during the second report week and tt proportion which was dried milk was hig] er. Use of the "mixture of fresh an liquefied dried" was relatively greatt the second week in three of the prograt groups. Discussion group members dran a lower percentage of the mixed milk but increased proportionate buttermilk in take. The lower price and lower fat con tent of dried milk, buttermilk, and th dried and fresh mixture were stressed i the program clubs. This no doubt explair somewhat the proportionate increase j these milks.

In the "Tasting only" group, the pe centage of various types drunk durin the two periods was about the same. Cot trol group members as a whole increase fresh sweet milk intake and decrease consumption of other types.

## Verbal Responses Concerning Changes Made Preceding Month

While a comparison of the two repo weeks provides some insight into the rel: tive effectiveness of the methods, $w$ should bear in mind that even individua with "regular" milk - drinking habi would probably be expected to vary sligh ly in quantities and kinds of milk the drink from time to time. It is possibl also, that factors other than the club pre grams would have been responsible fc some of the changes.

For these reasons, the women of the tudy were given an opportunity at the wecond club meeting to state whether or bhot they had made any changes in milkIrinking habits during the preceding nonth; if so, to describe the changes and o state whether or not they were a result of the meeting. If not, they described easons for the change.
Changes described included the drinking -of more milk (or beginning, when none "had been drunk before); trying a different kind; and in a few cases, drinking less milk. The proportion of women in the six method groups who stated that they had made changes the preceding month ranged from approximately onefifth in the Control group to one-half in the Discussion group. Table 5 in the Ap"pendix shows the percentages of women making changes during the month and kind of change.
All changes reported in the two types of lecture clubs were stated to have been the result of the club meetings, but some made in other groups were attributed to other causes. All decreases were reported to have been the result of factors other than the meeting.

## Changes Attributed To Influence of Club Meetings

As we are particularly interested in the influence of the club programs, we should examine the percentages who stated that the meeting had affected them. These are shown in Table 4.

In the Lecture-Request clubs were found the largest proportion, about twofifths, who stated that the meeting had influenced them to make changes of all kinds during the preceding month. According to these replies, the meeting affected about one-third in the Lecture, the Discussion and the Discussion-Decision groups. One person in the "Tasting only" group stated that she had drunk more milk as a result of tasting the milk samples and another that filling out the form at the first meeting had influenced her. One Control group member stated also that she had increased as a result of answering questions on the form.

The largest percentage mentioning that they had drunk more milk as a result of the meeting was in the Discussion group, as all changes said to have been the influence of the meeting were increases.

Practically all who reported that the program had led to increases in milkdrinking predicted that these changes would last quite awhile or indefinitely.

## Changes Not Attributed To Meetings

The largest proportion of changes made during the month which were said not to have been the result of the meetings were increases because of illness, pregnancy, dentist's recommendations, etc. One woman had been influenced by TV and radio advertising.

Some stated that during the past month they had decreased the quantity of milk drunk. One was drinking more iced tea.

Table 4. Percentages of women in the six method groups who stated that they had made changes during the preceding month as a result of the club meeting and types of changes.

| Method groups | Last month's meeting had an effect on my making a change | Type of change* (By those whom the meeting influenced only) |  |
| :---: | :---: | :---: | :---: |
|  |  | Drank more | Drank a different kind |
| Lecture ( $\mathrm{N}=19$ ) | Percent | Percent | Percent |
|  | 32 | 19 | 26 |
| Lecture-Request ( $\mathrm{N}_{3}=27$ ) | 41 | 26 | 22 |
| Discussion ( $\mathrm{N}=33$ ) | 33 | 33 | 0 |
| Discussion-Decision $(\mathrm{N}=27)$---------------- | 33 | 22 | 11 |
| Tasting only ( $\mathrm{N}=22$ ) | 9 | 5 | 9 |
| Control ( $\mathrm{N}=18$ ) | -- 5 | 5 | 0 |

*Some named more than one type of change.

One who ordinarily had home-produced milk said her cow was "dry." One had been living away from home and eating meals out.

## Summary and Conclusions

This was a study to determine the relative effectiveness of four types of educational programs for increasing milk-drinking among white urban home demonstration club women. The programs were (1) a lecture followed by the tasting of milk samples, (2) the same lecture and tasting of samples followed by a request to drink more milk, (3) a discussion entered into by the women with important points contributed by the discussion leader and followed by a tasting session, (4) a similar discussion and tasting of samples followed by a "decision." Members checked the quantity of milk they would "try" to drink in the future and voted to make an increase in milk-drinking a club goal.

An additional group did tasting only. Another group served as a control. Members were not told that there would be a revisit in the future. In all, 146 women in 12 clubs (two for each program group studied) participated. There was variation among groups in education, income, and in milk-drinking habits prior to the experiment.

The same women completed forms one month later. According to total quantities of milk drunk the second report week compared with the first, increases ranged from 12 to 33 percent in the program clubs. The highest percentages of increase were in the two groups in which discussions had been conducted. In these two groups a higher proportion of individuals
increased and a much lower proportion decreased.
From 32 to 41 percent of the women of the program groups reported verbally that the club meeting had influenced them to increase and/or change kinds of milk drunk during the month. The highest proportion reporting both types of change was among Lecture-Request group members. A relatively higher percentage in the Discussion group stated that they drank more milk as the result of the program.
In the two non-program groups, quantities reported and verbal responses revealed only slight change.

While a greater increase in milk-drinking was made by Discussion group members than by those of the DiscussionDecision group, it should be noted that both income and educational level in the latter was lower, as was the percentage who felt that they should drink more milk at the beginning of the first meeting. It is possible, therefore, that changes made by members of the Discussion - Decision group are of greater significance.

The limited number of cases and variations in characteristics of group members in this study prevent the making of broad implications from the data. Certain results should be of interest, however, to those concerned with the changing of food habits, as well as to educators in other fields. More change took place when the women were given samples of milk to taste than when they were not given milk. More change took place when they participated in discussions than when they merely listened to a lecture or were asked to drink more milk in the future.

| APPENDIX |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | January | February, 1958 | February and March, 1959 |  |
| Method groups | Location of club | Number of women participating | Location of club | Number of women participating |
| Lecture | Tupelo | 15 | Yazoo City | 4 |
| Lecture-Request | Columbus | 19 | Greenwood | 8 |
| Discussion | Tupelo | 10 | Vicksburg | 23 |
| Discussion-Decision | Columbus | 14 | Yazoo City | 13 |
| Tasting only | Columbus | 11 | Jackson | 11 |
| Control | Tupelo | 10 | Yazoo City | 8 |
| Total |  | 79 |  | 67 |

## II. Tables

Table 1. Ages and education of women in each of the six method groups.

| Method groups | Ages |  |  | Education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent of women who were: |  |  | Percent of women who had attended |  |  |
|  | Under 40 yrs . | $\begin{gathered} 40-49 \\ \text { yrs. } \end{gathered}$ | 50 yrs. \& over | 8th grade or less | $\begin{gathered} 9-12 \\ \text { grades } \end{gathered}$ | 1 or more years college |
| Lecture ( $\mathrm{N}=19$ ) | 16 | 26 | 58 | 6 | 47 | 47 |
| Lecture-Request ( $\mathrm{N}=27$ ) | 26 | 19 | 55 | 4 | 67 | 29 |
| Discussion ( $\mathrm{N}=33$ ) | 27 | 46 | 27 | 0 | 64 | 36 |
| Discussion-Decision ( $\mathrm{N}=27$ ) | 41 | 33 | 26 | 4 | 89 | 7 |
| Tasting only ( $\mathrm{N}=22$ ) | 41 | 41 | 18 | 5 | 77 | 18 |
| Control ( $\mathrm{N}=18$ ) | 83 | 11 | 6 | 0 | 61 | 39 |

Table 2. Size of families of women in each of the six method groups.

| Method groups | Percent of women with families of: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1-2 persons | 3-4 persons | 5 or more | persons |
| Lecture ( $\mathrm{N}=19$ ) | 31 | 53 | 16 |  |
| Lecture-Request ( $\mathrm{N}=27$ ) | 33 | 52 | 15 |  |
| Discussion ( $\mathrm{N}=33$ ) | 30 | 52 | 18 |  |
| Discussion-Decision ( $\mathrm{N}=27$ ) | 18 | 56 | 26 |  |
| Tasting only ( $\mathrm{N}=22$ ) | 23 | 63 | 14 |  |
| Control ( $\mathrm{N}=18$ ) | 17 | 44 | 39 |  |

Table 3. Percentage of women from families with specified family and per capita incomes* during past year, classified by method group.

| Method groups | Percent of women from families with: |  |  |  | Percent who did not report income |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Family income |  | Per capita income |  |  |
|  | $\begin{aligned} & \text { Under } \\ & \$ 5,000 \end{aligned}$ | $\begin{aligned} & \$ 5,000 \\ & \text { or over } \end{aligned}$ | Below \$1,800 | $\$ 1,800$ <br> or over |  |
| Lecture ( $\mathrm{N}=19$ ) | 53 | 31 | 42 | 42 | 16 |
| Lecture-Request ( $\mathrm{N}=27$ ) | 52 | 41 | 59 | 33 | 7 |
| Discussion ( $\mathrm{N}=33$ ) | 21 | 70 | 21 | 70 | 9 |
| Discussion-Decision ( $\mathrm{N}=27$ ) | 59 | 41 | 70 | 30 | 0 |
| Tasting only ( $\mathrm{N}=22$ ) | 45 | 50 | 59 | 36 | 5 |
| Control ( $\mathrm{N}=18$ ) | 17 | 78 | 39 | 56 | 5 |

*Members were given the following ranges and asked to "check the income group which best describes your family the past year before tax deductions": Under $\$ 2,500 ; \$ 2.500-\$ 4,999 ; \$ 5,000-$ $\$ 9,999$; and $\$ 10,000$ and over. Per capita income was derived by dividing the midpoint of the income range by the number of members in the economic family the past year. For the range "Under $\$ 2,500$," $\$ 1,250$ was used as the midpoint; $\$ 12,500$ was used as the midpoint for the range, " $\$ 10,000$ and over."

Table 4. Relative percentage of milk of specified kinds drunk by women in the six method groups during the two report weeks.


Table 5. Percentages of women in the six method groups who stated that they had made changes in milk-drinking habits during the preceding month and percentages making specified changes.

| Method groups | Have made changes past month | What changes?* |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Have drunk more milk | Have drunk less milk | Have drunk a different kind |
|  | Percent | Percent | Percent | Percent |
| Lecture ( $\mathrm{N}=19$ ) | 32 | 19 | 0 | 26 |
| Lecture-Request ( $\mathrm{N}=27$ ) | 41 | 26 | 0 | 22 |
| Discussion ( $\mathrm{N}=33$ ) | 51 | 42 | 9 | 0 |
| Discussion-Decision ( $\mathrm{N}=27$ ) | 41 | 22 | 4 | 15 |
| Tasting only ( $\mathrm{N}=22$ ) | 23 | 9 | 5 | 14 |
| Control ( $\mathrm{N}=18$ ) .- | 22 | 17 | 0 | 6 |

*Some named more than one type of change.


[^0]:    *This is a sub-project of the Southern Regional Project SM-13 Revised.

[^1]:    ${ }^{1}$ Dickins, Dorothy and Virginia Ferguson, Dairy Products Consumption and the Market, Four Mississippi Towns, Mississippi Agricultural Experiment Station Bulletin 542, April, 1956.

[^2]:    ${ }^{2}$ Essentials of an Adequate Diet, Agricultural Information Bulletin 160, Agricultural Research Service, United States Department of Agriculture, November, 1956.

[^3]:    ${ }^{3}$ Lewin, Kurt, Forces Behind Food Habits and Methods of Change. Reprinted from "The Problem of Changing Food Habits," a report of the Committee on Food Habits of the National Research Council, Washington, D.C. (National Research Council Bulletin 108, October, 1943.)
    ${ }^{4}$ Willerman, Ben, directed by Kurt Lewin, Group Decision and Request as a Means of Changing Food Habits. Child Welfare Research Station, State University of Iowa. Mimeo report by National Research Council, 1942.

[^4]:    ${ }^{5}$ Lewin, Kurt, The Relative Effectiveness of a Lecture Method and a Method of Group Decision for Changing Food Habits, Mimeo report, Committee on Food IVabits, National Research Council, 1942.

[^5]:    ${ }^{6}$ Numbers were used by the women instead of names on all forms filled out during the study.

[^6]:    ${ }^{7}$ A copy of the talk given, as well as details as to the Lecture-Request, Discussion and DiscussionDecision methods may be obtained by writing to the Home Economics Department of the Mississippi Agricultural Experiment Station.

[^7]:    ${ }^{8}$ Objections to milk made by the women in the Discussion and Discussion-Decision clubs included the following: "Turns my stomach"; "Have heard that it causes arthritis"; "Causes face to break out"; "The idea that it comes from an animal with hair on it"; "When dairies run short, they dilute the milk"; "Tastes dirty"; "What about idea of milk causing hardening of the arteries?"; "Don't like the smell."
    Suggestions made by the women for overcoming problems and comments supporting milkdrinking included the following: "Got husband to drink it by putting chocolate in it"; "Put milk glasses in refrigerator freezing compartment right before dinner"; "I drink four to five glasses a day"; "Drink milk with a straw. Put straw way back in mouth so can't taste as well"; "As you grow older you need more milk to strengthen the bones."

[^8]:    ${ }^{9}$ As a whole, members of groups studied had had more schooling than the average for white women in urban areas of the state, 23 percent of whom (according to the 1950 census) have not attended high school. The percentage of women in this study having high school training ( 9 through 12 grades) was 68 and the percentage having college training ( 13 grades or over) was 29. Percentages for all white urban women in the state ( $1 \overline{9} 50$ census) were 53 and 24 , respectively. However, from an educational standpoint, the women included in the study are probably typical of those who are members of organized clubs such as these in Mississippi cities.

[^9]:    ${ }^{10}$ Quantities were stated in terms of glasses cups, and pints. One glass was adjudged to be equivalent to one cup.

