TECHNICAL REPORT
72-49-OR&SA

AN ANALYSIS OF CONSUMER RESPONSES TO PROPOSED CHANGES IN ARMY GARRISON FEEDING SYSTEM AT FORT LEWIS, WASHINGTON

by

Gerald Hertweck

Robert J. Byrne

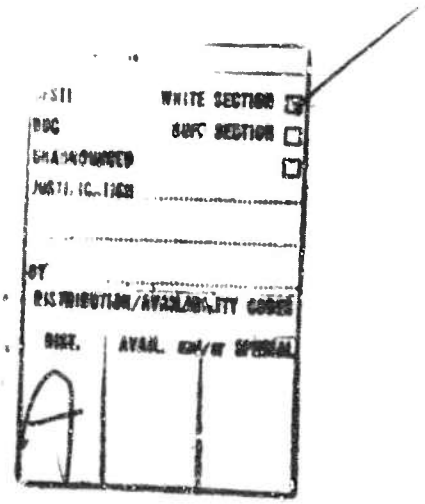
January 1972

UNITED STATES ARMY
NATICK LABORATORIES
Natick, Massachusetts 01760

Operations Research and Systems
Analysis Office

This document has been approved for public release and sale, its distribution is unlimited.

The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.



UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*

US Army Natick Laboratories

2a. REPORT SECURITY CLASSIFICATION

Unclassified

2b. GROUP

3. REPORT TITLE

An Analysis of Consumer Responses to Proposed Changes in the Army Garrison Feeding System at Fort Lewis, Washington.

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*

5. AUTHOR(S) *(First name, middle initial, last name)*

Gerald Hertweck and Robert J. Byrne

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
January 1972	72	5

8a. CONTRACT OR GRANT NO.

b. PROJECT NO. 1J662713AJ45

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)

9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*

72-48-OR&SA

10. DISTRIBUTION STATEMENT

Distribution of this document is unlimited.

11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY

US Army Natick Laboratories
Natick, Massachusetts 01760

13. ABSTRACT

A questionnaire survey was conducted at Fort Lewis, Washington, as part of a more comprehensive consumer survey, to determine the effects of various proposed changes to the garrison feeding system on attendance at the mess halls. Each change is analyzed independently, and then as a group to provide rankings in order of consumer preference and in terms of their impact on the total attendance rate.

DD FORM 1 NOV 68 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

UNCLASSIFIED

Security Classification

AN ANALYSIS OF CONSUMER RESPONSES TO PROPOSED CHANGES IN THE ARMY GARRISON FEEDING SYSTEM AT FORT LEWIS, WASHINGTON

by

Gerald Hertweck

and

Robert J. Byrne

Operations Research and Systems Analysis Office

January, 1972

FOREWORD

This report contains, in part, the results from a consumer survey conducted at Fort Lewis, Washington, during April 1971. The survey was completed in conjunction with the Military Feeding Systems Studies being performed by the Operations Research and Systems Anslysis Office, U. S. Army Natick Laboratories in response to Project/Task No. 1J662713A.I45-03 "Short Range Studies of Military Feeding Problems" of the DOD Food and Food Service RDT&Engineering program. The end result of these studies will be a design for a new and modern state-of-the-art feeding system providing for improved performance and reduced costs.

At the outset of the study it was clear that traditional consumer survey techniques, as generally used by industrial and military food service agencies, would not yield satisfactory answers to the problems under consideration. For this reason, it was necessary to develop other methods of survey and analysis, consistent with the overall objectives of the program, which were then applied at Fort Lewis as a representative large military installation. This study provides a framework for continuing DOD efforts in this area. Follow-on utilization of these new techniques is planned for all military services.

Numerous people participated in various ways to the successful completion of the survey reported herein. In particular, the contributions of Dr. Harold Kiess, Dr. J. B. Swanson, CPT, USAR and Dr. R. F. Johnson, CPT, USAR, Behavioral Sciences Division, Pioneering Research Laboratory and various staff members of the Operations Research and Systems Analysis Office, Natick Laboratories must be acknowledged. Additionally, the assistance of Col. J. Turner, Chief, Services Division and many others at Fort Lewis in arranging for coordinating and participating in the survey, and providing many other services is gratefully appreciated.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

A questionnaire survey was conducted at Fort Lewis, Washington, as part of a more comprehensive consumer survey, to determine the effects of various proposed changes to the garrison feeding system on attendance at the mess halls. Each change is analyzed independently, and then as a group to provide rankings in order of consumer preference and in terms of their impact on the total attendance rate.

SUMMARY

A three-part consumer survey was conducted at Fort Lewis, Washington to obtain data on food preferences, attitudes and reactions to potential changes in the present food service operations for use in the design of a new, modernized feeding system that will provide for improved performance and reduced costs. This report pertains to that part of the survey concerned with evaluating the effects on attendance of certain proposed changes to the existing system.

A questionnaire was developed from preliminary interviews with a group of enlisted men to initially identify areas of interest. Then, nine mess halls were chosen as representative of the overall attendance patterns of the garrison and division areas at Fort Lewis, from which a random sample of soldiers were selected to participate in the survey. The subjects were presented with a record of their present attendance and asked to estimate average attendance at each meal, weekdays and weekends, if the particular change were made, independent of all other changes. After responding to the various individual changes, each person was requested to indicate his maximum attendance if all desired changes were made. Finally, they were asked to select the five most important of the proposed changes and rank them in order of preference.

The response data were analyzed to derive an upper bound on the attendance (i.e., maximum attendance rate) and to obtain a ranking of the proposed system changes by their effect on attendance rate, as summarized in the following table. Additional information is also provided on the increased attendance rates (percentage of troops authorized meals without reimbursement indicating that they will eat the meal in the dining hall) associated with each separate change, and a ranking of the changes by order of preference for comparison. However, except for the present attendance rate, the other figures reported in this table are considered to be inflated as compared with the results actually expected from any given change. More realistically, the values should be reduced by a factor of about 10%, so that, for example, the most reasonable estimate of the actual maximum total attendance rate should be approximately 70%.

The most important changes with regard to producing increased attendance are food related – improved quality, offering specialty items, increased quantity, offering preferred foods and meals, and snacks after regular eating hours. As a whole, the top ranked changes by order of preference were those which also produce the largest changes in the total attendance rate, although their respective ranks differ slightly.

SUMMARY OF RESULTS

	Proposed Change	Total Attendance Rate	Rank by Effect	Rank by Order of Preference
	Present	52%		
1	Longer hours	61	13	9
2	Higher quality	70	2	1
3	Improve mess hall	63	11	10
4	Use any mess hall	64	10	8
5	Increase quantity	69	5	4
6	Canteen truck	55	16	15
7	Preferred food	73	1	5
8	Eliminate lines	67	6	7
9	Precooked meals	60	14	11
10	Eliminate signature	62	12	13
11	Specialty house	69	4	3
12	Eliminate KP	67	8	2
13	Lo-cal meals	67	7	14
14	Bussing service	65	9	16
15	Snacks	69	3	6
16	Short order	59	15	12
	Maximum	77		

SECTION I

INTRODUCTION

1. **Purpose.** The Operations Research and Systems Analysis Office, U. S. Army Natick Laboratories has been assigned the task of performing studies of military garrison feeding operations leading to the development of a new improved state-of-the-art feeding system. Very fundamental to designing such a system is to determine what the consumer wants or needs. Therefore, a major effort during the first year of study (1 November 1970 through 31 October 1971) was a consumer survey conducted at Fort Lewis, Washington directed toward obtaining information as a basis for the definition and design of a modernized feeding system to provide for increased customer satisfaction.

2. **Objectives.** In particular, the objectives of the survey were to:

a. Identify those factors which determine and/or influence consumer attendance at the mess halls.

b. Evaluate the effects on attendance of certain proposed changes to the present feeding system.

c. Determine food preference patterns as a basis for recommending changes to the menu to enhance customer acceptance and thereby increase attendance.

This report is concerned with the second objective, i.e., determining those changes to the mess hall and its operation which will promote increased attendance, and the maximum attendance rate that may reasonably be expected. The results are based *only* on an analysis of consumer responses. Some of the proposed changes were actually introduced in a feeding system experiment subsequently conducted at Fort Lewis, the results of which are reported in reference (1). Publications have also been prepared, references (3) and (4), containing the results of the Consumer and Food Preference Survey pertaining to the other objectives.

3. **Background.** The survey activity was begun by conducting informal interviews with 56 enlisted men at Fort Lewis, to accumulate basic information relevant to each of the above objectives. Three questionnaires were then developed from an analysis of these data, which subsequently underwent further refinement and evaluation. The final version of the Proposed Changes Questionnaire actually used in the survey, and discussed in this report, is included as an Appendix.

A survey sample was derived from an analysis of attendance data for all garrison and division area mess halls at Fort Lewis. Nine mess halls were selected to participate in the survey which were representative of the overall attendance pattern. Then, a randomly selected sample of soldiers was determined for each of the nine mess halls chosen. All three questionnaires were administered to each group in a morning or afternoon session at sites especially selected for this purpose.

The response data were returned to Natick Laboratories for reduction and analysis. The analysis, contained in Section III of this report, is based primarily on the estimated effect of a proposed change on total attendance rate (i.e., the percentage of those who are authorized meals without reimbursement who actually eat in their dining halls). The various changes are also ranked by preference and effect on total attendance rate.

SECTION II

SURVEY METHODOLOGY

1. **Introduction.** There are many reasons why an individual may choose to skip a meal. Some are not directly related to the feeding system, e.g., a preference to sleep rather than to have breakfast, outside activities which compete for available time (such as night school, participation in sports, or a part-time job), or an invitation to visit with friends or relatives. On the other hand, many are closely related to the feeding system performance and operation – for instance, food quality, environment, service, menus, etc. – which can be modified to directly influence attendance. The methodology utilized was developed to obtain this kind of information, to provide for a ranking of the proposed changes by their effect on attendance rates, and to establish an upper bound on the attendance rate that could be expected if the most important system changes were implemented.

2. **Procedure.** Based on an analysis of the early interviews conducted at Fort Lewis, sixteen possible system changes were suggested as improvements to the existing feeding system. See Table I. This list is by no means exhaustive, but rather, includes those changes judged to be most relevant to consumer desires and needs, and which were considered most feasible and effective to implement over the near term. In the questionnaire, each change was briefly defined and illustrated by example. The respondent was asked to estimate his average attendance at each meal if the particular change was made, independent of all other changes. Because of large variations in individual attendance patterns, the changes were considered for their separate effects on weekdays and weekends.

Since the Army requires a customer to sign a headcount sheet for each meal eaten, considerable information was available from which attendance patterns could be developed. It was therefore possible to identify the consumer who participated in this study to a greater degree than ever has been achieved in similar survey work conducted by industry and private consulting firms. By reducing signature headcount records to punched cards, it was possible to obtain and report to the consumer his actual individual attendance patterns. Then, when responding to the question of how a particular change would quantitatively affect his attendance, a subject was able to more accurately predict his future attendance by using the previous attendance record as a base.

This procedure required the respondent to give careful and exacting thought to each change, and to make quantitative judgements as to the effects of the proposed changes on attendance. In addition, the methodology also provided a quantified measure of the upper bound on attendance rate, which was desired.

TABLE 1

SIXTEEN PROPOSED CHANGES TO THE GARRISON FEEDING SYSTEM

1. Keep mess halls open longer.
2. Improve the quality of food served.
3. Improve appearance and surroundings in mess hall.
4. Allow troops to use any mess hall.
5. Increase the amount of food allowed.
6. Offer meals at work sites.
7. Offer preferred meals and food.
8. Eliminate waiting lines.
9. Provide high-quality precooked meals on weekends.
10. Eliminate signature requirement.
11. Establish specialty house.
12. Eliminate KP.
13. Provide a low-calorie meal at each mealtime.
14. Have someone else clear tables.
15. Provide self-service snacks after regular eating hours.
16. Provide a short-order meal.

After evaluating the various proposed changes, each person was requested to indicate his maximum attendance given that all desired changes were made. Finally, the respondents were asked to select and rank five of the sixteen proposed changes that they considered to be the most important in order of preference. A final ranking of preferences was developed from these data for comparative purposes.

3. **Sample.** Attendance data were collected and analyzed for all garrison and division area mess halls at Fort Lewis, from which a stratified sample of nine mess halls were selected, representative of the range and distribution of the total attendance rates, to participate in the survey. Within each of the messes, a random sample of seventy soldiers was chosen from which it was intended to have fifty at the survey session. The excess was intended to accommodate unexpected absences, people on leave or unable to be excused from important duty or detail, etc. Actually, in most cases, fewer than fifty of the selected soldiers were available. A total of 343 persons participated in this part of the survey from which 309 sets of valid responses were obtained.

The distribution of total attendance rates for this sample (estimated from the signature headcount records, corrected by the individuals) is included as Figure 1. The percent of troops in each attendance category is shown, e.g., 7% attend 0-10% of the meals, 5% attend 10-20%, 11% attend 20-30%, etc. An average total attendance rate of 52% is obtained by summing over the attendance categories, each weighted by the corresponding value of percent of troops assigned to the category.

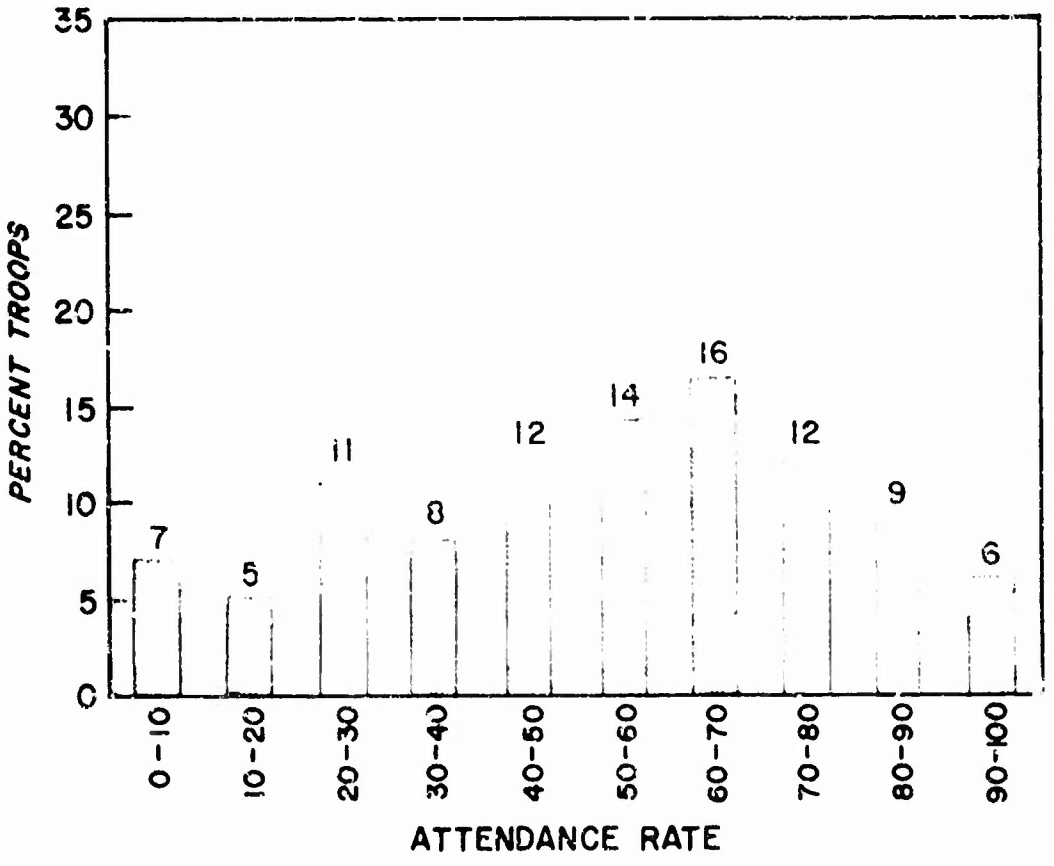


FIGURE 1. Distribution of Total Attendance Rates

Characteristics of the sample population, are summarized below:

a. Age.

17-18	3%
19-20	23
21-22	46
23-24	18
Over 24	10

The mean ages of male and female respondents were respectively 22.0 and 21.5 years.

b. Highest Level of Education.

Grade School	2%
High School	62
Vocational Training	4
College	31
Beyond College	1

The majority of the sample, 79%, had at least completed high school, and 32% attended or graduated from college.

c. Time in Army.

0-12 months	24%
13-24 months	47
25-36 months	20
Over 36 months	9

Typically, each soldier had been in the Army between 18 and 24 months. Over 88% indicated that they were not career Army and have no plans to re-enlist.

d. Military Pay Grade.

E-1	2%
E-2	8
E-3	17
E-4	52
E-5	20
E-6	1
Over E-6	1

A sizable portion of the sample, 89%, is in pay grades E-3 to E-5, as would be expected considering the age groups and time in the Army.

e. Personal Data. Members of the sample represented all geographical regions, in approximate proportion to the distribution of the population in the U. S., and a variety of rural-urban backgrounds. Racial composition was 85% Caucasion, 13% Negro, and 2% others. Religious preferences expressed were for 45% Protestant, 27% Catholic, 9% other, and the remainder replied no preference or did not respond. Seventy-six percent have never been married, 19% were married, and the other divorced, separated, or widowed.

4. Results and Analysis. The results and analysis focuses principally on the expected effect of the proposed change on total attendance rate and a ranking of these changes.

Each change is discussed in turn, illustrated by example, as given in the survey questionnaire. Where appropriate, other survey results, references (3) and (4), are presented to amplify on the problem towards which the proposed change is directed. Following is a graph comparing the present and projected attendence rates associated with the change. Each change is treated as though it were to be the only one made, i.e., entirely independent of all other potential changes.

The maximum increase in attendance, from the present, given all desired changes are made, is derived and a ranking of the changes on the basis of effect on total attendance rates is provided. Finally, each individual selected and ranked the five most important changes, from which a final ranking of the totality of changes was determined using composite standard scaling techniques.

SECTION III

RESULTS AND ANALYSIS

1. Introduction. Each change is discussed as it appeared in the questionnaire, along with the example presented to clarify the intent of the proposed change. Results from the Fort Lewis Dining Facilities Consumer Survey, reference (3), are included in the discussion, where applicable. The effects on total attentendance rate are then provided, with an indication as to what meals are most affected. Additional comments are made, when necessary, to show a relationship with other changes, to further define the nature of the changes or the direction to be taken, or to provide other relevant information, data or observations.

Although information is provided with regard to the shift in the attendance rate distribution for each change independently, the results should be interpreted only with respect to their original purpose (i.e., ranking of changes in order of effect and the upper bound on attendance if all desirable changes are made to the system). The quantitative analysis of each change should be accepted as additional information, which may or may not have any actual numerical relationship to what would occur to attendance if the particular change is implemented. A subjective evaluation of the general effect of each change or a scale ranging from "very significant" to "no significant effect" is presented in Table II.

2. **Proposed Change Number One.** Keep the mess hall open more hours than it is now (two or three hours each mealtime) so that you can eat when you want to as long as it doesn't interfere with your work assignment.

a. Example. If you are now eating only a few breakfast, midday or evening meals during the week because your mess hall closes too early, or if the serving hours start too late, tell us how many meals you would eat if we increased the serving hours to meet your needs.

b. Consumer Survey Results. According to the consumer survey results summarized below, most of the troops have more than twenty minutes in which to eat each meal, and in general, feel this is adequate time. This is particularly true for supper. Of those indicating not enough time for breakfast and dinner, over 80% were in the categories showing twenty minutes or less for eating a meal.

	Time for eating (minutes)?			Enough time?	
Meal	10%	10-20	20	Yes	No
Breakfast	5%	45%	50%	78%	22%
Dinner	3	38	59	77	23
Supper	2	24	74	94	6

Nearly as many soldiers (19%) indicated "convenient times to eat" as a feature particularly liked about the mess hall, as stated that "not enough time" (18%) and "eating hours are inconvenient" (20%) are particular dislikes.

Also, about 28% of those queried thought that time limits for eating a meal in the mess hall was an unneccesary rule.

c. Effect of Change. The results of this change as reported by the respondents are illustrated in Figure 2. These data show the total attendance rate would increase to 61% from the present 52% if the hours of service in the mess hall were lengthened. These increases would be greater for breakfast and dinner than for supper, and for weekends than for weekdays. The effect of this change is considered to be not significant, as shown in Table II.

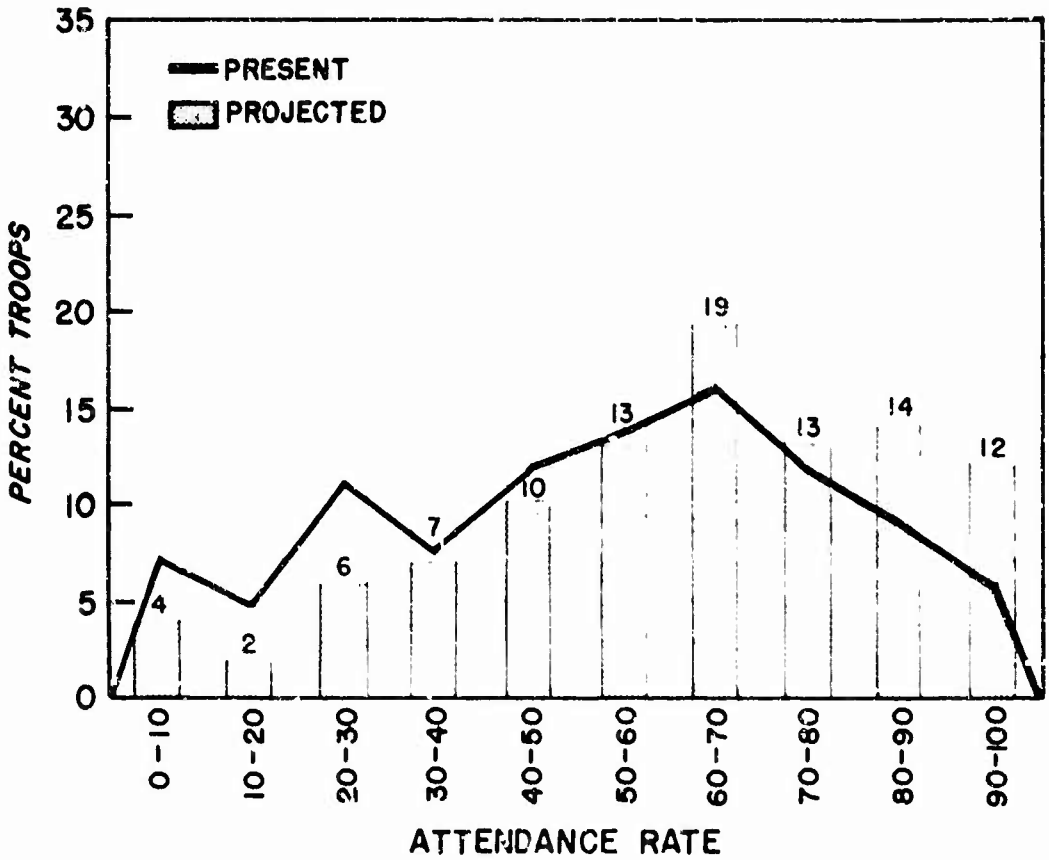


FIGURE 2. Effect of Longer Hours of Service on Total Attendance Rates

3. **Proposed Change Number Two.** Improve the quality of meals. The quality level we have in mind is a level which would be offered in a high quality cafeteria or restaurant.

a. Example. If you are now skipping meals because the current level of quality has been poor, how may meals would you attend if the quality level were much higher?

b. Consumer Survey Results. The opinion of those participating in this survey is that the quality of the food served, aside from preparation, is below average, i.e., mean rating 3.2 on a seven-point hedonic scale ranging from unacceptable (1) to average (4) to excellent (7). The most frequently indicated characteristics of poor quality - that is, tough, excess fat, gristle or tendon, and stringy - are related to meat items. Damaged or bruised, old-looking, under-ripe, stale, off-flavor, and over-ripe fruit and/or vegetables were also cited as often or always occurring by a large percentage of the troops (16 to 37%).

Only 6% said that the "food is good", as opposed to 63% who replied that "the food is not very good", when asked about particular likes and dislikes in their mess halls.

c. Effect of Change. According to those taking part in the survey, this proposed change would increase their overall attendance rate to an average of 70% from the present 52%, as illustrated in Figure 3. The effect, nearly equal for all meals, whether weekdays or weekends, is rated in Table II as very significant.

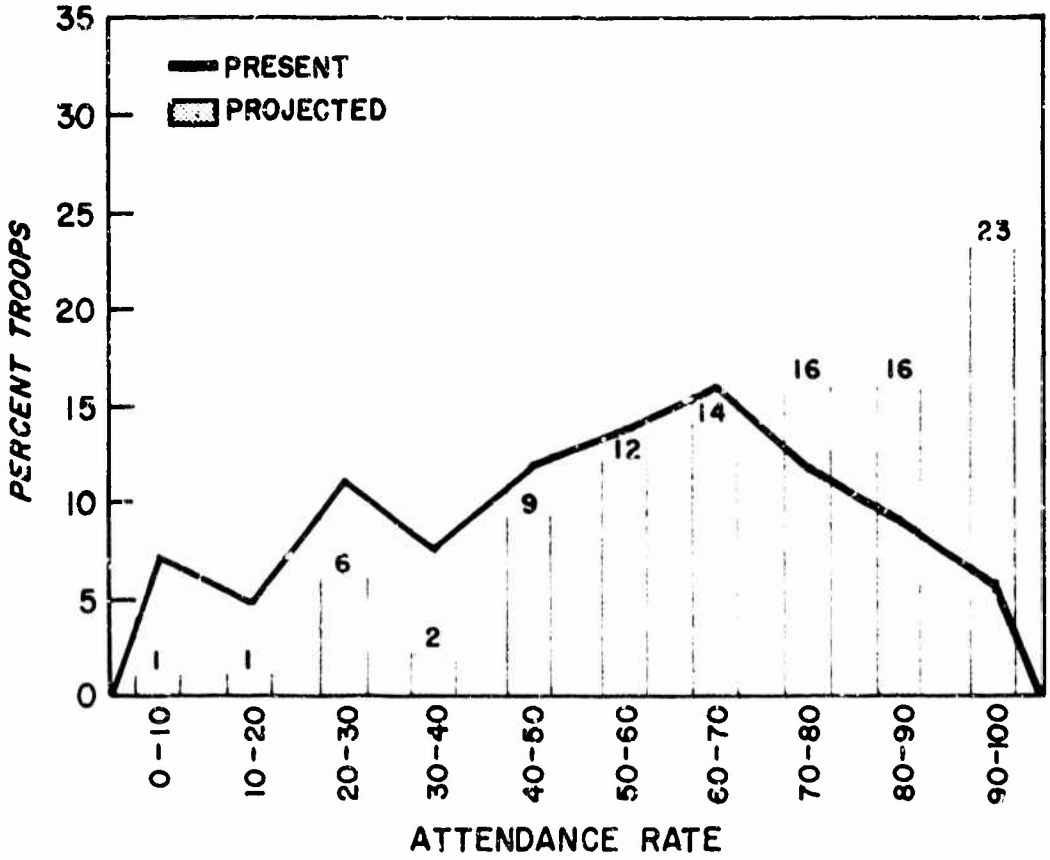


FIGURE 3. Effect of Improved Quality of Meals on Total Attendance Rates

4. Proposed Change Number Three. Improve the appearance and surrounding in the mess hall so you would have a better atmosphere to eat in. The improvements we are considering would upgrade the appearance of the surroundings of the mess hall to a level equal to some of the better cafeterias or restaurants where you have eaten.

a. Example. If you now skip some meals because your mess hall is too noisy, drab in appearance, or not clean enough, how many meals would you attend if these problems were corrected and you had a very pleasant place to have your meals?

b. Consumer Survey Results. Dirty silverware, trays, dishes and glasses were said to occur with varying degrees of frequency by most of the soldiers, and dirty floors, tables and chairs, and dispensing devices were also indicated to be a recurring problem.

Particular likes and dislikes that relate to this change are summarized below:

Likes	Pleasant appearance	22%
	Clean	40
Dislikes	Dirty	8
	Old and dirgy - not modern	19
	Too noisy	25
	Trays, plates and silver often dirty	36
	Military atmosphere	58

Ventilation is considered to be a problem, since many of the troops indicated that mess hall was at various times full of greasy smells, stuffy, full of unpleasant food odors, too cold, too warm, smoky, and full of stale odors.

c. Effect of Change. The change in the total attendance rate is an increase from 52% to 63% as shown in Figure 4. As with the previous change, the effect, indicated in Table II, is nearly the same on each meal, weekdays or weekends, but is not considered significant.

d. Discussion. Some indication of the desired changes in appearance were obtained in the Consumer Survey. Clearly, the company size mess hall (200-300 men) is preferred, by 62% of the troops, as compared to 13% who opted for a large consolidated mess (servicing several companies) and 25% saying it doesn't matter. Similarly, 71% indicated

a preference for four-man tables versus 11% for 1-3 man tables and 18% for larger tables, though nearly 44% also said that they would like counters and booths in the mess hall. More than two-thirds of those responding also wanted brighter colors, more decorative wall patterns, tablecloths, curtains and music with their meals (more of them, 34%, preferring a variety of music rather than any particular type). Definitely not liked were military pictures and posters (75%), flags (56%) and trophies (44%).

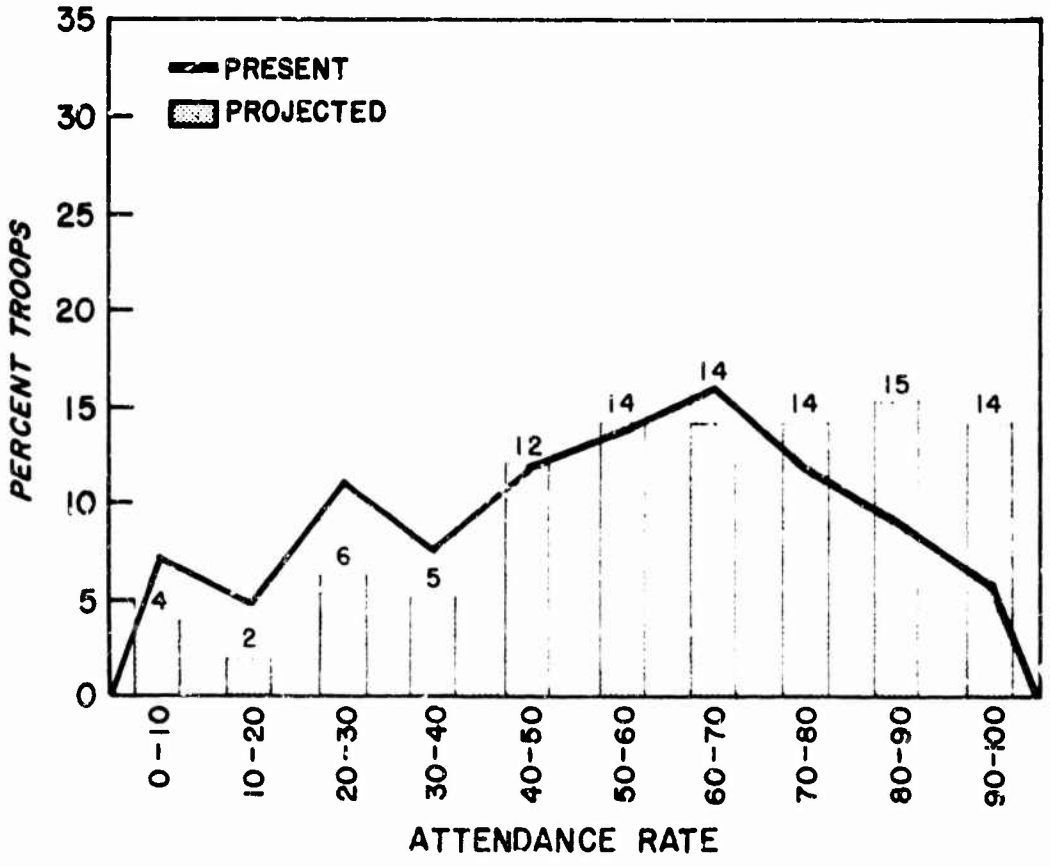


FIGURE 4. Effect of Improvements to Mess Hall on Total Attendance Rates

5. **Proposed Change Number Four.** Allow you to eat in any mess hall on Post.

a. Example. If you now skip some meals in your mess hall because you are bored with eating in the same place all the time or because you are not in the vicinity of your mess hall at mealtime, how may meals would you attend if you could eat in any mess hall on Post?

b. Consumer Survey Results. The consumer survey shows that only 8% never skip a meal, whereas, 89% sometimes or often skip the meal when not eating in the mess hall. The favored eating spots outside the mess hall are an off-post diner, snack bar or drive-in, off-post quality restaurant, or PX snack bar, in that order.

Approximately 57% of the soldiers surveyed work outside the company where their mess hall is located. Another 10% also work outside the company area, but the location of their jobs with respect to the mess hall cannot be ascertained from the survey data. Of those working beyond walking distance, greater than 3-4 blocks, from the company area, 61% drive or ride with a friend, 18% walk, and the remainder use the bus service or some other way to get to and from their jobs.

Given a choice, less than 4% would prefer to have the dining hall located outside the company area. In fact, 52% specified "its convenient location" as a particularly well-liked feature of the mess hall.

c. Effect of Change. The reported effect of this proposed change is depicted in Figure 5. Total attendance rate would increase to 64% from the current rate of 52%. No apparent differences were noted in Table II on different meals or between weekdays and weekends. The total effect is considered to be significant.

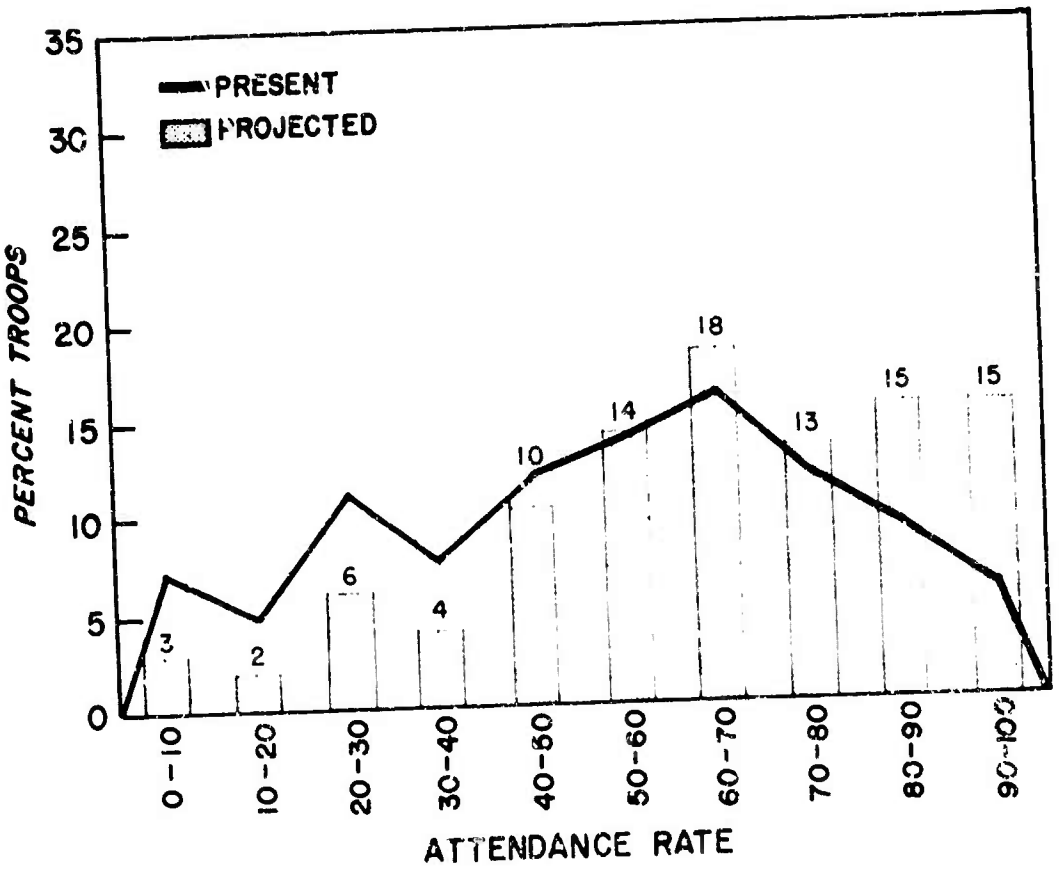


FIGURE 5. Effect of Using Any Mess Hall on Total Attendance Rates

6. Proposed Change Number Five. Increase the amount of food and allow second helpings. Please consider increased quantitites of meat, beverage, and dessert.

a. Example. If you now skip meals because you don't get enough meat, drinks or dessert, how many meals would you attend if you could get as much as you would like?

b. Consumer Survey Results. The most important results from the consumer survey in this respect are that 90% of the respondents say that, at times, they leave the dining hall hungry - 43% often or always. When asked their opinion of the amount of food served at a normal meal (rated on a seven point scale where 1 is too little, 4 is about right, and 7 is too much), the results were as follows:

Item	Hedonic Rating
Meat	2.4
Potatoes	3.5
Vegetables	4.6

"Plenty to eat and drink" was selected by a very few, 6%, as a particular like, whereas 62% stated "there is not enough food served" and 63% said "second helpings are not permitted". The latter were, in fact, among the most disliked features of the existing food service system.

c. Effect of Change. An increase to 68% from 52% total attendance rate would result from this change based on consumer responses. See Figure 6. All meals would be similarly affected, regardless of whether on a weekday or weekend, as shown in Table II. The effects on attendance from increasing quantitites is rated as very significant.

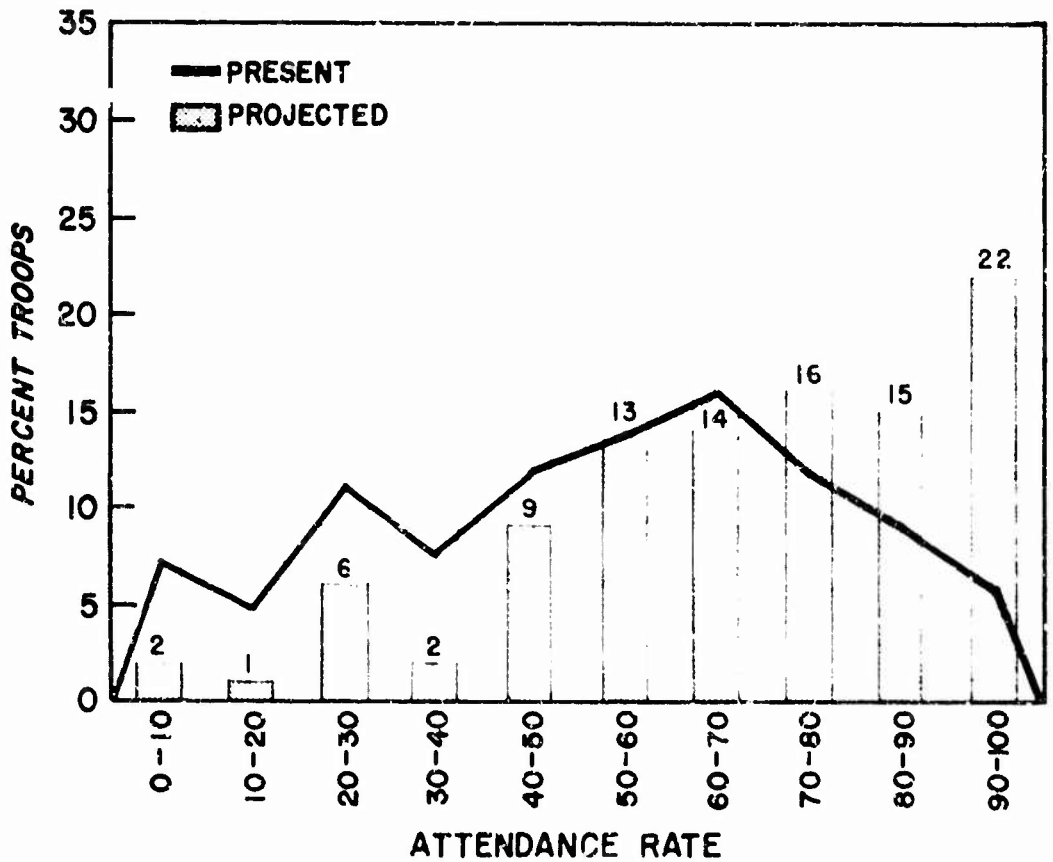


FIGURE 6. Effect of Increasing Amount of Food on Total Attendance Rates

7. **Proposed Change** Number Six. Introduce some Army canteen trucks which would offer meals at your work site instead of requiring you to travel back to your mess hall.

a. Example. If you now skip meals in your mess hall because you use up too much of your time to get there, how many meals would you eat if the meal were delivered at your work assignment?

b. Effect of Change. After the survey was completed, it was realized that the statement of the proposed change did not convey the proper intent of the change, i.e., such a service would be provided during the dinner meal on weekdays. Thus the results obtained cannot be clearly interpreted as to their intended purpose.

If, however, it is assumed that attendance at any one meal is independent of the other meals, the results for other than weekday dinners can be disregarded, and an estimate of the effect of the change on total attendance rate as reported by the troops included in the survey, can be obtained; an increase to 55% from 52%. The effect of the change on attendance rate as shown in Table II is considered as not significant.

8. Proposed Change Number Seven. Offer the type of meals and food you prefer by having a selection of meals each mealtime. For example, three different meals that you can choose from at each mealtime. This would offer you a free choice even if you choose to eat at the end of the serving time. The mess hall would not run out of the most desirable items before the people who come last are served.

a. Example. If you now skip meals because you don't like the meal that is offered or because you know that the more desirable items will not be available when you arrive, how many meals would you attend if this change were made?

b. Consumer Survey Results. Perhaps the consumer survey questions most closely related to this proposed change were directed at determining the customer's opinion as to the variety offered in meals served at the mess halls, for which the results are summarized below (ratings are average values on a seven-point scale in which 1 indicated "no variety", 4 was "about right", and 7 indiated "too much variety").

Meal	Weekday	Weekend
Breakfast	2.5	2.4
Dinner	3.2	2.4
Supper	3.1	2.6
Short Order	2.6	2.3

c. Effect of Change. From an analysis of troop response, an increase from 52% to 73% in total attendance rate may be expected from making this change, as depicted in Figure 7. The effect appears to be greater for dinner than for the other meals. Weekday and weekend attendance rates are similarly affected. A change offering preferred meals and food is considered as very significant in its effect on total attendance rate as shown in Table II.

d. Discussion. The low ratings on variety are not logically consistent with what is known of the Master Menu used in the Army messes. For instance, the breakfast menu unquestionably is the most constant offering of food items, day to day, that is encountered. Yet, at least in theory, it is possible to develop a sufficiently large number of combinations of the different items that no particular combination would be identically repeated in very long periods of time. However, the acceptability of many of these combinations may be low. But, the point is, that with the existing menu, a broad range of variety is possible with even the most restricted selection of food items.

The obvious inference cannot be ignored - that is not variety *per se* which is lacking, but a limited choice and/or availability of preferred food items which motivates the negative opinion with regard to variety. Increasing the number of selection or meals at each mealtime enhances the probability of having more preferred items available at any given time. Another, more obvious, way to achieve this goal is to evaluate the Master Menu to eliminate less acceptable items and to offer the other items consistent with the frequency and hedonic preferences of the consumer. For a more detailed discussion and examination of this problem area, see reference (4).

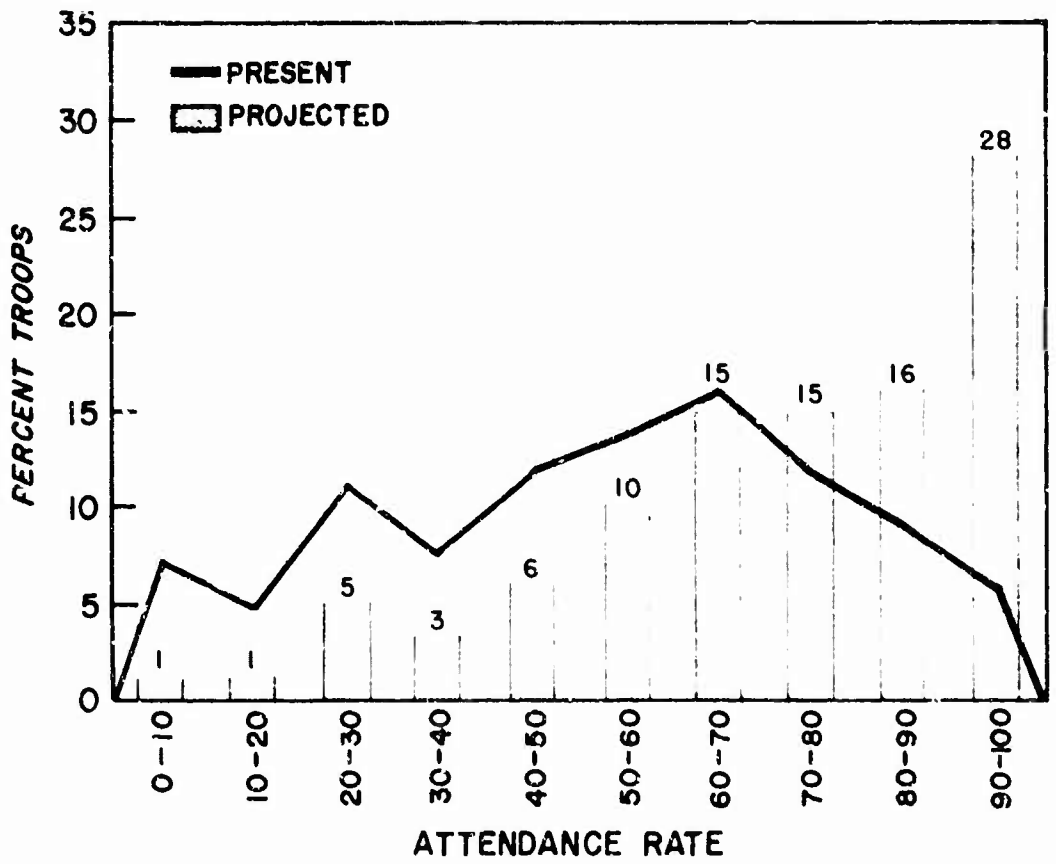


FIGURE 7. Effect of Offering Preferred Meals and Food on Total Attendance Rates

9. **Proposed Change Number Eight.** Reduce your mess hall lines so that you will not have to wait in line as long to get your meal.

a. Example. If you now skip meals because you use too much of your time standing in line, how many meals would you attend if this change were made?

b. Consumer Survey Results. The problem most often identified as a particular dislike about the mess hall, by 73% of the troops surveyed, was "waiting in line to be served". The following results were obtained to the question as to the usual length of time to wait to get a meal:

Length of Wait		Too long?	
Minutes	Percent	Yes	No
0	4%	1%	3%
1-5	11	2	9
5-10	21	14	9
10-15	37	34	3
>15	27	26	1

Of those saying they wait too long, more than 85% eat elsewhere because of the wait. Interestingly, about 49% who reply no to the question of whether or not the wait is too long *also* indicated that they eat somewhere other than the mess hall because the wait is too long.

c. Effect of Change. The reported effect of this change is depicted in Figure 8. An overall increase from 52% to 67% would result from this change based on consumer responses. The attendance rate is the same for all meals weekdays and weekends, as shown in Table II. It is considered to be a significant change.

d. Discussion. The above survey results should not be confused with troop reactions more specific to the signature headcount (see paragraph 11). Waiting time is a combination of several factors, among which the more important are the initial length of the line prior to the start of a meal, headcount time, and the food service time. Analysis of the waiting line problem, reference (5), in fact suggests that the initial queue length is the most important determinant of waiting time, and that decreasing the food service time is more beneficial toward decreasing the lines and consequent waiting times (in the present system!) than expediting headcount.

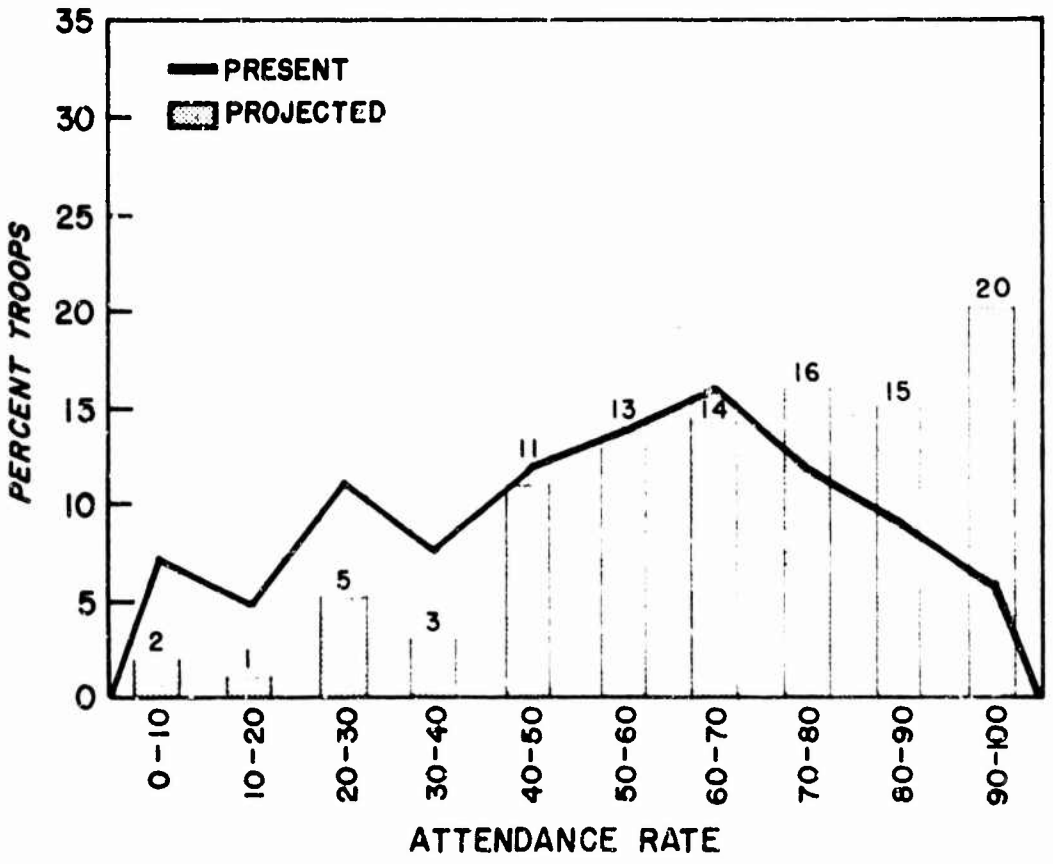


FIGURE 8. Effect of Reducing Lines on Total Attendance Rates

10. Proposed Change Number Nine. Provide a selection of high quality, precooked meals at the mess hall (or in the barracks) which you could heat yourself, whenever you wanted to eat on weekends. (A handy heating device would be provided).

a. Example. If you are now around the Post on some weekends and you skip meals because they are not served when you want to eat or the selection of meals is limited, how many meals would you eat if this type of change were made?

b. Effect of Change. The effect of the proposed change, is shown in Figure 9. This would result in a reported increase in the total attendance rate from 52% to 60%--the single most important change affecting weekend attendance, especially breakfast and dinner. See Table II. However, since only weekend meals are involved, the effect is not considered to be significant.

c. Discussion. It is not clear from the available data as to whether the increase in attendance should be attributed to a promise of higher quality, to the convenience of eating whenever desired, or to both.

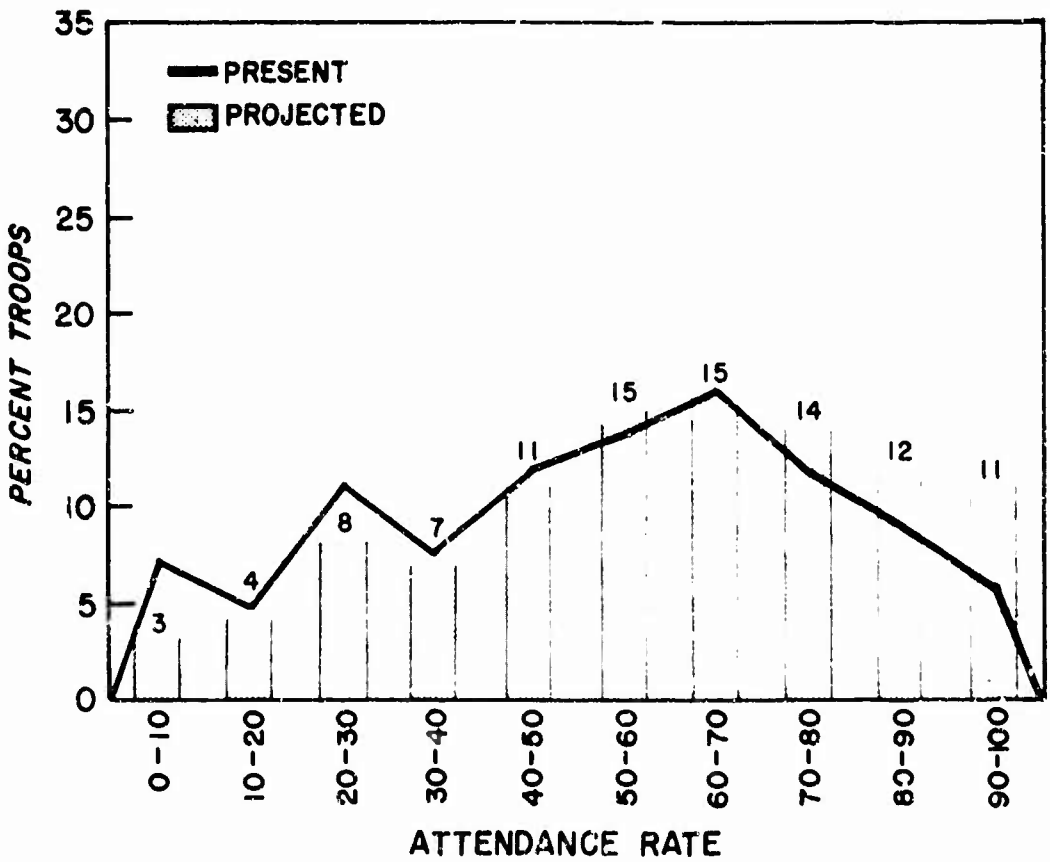


FIGURE 9. Effect of Precooked Meals on Weekends on Total Attendance Rates

11. Proposed Change Number Ten. You won't have to sign your name for each meal. Instead, we would give you a plastic card which you could insert in an automatic recording device.

a. Example. If you now skip meals because you don't like the bother of signing your name, how many meals would you attend if this change were made?

b. Consumer Survey Results. More than 99% of the respondents in this survey are required to sign for their meals (about 1.5% state they must sign only sometimes). In general, they sign before each meal, although slightly more than 1% indicate that it varies from day to day, and something less than 1% sign for all meals of the day at one time. Particular dislikes with respect to the signature headcount are:

Showing meal card before being served	53%
Signing for meals	45
Signing for more than one meal at a time	15

Fifty-two percent of the soldiers are of the opinion that signing for meals is unnecessary.

c. Effect of Change. The graph in Figure 10 shows an increase in total attendance rate of 10% to 62% is indicated by the respondents. Effects vary from meal to meal and between weekends and weekdays, as shown in Table II. The net effect on attendance, is considered to be of no significance.

d. Discussion. Signature headcount is thought of by many as the primary source of irritation to the troops in the present feeding system, which must be eliminated on a priority basis. The results discussed here and in previous sections do not tend to support this conclusion. Food related items, e.g., quantity, quality, and availability of preferred foods, are far more significant changes in their effect on total attendance. Many other characteristics were signified as particular dislikes about the mess hall by larger numbers of people, including silverware of missing or of an inappropriate size and not enough condiments, as well as the others already observed. However, if half of the customers object to signing and think that it is an unnecessary requirement, the problem must receive serious consideration in development of improvements to the present system or in designing new systems. But it should be kept in perspective with other, possibly more important, problems.

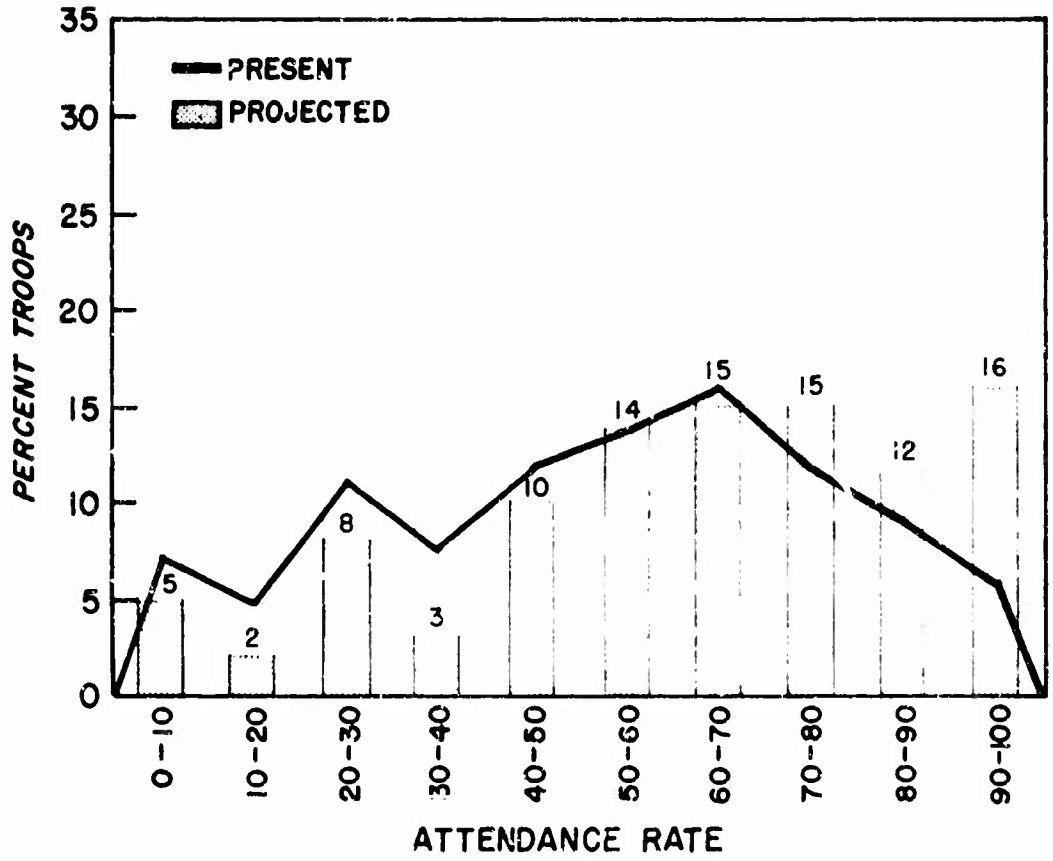


FIGURE 10. Effect of Eliminating Signature Headcount on Total Attendance Rates

12. Proposed Change Number Eleven. Establish and operate mess halls which are specialty houses, such as, Italian food, Chinese food, Soul food or Mexican food outlets, etc. from the mid-day and evening meals. Allow you to eat in any of these whenever you want. There would also be take-out service so that you can eat anywhere you want.

a. Example. If you now skip meals because you would like to eat specialty food or don't want to eat in a regular mess hall all the time, how many meals would you attend if this change were made?

b. Effect of Change. Overall, the total attendance rate, as reported by the survey participants, will be increased from 52% to 69%, illustrated in Figure 11. The increases shown in Table II are greater for supper than for dinner, and considerably larger on weekends than weekdays. Overall, the effect of specialty houses on attendance rate is expected to be very significant.

c. Discussion. Preferred foreign or specialty food, as indicated by the consumer survey, in terms of the percentage of troops selecting each as their first, second or third choice, are included in the following table:

Type	First Choice	Second Choice	Third Choice
Italian	31%	10%	13%
Seafood	22	22	10
Mexican or Spanish	13	23	16
Soul	10	4	1
Chinese	5	14	8
German	3	8	10
French	2	5	11
Japanese	1	3	11
Middle East or Greek	1	2	4
Polynesian	0	2	4
Indian	0	2	3
Jewish	0	1	2
No preference among the above	11	1	3
Do not like any of the above	1	1	1
Other (as indicated)	1	2	4

Clearly, the favorite types of specialty foods are Italian, seafood, and Mexican or Spanish. Translated into particular menu items, see reference (4), these include spaghetti, pizza, lasagna, ravioli, and veal parmesan; fried shrimp, fish and scallops; and, chili, enchiladas, tacos, refried beans, Spanish rice, and tortil'as.

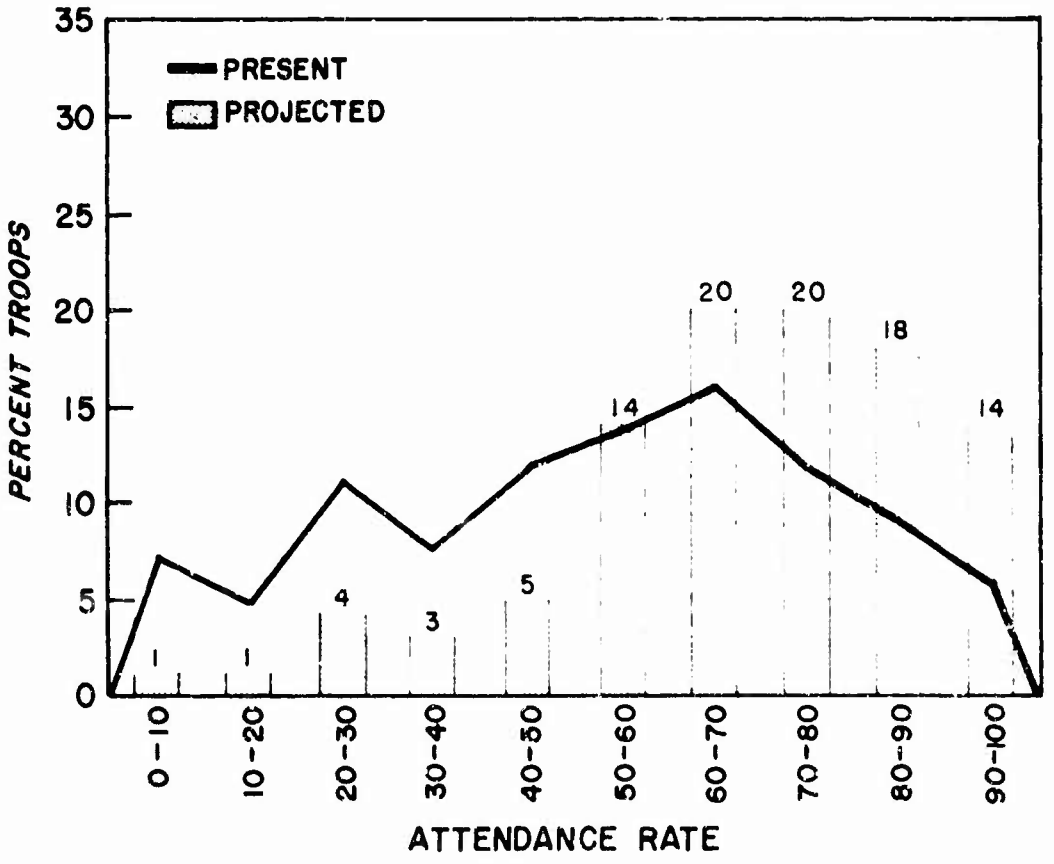


FIGURE 11. Effect of Specialty House on Total Attendance Rates

13. **Proposed Change Number Twelve.** Eliminate KP duty.

a. Example. If you now skip meals because you have a dislike for the mess hall because of KP duty, how many meals would you attend if this change were made?

b. Consumer Survey Results. The only question in the consumer survey pertaining directly to this change resulted in 40% of the individuals responding that "serving on KP" is a particular dislike about the dining hall.

c. Effect of Change. The reported effect of this proposed change would be to increase total attendance rates from 52% to 67%, Figure 12. A slightly greater increase was noted in Table II for weekends than for weekdays. The effect of eliminating KP is considered to be significant.

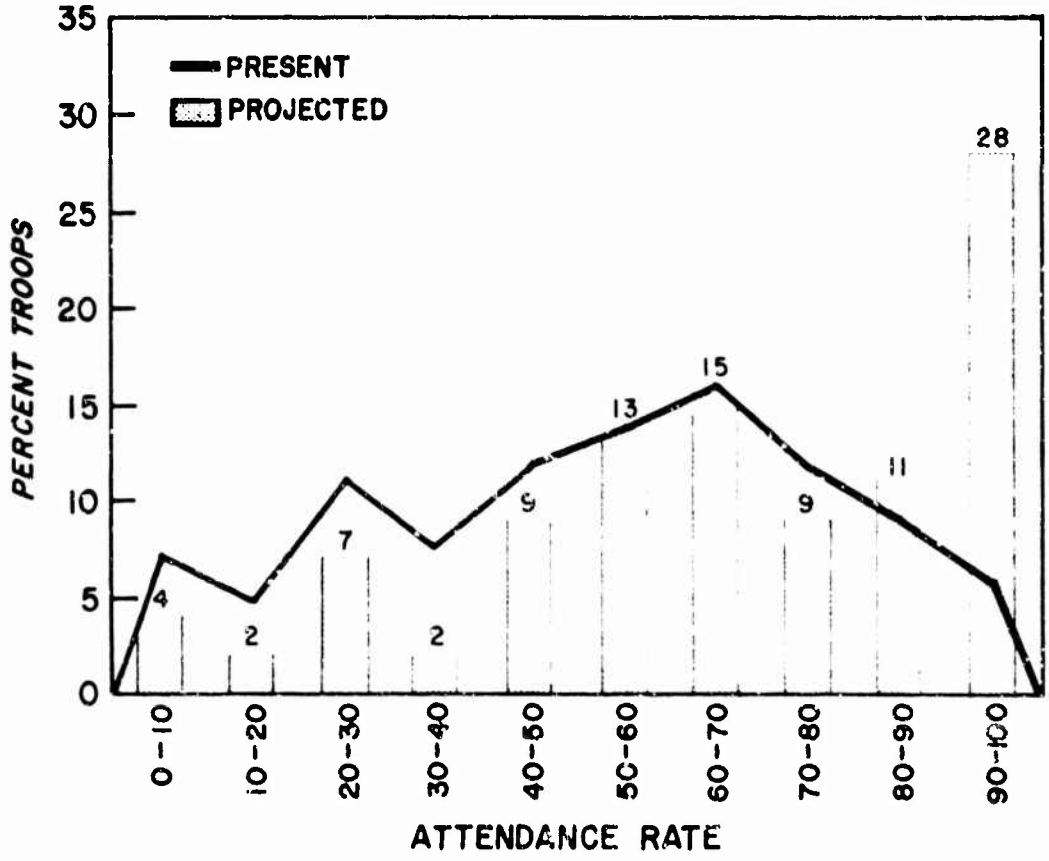


FIGURE 12. Effect of Eliminating KP in Total Attendance Rates

14. Proposed Change Number Thirteen. Provide a low caloric meal of high quality for your selection at each mealtime.

a. Example. If you now skip meals because you are watching calories, or are not hungry, how many meals would you attend if this change were made?

b. Consumer Survey Results. The consumer survey showed that 78% of the respondents sometimes, often or always skip meals because they are not hungry, and similarly, 29% sometimes, often or always skip meals because of gaining too much weight.

c. Effect of Change. Providing low calorie meals would, according to the survey results, increase the total attendance rate to 67%, up from 52%, as shown in Figure 13. Modestly higher gains in attendance would occur at supper and on weekends as compared to the other meals, as suggested in Table II. The effect of the change is considered to be significant.

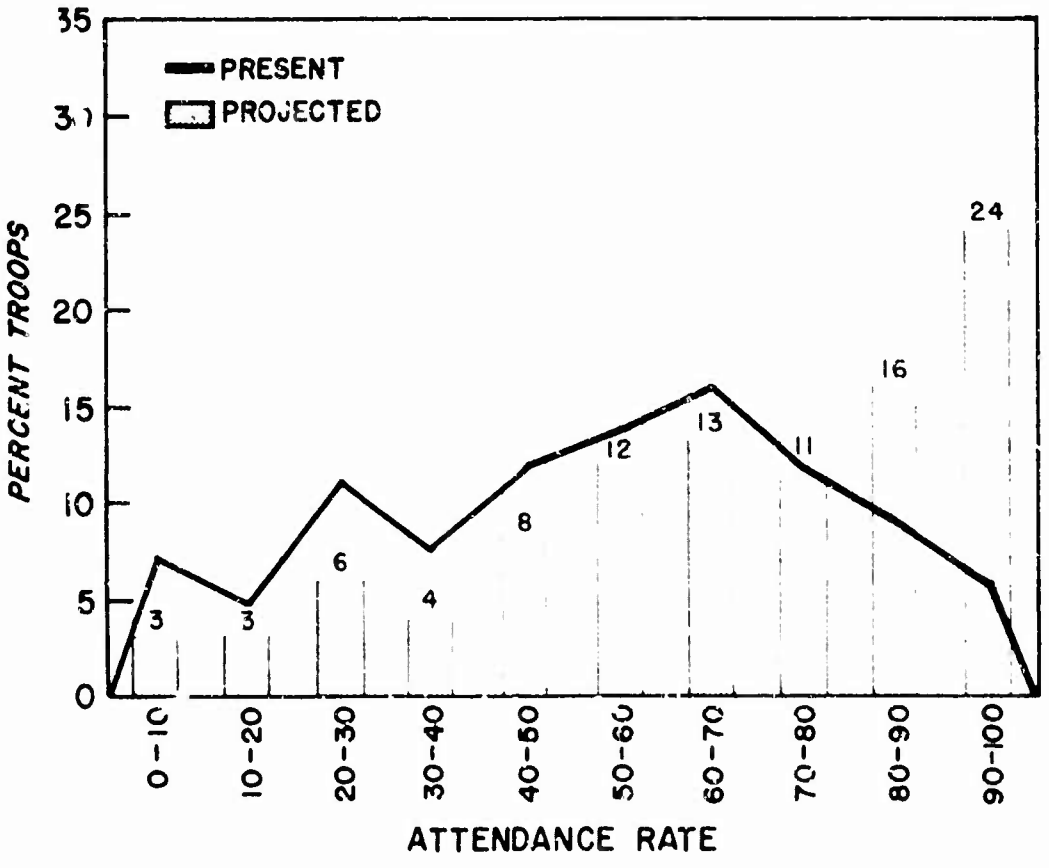


FIGURE 13. Effect of Offering Low Calorie Meals on Total Attendance Rates

15. **Proposed Change Number Fourteen.** Provide each mess hall with employees to clear the tables so you would not have to clear the table yourself.

a. Example. If you now skip meals because you don't like to perform your own table clearing service, how many meals would you attend if this change were made?

b. Effect of Change. From the response data, the increase in total attendance rate accompanying this change would be 52%, to 64%. See Figure 14. The maximum change would be for weekend meals, shown in Table II. The overall effect of providing bussing service in the mess hall is considered as significant.

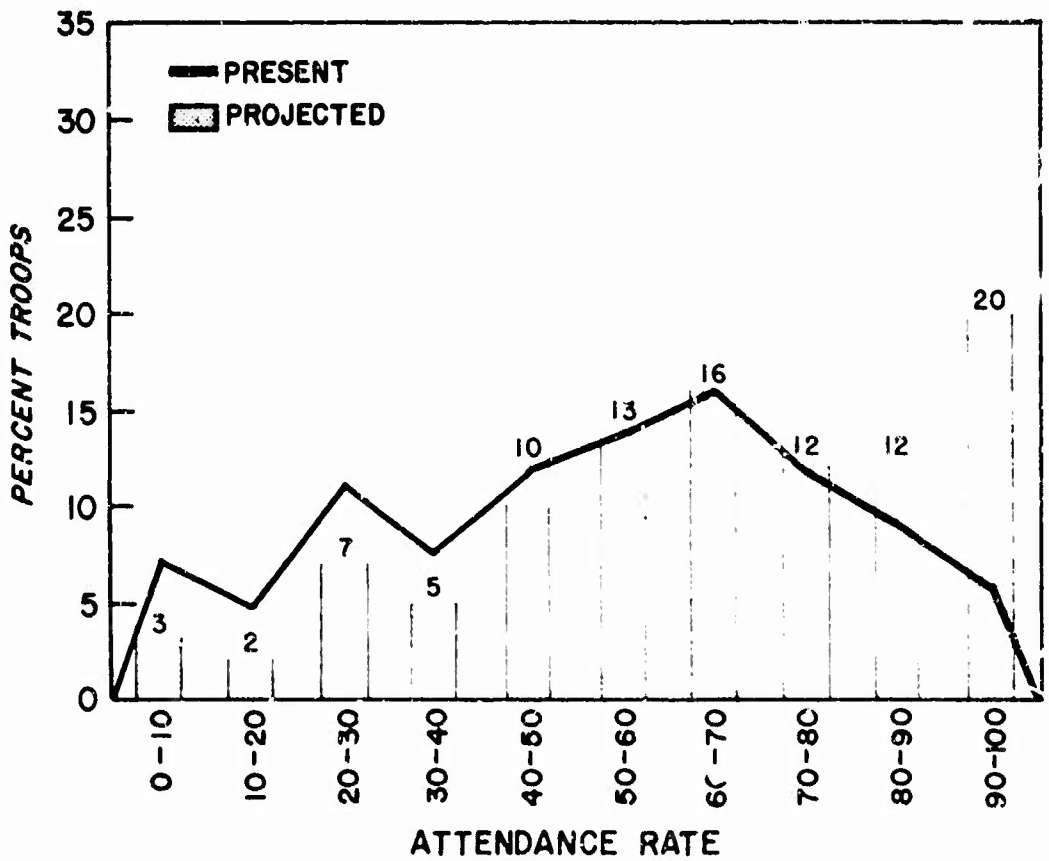


FIGURE 14. Effect of Providing Bussing Service on Total Attendance Rates

16. Proposed Change Number Fifteen. Provide you with self-service snacks available after regular eating hours. This change would provide doughnuts, pastries, juice and coffee in the morning after breakfast and snack type meals (sandwiches and beverages) after the evening meal serving hours.

a. Example. If you now skip breakfast and the evening meal, how many of these meals would you replace with the service offered by a change such as this. Assume that a snack eaten in place of a meal is a meal?

b. Consumer Survey Results. There are no significant differences in the change in attendance between those who identify convenient and inconvenient times to eat as particular likes and dislikes of the present system--both show substantial (and essentially the same) increases. Nearly 35% of the soldiers indicated taking part in some activity which regularly influences whether or not they eat a certain meal, as follows:

Regularly scheduled recreational activity (e.g. bowling or baseball league)	30%
Part-time job	16
Going to school	13
Other	65

The final category includes such items identified by the respondents as regular duty hours, medical treatments, and a wide variety of other factors.

c. Effect of Change. According to the subjects' responses, the average total attendance rate would increase to 69% from the present 52% as a result of this proposed change, as depicted in Figure 15. The effect on breakfast attendance is greater than for dinner, and, similarly, for weekends than for weekdays, as shown in Table II. Altogether, the net effect on attendance is considered to be very significant.

d. Discussion. While a preliminary analysis suggests that higher attendance can be achieved by making this change, which will allow persons involved in other activities which interfere with the normal meal schedule to eat (this is particularly true for those engaged in regularly scheduled recreation at supper), apparently other factors are present which have an even greater impact on breakfast attendance. Although there are no data

from the survey to support this conjecture, it seems resonable to suggest that the desire to sleep in the mornings would be the most plausible explanation of this effect.

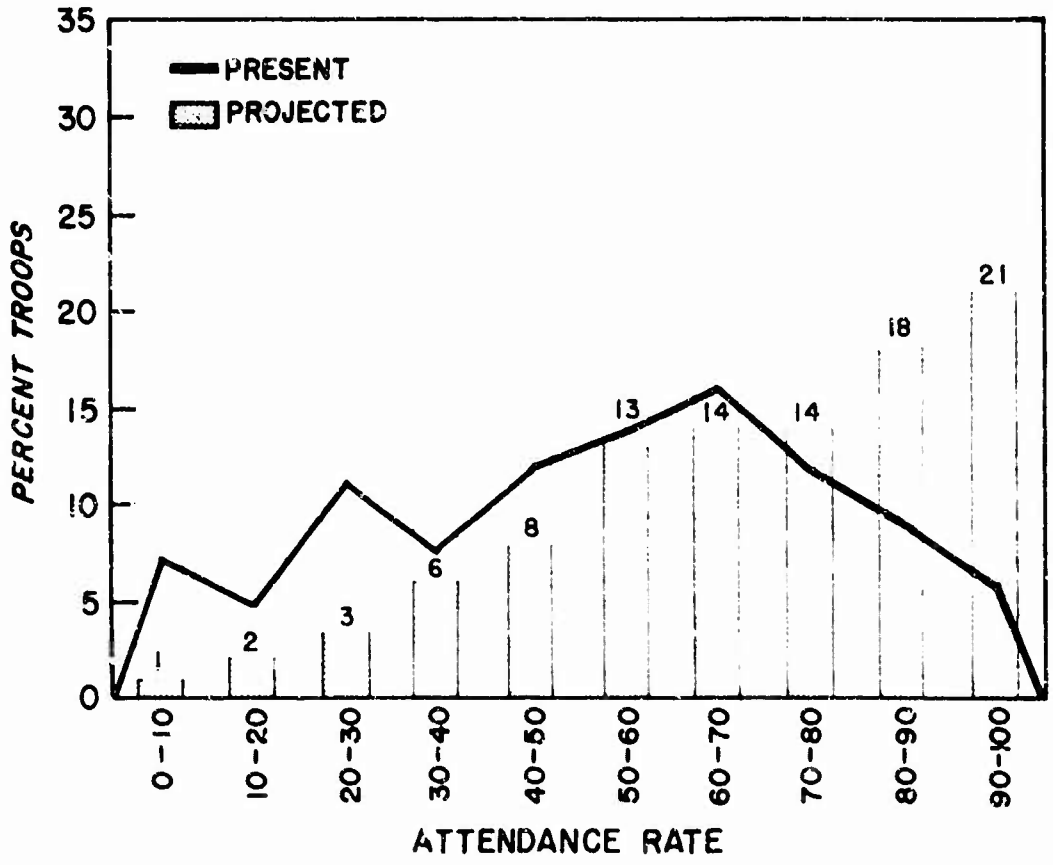


FIGURE 15. Effect of Offering Snacks on Total Attendance Rates

41

17. Proposed Change Number Sixteen. Adding a short order menu line with hamburgers, french fries, etc., at the mid-day and evening meals.

a. Example. If you now skip meals because you do not like the main course being offered and would rather have a hamburger or hot dog, etc., how many meals would you eat if a short order line were available?

b. Consumer Survey Results. More than 77% think that the military should operate snack bars where one could eat free. Almost 17% indicated that it doesn't matter; the other 6% rejected it. Given a choice, 49% say they should be permitted to stay in the snack bar as long as it takes to get the food and eat it, while 31% think they should be able to stay as long as wanted, whether eating or not. The remainder agreed to a one hour time limit.

c. Effect of Change. The results in Figure 16, reported in the survey, show that the total attendance rate will increase from 52% to 60%. The indicated changes in Table II, are higher at supper and on weekends than for dinner and weekdays, but as a whole, have no significant effect on attendance.

d. Discussion. The results stem partly from the fact that only two meals are affected by the change, but more importantly, a short order menu already existed in some mess halls, both before and during the survey, which undoubtedly affected the results. Unlike the proposed change for the specialty house, it was not suggested here to provide a separate short order mess, which also possibly influenced the results.

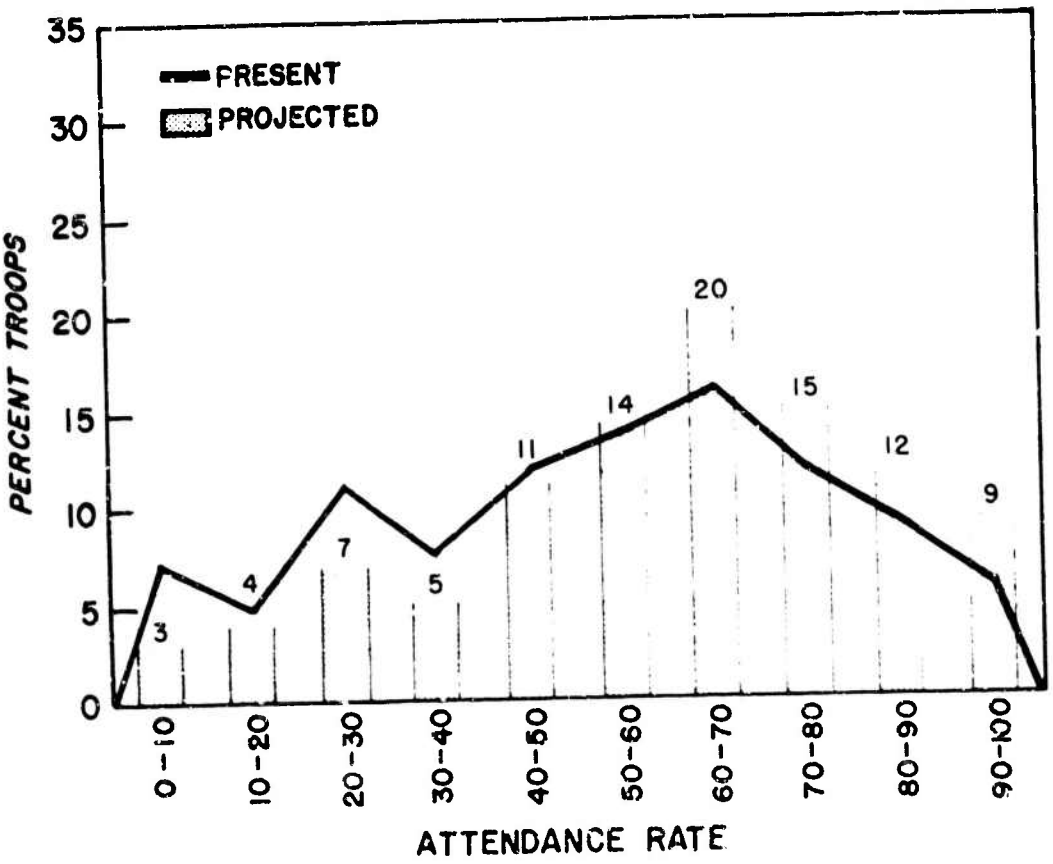


FIGURE 16. Effect of Adding Short Order Menu on Total Attendance Rates

18. Summary of All Proposed Changes. If all of the changes were made in your mess hall that you would like to see made, what would your maximum attendance be in the mess hall?

a. Effect of Changes. The projected total attendance rate, from the survey data, would increase to 77% from 52% if all the desired changes of each individual were introduced into the mess hall. Details are included in Figure 17. Table II shows the largest change in attendance would be at supper, breakfast and dinner, in that order. Weekend attendance is more affected than on weekdays.

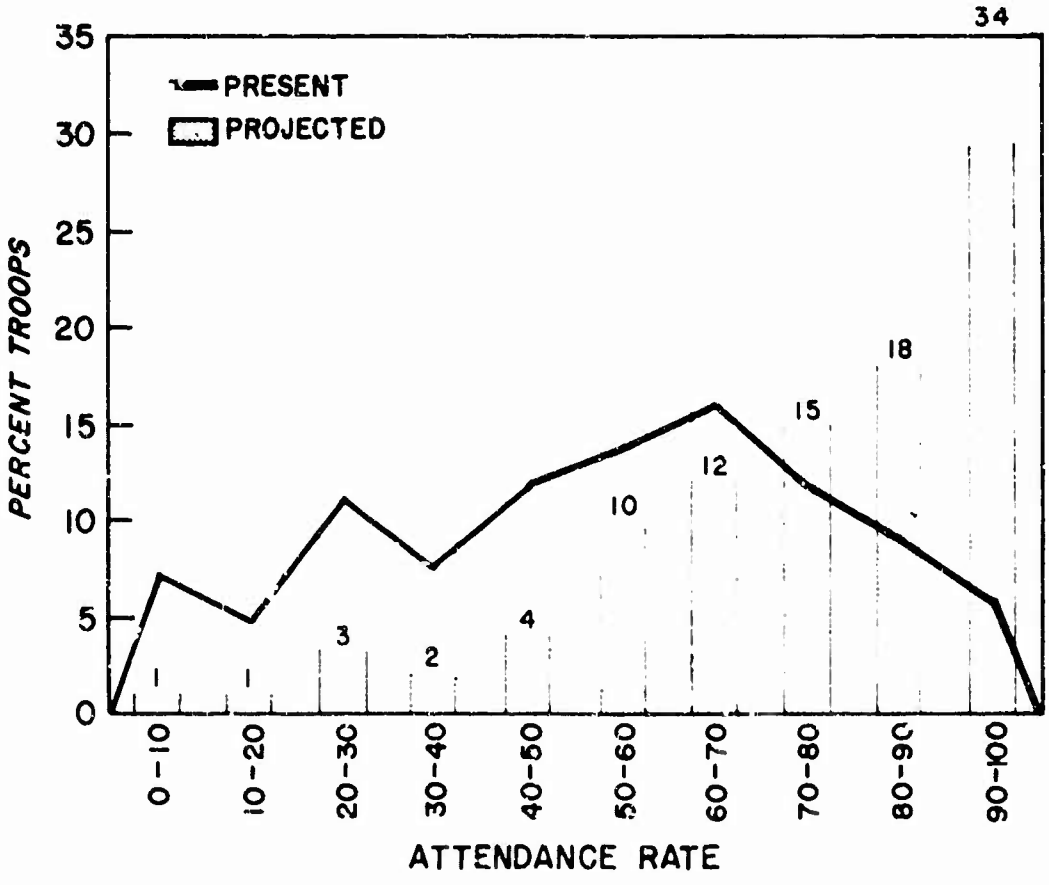


FIGURE 17. Effect of Implementing All Desired Changes on Total Attendance Rates

19. **Rankings By Effect on Attendance.** A ranking of changes was made on the basis of their effect on total attendance rates as presented in Table II.

The specialty house ranks first on weekdays and weekends as the change providing the largest increase in attendance rate for those meals affected, i.e., dinner and supper. Snacks after normal serving hours similarly ranks first for the breakfast meal and second for supper, the only meals that the change is offered. Precooked meals of a high quality that can be eaten at the troops convenience is the change most affecting weekend attendance as a whole, though it ranks second for each separate meal, but only because all three meals are involved. This proposed change would not be available on weekdays. Preferred foods and higher quality are the most effective changes overall, even though they rank lower on a meal-by-meal evaluation. This results because attendance at all meals is increased, thus their contribution to improving the total attendance rate is greater than for the other changes discussed above affecting on certain meals. The most important changes with regard to providing increased consumer attendance are food related--improved quality, offer specialty items, increase quantity, preferred meals and food, and snacks after meals.

A maximum total attendance rate of 77%, can in reality probably never be achieved, and in general the attendance rates reported in Table II tend to be inflated. There are many reasons for this, among the more important of which are:

a. The changes in the total military environment being implemented in support of the volunteer Army (e.g., substantially increasing the pay of the lower grade personnel, usually the Army customers existing on authorized rations, more liberal leave and pass privileges, etc.) all mitigate against increased attendance at the mess hall.

b Achieving this level of attendance requires making all of the changes that each man would like to see made--that may or may not be included in the preceding list of sixteen proposed changes. Undoubtedly, some of the desired changes would not be feasible nor practical.

c. The technique used in the survey discouraged overestimates of projected attendance by restricting the degrees of freedom. However, it did not prevent the respondents from indicating a high level of attendance to insure that maximum

TABLE II

RANKING OF CHANGES
BY EFFECT ON ATTENDANCE RATE

Rank	Proposed Change	Weekdays				Weekends				Total Rate	Evaluation**
		B	D	S	Total	B	D	S	Total		
	None	52%	69%	59%	60%	27%	42%	36%	35%	52%	
1	Preferred food (7)	71	87	81	80	45	62	58	55	73	VS
2	Higher quality (2)	70	85	76	77	43	59	54	52	70	VS
3	Snacks (15)	77	69*	81	76	57	42*	62	53	69	VS
4	Specialty house (11)	52*	88	86	75	27*	68	66	54	69	VS
5	Increase quantity (5)	68	84	76	76	42	57	52	50	69	VS
6	Eliminate lines (8)	67	83	78	75	41	55	51	49	67	S
7	Local meals (13)	65	83	73	74	41	56	52	50	67	S
8	Eliminate KP (12)	66	81	73	73	43	57	54	51	67	S
9	Bussing service (14)	63	80	70	71	40	55	50	48	65	S
10	Use any mess hall (4)	62	80	71	71	36	53	48	46	64	S
11	Improve mess hall (3)	62	78	69	70	37	52	46	45	63	NS
12	Eliminate signature (10)	61	77	68	69	38	51	47	45	62	NS
13	Longer hours (1)	62	77	67	69	35	49	46	43	61	NS
14	Precooked meals (9)	52*	69*	59*	60*	53	64	62	59	60	NS
15	Short order (16)	52*	77	69	66	27*	52	49	43	59	NS
16	Canteen truck (6)	52*	79	59*	63	27*	42*	36*	35*	55	NS
	Maximum	77	89	84	83	53	67	66	62	77	

* Proposed change does not affect the meal.

** VS Very Significant
S Significant
NS Not Significant

consideration would be given towards adopting a change which he would like to see implemented, regardless of the actual anticipated affect on his attendance rates.

d. Results from preliminary surveys indicated that the troops usually overestimate their attendance. This tendency, together with reasons mentioned already above, would likely result in a maximum attendance rate higher than could be realistically achieved by actual implementation of the proposed system changes.

Observations made by the authors during the test at For Lewis suggest that a practical upper bound on the average total attendance rate would be less than the calculated 77% level. About 70% is suggested as the most reasonable upper limit.

20. Rankings By Order of Preference. Each man selected five of the sixteen changes most important to him, and ranked them according to their order of preference, independent of their relative effects on individual attendance. The results are included as Table III. The purpose of this exercise was an attempt to establish some sort or priority of preferredness of the various possible changes, and to compare against the results of the preceding ranking of the changes.

These data were then analyzed by rank order methods, i.e., scaling from the first k ranks, as described by Guilford, reference (2). Each proposed change is judged in comparison with the entire group of changes which becomes a composite standard. Linear scale values are derived from the proportion of judgements given to every change as compared to the composite standard, which provides a basis for determining the final rank. Using this method, the whole series of changes is laid out for observation and each is placed according to its position in the entire scheme.

It is important to note, that the top ranked changes, by order of preference, are those which also produce the largest increase in attendance rate, though their relative positions with respect to each other are slightly different.

TABLE III

RANKING OF CHANGES BY ORDER OF PREFERENCE

Final Rank	Proposed Change	Selection and Ranking				
		1st	2nd	3rd	4th	5th
1	Higher quality (2)	28%	18%	10%	8%	5%
2	Eliminate KP (12)	31	5	3	5	8
3	Specialty house (11)	9	11	12	11	8
4	Increase quantity (5)	5	14	12	9	6
5	Preferred food (7)	3	7	12	11	9
6	Snacks (15)	2	6	5	12	16
7	Eliminate lines (8)	3	5	11	9	11
8	Use any mess hall (4)	2	5	8	6	7
9	Longer hours (1)	5	7	5	3	3
10	Improve mess hall (3)	2	5	4	5	5
11	Precooked meals (9)	1	4	4	6	5
12	Short order (16)	2	3	3	4	6
13	Eliminate signature (10)	1*	2	4	4	5
14	Lo-cal meals (13)	3	3	3	2	3
15	Canteen truck (6)	1	4	4	2	2
16	Bussing service (14)	1*	3	2	3	2

*Less than 1%. Sum of values in any column may be greater than 100% because of round-off error.

CONCLUSION

The list of changes to the existing garrison feeding system at Fort Lewis, ranked in order of importance in effect on total attendance rate, provide invaluable information as to what the consumer really wants in a new or revised feeding system.

It is interesting to note that the first five changes are primarily food related. The customers want a menu which is more related to their preferences; higher quality food; to be able to obtain food other than at regular meal periods; they do not want to eat all meals in the same facility every day of the year, but want some type of special facility where they can obtain different foods; and, finally, they want more food, particularly more of the meat or entree items.

The maximum attendance (upper bound) if all desirable changes are implemented, as determined from consumer responses, is considered to be inflated. For the reasons discussed in Section III, paragraph 19.b., it is believed that this figure is too high by a factor of about 10%. Therefore, a more realistic maximum total attendance rate for a feeding system, that satisfies most of the consumer wants, should be approximately 70%. In the real world, a 65 to 70% attendance rate should be judged as a superior accomplishment.

The data, furnished on Table II, in relationship to the effect on attendance of each individual change, provides a reasonable guide to system operators with limited resources to select the most feasible and effective changes for implementation.

The information reported herein has been used in the design of a new state-of-the-art feeding system for Fort Lewis. Also, the methodology developed will be applicable in future studies of this nature, both within DOD and other institutional feeding situations.

REFERENCES

1. Bustead, R. L. *Experiment of the Centralized Army Feeding (CAFe) System at Fort Lewis, Washington.* Technical Report, Operations Research and Systems Analysis Office, U.S. Army Natick Laboratories, Natick, Massachusetts. (To be published in April, 1972).

2. Guilford, J. P. *Psychometric Methods,* 2nd Ed. McGraw-Hill Book Co., Inc., New York, N.Y. 1954, pp. 188-191.

3. Kiess, H. O., J. B. Swanson and R. F. Johnson. *Fort Lewis Dining Facilities Consumer Survey.* Technical Report, Behavioral Sciences Division, Pioneering Research Laboratory, U.S. Army Natick Laboratories, Natick, Massachusetts. (To be published in February, 1972).

4. Meiselman, H. E. and others. *The 1971 Fort Lewis Food Preferences Survey.* Technical Report, Behavioral Sciences Division, Pioneering Research Laboratory, U.S. Army Natick Laboratories, Natick, Massachusetts. (To be published in February, 1972).

5. Smith, R. S. and others. *A System Evaluation of Army Garrison Feeding at Fort Lewis, Washington.* Technical Report 72-37-ORSA, Operations Research and Systems Analysis Office, U.S. Army Natick Laboratories, Natick, Massachusetts, January, 1972.

APPENDIX

PROPOSED CHANGES QUESTIONNAIRE

Instructions for Attendance Questionnaire

This portion of the questionnaire is designed to find out what changes in the Army's feeding system will actually increase your attendance at the mess hall. We know there are many factors which can cause people to skip meals in the Army mess hall. Some of these factors are not related to the performance of our feeding system, such as outside employment at a restaurant where meals are furnished free or even a generous girlfriend who consistently invites you over for supper. We are practical enough to know we can't compete with these arrangements and that meals skipped for these reasons would be skipped even if the Army had the finest restaurants. However, we believe that there are certain changes we could make which would increase your attendance at your mess hall. If you give accurate answers on this questionnaire, we can discover the most important changes and can make these changes more quickly.

It is important to emphasize again that your cooperation and assistance is critical to our efforts to find out what changes we should make. We know some of the questions are difficult to answer, but we feel sure your effort will be valuable and will actually result in substantial improvement in the Army's feeding system.

Our Method

Based on previous studies, we have narrowed down the possible changes to those listed in this questionnaire, on the following pages. Each of these changes could possibly increase your attendance at the mess hall. Since your availability as potential customers in Army mess halls is different on weekdays than on weekends, we will ask you separate questions about your mess hall attendance on weekdays and weekends. We can only determine which changes are most important by the effect each change will have on your attendance. The most important change for us to make is the change which will increase your attendance the most.

In order to assist you in answering questions about your attendance at Army meals, we have compiled your mess hall attendance records for the month of February 1971. These are given on the sheet we have passed out to you. If these records approximate your normal attendance on weekdays (Monday thru Friday) and on weekends (Saturday and Sunday), you can use these numbers to help you estimate your new attendance for each of the proposed changes. For example, if the records show that you normally sign up for three lunches from Monday thru Friday (three out of the five lunches offered) and your recollection is that you normally sign for about three lunches out of the five offered, then these records are accurate enough to represent your behavior and you should use these records to answer the attendance questions that follow.

If for some reason you believe that our records do not reflect your normal mess hall attendance, we would like you to correct this information so that it more closely represents what you actually do. You should then use your corrected records as a basis to answer the attendance questions. In addition, we would also like you to tell us why you think the change was necessary.

Instructions for Reviewing Mess Hall Attendance Record Sheet

1. Examine the Attendance Record Sheet that we have passed out to you. This is our record of your attendance at your mess hall in February 1971.

2. Look first at the **Weekday** section. We have computed your average weekly attendance at each meal. Remember that during the weekdays (Monday thru Friday) you could eat five (5) breakfasts, five (5) mid-day meals, and five (5) evening meals.

If the number we have computed represent the typical number of meals that you eat, then you do not have to make any corrections. Simply transfer these numbers to the Corrected Attendance Sheet.

However, if the numbers we have computed do **not** represent the **typical** number of **weekday** meals that you eat in a **week**, then go to the Corrected Attendance Sheet and place the number of meals that you think you eat in the **Weekday** section. When you have done this, go back and read the next paragraph.

3. Look now at the **Weekend** section. We have computed the number of weekend meals that you signed for in a **month**. Remember that in a month there are eight (8) breakfasts (two breakfasts per weekend times four weekends), eight (8) mid-day meals, and eight (8) evening meals.

If the numbers we have computed represent the typical number of meals that you eat, then you do not have to make any corrections. Simply transfer these numbers to the Corrected Attendance Sheets.

However, if the numbers we have computed do **not** represent the **typical** number of **weekend** meals that you eat in a **month**, then go to the Corrected Attendance Sheet and place the number of meals that you think you eat in the **weekend** section. When you have done this, go back to this page and read the next paragraph.

4. If you made corrections, please circle the numbers of the reasons for your corrections on the bottom of the Corrected Attendance Sheet.

5. Place your Corrected Attendance Record in front of you so that you can use it to help you answer the next set of questions.

Name_____ Mess Card No._____

ATTENDANCE RECORD SHEET

The following is your average attendance at your mess hall based on signature sheet records:

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During the **Week**

Breakfast	Mid-day	Evening
____of 5	____ of 5	____ of 5

WEEKENDS (Saturday and Sunday)

Average Number of **Weekend** Meals Attended During a **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8

6.01, 6.02, 6.03

CORRECTED ATTENDNACE SHEET

Fill in the following blanks with the numbers from your Attendance Record Sheet if you feel they are correct, or if they are incorrect, with the numbers that you feel represent the number of meals that you eat at your mess hall.

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During the **Week**

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.06	6.07	6.08

WEEKENDS (Saturday and Sunday)

Average Number of **Weekend** Meals Attended During a **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.09	6.10	6.11

REASONS FOR CORRECTION OF MESS HALL ATTENDANCE DATA

Please circle **any** reasons why you made corrections on your Mess Hall Attendance sheet.

1. I was on **leave** during part of the month of February and this month does not indicate my typical eating habits at my mess hall.

2. I was on a **special work** assignment during part of the month of February which did not permit me to eat all of my meals in my mess hall.

3. I was on a **TDY assignment** during part of the month of February which did not permit me to eat all of my meals in my mess hall.

4. Other **unusual events** occurred during the month of February which make this month not representative of my typical eating habits in my mess hall. Describe these events here: _____

_____

_____

5. The signature sheet simply does not accurately indicate how many meals I eat in my mess hall. I eat (fewer) (more) meals than I sign for.

The next set of questions contains proposed changes to the Army feeding system and asks what effect they would have on your attendance. To begin, go to the first question and read the first proposed change; then come back to these instructions.

Now that you have read this change, make a decision whether this change would effect your attendance at the mess hall or not. If you think your attendance would change, go back to your **Corrected Attendance Sheet** and see what meals you are now eating. Decide whether the change in your attendance would occur on weekdays or weekends or both. Also, decide what meals would be affected. When you have decided, enter your new level of attendance in the appropriate spaces below the description of the change. For example, if the **Corrected Attendance Sheet** shows your normal attendance as three mid-day meals from Monday to Friday, you may think that the suggested change will increase your weekday attendance at the mid-day meal. Since there are only five mid-day meals available Monday thru Friday and you are now attending approximately three of five, there would be only two possible answers you could give for your estimated new attendance, either four (4) or five (5) mid-day meals. Enter the number you choose in the appropriate space below the description of the change.

If you expect no change for any meal, then put in the numbers that are now in your **Corrected Attendance Sheet**

After you have complete the first proposed change, go on to the following changes. Consider each change separately.

Please be sure you understand these instructions before you begin. If you have any questions at any time, raise your hand, and we will help you. Take your time and give these questions careful consideration.

Remember, It Is Important That You Keep In Mind The Following Numbers For Estimating Your Change in Attendance.

WEEKDAYS (Monday to Friday): There are five (5) breakfasts, five (5) mid-day meals, and five (5) evening meals, in a **WEEK.**

WEEKENDS (Saturday and Sunday): In a **MONTH** (assume four weeks per month), there are eight (8) weekend breakfasts (two breakfasts per weekend times four weekends), eight (8) mid-day meals, and eight (8) evening meals.

Be sure to keep these numbers in mind when you are estimating your new attendance rates.

601, 602, 6.03

PROPOSED CHANGE NUMBER ONE

Keep the mess hall open more hours than it is now (two to three hours each mealtime) so that you can eat when you want to as long as it does't interfere with your work assignment.

Tell us what effect, if any, this change will have in your attendance. For example, if you are now eating only a few breakfast, mid-day or evening meals during the week because your mess hall closes too early, or if the serving hours start too late, tell us how many meals you would eat if we increased the serving hours to meet your needs. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance, write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.12	6.13	6.14

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.15	6.16	6.17

PROPOSED CHANGE NUMBER TWO

Improve the quality of the meals. The quality level we have in mind is a level which would be offered in a high quality cafeteria or restaurant.

Tell us what effect, if any, this proposed change will have in your attendance. For example, if you are now skipping meals because the current level of quality has been poor, how many meals would you attend if the quality level were much higher. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.18	6.19	6.20

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.21	6.22	6.23

PROPOSED CHANGE NUMBER THREE

Improve the appearance and surrounding in the mess hall so you would have a better atmosphere to eat in. The improvements we are considering would upgrade the appearance and surroundings of the mess hall to a level equal to some of the better cafeterias or restaurants where you have eaten.

Tell us what effect, if any, this proposed change will have in your attendance. For example, if you now skip some meals because your mess hall is too noisy, drab in appearance, or not clean enough, how many meals would you attend if these problems were corrected and you had a very pleasant place to have your meals. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.24	6.25	6.26

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.27	6.28	6.29

PROPOSED CHANGE NUMBER FOUR

Allow you to eat any meal in any mess hall on Post.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip some meals in your mess hall because you are bored with eating in the same place all the time or because you are not in the vicinity of your mess hall at mealtime, how many meals would you attend if you could eat in any mess hall on the Post. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.30	6.31	6.32

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.33	6.34	6.35

PROPOSED CHANGE NUMBER FIVE

Increase the amount of food and allow second helpings. Please consider increased quantities of meat, beverage, and dessert.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you know you won't get enough meat, drinks or dessert, how many meals would you attend if you could get as much as you would like. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid day	Evening
____ of 5 6.36	____ of 5 6.37	____ of 5 6.38

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid day	Evening
____ of 8 6.39	____ of 8 6.40	____ of 8 6.41

PROPOSED CHANGE NUMBER SIX

Introduce some Army canteen trucks which would offer meals at your work site instead of requiring you to travel back to your mess hall.

Tell us what effect, if any, this change will have in your attendance. For example if you now skip meals in your mess hall because you would use up too much of your time to get there, how many meals would you eat if the meal were delivered at your work assignment. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.42	6.43	6.44

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.45	6.46	6.47

PROPOSED CHANGE NUMBER SEVEN

Offer the type of meals and food you prefer by having a selection of meals at each mealtime. For example, three different meals that you can choose from at each mealtime. This would offer you a free choice even if you choose to eat at the end of the serving time. The mess hall would not run out of the most desirable items before the people who come last are served.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you don't like the meal that is offered or because you know that the more desirable items will not be available when you arrive, how many meals would you attend, if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid-day	Evening
_____ of 5	_____ of 5	_____ of 5
6.48	6.49	6.50

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
_____ of 8	_____ of 8	_____ of 8
6.51	6.52	6.53

PROPOSED CHANGE NUMBER EIGHT

Reduce your mess hall lines so that you will not have to wait as long to get your meal.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals becuase you use too much of your time standing in line, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your currrent attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendnace write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.54	6.55	6.56

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.57	6.58	6.59

PROPOSED CHANGE NUMBER NINE

(Note: This change applies to weekends only)

Provide a selection of high quality, precooked meals at the mess hall (or in the barracks) which you could heat yourself, whenever you wanted to eat on weekends. (A handy heating device would be provided.)

Tell us what effect, if any, this change will have in your attendance. For example, if you are now around the Post on some weekends and you skip meals becuase they are not served when you want to eat or the selection of meals is limited, how many meals would you eat if this type of change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attenance as shown on your attenance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.60	6.61	6.62

PROPOSED CHANGE NUMBER TEN

You won't have to sign your name for each meal. Instead, we would give you a plastic card which you could insert in an automatic recording device.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you don't like the bother of signing your name, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid-day	Evening
_____ of 5 6.63	____ of 5 6.64	____ of 5 6.65

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
____ of 8 6.66	____ of 8 6.67	____ of 8 6.68

PROPOSED CHANGE NUMBER ELEVEN

(Note: This change applies to mid-day and evening meals only)

Establish and operate mess halls which are specialty houses, such as, Italian food. Chinese food, Soul food or Mexican food outlets, etc. for the mid-day and evening meals. Allow you to eat in any of these whenever you want. There would also be take-out service so that you can eat anywhere you want.

Tell us what effect, if any, this change will have in your attendance. If you now skip meals because you would like to eat specialty foods or don't want to eat in a regular mess hall all the time, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Mid-day	Evening
____ of 5	____ of 5
6.69	6.70

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Mid-day	Evening
____ of 8	____ of 8
6.71	6.72

PROPOSED CHANGE NUMBER TWELVE

Eliminate KP duty.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you have a dislike for the mess hall because of KP duty, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base you estimate on your current attendance as shown on your attendnace sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
6.73	6.74	6.75

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
6.76	6.77	6.78

PROPOSED CHANGE NUMBER THIRTEEN

Provide a low calorie meal of high quality for your selection at each mealtime.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you are watching calories or are not hungry, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
7.06	7.07	7.08

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
7.09	7.10	7.11

PROPOSED CHANGE NUMBER FOURTEEN

Provide each mess hall with employees to clear the tables so you would not have to clear the table yourself.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip any meals because you don't like to perform your own table clearing service, how many meals would you attend if this change were made. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
7.12	7.13	7.14

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
7.15	7.16	7.17

PROPOSED CHANGE NUMBER FIFTEEN

(Note: This change applies to breakfast and evening meals only)

Provide you with self-service snacks available after regular eating hours. This change would provide donuts, pastries, juice and coffee in the morning after breakfast and snack type meals (sandwiches and beverages) after the evening meal serving hours.

Tell us what effect, if any, this change will have on your attendance. For example, if you now skip breakfast and the evening meal, how many of these meals would you replace with the service offered by a change such as this. Assume that a snack eaten in place of a meal counts as a meal for your estimated attendance. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Evening
____ of 5	____ of 5
7.18	7.19

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Evening
____ of 8	____ of 8
7.20	7.21

Also, even if you don't ordinarily skip the evening meal, how often would you use a self-service sandwich and beverage service in the evening if it were available?

WEEKDAYS ____ of 5
WEEKENDS ____ of 2

PROPOSED CHANGE NUMBER SIXTEEN

(Note: **This change applies to the mid-day and evening meal only)**

Adding a short order menu line with hamburgers, french fries, etc., at the mid-day and evening meals.

Tell us what effect, if any, this change will have in your attendance. For example, if you now skip meals because you do not like the main course being offered and would rather have a hamburger or hot dog, etc., how many meals would you eat if a short order line were available. Fill in the blanks below giving us your expected attendance if this change is made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF THIS CHANGE IS MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical Week

Mid-day	Evening
____ of 5	____ of 5
7.22	7.23

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical Month

Mid-day	Evening
____ of 8	____ of 8
7.24	7.25

SUMMARY OF ALL PROPOSED CHANGES

If all the changes were made in your mess hall that you would like to see made, what would your maximum attendance be in the mess hall?

Tell us what effect, if any, that all the changes you would like to see made will have on your attendance at the mess hall. Remember that there will probably be certain meals that you will skip no matter how good the food or service is. Fill in the blanks below giving us your *maximum* attendance in the mess hall, if all the changes you want to see are made. *Remember, base your estimate on your current attendance as shown on your attendance sheet.* If you expect this change to have no effect on your attendance write in the numbers from your present attendance record.

YOUR ESTIMATED MEAL ATTENDANCE IF CHANGES ARE MADE

WEEKDAYS (Monday thru Friday)

Average Number of Meals Attended During a Typical **Week**

Breakfast	Mid-day	Evening
____ of 5	____ of 5	____ of 5
7.26	7.27	7.28

WEEKENDS (Saturday and Sunday)

Average Number of Meals Attended During a Typical **Month**

Breakfast	Mid-day	Evening
____ of 8	____ of 8	____ of 8
7.29	7.30	7.31

7½

Listed below are the 16 possible changes that could be made in your mess hall. Look over the list again and circle the numbers of the *five* (5) changes you would most like to see made in your mess hall.

01. Keep the mess hall open more hours than it is now (two to three hours each mealtime) so that you can eat when you want to as long as it doesn't interfere with your work assignment.

02. Improve the quality of the meals. The quality level we have in mind is a level which would be offered in a high quality cafeteria or restaurant.

03. Improve the appearance and surroundings in the mess hall so you would have a better atmosphere to eat in. The improvements we are considering would upgrade the appearance and surroundings of the mess hall to a level equal to some of the better cafeterias or restaurants where you have eaten.

04. Allow you to eat any meal in any mess hall on Post.

05. Increase the amount of food and allow second helpings. Please consider increased quantities of meat, beverage, and dessert.

06. Introduce some Army canteen trucks which would offer meals at your work site instead of requiring you to travel back to your mess hall.

07. Offer the type of meals and food you prefer by having a selection of meals at each mealtime. For example, three different meals that you can choose from at each mealtime. This would offer you a free choice even if you choose to eat at the end of the serving time. The mess hall would not run out of the most desirable items before the people who come last are served.

08. Reduce your mess hall lines so that you will not have to wait as long to get your meal.

09. Provide a selection of high quality, precooked meals at the mess hall (or in the barracks) which you could heat yourself, whenever you wanted to eat on weekends. (A handy heating device would be provided.)

10. You won't have to sign your name for each meal. Instead, we would give you a plastic card which you could insert in an automatic recording device.

11. Establish and operate mess halls which are specialty houses, such as Italian food, Chinese food, Soul food or Mexican food outlets, etc. Allow you to eat in any of these whenever you want. There would also be take-out service so that you can eat anywhere you want.

(Continued on next page)

12. Eliminate KP duty.

13. Provide a low calorie meal of high quality for your selection at each mealtime.

14. Provide each mess hall with employees to clear the tables so you would not have to clear the table yourself.

15. Provide you with self-service snacks available after regular eating hours. This change would provide donuts, pastries, juice and coffee in the morning after breakfast and snack type meals (sandwiches and beverages) after the evening meal serving hours.

16. Adding a short order menu line with hamburgers, french fries, etc., at the mid-day meal.

Now place the numbers of these five changes *in the order of their importance to you* on the five lines below.

1. _____ (Most important of the five changes selected) $\overline{7.32}$, $\overline{7.33}$

2. _____ (Second most important of the five changes selected) $\overline{7.34}$, $\overline{7.35}$

3. _____ (Third most important of the five changes selected) $\overline{7.36}$, $\overline{7.37}$

4. _____ (Fourth most important of the five changes selected) $\overline{7.38}$, $\overline{7.39}$

5. _____ (Fifth most important of the five changes selected) $\overline{7.40}$, $\overline{7.41}$

You have now finished the questionnaire. If we have overlooked anything about your mess hall that you would like to call to our attention, write it in the space below.

Thank you again for your cooperation and assistance.