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CONSUMER EVALUATION OF CASH FOOD SYSTEMS: SHAW AIR FORCE BASE

by

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Food Sciences Laboratory

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liked their dining facility more than did the other airmen. The Shaw airmen favored the BAS/A La Carte rations system more than any of the other alternatives available. Few difference were found between the attenders and nonattenders of the Shaw dining facility. Although the BAS/A La Carte system was reacted to very favorably by the consumers, more data on this concept is necessary because of the improvements in the Shaw food system which were unrelated to the BAS/A La Carte concept and which might have biased customer opinion.

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PREFACE

The authors would like to acknowledge the professional support of CPT E. Smutz and Dr. H. Moskowitz, both of U.S. Army Development Center, in the collection of the interview data, and the assistance of TSGT Williams of the Services Squadron of Shaw AFB in the administration of the surveys. Appreciation is expressed to CPT L. Symington for his able assistance in the final editing of this report. Recognition is also due the personnel of the Food Services Office of Shaw AFB whose cooperation played an integral role in the completion of this work.

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INTRODUCTION

In response to a continued decline in attendance rates in its dining facilities, Tactical Air Command initiated a test of a new concept in military food service at Shaw Air Force Base, S.C., in October of 1972. All enlisted personnel were placed on Basic Allowance for Subsistence, i.e., they began to receive a subsistence allowance instead of authorization to eat in the dining facility at no charge (SIK, subsistence-in-kind). In addition, patrons in the dining hall began to pay item-by-item (a la carte) for only the foods they selected from the serving line, rather than paying a flat price for an entire meal.

The Food Sciences Laboratory of the US Army Natick Development Center conducted three consumer-oriented projects to assess the impact of this BAS/A La Carte system on the attitudes of the Shaw consumer. First, the 1972 edition of the Consumer's Opinion of Food Service Systems (COFSS) survey (Appendix 1) was administered to a large sample of the Shaw airmen. The purpose of this survey, which covers a broad range of areas related to food service, was to establish a basis upon which the Shaw dining facility could be compared with facilities at other Air Force bases where the survey had been administered (Branch, Meiselman, and Symington, 1974). Second, an Alternative Rations Systems (ARS) survey (Appendix 2) asked what type of ration system the Air Force consumer most preferred. The response of the Shaw airmen to this survey was of particular interest since they had been exposed to the new BAS/A La Carte system in addition to the traditional ration system. Third, face-to-face interviews (Appendix 3) with persons who ate regularly in the dining facility and with persons who never or infrequently had meals in the facility determined: (a) whether attenders and nonattenders differed in their attitudes about the dining facility; (b) what the opinion of attenders was toward the BAS/A La Carte system; and (c) why nonattenders did not eat in the dining hall and what, if anything, could be done to increase their attendance.

A serious problem encountered in assessing a concept such as BAS/A La Carte is the necessity of evaluating only a specific implementation of the concept rather than the concept, per se. When the concept has been implemented many times, trends across implementations can be used as bases for an overall evaluation. However, when the concept has been implemented only once, as in the case of the BAS/A La Carte system, one cannot be certain whether the results are true for the concept in general or only for the single implementation. This is especially true in the present instance since a number of other changes were made in the Shaw dining facility at the same time the BAS/A La Carte system was instituted and any of these could also have influenced the food-related attitudes of the airmen. Most important were an increase in the dining hall work force, an expansion of the number and variety of foods offered on the serving lines, an improvement in cooking and serving equipment, and extensive renovations of the interior and exterior of the dining hall (TAC Report, 1973). Since the effect of these changes on the survey responses cannot be separated from the effect of the test system, itself,

one cannot interpret positive responses as necessarily indicating approval for the ration system. Conversely, negative responses would not necessarily mean disapproval for the BAS/A La Carte system.

This situation also makes problematic any comparison, based on the data collected at Shaw AFB, between the BAS/A La Carte and the traditional system. If the Shaw airmen were found to have food-related attitudes dissimilar from those of other airmen, one would be uncertain whether this was due to the BAS/A La Carte system or to other changes made at the Shaw facility. Thus, the data presented here should be viewed as a reaction to the BAS/A La Carte concept only as implemented at Shaw AFB. As other similar tests are conducted, these data can be combined with others to provide a more absolute assessment of the degree to which service men like or dislike the new system.

METHOD

Each of the three projects was carried out during the period of 29 May - 1 August, 1974. All samples of respondents were chosen from the enlisted population at Shaw AFB. Additional details concerning sampling and procedure are reported separately for each project in the following sections.

Consumer's Opinions of Food Service Systems (COFSS) Survey

The COFSS survey (Appendix 1) was developed in 1972 by the Pioneering Research Laboratory (now the Food Sciences Laboratory) as a general tool with which to evaluate military dining facilities from the consumer's standpoint. An additional series of questions, appropriate to the BAS/A La Carte system, was added to the survey for use at Shaw AFB.

A random sample of over 500 airmen was chosen from the base roster for the survey. These persons were instructed through their unit First Sergeants to report to any one of seven survey sessions. Due to transfers, leaves, temporary duty, field exercises, and other factors, 272 surveys were actually administered. Of these, seven were discarded for being improperly or incompletely filled out.

The survey was administered by one senior Food Sciences Laboratory staff member and one senior Air Force non-commissioned officer in the ballroom of the base recreation center to groups ranging in size from 15 to 69 persons. Respondents were told the background of the study, given explicit instructions about a few of the more complex items, encouraged to ask questions in the event of any uncertainty, and cautioned about discussing questions among themselves or viewing another person's responses. They were then allowed to complete the survey at their own individual pace, which ranged from 20 to 90 minutes with a mean completion time of approximately 50 minutes.

Alternative Rations System (ARS) Survey

The ARS survey (Appendix 2) was developed by the Food Sciences Laboratory in response to the growing interest in alternatives to the current ration law. Its intent was to allow airmen to choose, from a number of alternatives, the food system they most liked, as well as the one they least liked; and then to rate each one on a number of scales. This survey was administered to the same sample of airmen and at the same time as the COFSS survey. Consequently, the administration procedure was the same as that reported above, with the exception that the respondents completed this survey as a group. The supervisor read each item aloud, allowing the respondents time to answer before going on to the next question. This procedure, which was necessitated by the complexity of the survey, required approximately 15 minutes to complete.

Interviews

The interview protocol (Appendix 3) also was developed by the Food Sciences Laboratory for use at Shaw AFB. It is divided into three sections. The first section contains questions of a demographic nature and questions concerned with a general evaluation of the dining facility and the food. The second section asked those designated as nonattenders in the food system the reasons for their nonattendance, while the final section asked attenders to evaluate the BAS/A La Carte system, per se.

Persons were designated as attenders and nonattenders on the basis of their attendance in the dining hall during the period of 13 June — 3 July, 1974. During this period the Food Sciences Laboratory monitored who ate in the dining hall, as well as what foods these patrons chose. (These data will be the subject of a forthcoming report.) Of the 2,558 recorded as having no meals, 167 were randomly chosen to represent the nonattenders population. To select an attender sample stratified on the basis of attendance, persons eating at least one meal in the dining hall during the specified period were placed into one of four categories on the basis of their attendance frequency during that period: 1, 2-3, 4-7, and 8 or more. These categories were chosen because they most evenly divided the population (638, 482, 539, and 540 in the four categories, respectively). Thirty-five persons were randomly selected from each category. In total, then, 167 nonattenders and 140 attenders were requested. Each was instructed through their unit First Sergeant to report for the interview at a specific time. As in the case of the surveys, however, the number of airmen who reported for the interview was substantially less than the number originally requested, 56 nonattenders and 115 attenders eventually being interviewed.

The interviews, which were conducted by three professional psychologists of the Food Sciences Laboratory, were held at tables in the TV room of the base recreation center. They typically required 10-15 minutes to complete, including a brief introduction pertaining to the background of the interview. Although structured, the interview contained a number of open-ended questions. On these, the respondent was free to provide as little or as much information as he wished, only being asked whether there was anything else he would like to add each time he appeared to have completed his response. The interviewers were instructed to record responses verbatim. At a later date, responses were tallied into categories generated from the raw data. Additional details concerning these categories will be provided below. A number of other questions required respondents to answer on the basis of a variety of different scales. In these instances, the interviewer presented the interviewee a card on which the scale was depicted, and asked which of the responses on the card best described his feelings in relation to the question asked.

RESULTS

COFSS Survey

Note: The results of all statistical tests reported in this section are contained in Appendix 4 and are referred to in the text by numerical superscripts. Alphabetic superscripts refer to footnotes.

The COFSS survey was administered in order to have a basis on which consumers' reactions to the Shaw dining facility could be compared with reactions to other, "traditional," Air Force dining facilities. Since the survey has been administered previously at a number of bases with such facilities, a convenient point of comparison was readily available. Specifically, the responses of 690 airmen at Travis AFB^a, 509 airmen at Minot AFB, and 438 at Homestead AFB were combined to provide a composite data base for comparison purposes (Branch, et al., 1974). Each of these surveys was conducted in 1973, following a procedure similar to that described above. In subsequent sections, this group of airmen will be referred to as the Composite sample.

The primary intent of this section is not to evaluate the Shaw dining facility, per se, but to determine whether consumers' opinions about it differed from opinions about traditional facilities. Consequently, attention is focused on whether, and in what ways, the responses of the two groups differed, rather than on how positive or negative the Shaw airmen's responses were, although some data of this type are presented. In a second part to this section, data from only the Shaw respondents are presented, addressing the question of whether differences in opinion existed between various subgroups of the Shaw population, e.g., between younger and older airmen.

I. Shaw -- Air Force Composite Comparisons

At a general level, the COFSS survey contained questions concerning: (a) personal characteristics of the respondents (demographic data) and their food habits; (b) physical and food service features of the dining facility; and (c) the food. Each of these areas will be covered separately in the paragraphs to follow.

a A. Demographic Data and Food-Habits. These data are important because they indicate whether the respondents in the two samples were members of the same population, i.e., whether they were similar in terms of personal characteristics. The characteristics considered were age, time in service, current grade, race, sex, education, population of area in which raised, state in which raised, and type of cooking on which raised. Of these, statistically significant differences were found with respect to type of cooking on

^aSurveys at Travis AFB were collected before any experimental changes were introduced in the dining hall at that base as part of the study of Air Force garrison feeding.

which raised,¹ age² and, related to age, time in service³ and current grade.⁴ The latter three differences were due to the Shaw sample airmen being older than the Composite sample airmen (Shaw and Composite averages were 26.1 and 23.4 years, respectively), having more time in the service (Shaw and Composite averages were 6.6 and 4.3 years, respectively), and being of a higher grade (the median falling in the E-4 category for the Shaw respondents and the E-3 category for the Composite respondents). The differences in the type of cooking on which raised were due primarily to a greater proportion of Shaw airmen having been raised on Southern food (26% versus 12% of the Composite sample).

Although of interest, these differences unfortunately make clear interpretation of subsequent differences more difficult. Earlier it was noted that dissimilarities in food-related attitudes between the two groups could not be simply attributed to the BAS/A La Carte system since there were other factors differing between the groups which could have been responsible for differences in attitude. The demographic differences serve to lengthen the list of such confounding factors. For example, responses to two other survey items showed that the Shaw airmen liked military service significantly more⁵ and were more likely to reenlist than were airmen in the Composite sample⁶ (Figure 1). Although one could interpret these differences as indicating that the BAS/A La Carte system had a more positive influence on its patrons' general attitudes toward the military than did the traditional system, it is equally plausible that the differences were due to the dissimilarity in age between the samples, that older airmen are more positive about the military than are younger airmen. (Future reports will examine in more detail the effect of type of ration on intent to reenlist.) Similar arguments could be made with respect to each of the other three factors cited above which revealed differences between the groups. Each of these differences, therefore, should serve to further caution the reader against using the data in this report to make a conclusive judgement about the consumer acceptability of the BAS/A La Carte concept.

An important food habit is meal frequency and rate of attendance in the dining hall. In this regard, respondents were asked to indicate the weekly frequency with which they ate (a) before entering the military; (b) currently, regardless of location; and (c) currently in the dining hall. As would be anticipated, no difference between the Composite and the Shaw sample was found in regard to (a) or (b) (Figure 2). A significant difference was revealed, however, with respect to (c), Shaw airmen reporting fewer meals in the dining hall (mean of 4.9 meals per week) than the airmen in the Composite sample

FIGURE 1
ATTITUDE TOWARD THE MILITARY AND REENLISTMENT

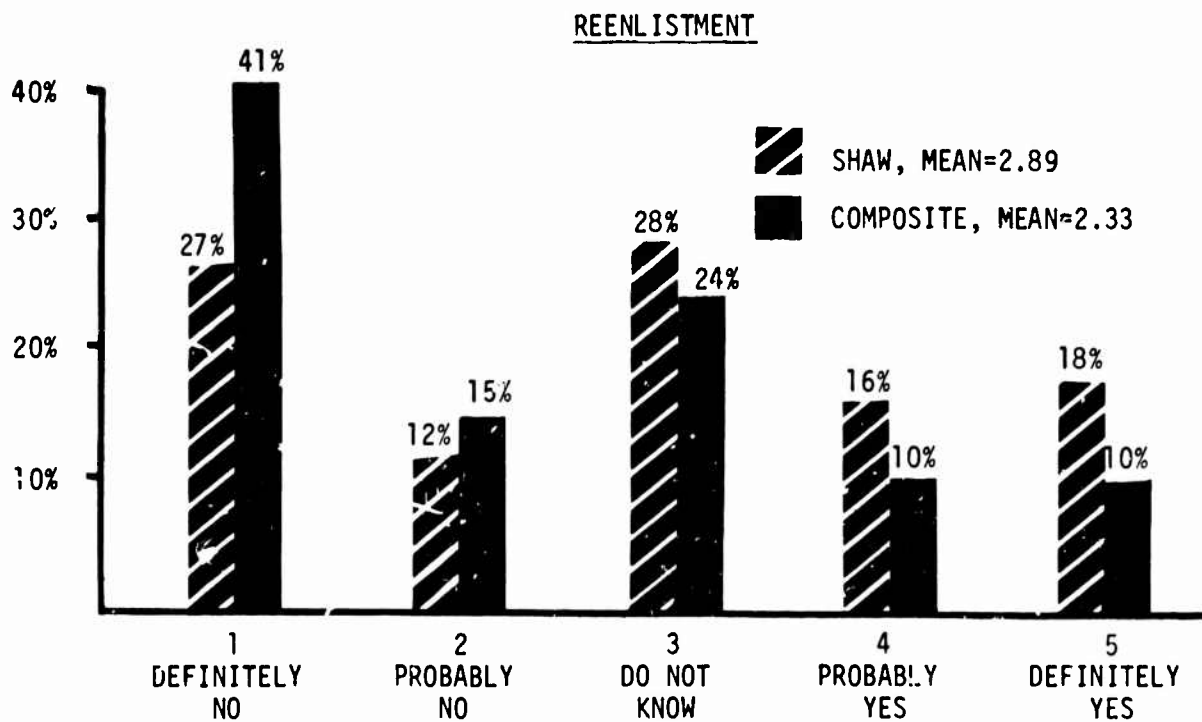
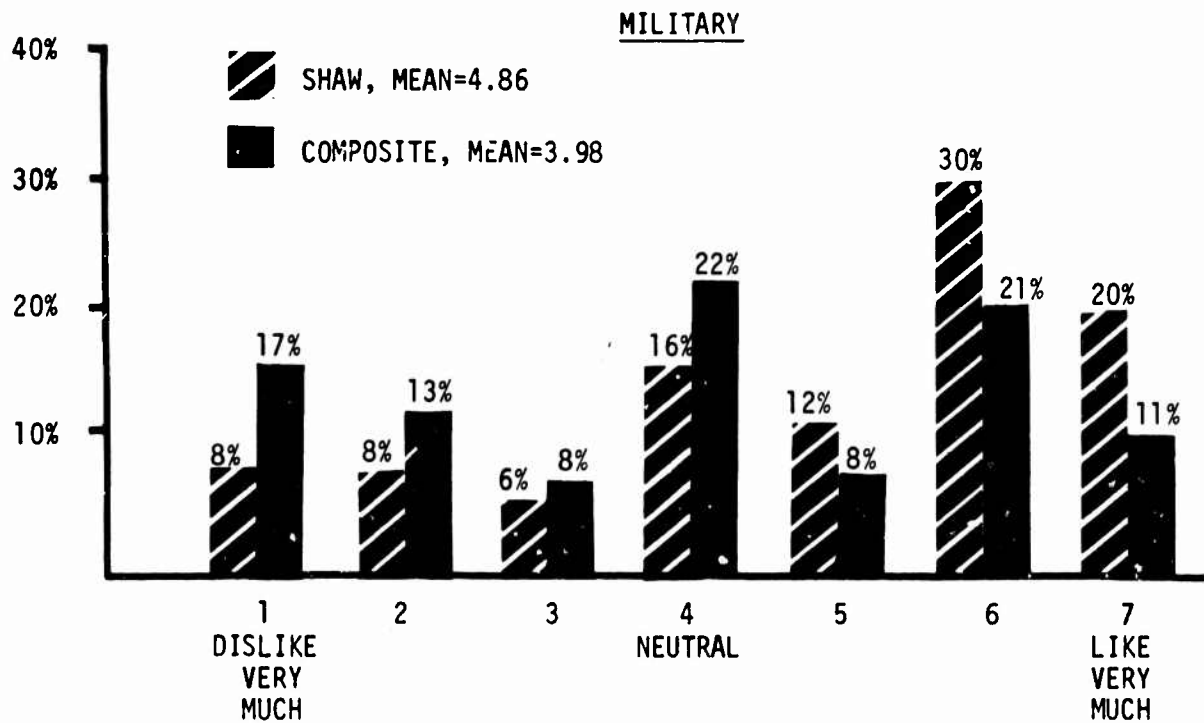
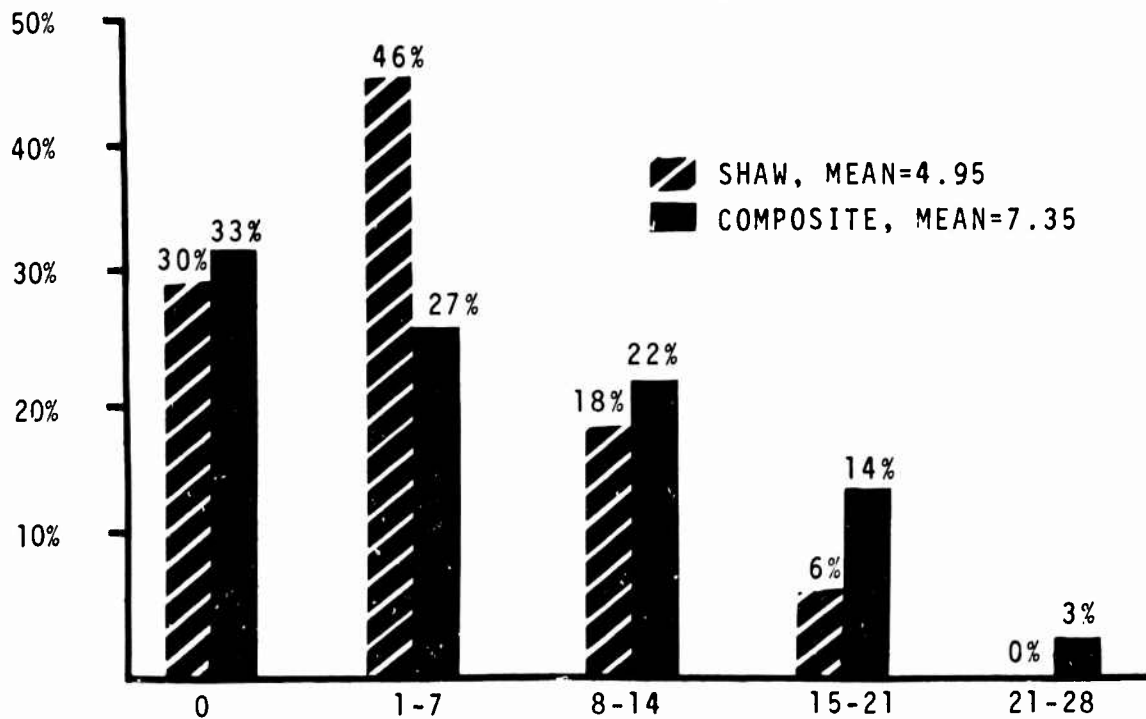


FIGURE 2

AVERAGE NUMBER OF REPORTED MEALS PER WEEK BEFORE ENTERING THE MILITARY; CURRENTLY, IN GENERAL: AND CURRENTLY IN THE DINING FACILITY

	BEFORE MILITARY	CURRENTLY, IN GENERAL	CURRENTLY, IN DINING HALL
SHAW	19.9	16.5	4.9
COMPOSITE	19.5	15.8	7.3

AVERAGE NUMBER OF REPORTED MEALS PER WEEK CURRENTLY ATE IN THE DINING HALL



(mean of 7.3 meals per week).^{b,c} These findings agree with the attendance figures reported by TAC which show the Shaw attendance below the average of the other TAC facilities (TAC Report, 1973).

As shown in the lower portion of Figure 2, over 75% of the Shaw sample reported eating fewer than eight meals per week in the dining hall. A more detailed inspection of the data revealed lower reported attendance by the Shaw respondents than by the Composite group for every meal on every day of the week, but most especially at evening meals on weekdays (not illustrated).

The upper portion of Figure 2 illustrates three attendance patterns which have been reported in nearly all previous survey reports (e.g., Branch, et al., 1974; Branch, Waterman, Symington, and Meiselman, 1974). First, airmen from both samples reported eating considerably fewer meals currently than before entering the military (17% and 19% fewer for the Shaw and the Composite airmen, respectively). Second, neither group reported currently eating anywhere near 21 meals per week, although this is the figure which is used to compute official attendance rates (TAC Report, 1973). And third, both sets

^bThe attendance data were analyzed by means of a two-way analysis of variance in which Group (Shaw versus Composite) and Meal Condition (Before Military; Current, General; Current in Dining Hall) were the two factors. A significant main effect was obtained for the Meal Condition variable.⁷ Since the interaction effect was also significant,⁸ however, comparisons were made between the two groups at each level of the Meal Condition variable. In so doing, only the comparison at the Current in Dining Hall level was found significant.⁹

^cIt might be suggested that respondents are inaccurate in estimating the number of meals they eat in the dining hall. While possibly true, this does not obviate the attendance difference noted in the text, unless one would wish to further argue that the samples differed in their inability to estimate, e.g., that one sample consistently overestimated and the other consistently underestimated. There are, however, little grounds for such an assertion. In fact, the finding that the samples did not differ in their estimates of meal frequency before entering the military and current general meal frequency suggests that, if the estimates are inaccurate, they are inaccurate in the same direction and to the same degree. Thus, although the survey data may not fairly represent the frequency with which the two samples ate in the dining hall, they do indicate that the Shaw respondents attended less often than the individuals in the Composite sample.

of respondents reported eating fewer than half their current number of meals in the dining hall (30% and 46% for the Shaw and Composite airmen, respectively).

The difference in attendance frequency between the groups is not entirely surprising when one considers that 47% of the Composite sample was on SIK (subsistence-in-kind). Since these persons were authorized to eat in the dining hall free of charge and were provided with no funds to dine elsewhere, they could be expected to utilize the dining hall more than airmen receiving BAS. However, when the Shaw personnel were compared only with those airmen in the Composite sample receiving BAS, the difference in attendance frequency reversed itself.¹⁰ Shaw airmen had meals in the dining hall more often than their BAS counterparts in the Composite group (Figure 3). These data suggest that the Shaw all-BAS policy caused an overall reduction in attendance, but that the reduction there was less than would occur with a similar policy at a traditional facility.

Another factor to be kept in mind when considering the overall attendance difference was that the Shaw respondents were older than those in the Composite sample and, therefore, more likely to have families and to eat at home. This was indicated by the responses to the survey item of where, besides the dining hall, the respondents ate. Given nine locations and asked to indicate how frequently they ate at each during a typical week, the Shaw airmen reported more meals in private residences than did the airmen in the Composite sample¹¹ (Shaw mean of 10.42 meals per week, Composite mean of 8.02 meals per week). Here is a case then where the age difference between the groups appears to play a considerable role in explaining some other difference (attendance frequency). As will be indicated again in the interview data, conflicting meal patterns appear to be a major factor underlying nonattendance.

B. Dining Facility and Food Service. Before discussing the findings relevant to the dining facility and service, a wider range of features contained in two of the survey questions should be considered. These questions were designed to serve as a summary for the entire survey. They each involve 14 of the most important features of a dining facility (see Figure 4). In fact, the majority of survey questions which followed these two served primarily to amplify opinions about the 14 features.

The first question asked respondents to rate each feature as it applied to their dining hall on a scale from 1 (Significant Problem) to 5 (Significant Attraction). The responses of the Shaw airmen differed significantly from those of the Composite sample on all of the 14 features but two, hours of operation and speed of service (Figure 4). Each of the 12 significant differences showed more positive ratings on the part of the Shaw respondents. Note that six of the mean ratings of the Shaw personnel were on the positive side of neutral (3.00) in comparison to only one for the Composite group. The two features which received the lowest ratings by the Shaw airmen (hours of operation and speed of service), making them the most significant problems of the 14 for that group, were the only two on which no significant difference between the samples was found.

FIGURE 3

AVERAGE NUMBER OF REPORTED MEALS PER WEEK
CURRENTLY EATEN IN THE DINING HALL BY AIRMEN ON BAS

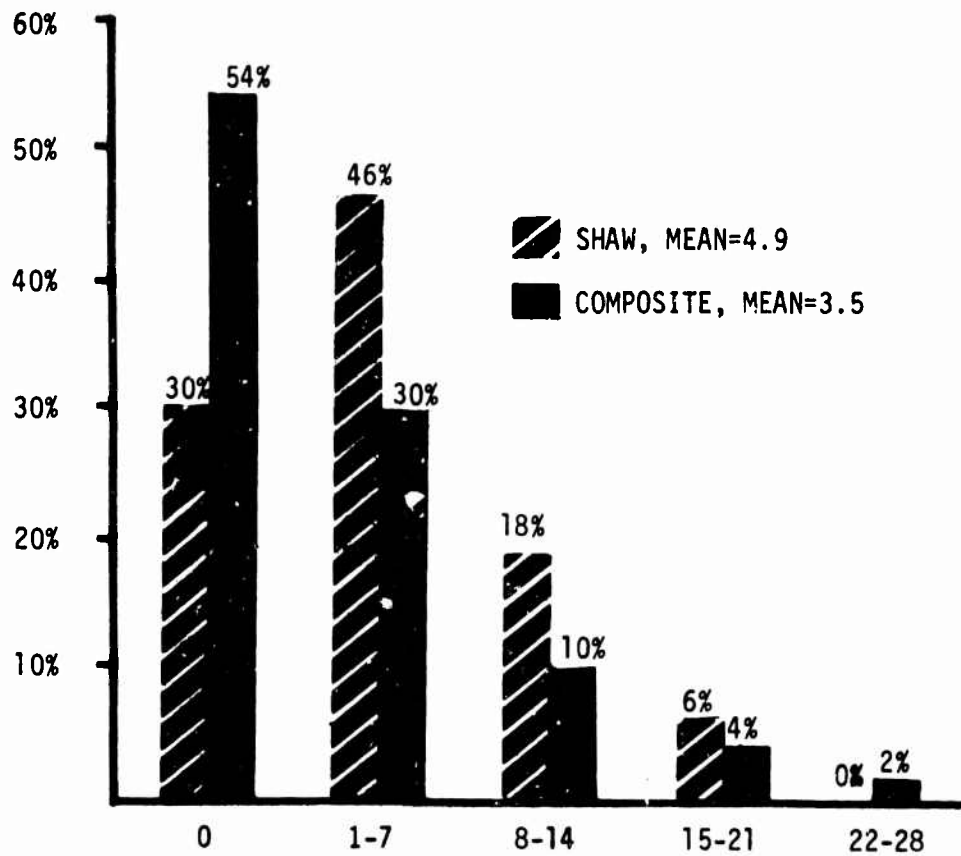


FIGURE 4**EVALUATION OF FOURTEEN FOOD SERVICE FEATURES**

Feature	Shaw Mean Rating	Composite Mean Rating	Shaw Ranking	Composite Ranking
Speed of Service or Lines	2.44	2.43	1	6
Hours of Operation	2.63	2.56	2	10
Monotony of Same Facility	2.79	2.38	3	4
Service by Dining Facility Personnel	2.86	2.51	4	9
Degree of Military Atmosphere	2.90	2.42	5	5
Quantity of Food	2.91	2.46	6	7
Quality of Food	2.93	2.14	7	1
Variety of Short Order Food	2.97	2.46	8	8
Variety of Regular Meal Food (Weekdays)	3.02	2.36	9	3
Variety of Regular Meal Food (Weekends)	3.04	2.31	10	2
Expense	3.09	3.01	11	14
Desirable Eating Companions	3.25	2.89	12	13
Convenience of Location	3.40	2.88	13	12
General Dining Facility Environment	3.68	2.60	14	11

Rating Scale: 1 — Significant Problem; 2 — Minor Problem; 3 — Neither Problem
Nor Attraction; 4 — Minor Attraction; 5 — Major Attraction

There is little question, therefore, that the Shaw airmen viewed their dining hall and food more favorably than the airmen eating in traditional dining halls. Nonetheless, there were areas in which they did indicate that some improvements were needed. It has been a consistent finding in this regard that, when ranked according to mean ratings, features related to food (quality, quantity, and variety) turn out to be the most significant problem areas (Branch, et al., 1974). That this is true of the Composite data can be seen in the column on the right hand side of Figure 4 marked "Composite Rankings," which contains the rankings of each of the 14 features for the Composite sample (number 1 was assigned to the feature with the lowest mean rating). When these rankings are compared with those taken from the Shaw data, which are contained in the column marked "Shaw Rankings," a marked dissimilarity is apparent. Specifically, the Shaw respondents ranked nonfood features (speed of service, hours of operation, monotony of same facility, service by dining facility personnel) as more significant problems than food features. Statistically, the dissimilarity of the two sets of rankings was expressed by a low rank correlation.^{1,2}

The pattern of responses which emerged from the second question was quite similar to the first. In this case, respondents were asked to indicate whether each feature was a major reason for, a minor reason for, or not related to non-attendance. The responses of the two groups differed in nine of the 14 cases, indicating in each case that the Shaw airmen felt the feature was less of a reason for not attending than did the Composite respondents. The remaining five features included the two which showed no differences in the previous question (hours of operation and speed of service) plus those of desirable eating companions, expense, and service by dining facility personnel. The mean ratings given each feature by the two groups are presented in Figure 5. Again, the Composite sample gave the lowest ratings to the food features, while the Shaw sample gave the lowest ratings to nonfood features with the one unexplainable exception of food quality which ranked as the second most major reason for nonattendance.

In general, the data from these two questions indicate that the Shaw airmen were more satisfied with their dining facility than were the airmen in the Composite sample, although the absolute level of satisfaction expressed by both groups was not particularly high. The Shaw airmen rated physical and service features as the most problematic areas, whereas the Composite airmen found the most need for improvement in food-related areas.

Turning to a more detailed look at the physical and service features of the dining hall, attention will focus on the following subset of the 14 general features: military atmosphere, convenience, general dining environment, service by dining facility personnel, hours of operation, and speed of service. No additional survey data concerning expense or monotony of same facility were available, although interview data related to expense will be discussed below.

FIGURE 5**Importance of Fourteen Food Service Features**

Feature	Shaw Mean Rating	Composite Mean Rating	Shaw Ranking	Composite Ranking
Speed of Service or Lines	2.31	2.33	1	5.5
Quality of Food	2.43	1.92	2	1
Hours of Operation	2.47	2.39	3	9
Service by Dining Facility Personnel	2.52	2.35	4	10
Quantity of Food	2.55	2.26	5	4
Degree of Military Atmosphere	2.56	2.34	6	8
Variety of Regular Meal Food (Weekdays)	2.59	2.18	7	2
Variety of Short Order Food	2.61	2.33	8	5.5
Expense	2.62	2.68	9.5	14
Monotony of Same Facility	2.62	2.33	9.5	7
Variety of Regular Meal Food (Weekends)	2.64	2.19	11	3
General Dining Facility Environment	2.66	2.36	12	11
Desirable Eating Companions	2.73	2.60	13	12
Convenience of Location	2.80	2.62	14	13

Rating Scale: 1 — Major Reason for Nonattendance; 2 — Minor Reason for Nonattendance;
3 — Not related to Nonattendance

B.1. Military Atmosphere. As noted above, the Shaw airmen indicated that the military atmosphere present in the dining hall was less of a problem and less of a reason for nonattendance than did the Composite sample (Figure 4 and 5). They also responded differently to a question of whether more or less military atmosphere was desirable in the dining hall.¹³ Although both groups preferred less military atmosphere, this sentiment was less strong for the Shaw group than it was for the Composite group (Figure 6).

Related to the question of military atmosphere is that concerning rules and regulations in the dining hall. The Composite sample was found to be uncertain whether a number of rules existed in their dining facilities, namely, dress regulations, allowing nonmilitary guests, and separating officers and NCO's from enlisted men (Figure 7). Significantly less uncertainty was expressed with regard to each of these rules by the Shaw respondents.¹⁴ They also had a different opinion about whether two of the three rules, dress regulations and separation of officers and NCO's from enlisted men, should be in existence.¹⁵ In the former case, the Shaw respondents were more in favor of the rule, whereas, in the latter case, they were more opposed to the rule than the airmen in the Composite sample.

B.2. Convenience of Dining Facility. As shown in Figure 4 and 5, convenience of dining facility was reportedly more of an attraction and less of a reason for nonattendance for the Shaw respondents than it was for the Composite airmen. A factor likely underlying this difference was the time required to get from work sites to the dining hall, the time reported by the Shaw respondents (mean of 5.06 minutes) being significantly less than that reported by the Composite sample (mean of 6.58 minutes).¹⁶ The groups did not differ, however, in the reported time taken to get to the dining hall from their homes (Shaw and Composite means were 9.07 and 8.46 minutes, respectively).¹⁷

In terms of conveniences within the dining facility, the respondents rated their respective dining halls in terms of ease of entry and exit, distance from washroom, space between tables, and table size. In each case, the responses of the two samples differed significantly,¹⁸ the Shaw airmen rating the factors more positively than the Composite sample.

B.3. Social Aspects of the Dining Facility. Two different topics were addressed in this area. The first had to do with the respondents' exposure to friends in the dining facility (lining up, sitting, and talking with them). In this area, the Composite and Shaw samples were not found to differ significantly, even though the general feature of eating companions was reportedly a more significant attraction for the Shaw respondents than it was for the Composite sample (Figure 4).

The second topic had to do with how conducive the dining hall was to social interchange. Here, the Shaw facility was portrayed as providing conditions acceptable for relaxed conversation, a friendly social atmosphere, and a feeling of privacy significantly more frequently than the Composite facilities (Figure 8).¹⁹

FIGURE 6

DO YOU WANT MORE OR LESS MILITARY ATMOSPHERE IN THE DINING HALL

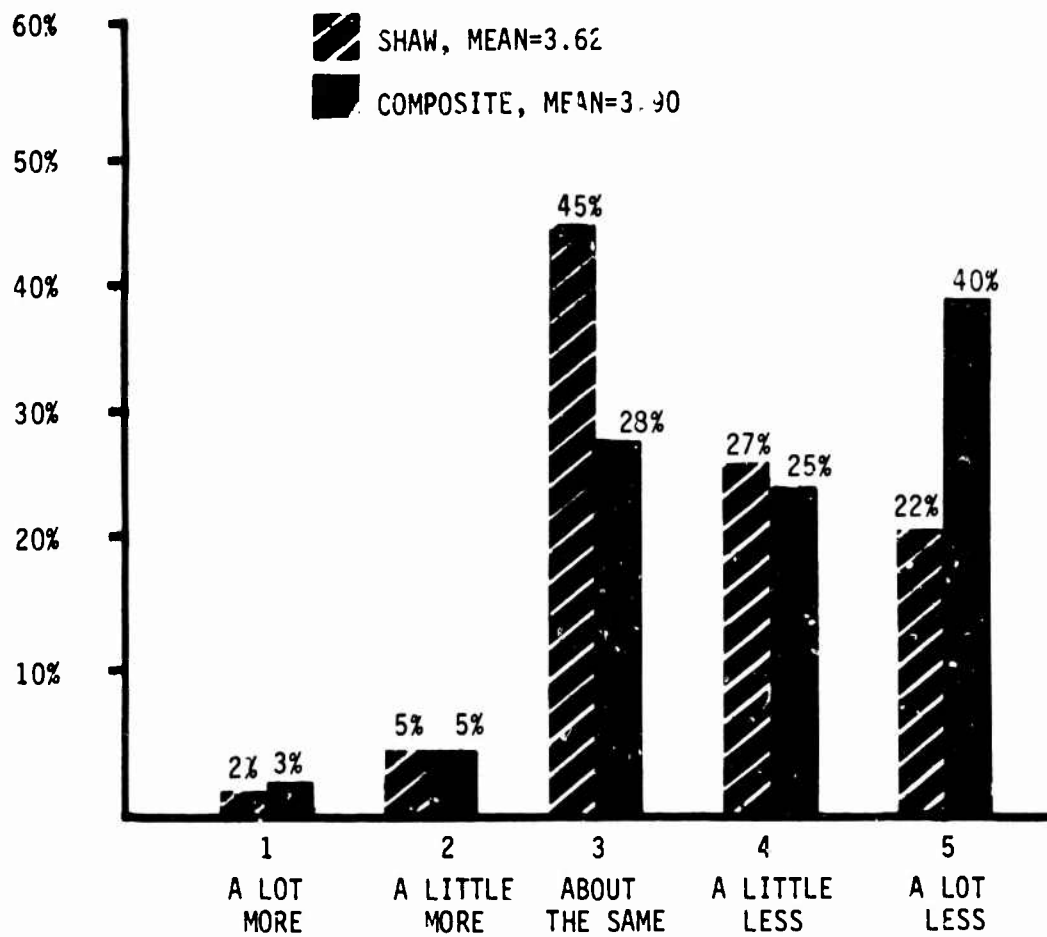


FIGURE 7
OPINIONS CONCERNING SPECIFIC POLICIES

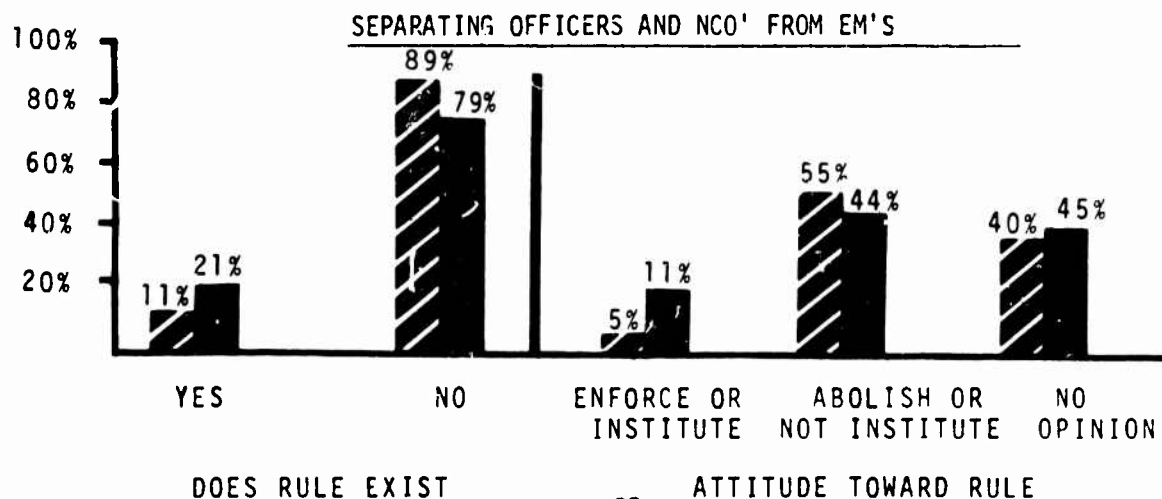
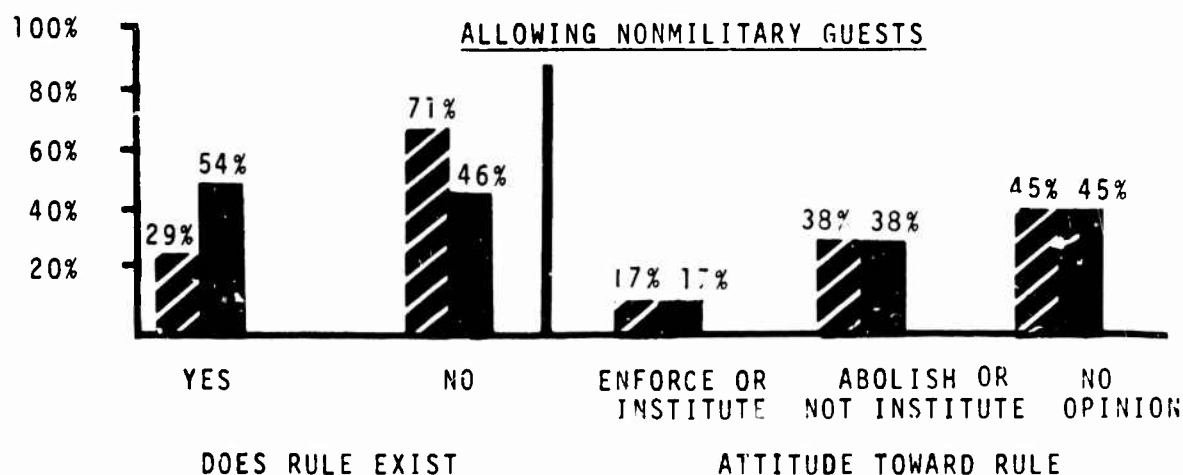
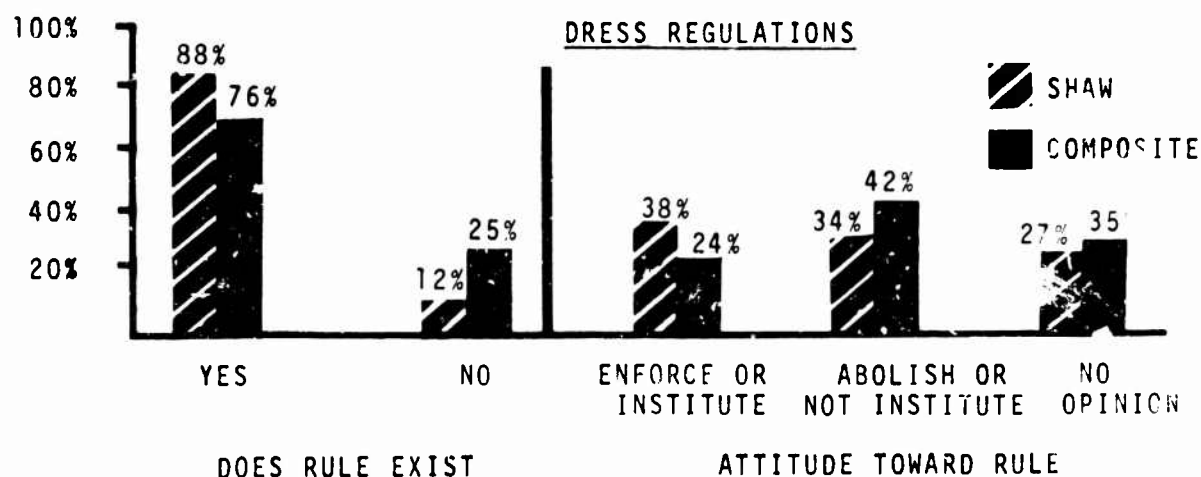
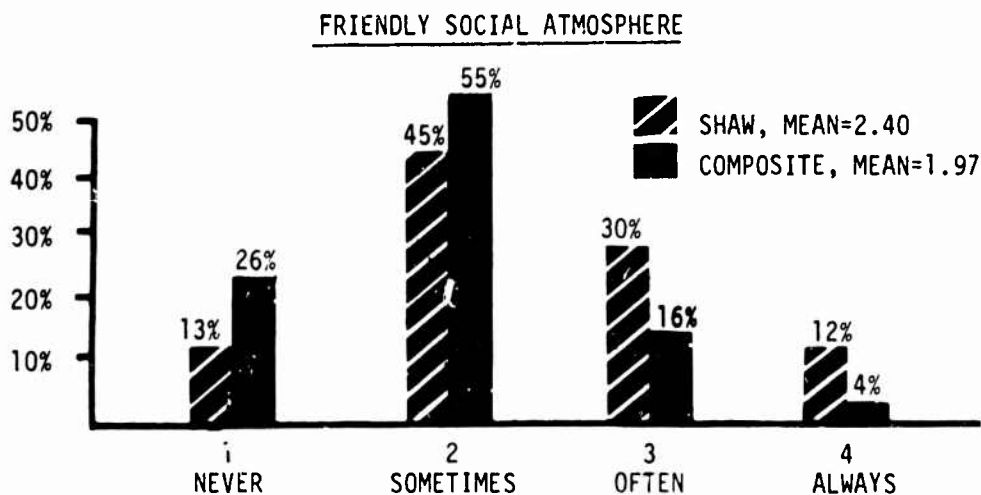
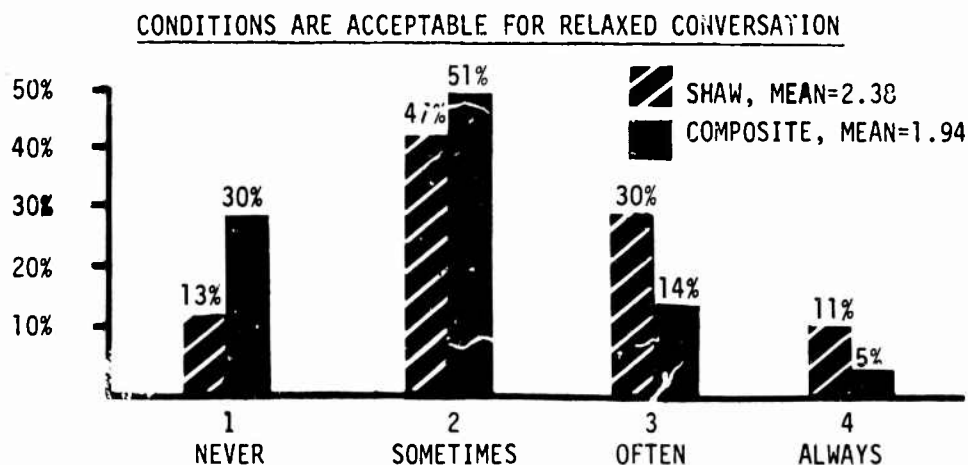
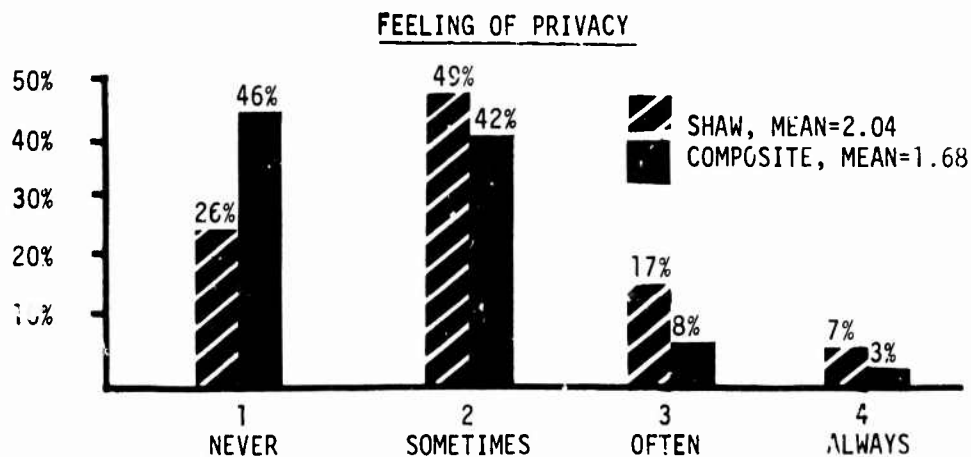


FIGURE 8
OPINIONS ABOUT SOCIAL CONDITIONS



B.4. General Dining Environment. A large number of questions, covering a broad range of topics, were asked in this area. The overwhelming majority of them indicated that the Shaw respondents were more favorably impressed by their physical facility than was the Composite sample. Figure 9 contains a list of opposite adjective pairs, one positive and one negative, each one representing an item on the survey. (An example of how the items actually appeared in the survey is included at the top of the figure.) Beside the list are three columns. A mark in the first column, labeled "Shaw Ratings", indicates that the mean rating of the Shaw respondents was on the positive side of the neutral point, i.e., it was a favorable rating. The second column contains the same information for the Composite sample. A mark in the third column, labeled "Differences," indicates that responses of the Shaw airmen to that item were significantly different²⁰ and tended to be more positive than those of the Composite sample. In no case were the Composite responses more positive than those of the Shaw airmen. The Shaw mean exceeded the neutral point in 90% of the cases, reflecting a very high degree of acceptance, in comparison to 39% of the cases for the Composite sample. In 84% of the cases, the Shaw responses were significantly more positive than the Composite responses.

In addition to these items, seven others were included to cover environmental conditions in the dining facility, namely, whether the dining hall was too cold, too warm, full of unpleasant odors, stuffy, smoky, or full of steam. The respondents indicated whether each of these occurred never, sometimes, often or always. In all cases but one, the mean rating of the Shaw respondents indicated that the condition occurred less than sometimes. The one exception was "Too Warm", which was also one of only two items out of the entire COFSS survey on which the responses of the Composite sample were significantly more positive than those of the Shaw sample.²¹ On the only other of these items which revealed significant differences, "Too Cold" and "Full of Unpleasant Odors", the Shaw responses were more positive than those of the Composite group.²²

B.5. Service Personnel. The feature of service by dining facility personnel was ranked by the Shaw airmen as the fourth most significant problem and fourth most major reason for nonattendance out of the 14 general features (Figure 4 and 5). When specifically asked to rate the ability of the cooks and the attitudes of the workers on a scale ranging from 1 (Very Poor) to 7 (Excellent), the mean of the Shaw responses fell on the neutral point and below it, respectively. In both cases, however, the Shaw responses were significantly higher than those of the Composite sample²³ (Figure 10).

Respondents were also asked to indicate how often (never, sometimes, often, always) they found inappropriate or missing silverware, not enough condiments, left overs being served day after day, and the serving line running out of items. The responses of the two groups indicated that all but the last event occurred significantly less frequently at Shaw than at the traditional facilities.²⁴ In fact, the mean of the Shaw ratings fell below the "sometimes" level in all but the last case.

Figure 9

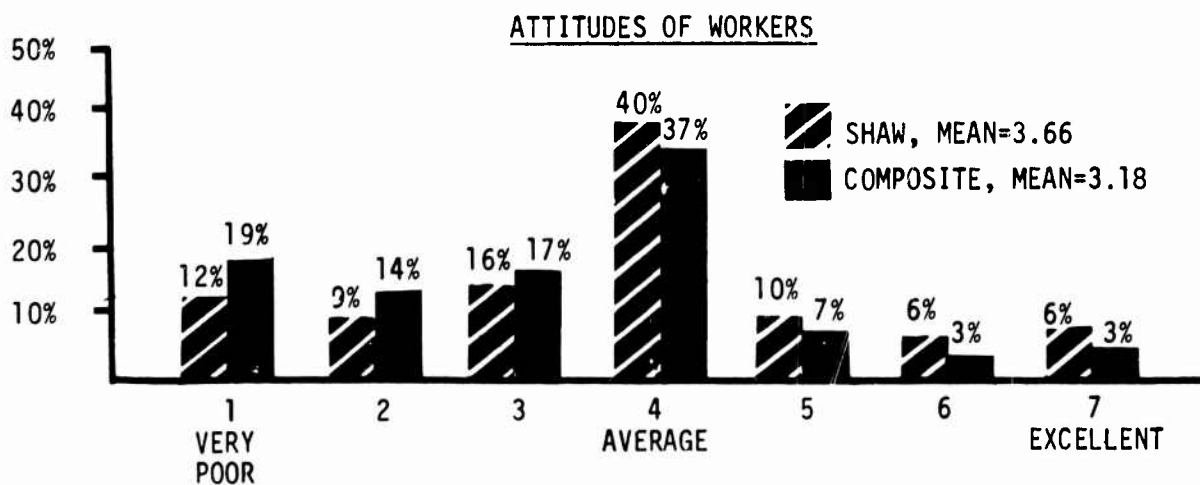
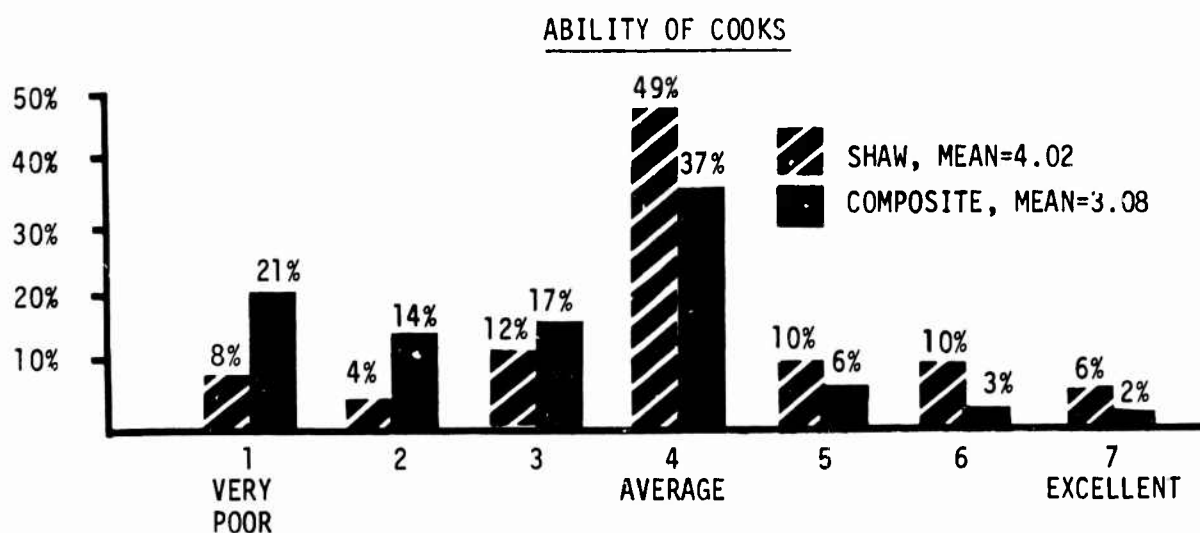
OPINIONS ABOUT ENVIRONMENTAL CONDITIONS

Descriptor	Example: Quiet					Noisy					Shaw Rating	Composite Rating	Difference
	Extremely	Moderately	Neutral	Moderately	Extremely	1	2	3	4	5			
Clean/Dirty Kitchen											*	*	x
Insect Free/Infested											*	*	x
Rodent Free/Infested											*	*	x
Clean/Dirty Serving Counter											*	*	x
Clean/Dirty Dispensing Devices											*	*	x
Clean/Dirty Silverware											*	*	x
Clean/Dirty Trays											*	*	
Clean/Dirty Dishes and Glasses											*	*	x
Clean/Dirty Floors											*	*	x
Clean/Dirty Tables and Chairs											*	*	
Brightly/Dimly Lighted											*	*	
Sunny/Lacking Sunlight											*	*	
Quiet/Noisy													x
Uncrowded/Crowded													
Roomy/Cramped											*		x
Well/Poorly Designed											*		x
Pleasant/Unpleasant View											*		x
Low/High Number of Safety Hazards											*	*	x
Pleasant/Unpleasant Exterior											*		x
Pleasant/Unpleasant Interior											*		x
Colorful/Drab											*		x
Cheerful/Dreary											*		x
Uncluttered/Cluttered											*		x
Beautiful/Ugly											*		x
Relaxed/Tense											*		x
Sociable/Unsociable											*		x
Colorful/Drab Tables											*		x
Beautiful/Ugly Tables											*		x
Wide/Limited Variety of Tables											*		x
Sturdy/Easy to Damage Tables											*	*	x
Roomy/Cramped Tables											*		x

*Mean rating on positive side of Neutral

xShaw mean rating significantly greater than composite mean rating

FIGURE 10
OPINIONS ABOUT DINING FACILITY PERSONNEL



One final comment in this area should be made concerning self-bussing. Although the Shaw airmen were not exposed to self-bussing in their dining hall, in comparison to over half of the Composite sample who were so exposed, their reaction to the question of whether self-bussing should be instituted reflected a significantly²⁵ more negative attitude than that of the Composite sample.

B.6. Hours of Operation. As one of the 14 general features, hours elicited ratings from the Shaw airmen which were no greater than those of the Composite sample, both expressing a general dissatisfaction with this feature. In fact, for the Shaw respondents, hours of operation ranked as the second most significant problem and third most major reason for nonattendance (Figure 4 and 5). It is somewhat curious, therefore, that when asked to specify the opening and closing hours they would most prefer, the majority of the respondents in both groups indicated that the hours for each of the meals on both weekdays and weekends were sufficient as they were. The largest dissatisfied minority for both groups wanted an extreme extension of an hour or more on each end of the meal time. This pattern is exemplified by the responses of the Composite sample with respect to the mid-day meal on weekdays (Figure 11). This meal also is the only one on which the responses of the two groups differed significantly with respect to hours.²⁶

B.7. Speed of Service. There is little question that the primary complaint of the Shaw airmen had to do with the time it took to get their meals. Rated by the Shaw airmen as the most significant problem and the most major reason for nonattendance, speed of service was one of only two features (hours of operation was the other) which was not rated more positively on both scales by the Shaw respondents than by the Composite sample (Figure 4 and 5). When asked to report their time in line, Shaw airmen reported a mean of 6.00 minutes (Figure 12), which was significantly greater than the reported Composite mean of 4.42.²⁷ This suggests that the speed of service problem was more grave at Shaw than at traditional dining facilities, in agreement with previous findings (TAC Report, 1973).

B.8. General Comments. Overall, the data clearly show greater satisfaction by the Shaw personnel than by airmen eating in traditional facilities, although there were areas in which no difference in satisfaction appeared and some in which the Shaw respondents were more dissatisfied (heat control, speed of service). The critical question, however, is whether any of the differences were due to the BAS/A La Carte system at Shaw or whether they were the result of other extraneous factors such as the physical renovations of the Shaw facility or some demographic characteristic of the respondents. The differences under the general dining environment category, for example, would seem due more to the physical renovations made at the Shaw facility than to the new ration system, just as those related to the military atmosphere may well have been a result of the older age of the Shaw sample. Differences in service of dining facility personnel, speed of service, and expense could more reasonably be attributed to the BAS/A La Carte system, although no definitive empirical judgement is possible with the data at hand. What is

FIGURE 11

OPINIONS ABOUT HOURS OF OPERATION FOR WEEKDAY MID-DAY MEALS

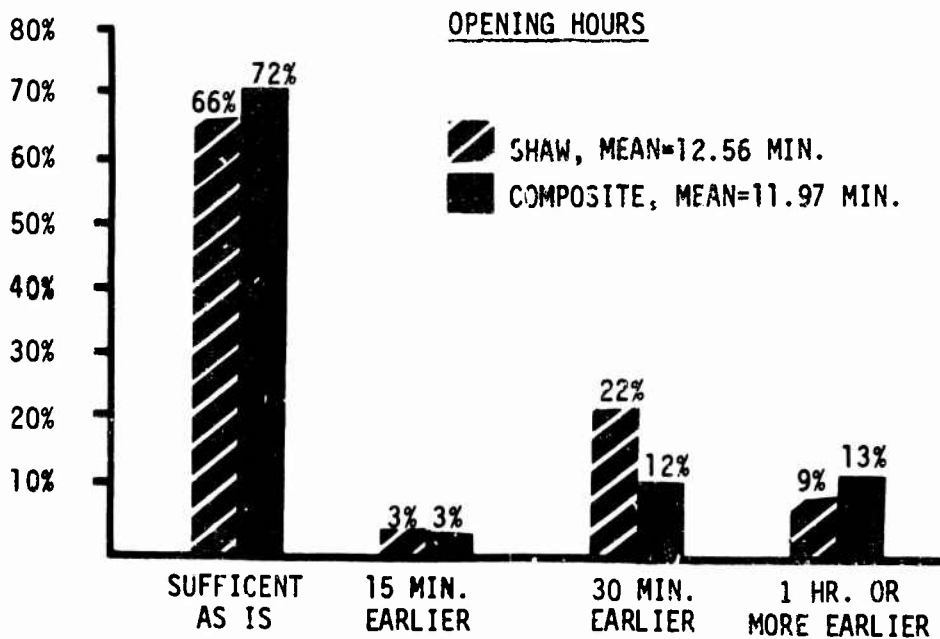
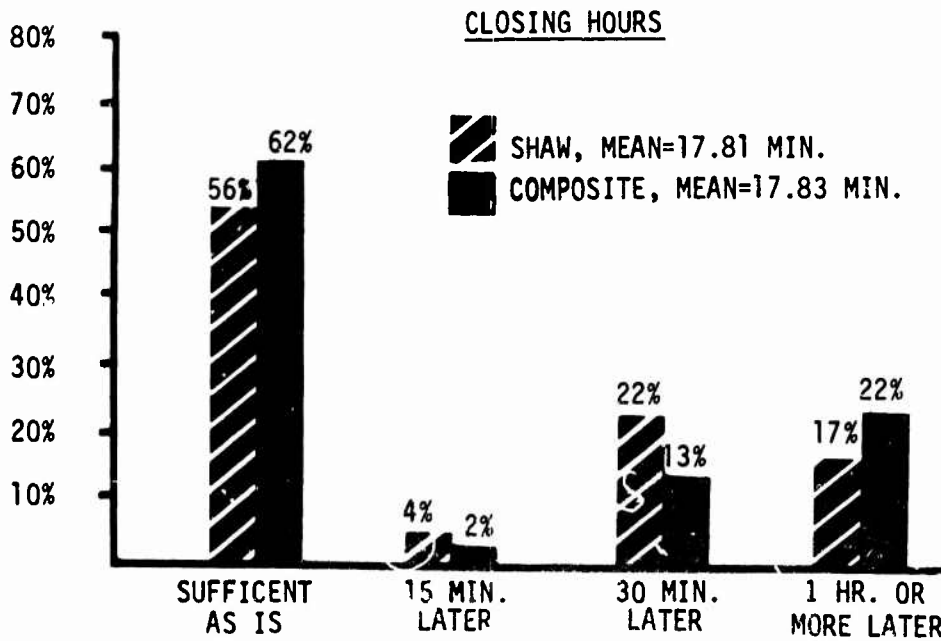
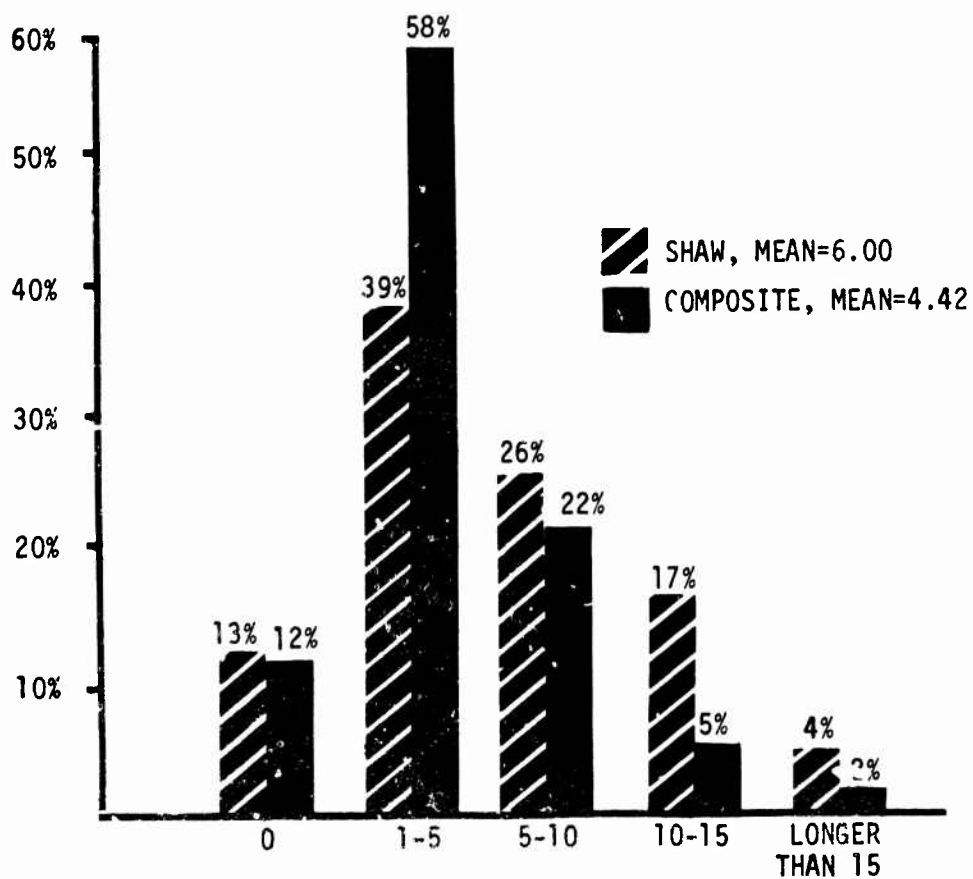


FIGURE 12
TIME IN SERVING LINE (IN MINUTES)



necessary for such judgements would be a test of the system in which no other food service changes were made. Such a test is presently being conducted at Loring AFB and will be the subject of a future report.

C. Food. The question of whether the BAS/A La Carte system influenced airmen's attitudes toward the food they are served is critical. As in the case of the dining hall and service, however, an unambiguous assessment of this influence cannot be made from the data gathered at Shaw AFB. This is again because there were other factors present, the effects of which were inseparable from those of the BAS/A La Carte system alone. For example, since a large portion of the food served at the Shaw facility was procured locally, it is unknown whether the quality of the raw food product there was equivalent to that obtained for the traditional dining facilities. However, there are other factors which, although different from those at traditional facilities, are integral to the BAS/A La Carte System. One such factor is variety, the first factor to be considered below.

C.1. Variety. Functionally, the BAS/A La Carte system involves an expansion of the menu available at a given meal. At Shaw, for example, over 10 entree items were offered on both the main and the short order line at each meal. It would be expected, therefore, that the attitudes of the Shaw airmen concerning variety would differ from those of the respondents in the Composite sample. And, indeed, such differences were found, not only in the context of the general 14 features (Figure 4 and 5), but also in the case of the specific and more detailed questions concerning variety. On the first of these questions, respondents were presented with seven food classes (short order items, meats, vegetables, starches, beverages, desserts, salads) and asked to indicate for each whether on weekdays many more choices were needed, a few more choices were needed, the choices were now enough, or fewer choices were acceptable. The ratings by the Shaw respondents differed significantly from those of the Composite sample in all cases but one, vegetables, indicating that, with this one exception, the Shaw airmen were more satisfied with the weekday variety than were the Composite airmen (Figure 13).²⁸ Despite these differences, however, the order of the food classes when ranked in terms of their mean ratings was the same for both groups: Meats and short order items were lowest, requiring the largest increase in variety to please the consumers, as has been found in previous Army (Kiess, et al., 1971; Branch, et al., 1974) and Air Force (Branch, et al., 1974) consumer research. Vegetables and desserts were next in order and starches, salads and desserts were highest. Opinions about weekend variety were virtually identical to these. Respondents were also asked about variety over a period of a month. In this case, the Shaw airmen expressed greater satisfaction than the composite group with regard to only four of the seven food classes (short order items, meats, starches, and desserts). In addition, the ratings by the Shaw respondents were significantly less than their ratings of weekday and weekend variety,^{29,30} although the rank order of the classes remained the same. Apparently, then, the Shaw respondents were more satisfied with the variety offered them at a given meal than they were with the variety provided over an extended period of time.

FIGURE 13

Opinions About Food Variety on Weekdays

Food Class	Mean Ratings		Standard Deviations	
	Shaw	Composite	Shaw	Composite
Meats	2.24	1.93	.71	.76
Short Order Items	2.27	1.97	.70	.78
Vegetables	2.39	2.27	.67	.78
Desserts	2.48	2.19	.70	.81
Starches	2.50	2.37	.65	.82
Salads	2.53	2.36	.67	.78
Beverages	2.60	2.42	.65	.77

Scale:

1 — Many more choices needed; 2 — A few more choices needed;
3 — Choices now enough; 4 — Fewer choices acceptable

C.2. Quantity. Under the BAS/A La Carte system; the airman is free to consume as much food as he pleases, although he pays for each item he takes. A concern with this system is that the consumer would either budget his money to the extent of undereating or choose high preference a la carte items to the extent of insufficient overall food quantity. Klebanoff and Vanderveen (in TAC Report, 1973), however, reported that estimated dietary intakes for 24 hour periods were not different in Shaw BAS/A La Carte system and a conventional system. Data in agreement with this finding were obtained in the present survey, the Shaw respondents reportedly leaving the dining hall without enough to eat significantly fewer times than was reported by the Composite sample³¹ (Figure 14). (In fact, over half the Shaw respondents indicated that this situation never occurred, whereas only 1% indicated that it always happened.)

Despite this difference, however, the groups did not differ in their attitude about portion size, both indicating that an increase in the amount of meat per serving would be desirable, but that servings of vegetables, starches, and desserts were adequate as they were (Figure 15).

C.3. Quality. Two topics were addressed in this section, quality of raw food products and quality of preparation. For each topic, a number of conditions were listed and the respondent was asked to indicate whether it never, sometimes, often, or always characterized the food. The responses of the Shaw airmen differed significantly from those of the Composite for every condition,³² each time reflecting a less critical view by the Shaw respondents. These data are summarized in Figure 16. A mark in the first column, labeled "Shaw Rating", indicates that the mean of the Shaw ratings of that condition was below the "sometimes" level. The same information for the Composite sample is given in the second column. A mark in the third column reflects a significant difference in the responses of the two groups. Note again that every condition has a check in this column.^d

C.4. General Comments. Again these data provide clear evidence that, in comparison to airmen eating in traditional dining facilities, the Shaw consumer was favorably impressed by the food served him, especially in regard to its variety and quality. To what degree this impression, particularly in the case of food quality, was due to the BAS/A La Carte system remains to be clarified.

^dIf a person is asked to evaluate a number of components of a situation or object, he might react positively to all the components even though he is "truly" impressed by only one or a small subset of them. The reader must be cautioned that this "halo" effect is particularly likely in situations such as the present where the components, food conditions in this case, are presented all together in list form.

FIGURE 14

OTHER THAN TIMES OF DIETING, HOW OFTEN DO YOU
LEAVE YOUR DINING FACILITY WITHOUT ENOUGH TO EAT

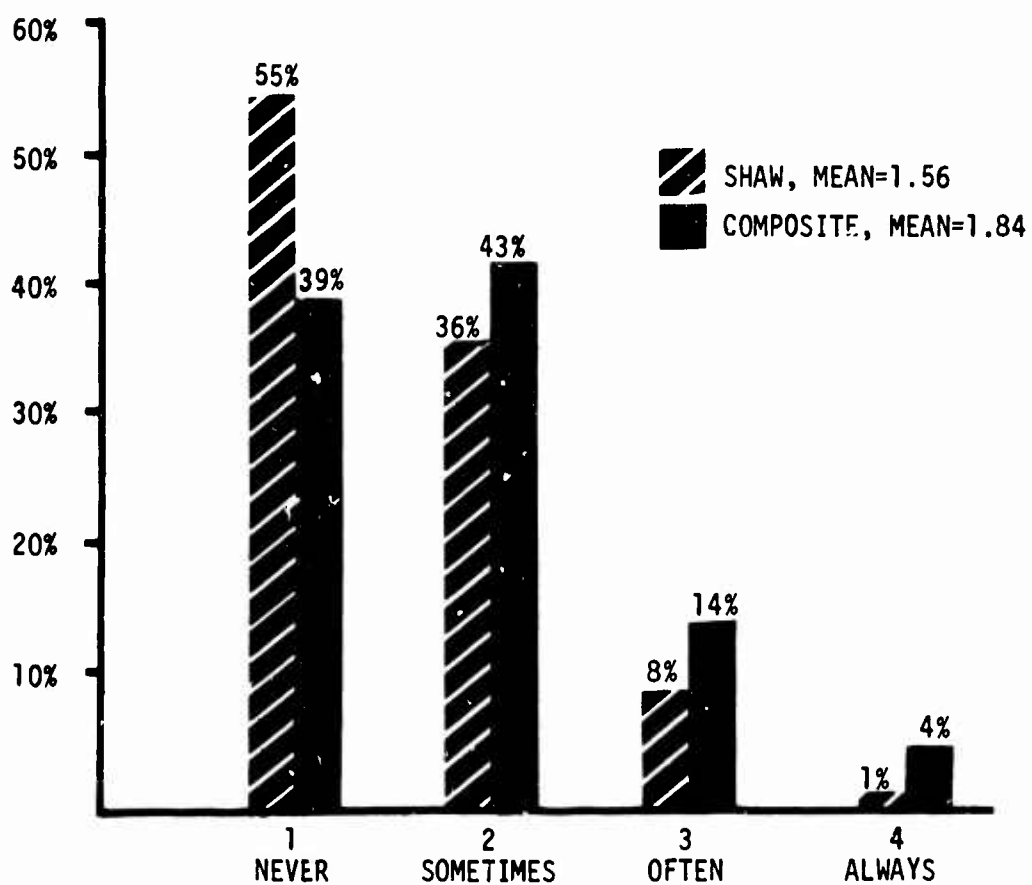


Figure 15

OPINIONS ABOUT SERVING SIZE

Food Class	Mean Ratings		Standard Deviations	
	Shaw	Composite	Shaw	Composite
Meats	3.30	3.22	2.12	2.35
Vegetables	3.92	4.34	1.78	1.84
Starches	4.24	4.46	1.80	1.96
Desserts	4.48	4.58	1.89	2.05

Scale: 1 – Too Little; 4 – About Right; 7 – Too Much

Figure 18

OPINION ABOUT FOOD QUALITY

Condition	Shaw Rating	Composite Rating	Difference
Overcooked	*		x
Undercooked	*		x
Cold	*		x
Tasteless			x
Burned	*	*	x
Dried out	*		x
Greasy	*		x
Tough	*		x
Too Spicy	*	*	x
Raw	*	*	x
Still Frozen	*	*	x
Too Salty	*	*	x
Having:			
Gristle/Tendor	*		x
Excess Fat	*		x
Stringy	*		x
Damaged	*		x
Over-ripe Fruit	*		x
Under-ripe Fruit	*	*	x
Stale	*		x
Old Looking	*		x
Sour	*	*	x
Spoiled	*	*	x
Off-flavor or Odor	*	*	x

*Mean rating below the "sometimes" level

xShaw mean rating significantly less than composite mean rating

II. Comparisons Internal to Shaw AFB

In addition to the questions on the standard survey, eight extra questions were asked of the Shaw respondents. These questions were included on a one-page insert to the survey booklet (see Appendix 1). The first two questions were involved with analyses which will be discussed below. The third question concerns the suggestion that one benefit of the BAS/A La Carte system is that it can reduce food waste. The consumer seems to agree. When asked how much more or less plate waste went on at Shaw in comparison to other dining facilities, 45% of the sample responded "Much Less", while another 22% felt that slightly less waste occurred at Shaw than at other places. Only 5% and 1% felt that slightly more and extremely more waste, respectively, went on at the Shaw dining facility in comparison to others. The remainder (28%) indicated that there was no difference.

The fifth and sixth extra questions required respondents to rate, at a general level, the Shaw dining facility in comparison to other military dining halls in which they had eaten and in comparison to civilian dining facilities. A scale from 1 (Much Worse) to 5 (Much Better) was used in both cases. The results indicated that the airmen were considerably more impressed with the Shaw facility than with other military facilities (Figure 17). The Shaw dining facility even fared well when compared to civilian facilities, 30% of the respondents rating the Shaw dining hall better and another 42% claiming no difference between the two (Figure 17).

The seventh extra question involved rating 10 features which distinguished the Shaw facility from others in the Air Force. The features and their ratings are listed in Figure 18. Since these were all generally positive additions, it is not surprising that each received a favorable rating. Of interest, however, was the ranking of the features when ordered according to their mean ratings (Figure 18, number 1 was assigned to the feature with the lowest mean rating). Of special note was that of the two concepts central to the BAS/A La Carte system, only one (Everyone on Separate Rations) received a relatively high rank.

The intent of the final two questions was to determine the respondents' current rate of attendance relative to what it was at other installations where assigned. On the first question, airmen simply indicated their relative attendance rate on a scale from 1 (Much Less Often) to 5 (Much More Often). Over 50% of the sample said they attended much or slightly less often now than at other dining halls, while only 23% indicated an increase in their attendance (Figure 19). Data substantiating these findings were obtained from the second question which was similar in format to the attendance items in the standard survey. It required respondents to specify for each day of the week whether they ate breakfast, lunch, an evening meal, and an after-evening meal in the dining hall prior to being exposed to the test system. These responses were then compared with the similar data concerning these respondents' reported current attendance pattern in the dining hall.

FIGURE 17

GENERAL OPINION ABOUT THE SHAW FACILITY

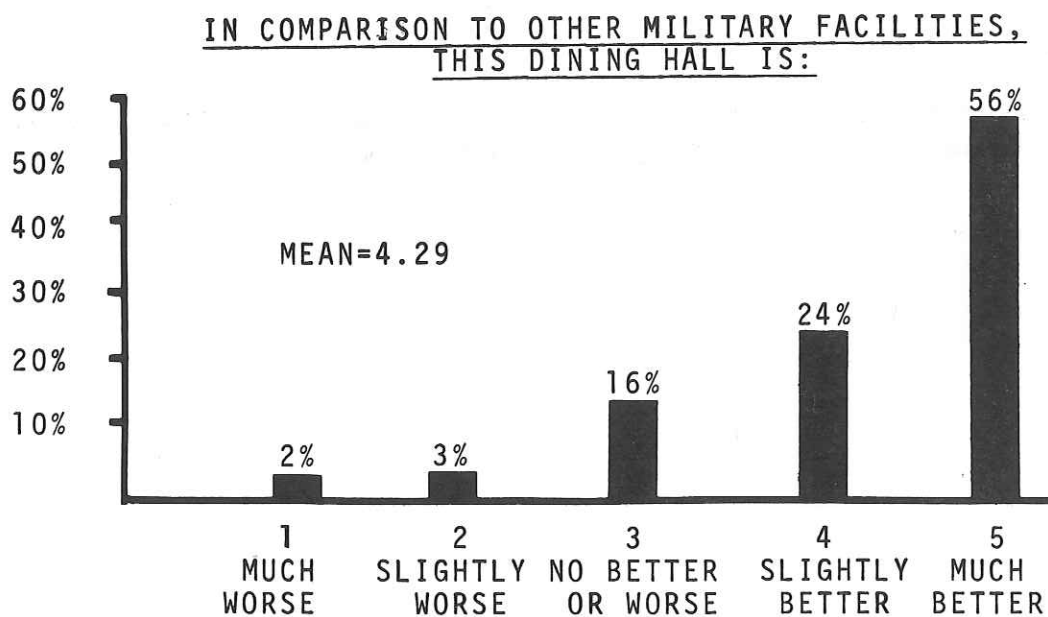
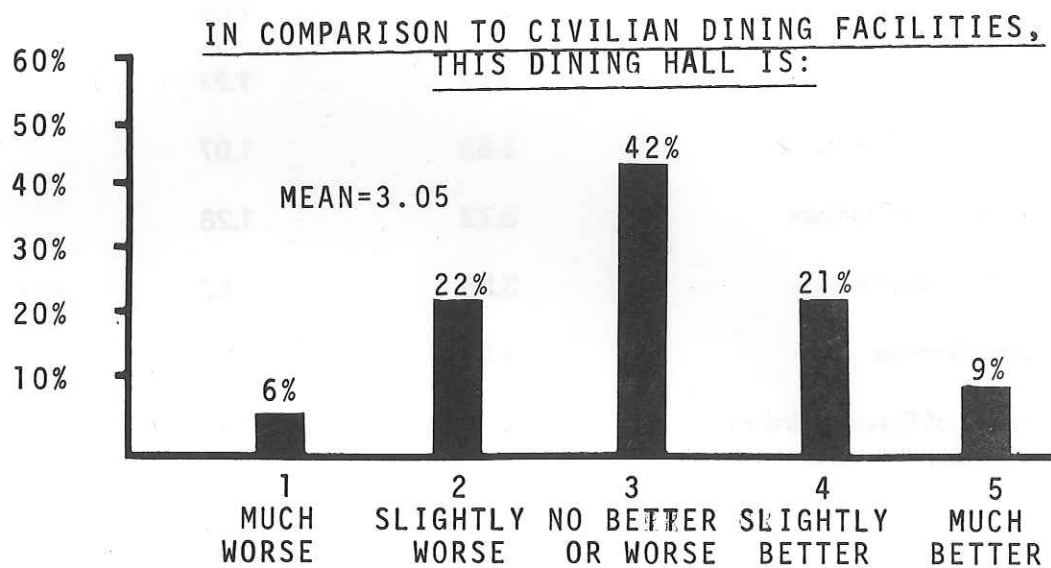


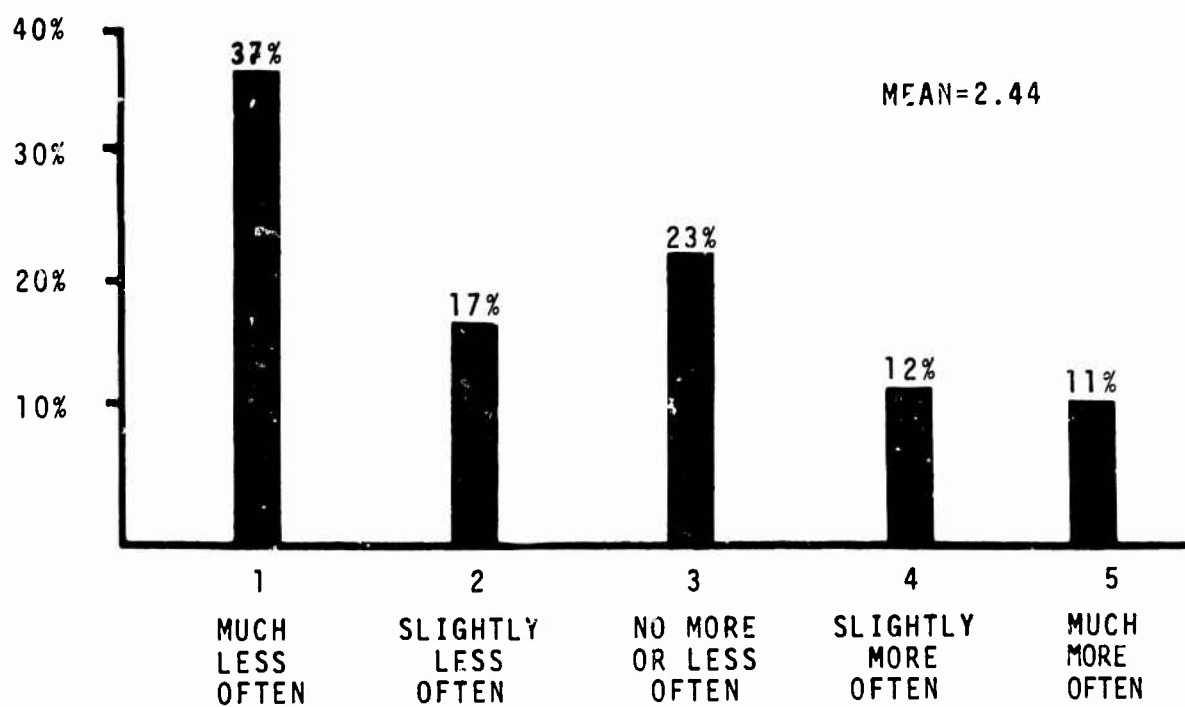
Figure 18

Feature	Mean Rating	Standard Deviation	Ranking
Dining Hours	3.20	1.08	1
Food Cost	3.38	1.27	2
Number of Food Choices	3.62	1.07	3
Food Priced by the Item	3.72	1.26	4
Decor/Atmosphere	3.88	.82	5
Carry-out Service	3.99	1.00	6
Seperation of Serving Line from Dining Room	4.01	.90	7
Civilian Guests	4.04	1.03	8
Everyone on Separate Rations	4.33	.97	9
Short Order Line	4.59	.93	10

Scale: 1 — Extremely Unfavorable; 2 — Slightly Unfavorable; 3 — Neither Favorable Nor Unfavorable; 4 — Slightly Favorable; 5 — Extremely Favorable.

FIGURE 19

CURRENT ATTENDANCE RELATIVE TO DINING HALLS AT OTHER
INSTALLATIONS WHERE ASSIGNED



The results of this comparison, which are pictured in Figure 20, can be summarized as follows: (a) airmen reported eating 22% fewer meals now than either before coming to Shaw or before the food test started (which agrees with the results of the first question); (b) a decrease in reported attendance occurred for every meal, with the largest decrement occurring at evening meals; (c) reported attendance dropped on both weekdays and weekends, although the latter drop was greater than the former one; and (d) the absolute numbers of meals the respondents reported eating in the dining hall before and after the BAS/A La Carte changes were low.

Recall that, despite this drop in reported attendance, the Shaw airmen reported liking the Shaw facility more than other dining halls they had seen and more than other airmen reportedly liked theirs. In the opinion of the author, any potential increase in attendance caused by item pricing, physical renovations, improvements in food, etc. was offset by the financial flexibility provided the men by putting them on BAS. It remains for future research to determine how much more of a drop would have occurred had the "extras" at Shaw not been present. As will also be indicated by the interview data, airmen appeared to prefer eating at places other than the dining hall regardless of what innovations are made and will when given the financial freedom to do so.

Given the relatively high opinion of the Shaw dining facility evident from the overall survey data, one may wonder whether this opinion was shared by all sectors of the Shaw population. To provide information in this regard, non-independent comparisons were made between: (a) older versus younger airmen; (b) airmen who expressed a liking for the military versus those who expressed a disliking; (c) airmen who had been exposed to a number of other dining facilities versus those who lacked such exposure; and (d) attenders versus nonattenders. Due to the amount of data involved, it was not possible to make these comparisons on all survey questions. Consequently, the comparisons were confined to the ratings of the 14 general features (these ratings, it will be recalled, were on a scale from 1, significant problem, to 5, significant attraction). Of necessity, therefore, the comparisons remained at a general level, pointing out in which general areas disagreements existed without delving into the details of the disagreement. Specifically, the plan for each comparison was to determine: (a) whether the groups differed in their general opinions of each of the 14 features; (b) whether the ranking of the 14 features in terms of their mean ratings differed between the two groups; and (c) the degree to which the ratings of each feature were related to the variable on the basis of which the groups were formed, i.e., age, attendance rate, degree of liking for the military, and amount of exposure to other dining facilities.

A. Comparisons Based on Age. The respondents were divided into two age groups, 23 and younger and 24 and older, containing 132 and 122 airmen, respectively. In general, the older airmen expressed more satisfaction than their younger counterparts (Figure 21). This is reflected in a significant difference between the overall average of the mean ratings

FIGURE 20

AVERAGE NUMBER OF BREAKFASTS, LUNCHES, EVENING MEALS, AND AFTER EVENING MEALS HAD IN THE DINING HALL ON WEEKDAYS AND WEEKENDS CURRENTLY AND BEFORE THE FOOD SERVICE TEST

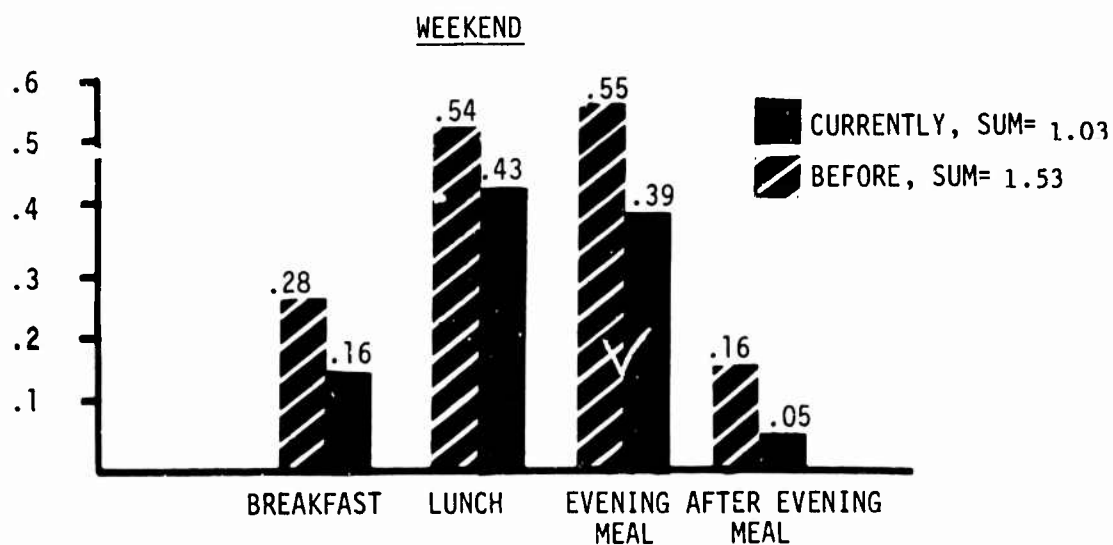
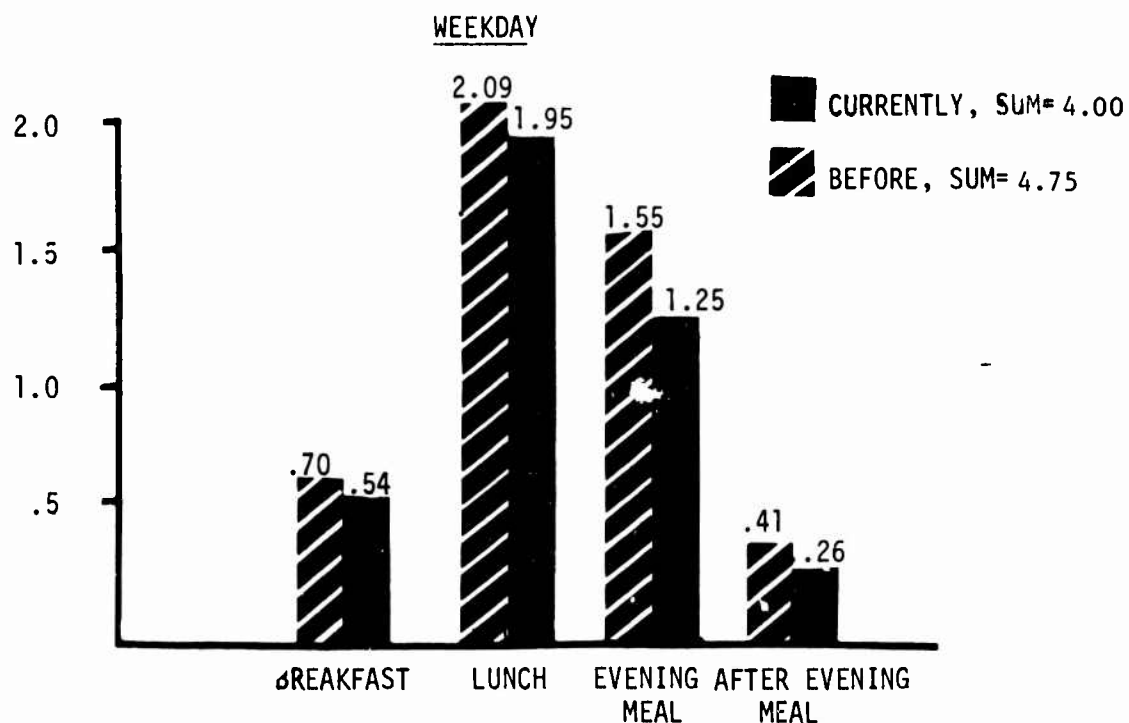


Figure 21

Comparisons of Younger (Y) Versus Older (O) Airmen

Feature	Y Rating	O Rating	Difference	Y Ranking	O Ranking	Correlation
Convenience of Location	*	*		13	13	-.02
General Dining Environment	*	*		14	14	.12
Degree of Military Atmosphere				9	4	.06
Desirable Eating Companions	*	*	Y > O	12	6	-.12
Expense	*	*		11	8	.10
Hours of Operation				2	2	.16
Monotony of Same Facility				4	3	.16
Quality of Food		*	O > Y	3	12	.33
Quantity of Food		*		5	7	.24
Service by Dining Facility Personnel		*		6	5	.16
Variety of Regular Meal (Weekdays)		*	O > Y	8	11	.26
Variety of Regular Meal (Weekends)		*	O > Y	10	9	.19
Variety of Short Order Food		*	O > Y	7	10	.27
Speed of Service				1	1	.17

Column 1 — Mark indicates that the mean rating of that factor by the younger airmen was above the neutral point.

Column 2 — Mark indicates that the mean rating of that factor by the older airmen was above the neutral point.

Column 3 — Mark indicates that the ratings of the two groups were significantly different and the direction of the difference (O > Y means that the ratings of the older group tended to be more positive than those of the younger group).

Column 4 — Rank of each feature based on the mean ratings by the younger airmen (1 was assigned to the lowest rated factor).

Column 5 — Rank of each feature based on the mean ratings by the older airmen.

Column 6 — Correlation between the age of the respondents and their rating of each feature.

of the two groups (2.85 for the younger airmen and 3.15 for the older airmen).³³ The primary point of disagreement was in the food-related areas. Significant differences were found for four of the five food features, the mean ratings of the younger and older airmen being below and above the neutral point, respectively, in all five cases. Although non-food features predominated the top ranking for both groups (indicating they were considered the most significant problems), more food factors were included among these top rankings by the younger airmen than by the older ones. Food quality for example, ranked third for the younger respondents, but only twelfth for the older group. A similar pattern was reflected by the correlations, which, although not particularly high, were greatest for the food features. It appears, therefore, that satisfaction with the food served at the Shaw dining hall was not uniformly high. Although they were not considered the most serious deficiency areas, the food features were considered lacking by the younger airmen.

B. Comparisons Based on Exposure to Other Dining Facilities. Because the Shaw dining facility is unique in a number of respects relative to other Air Force facilities, one might expect that airmen who had been exposed to a number of other facilities would react to the Shaw facility differently than airmen lacking such exposure. To investigate this issue, the 187 airmen who reportedly had experienced two or more other dining facilities were compared with the 72 respondents who reportedly had been exposed to no more than one other facility. (The question eliciting this information was among the extra items asked only of the Shaw airmen.) Although the inexperienced group had fewer positive mean ratings than the experienced (8 versus 3), especially with regard to the food features, in only one instance (General Dining Facility Environment) were the responses of the two groups significantly different (Figure 22). Furthermore, when an overall average of the mean ratings was computed for both groups, no significant difference was found (3.06 for the experienced airmen and 2.83 for inexperienced airmen).³⁴ There was also little difference between the groups' rankings of the 14 features.³⁵ Apparently, then, prior dining hall exposure had relatively little to do with how airmen evaluated the Shaw facility.

C. Comparisons Based on Attitude Toward the Military. A critical issue in the area of consumer evaluations of dining facilities is whether the consumer's opinion about the dining facility is determined by his general attitude toward the military. There is concern that only airmen who dislike the military complain about the dining facility and that they will continue to complain regardless of what changes and improvements are made. This issue has been addressed in previous survey reports by computing correlation coefficients between the liking men express for the military and their ratings of each of the 14 general dining hall features. On the whole, these correlations have been relatively small, in no case exceeding .40, indicating that complaints about the dining hall cannot be accurately predicted from respondents' attitudes about the military (e.g., Branch and Meiselman, 1973). Similar findings were obtained in the current study as shown in column 6 of Figure 23. However, this figure also shows that, when grouped together, the 56 airmen who said they did not like the military did display different opinions about

Figure 22

Comparison of Airmen Exposed to a Number of Other Facilities (E) Versus
Airmen Lacking Such Exposure (NE)

Feature	NE Rating	E Rating	Difference	NE Ranking	E Ranking	Correlation
Convenience of Location	*	*		14	13	-.04
General Dining Facility Environment	*	*	E > I	13	14	.12
Degree of Military Atmosphere				9	4	.05
Desirable Eating Companions	*	*		12	12	-.04
Expense		*		10	11	.17
Hours of Operation				2	2	.05
Monotony of Same Facility				7	3	.11
Quality of Food		*		3	8	.23
Quantity of Food				5	6	.20
Service by Dining Facility Personnel				4	5	.11
Variety of Regular Meal Food (Weekdays)		*		6	10	.21
Variety of Regular Meal Food (Weekends)		*		11	9	.20
Variety of Short Order Food		*		8	7	.16
Speed of Service				1	1	.07

(See bottom of Figure 21, substituting "E" for "O", "NE" for "Y", "exposed" for "older", and "unexposed" for "younger".)

Figure 23

Comparisons of Airmen Who Liked the Military (L) Versus Those
Who Disliked the Military (D)

Feature	D Means	L Means	Difference	D Rankings	L Rankings	Correlation
Convenience of Location	*	*		13	13	.07
General Dining Facility Environment	*	*		14	14	.13
Degree of Military Atmosphere				10	4	.12
Desirable Eating Companions	*	*		12	12	.07
Expense		*		11	9	.15
Hours of Operation				2	2	.19
Monotony of Same Facility				6	3	.16
Quality of Food		*	L > D	3.5	8	.33
Quantity of Food		*	L > D	3.5	6	.29
Service by Dining Facility Personnel		*	L > D	5	5	.24
Variety of Regular Meal Food (Weekday)		*	L > D	7	10.5	.31
Variety of Regular Meal Food (Weekends)		*	L > D	9	10.5	.27
Variety of Short Order Food		*		8	7	.26
Speed of Service				1	1	.15

(See bottom of Figure 21, substituting "L" for "O", "D" for "Y", "likers" for "older airmen/group", and "dislikers" for "younger airmen/group".)

the dining facility than did the 160 airmen who expressed a liking for the military (41 airmen were neutral). Although the rankings of the features by the two groups were relatively similar,³⁶ the likers gave positive mean ratings to over three times as many features as did the dislikers. This is reflected in the significant difference between overall averages of the mean ratings of the two groups (3.11 for the likers and 2.71 for the dislikers).³⁷ As in previous comparisons, differences between the groups were particularly striking in the food-related areas, the ratings of the likers being significantly greater than those of the dislikers on four of the five food features.

It appears, therefore, that although complaining about the dining facility was not limited solely to those who disliked the military, this group was less satisfied with the food facility than was the group which liked the military. It is important to note, however, that this does not necessarily mean that the lesser satisfaction on the part of the dislikers was caused by their negative attitude toward the military. The nature of the data does not allow for such a judgement. In fact, these data could be just as easily interpreted in the reverse fashion -- that the attitude of the dislikers toward the military was more negative than that of the likers because they were less satisfied with the food facility. It is possible that the two variables were not directly related at all and that their apparent relationship was due to a common association of each with some third variable, such as age. Since younger airmen were less satisfied with the dining facility than were older airmen (see Figure 21) and since likers were generally younger than dislikers (a .44 correlation was found between age and attitude toward the military), the difference in the ratings of the dining hall between the likers and dislikers could be due, at least in part, to a difference in age. Clearly, the issue requires continued and more controlled investigation.

D. Comparisons Based on Attendance. The final comparisons were made between the 76 airmen who reported never eating in the dining hall and the 183 who reported any level of attendance. Surprisingly, the groups differed in very few respects (Figure 24). Comparing the average of the mean ratings of the two groups revealed no significant differences (3.00 for attenders and 2.97 for nonattenders).³⁸ The only major area of disagreement was food variety, the nonattenders expressing less satisfaction in this area than the attenders. The rankings of the features by the two groups were virtually identical,³⁹ both again emphasizing non-food features as the most serious problem areas. Also indicative of the similarity of the two groups were the low correlations between attendance frequency and the ratings of each of the 14 factors (this set of correlations was the lowest of the four sets computed), since they indicate that there was little relation between how frequently a person reportedly had meals in the dining facility and how he rated that dining facility. These data have important implications for those doing attitude research in dining halls.

E. Summary. The following summary points can be made. First, differences in opinion about the dining facility did exist among various groups of airmen. These

Figure 24

Comparisons of Attenders (A) and Nonattenders (N)

Feature	N Means	A Means	Difference	N Rankings	A Rankings	Correlation
Convenience of Location	*	*		13	13	.01
General Dining Facility Environment	*	*		14	14	.04
Degree of Military Atmosphere				8	4	.00
Desirable Eating Companions	*	*		11	12	-.08
Expense	*	*		12	10	.08
Hours of Operation				2	2	.10
Monotony of Same Facility				4	3	-.01
Quality of Food				7	7	.07
Quantity of Food				5	6	.09
Service by Dining Facility Personnel				3	5	.06
Variety of Regular Meal Food (Weekday)		*	A > NA	10	9	.12
Variety of Regular Meal Food (Weekend)		*		9	11	.04
Variety of Short Order Food		*	A > NA	6	8	.09
Speed of Service				1	1	.15

(See bottom of Figure 21, substituting "A" for "O", "N" for "Y", "attenders" for "older airmen/group", and "nonattenders" for "younger airmen/group".)

differences were greatest between those who reported liking the military and those who expressed a disliking, and least between airmen who had eaten meals in the dining facility and those who had not. Second, the major area of disagreement was that involving food. For two of the comparisons (older versus younger airmen and military likers versus dislikers), significant differences between the groups were found on four of the five food features. Third, despite these differences, non-food features predominated as the most serious problems for every sector of airmen considered. In only one instance (military dislikers) were more than three of the seven most significant problem features ones related to food.

Interviews

One purpose underlying the interviews was to investigate the problem of nonattendance. It was for this reason that 56 nonattenders were interviewed, as well as 115 attenders. Although neither group was the same as those who took the survey, the picture which emerged from the interview data was quite similar to that above — the two groups held essentially the same opinions about the dining facility.

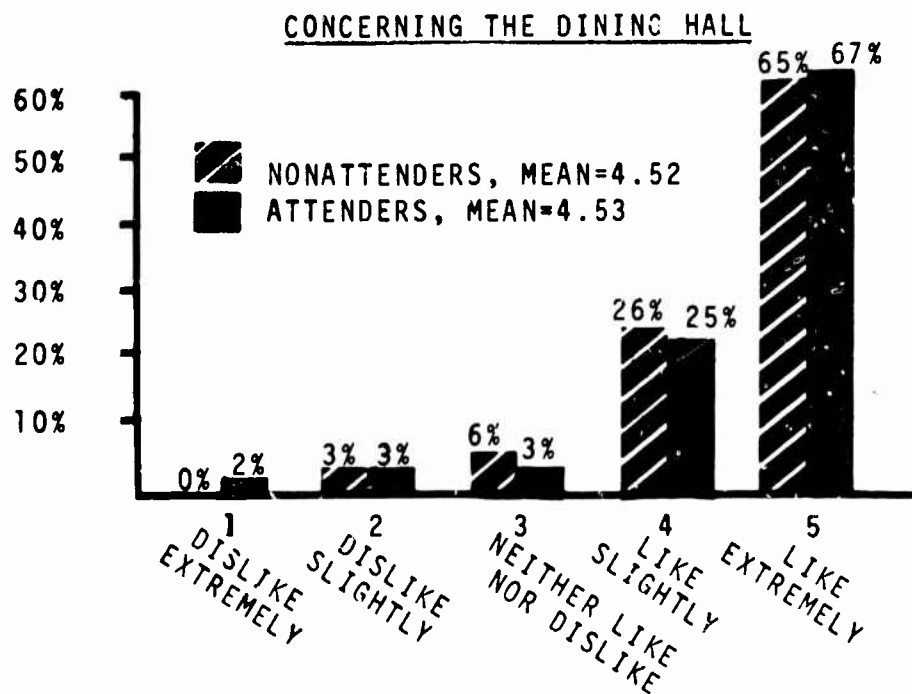
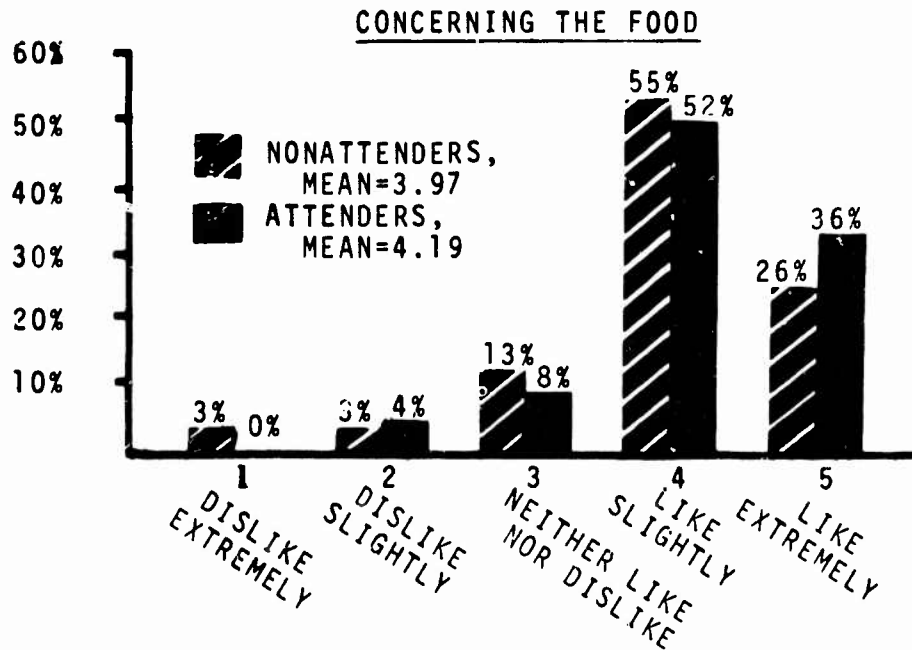
Of the 56 nonattenders, 25 claimed they had never been in the Shaw dining facility. Consequently, these persons were not asked questions which required some exposure to the dining hall. The remaining 32 nonattenders and all the attenders, however, were asked to rate the food and the facility on a scale ranging from 1 (Dislike Extremely) to 5 (Like Extremely). For neither the food⁴⁰ nor the dining facility⁴¹ were the responses of the two groups significantly different. The responses in both instances by both groups reflected a high level of approval, especially with regard to the dining facility, a picture similar to that portrayed by the survey data (Figure 25).

These questions were followed by open-ended questions in which the same respondents were asked to specify, first, the things they liked and, second, the things they disliked about the dining facility, including the food. Respondents were free to name as many things as they wished. In terms of the sheer number of responses, both groups named significantly more aspects which they liked than things they disliked. The nonattenders named an average of 2.06 positive points and .74 negative ones,⁴² in comparison to an average of 2.14 and 1.31, respectively, for the attenders.⁴³ Although the number of likes specified by the groups were not significantly different, the number of dislikes of the nonattenders was significantly less than that of the attenders.⁴⁴ This was because, when asked about dislikes, 45% of the nonattenders reported they could think of nothing, in comparison to only 19% of the attenders.

A complete breakdown of the likes and dislikes is given in Appendix 5. At a general level, the responses were one of four general types: related to food (price, appearance), to the physical features of the dining hall (temperature, furnishings), to the food service (speed of service, attitude of personnel), or to the BAS/A La Carte system. A breakdown

FIGURE 25

GENERAL OPINIONS OF ATTENDERS AND NONATTENDERS



of responses into these four categories is presented in Figure 26. Actually, a fifth category should be mentioned — Nothing. Very few respondents in either group gave this response when asked about things they liked. Because many nonattenders did not report disliking anything, the summary of dislikes in Figure 26 contains the responses of 93 attenders, but only 17 nonattenders (the 25 of the original 56 who reported never being in the facility were not even asked the question and 14 others indicated that there was nothing they disliked). Nonetheless, the groups did not differ significantly in terms of the distribution of their responses across the categories.⁴⁵ The preponderance of complaints by both groups concerned the service and the food. As can be seen from the more detailed break down in Appendix 5, the most frequently mentioned food dislikes had to do with quality, variety,^e and specific foods. Dislikes about the food service focused on one issue — speed.

The essential point to be made about the "dislike" data is that they reveal no difference between the attenders and nonattenders. The same holds for the "like" data: the breakdown of the "like" responses did not differ significantly for the two groups.⁴⁶ The major emphasis was on physical features, although both groups also made frequent mention of food features, including quality and variety (Figure 26). As in the case of the survey, therefore, respondents were not uniform in their opinion about the food, some finding fault and others expressing satisfaction. Most surprising was the relatively infrequent mention of the BAS and the a la carte features. It will be shown below that when specifically asked about these things, respondents displayed enthusiastic approval. Furthermore, when rated along with nine other aspects of the Shaw facility, the BAS policy received the second highest rating (see Figure 18). Why it and item pricing were not mentioned more frequently on a spontaneous basis is not clear, unless the respondents felt the question did not encompass these areas.

It would appear from these data, therefore, that the lower attendance of nonattenders was not due to lower opinions about the food or the dining facility. If anything, the nonattenders had fewer complaints than the attenders in this regard. One may inquire then as to what their lower attendance might be attributed. A number of questions of a demographic nature were asked in the interview and from these it was found that, while the two groups did not differ significantly in terms of age, time in service, distance from home to dining facility, likelihood of owning a car, or likelihood of driving to the dining hall when having meals there, there were other differences which could have contributed to the differential attendance rates. These data are contained in Figure 27 along with a suggestion as to how each may have produced differences in attendance between the

^eAs pointed out in the survey data, the dissatisfaction of the Shaw consumer was with regard to long term variety, not the variety at a given meal.

Figure 26

**Responses of Attenders (N=31) and Nonattenders (N=115) to Question of
What is Liked About the Dining Facility**

Category	Attenders		Nonattenders	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Physical Features	26	44	107	46
Food	24	41	83	35
BAS/A La Carte	6	10	21	9
Service	3	5	23	10
Number and Percentage Responding "Nothing"	1 (2%)		5 (2%)	

**Responses of Attenders and Nonattenders to Question of
What is Disliked About the Dining Facility**

Category	Attenders		Nonattenders	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Food	10	48	58	40
Service	7	33	59	41
Physical Features	3	14	26	18
BAS/A La Carte	1	5	0	0
Number and Percentage Responding "Nothing"	14 (45%)		22 (13%)	

Figure 27

Demographic Differences Between Attenders and Nonattenders

Factor	Response of Nonattenders	Response of Attenders	Statistical Test	Potential Contribution to Differential Attendance Rates
Time at Shaw	Mean = 1.7 yr.	Mean = 1.1 yr.	$t=2.36, df=1, p<.05$	Having had less time at Shaw, attenders may still be influenced by the novelty of the Shaw dining facility. Over time as the novelty wanes, their attendance may also drop.
On Separate Rations Before the Food Test or Before Coming to Shaw	Yes - 66% No - 34%	Yes - 34% No - 66%	$\chi^2=14.5, df=1, p<.001$	Having been less likely to have received separate rations before the test, attenders may have been more accustomed than nonattenders to eating in the dining hall and, thus, more impressed by the new system, which led to their relatively continued attendance.
Distance From Work to Dining Facility	Mean = 1.2 mi.	Mean = .7 mi.	$t=3.26, df=169, p<.01$	It may be more convenient for attenders to have meals in the dining hall than for the nonattenders.
Career of the Military	Yes - 61% No - 29% Uncertain - 6%	Yes - 39% No - 40% Uncertain - 21%	$\chi^2=7.36, df=2, p<.05$	
Married	Yes - 75% No - 25%	Yes - 40% No - 60%	$\chi^2=14.15, df=1, p<.001$	Since nonattenders were more likely to have been married and live with their families off base they would be more apt to be under social pressures to have meals at their residence rather than in the dining hall.
Residence	On Base - 35% Off Base - 65%	On Base - 65% Off Base - 35%	$\chi^2=17.53, df=1, p<.001$	

two groups. Note that these suggestions are just that, suggestions. Continued research will be required to demonstrate their veracity. (One other difference not noted in this figure is that significantly more attenders reported parking problems when eating at the dining hall than nonattenders, 62% versus 36%).⁴⁷

Nonattenders and seven attenders with low attendance rates were directly asked why they did not have meals in the dining hall more frequently and what, if anything, could be done to increase their attendance. The major reason given for nonattendance (Figure 28) was simply that the respondents had other meal habits which took precedence over having meals in the dining hall. As suggested in Figure 28, these most often involved having meals at home with their families. The only other factor which was mentioned relatively often was convenience/hours. This factor was also noted in Figure 28 and was probably most relevant for the noon meal.

The responses to the question of what could be done to increase attendance are given in Figure 29. As would be anticipated, a large majority (70%) indicated that under no conditions would they eat more often in the dining hall. Thus, regardless of renovations, changes, and improvements, a considerable portion of those currently not eating in the dining hall reported that they would not alter their meal patterns so as to increase their attendance. Of the remaining responses, the largest percentage indicated that improving the speed of service would increase their attendance. It is noteworthy that in the comparison of attenders and nonattenders on the 14 general dining facility features (see Figure 24), both groups gave the lowest ratings to speed of service. It would seem, therefore, that improving this feature would not only increase the attendance of nonattenders, but of attenders also.

There were a number of additional questions of a miscellaneous nature which were included in the interview and asked of both attenders and nonattenders. Since the responses of the two groups were not significantly different in any of the cases but one, they were combined for all questions with the one exception.

In one series of questions, respondents were asked about their current meal patterns in the dining facility, relative to those before being exposed to the Shaw dining system. Forty percent indicated their attendance had remained unchanged. Another 21% indicated an increase in attendance, while 39% reported that their attendance had decreased. These results, which indicate an overall decrease in the reported attendance, agree with those discussed earlier. In relation to the amount of food a person consumed when having meals in the dining facility, the effect of item pricing was not unidirectional. Fifty percent of the respondents reported no change from prior to the test, while 27% reported a decrease and 23% reported an increase. Despite the divergent responses to this question, 70% said that they ate more of the foods they liked now than prior to the test. Only 9% reported a decrease in this regard, while 21% reported no change. Taken together, these data indicate that receiving separate rations caused the airmen to have fewer meals in

Figure 28

Reasons for Nonattendance (N = 56 Nonattenders and 7 Attenders)

Reason	Number of Responses	Percentage of Responses
Conflicting Meal Habits	44	52
Convenience/Hours	16	19
Speed of Service	7	08
Food	6	07
Cost	4	05
Dining Environment	4	05
Attitude of Service Personnel	2	02
Miscellaneous	2	02

Figure 29

**Factors Which Would Increase Attendance
(N = 56 Nonattenders and 7 Attenders)**

Factor	Number of Responses	Percentage of Responses
Speed of Service	9	39
Miscellaneous	6	26
Food	5	22
Attitude of Service Personnel	2	9
Dining Environment	1	4

Forty-four of the respondents (70%) said that nothing could be done.

the dining hall than before and that going to an item pricing system with an expanded menu increased their intake of preferred foods, although it had a variable effect on the absolute amount consumed at a given meal.

Another series of interview questions addressed the test system from a monetary standpoint. Since all airmen were placed on separate rations, it was of interest to determine what percentage of them were aware of the daily separate rations rate. Surprisingly, only 96 of the 171 respondents (56%) indicated that they knew what this rate was. And, of those, only 33 (30% overall) were able to report the correct figure (\$2.28). The distribution of the 63 inaccurate responses is shown in Figure 30. Although the mean of this distribution (\$2.27) was very near the correct figure, guesses ranged from \$1.40 to \$4.00, with the majority being below the true figure. Over 90% were inaccurate by 10 cents or more, while 25% missed by more than 50 cents. (Some of the airmen who were unable to quote the daily rate could give the monthly allowance rate. This knowledge, however, would seem of little use in day-to-day budgeting). When informed of the true BAS rate, respondents were asked whether they spent more than that amount for food on a typical day. The responses of attenders and nonattenders differed significantly, 82% of the nonattenders reporting "yes" versus 59% of the attenders.⁴⁸ The *additional* amount reportedly spent by these persons, however, did not differ significantly between groups, nonattenders and attenders reporting mean amounts of \$2.72 and \$2.40, respectively.⁴⁹ It appears incorrect, therefore, to assume that airmen were properly budgeting their separate rations to cover food costs, since few even knew how much they were provided each day for food and most were reportedly spending well in excess of that amount for food each day. It should be noted that when asked these questions, respondents were told to base their answers on their current eating habits, which invariably included food purchased outside the dining hall in addition to meals in the dining facility. (As of March 1975, TAC reported the average daily sale in the dining hall was \$1.94 which is below the current BAS rate, \$2.41.

The final set of questions in the interview focused directly on the new BAS/A La Carte system and was asked only of the attenders. These respondents, first, indicated on a 5-point scale whether they would prefer remaining on separate rations or converting to SIK. The scale ranged from Extremely Prefer SIK to Extremely Prefer BAS. Very little variation in responses was found, 87% of the respondents expressing an extreme preference for separate rations. In fact, only 5 out of the 115 (4%) indicated that they preferred SIK at all. When asked to explain this preference, airmen were most likely to give one of two responses (Figure 31): first, that receiving a subsistence allowance was economically advantageous and, second, that it allowed a desired flexibility in meal patterns. Another somewhat sizeable proportion of the responses (16%) indicated that being on BAS better conformed to current meal patterns than would being on SIK. The typical attitude was, "Since I eat a lot of meals outside of the dining hall, authorization to have meals there for free does me little good. I would much rather receive money, even though it is not enough to offset all my food costs. It is better than nothing. This way, I can eat meals in the dining hall when I want, without being financially penalized when I do eat someplace else."

FIGURE 30

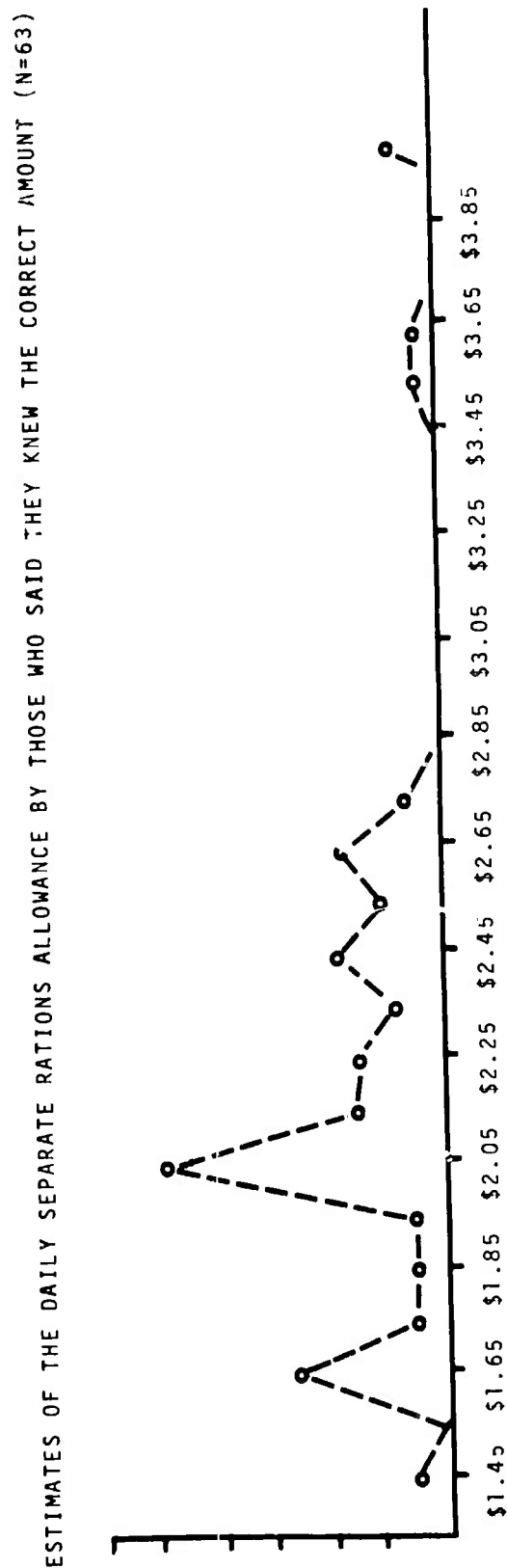


Figure 31

Reasons Given for BAS Preference (N=110)

Reason	Number of Responses	Percentage of Responses
Financial	54	39
Flexibility	49	36
Conforms to Eating Habits	22	16
Improved Eating	9	7
Miscellaneous	3	2

The next question asked airmen to rate item-pricing on a 5-point scale, in this case ranging from Extremely Prefer Meal Pricing to Extremely Prefer Item Pricing. Although these responses were more variable than the previous ones, 82% favored item pricing, 12% favored meal pricing, and the remainder expressed no opinion (Figure 32). The main reason airmen gave for their item-pricing preference was financial (Figure 33), many feeling that they could save money in the dining hall by paying only for the items chosen rather than a flat price for the entire meal. This suggests that these men would eat less than \$2.28 worth of food during the day if they had all meals in the dining hall. Consistent with this notion, over 70% of the respondents who favored item pricing indicated in a subsequent question that the current allowance would be enough, slightly more, or extremely more than enough if they ate all their meals in the dining hall. It is interesting to note that the reason most frequently cited by those who favored meal pricing was also financial (Figure 33). Not unexpectedly, however, the majority (61%) of those favoring meal pricing said that the current allowance was slightly or extremely less than what would be needed for food if all meals were taken in the dining facility. It appears, therefore, that one's position on the item versus meal pricing issue was largely predicated by his food habits, large eaters tending to opt for the latter system and the others choosing the former system. This was not, however, the only consideration.

Many who preferred item pricing felt they could eat more foods they liked under this system than under a system in which choice was limited (Figure 33). (It should be noted that, although this opinion must be considered, it may have been based more on the large menu selection which accompanied item pricing at Shaw AFB than on the item pricing, per se.) Another reason was that the men simply enjoyed choosing the foods they wanted, rather than having someone else make these choices for them.

Additional information relating to the item versus meal pricing issue and the all-BAS concept is presented in the following section.

ARS Survey

It will be recalled that the Shaw airmen who took the COFSS survey also responded to a short questionnaire concerning alternative ration systems. Before these responses are discussed, however, mention should first be made of the data from the four questions on alternative ration systems in the COFSS survey, itself. Since these questions were asked of the Composite sample, as well as of the Shaw airmen, comparisons between the two groups can be made. The first question simply asked the respondents' opinions about the separate rations policy. Surprisingly, the responses of the two groups differed significantly.⁵⁰ Over 75% of the Shaw respondents felt that this policy was very or mildly acceptable, in comparison to only 49% of the Composite sample (Figure 34). This difference is not easy to interpret. On one hand, it may be indicative of the positive effect that exposure to a system has on one's opinion of that system, since all the Shaw respondents were on separate rations in comparison to 53% of the Composite sample.

FIGURE 32
PREFERENCE FOR ITEM VERSUS MEAL PRICING

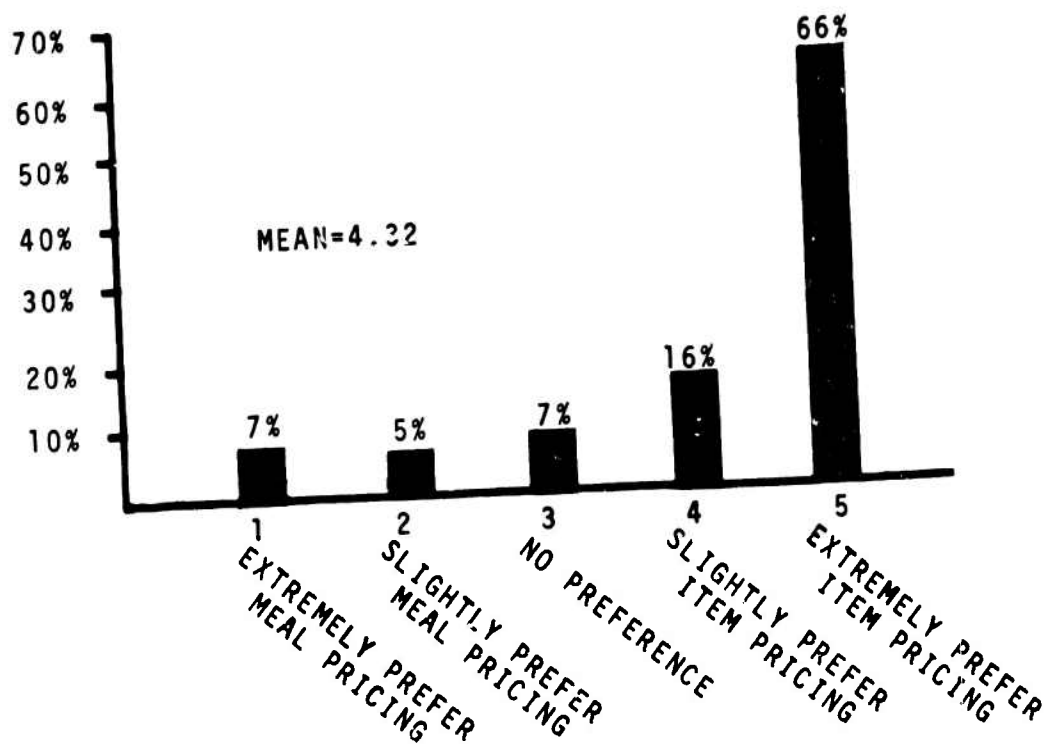


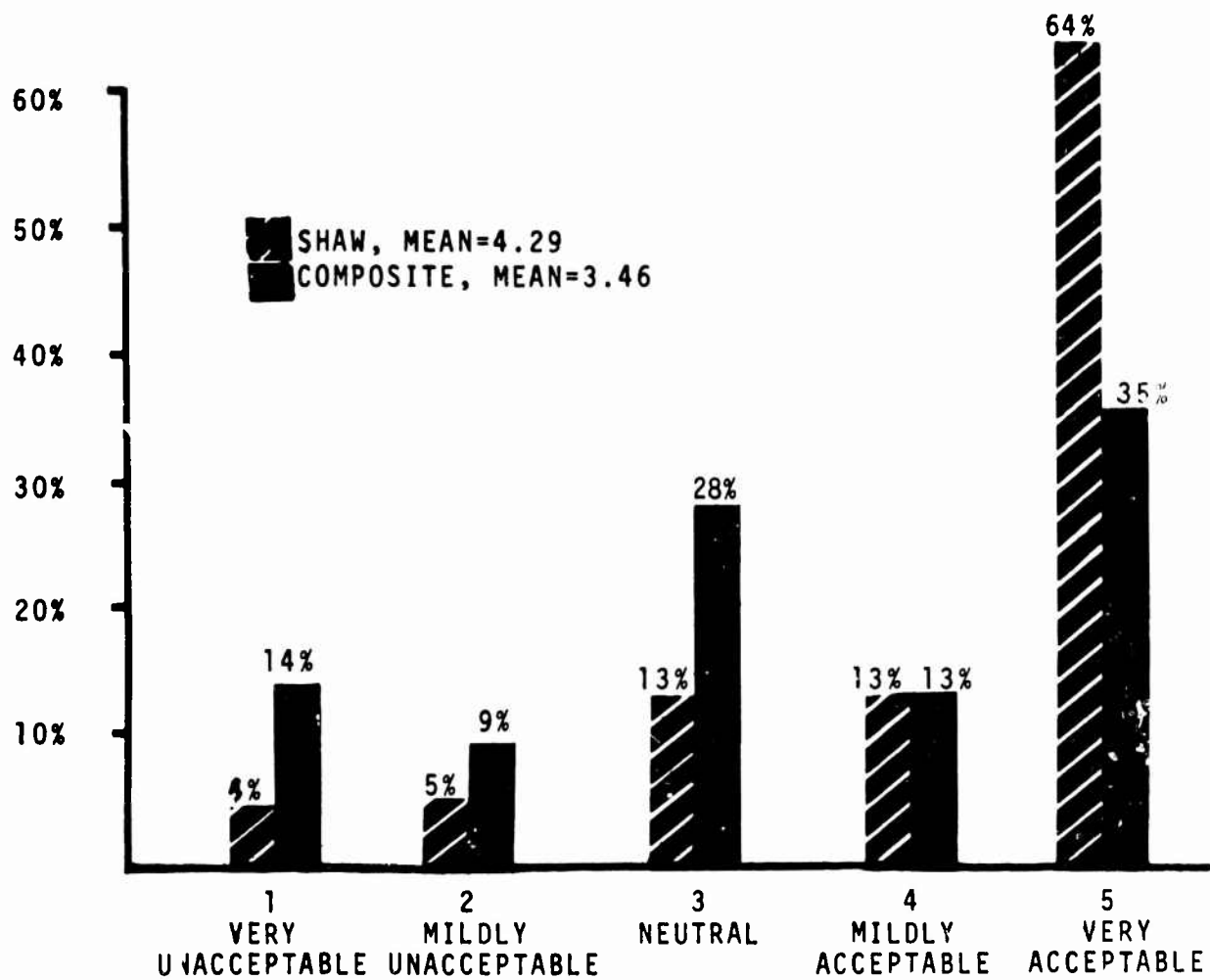
Figure 33

Reasons Given for Meal Versus Item Pricing Preference

	Item Pricing (N=93)		Meal Pricing (N=14)	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Financial	45	41	15	88
Improved Eating	26	24	2	12
Flexibility of Choice	19	17	0	0
Miscellaneous	11	10	0	0
Conforms to Eating Habits	9	8	0	0

FIGURE 34

OPINION ABOUT THE POLICY GOVERNING THE SEPARATE ELECTIONS SYSTEM



On the other hand, however, it might reflect the dissatisfaction of the 47% of the Composite sample on SIK with a policy which denied them a subsistence allowance. It is interesting in regard to both these hypotheses that fewer of the Composite airmen on SIK (33%) found the separate rations policy acceptable than Composite airmen on BAS (61%).

The remaining three questions in this series had respondents rate three different ration systems on a 5-point scale, ranging from Extremely Unfavorable to Extremely Favorable. The systems were: (a) all-BAS, meal pricing; (b) all-BAS, item pricing (the Shaw system); and (c) BAS/SIK, meal pricing (the traditional system). The ratings of the two groups differed significantly in each case.⁵¹ The ratings assigned (a) and (c) by the Shaw personnel were less than those of the Composite airmen, whereas their ratings of (b) were greater than those of the Composite sample (Figure 35). The groups also differed with regard to the systems that each most and least favored. The Shaw respondents gave the highest mean rating to (b), the system in effect at their base. This system, however, received the lowest mean rating by the Composite respondents, their highest rating going to (a). Thus, again, it seems that exposure had a considerable influence on the responses of the two groups. It should be kept in mind, however, that when rating (b), the Shaw airmen had as a model the implementation of that system at their base. This involved a good deal more than only placing all personnel on BAS and charging by the item in the dining hall. Although these "extras" could have exerted a considerable influence on the ratings of each of the systems by the Shaw respondents, their effect cannot be assessed from the present data. Notwithstanding this problem, it is clear that the Shaw airmen preferred their current system to other alternatives. Additional evidence in this regard was available from the ARS survey, itself.

Since the ARS survey was administered at Shaw AFB for the first time, data from airmen at bases with the traditional ration system are not available for comparison. Included as an addendum to the COFSS survey, the questionnaire required respondents to "design", first, a "best" food system and, then, a "worst" food system. In each case, he did this by making decisions in regard to three food service policies currently being considered for revision: (1) placing all, versus only some, airmen on BAS; (2) having a civilian contractor, versus the government, operate the dining hall; and (3) requiring diners to pay only for the food items selected or for one of three differentially priced meals versus paying a single fixed price for a meal. After "designing" each system, the respondent rated it on four scales, one dealing with attendance, another with plate waste, a third with expense, and the last with his overall opinion of the system.

Twelve possible systems were generated from the three issues. These are listed in Figure 36 along with the number of persons who chose each one as best and the number who chose it as worst. The most popular systems clearly were those involving all persons on BAS and item pricing. Conversely, the least favored systems were those in which only some persons were on BAS and pricing was on a per meal basis. The government versus civilian contractor issue failed to elicit the uniform agreement which the others did.

FIGURE 35
OPINIONS OF ALTERNATIVE RATION SYSTEMS

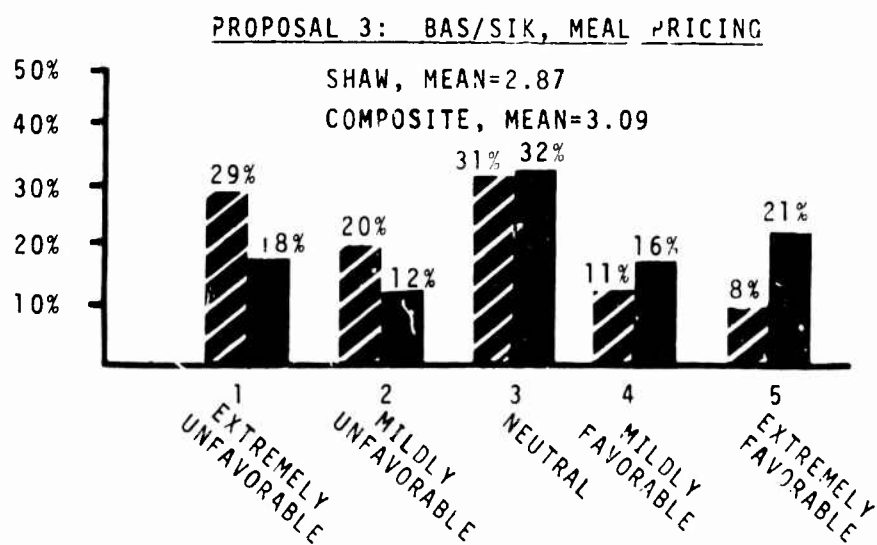
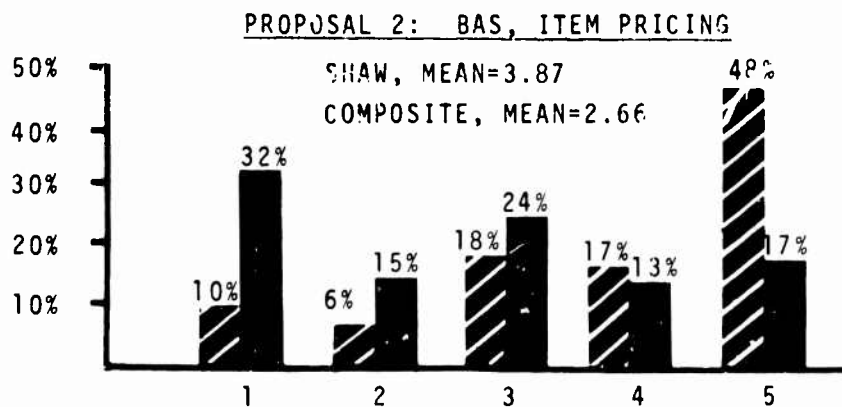
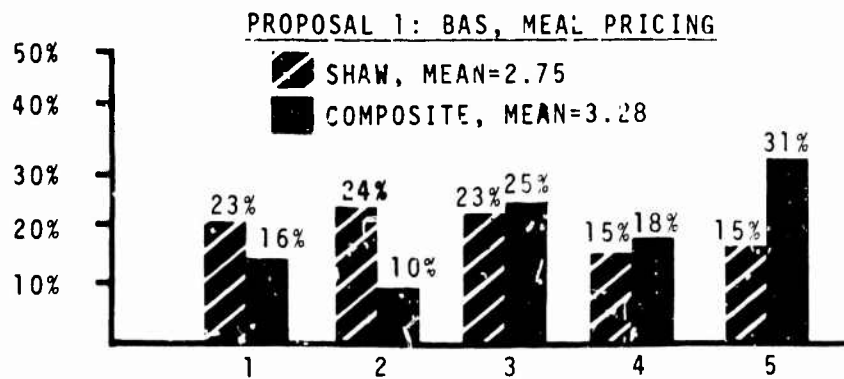


Figure 36

**Number and Percentage Choosing Various Alternative
Ration Systems as Best and Worst**

System	Best		Worst	
	Number	Percentage	Number	Percentage
BAS, Item, Civilian	108	42	1	1
BAS, Item, Government	61	24	6	2
BAS, Special, Civilian	21	8	2	1
BAS/SIK, Item, Civilian	18	7	13	5
BAS, Special, Government	12	5	3	1
BAS, Meal, Civilian	11	4	7	3
BAS, Meal, Government	9	3	17	7
BAS/SIK, Meal, Civilian	6	2	60	23
BAS/SIK, item, Government	4	2	8	3
BAS/SIK, Special, Civilian	4	2	8	3
BAS/SIK, Special, Government	3	1	18	7
BAS/SIK, Meal, Government	2	1	115	45

Overall, the system chosen as best involved all persons on BAS in 86% of the cases, operation by a civilian contractor in 65% of the cases, and item pricing in 74% of the cases, (with meal pricing in another 11%). The overall picture for the system chosen as worst was just the opposite, involving partial BAS/partial SIK in 86% of the cases, government operation in 65% of the cases, and meal pricing in 77% of the cases (with meal pricing in another 11%).

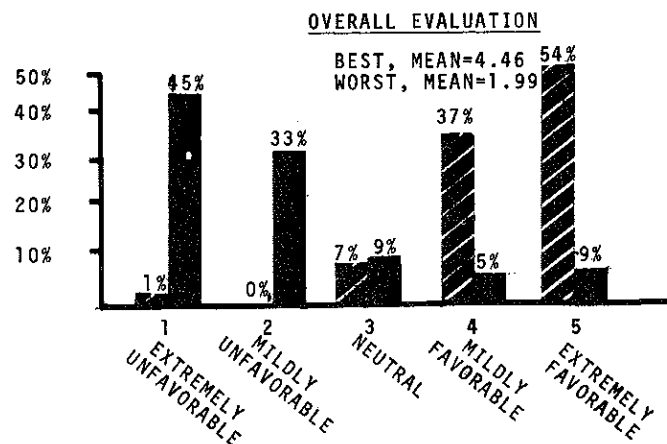
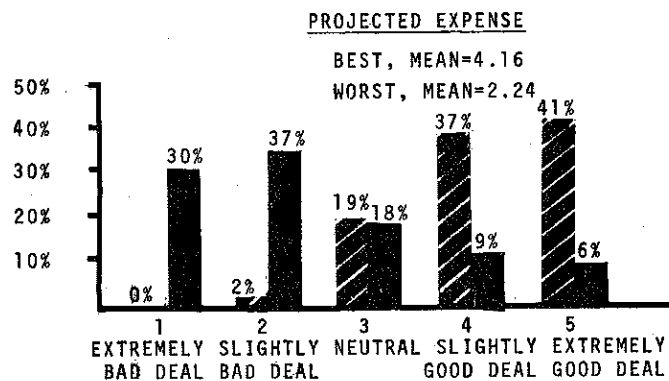
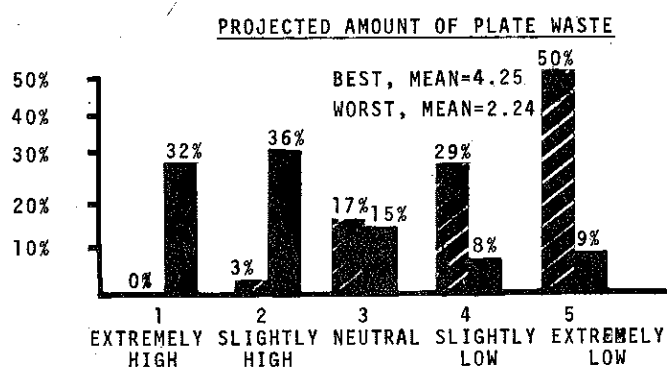
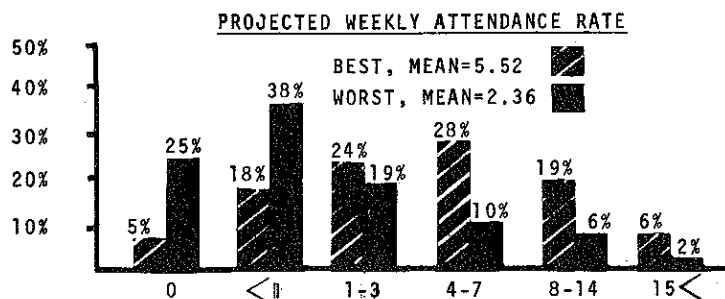
The ratings of the systems designated as best and worst are pictured in Figure 37. Generally, the best system was liked more than the worst system was disliked. On the plate waste scale, for example, the ratings of the best system clustered near the positive end of the scale, whereas the ratings of the worst system were more evenly distributed across the scale.

The ratings on the attendance scale deserve special mention because they indicate that even under the system considered best, respondents reported that they would attend, on the average, less than six times per week. Although one must again recognize that the attendance frequency reported on a questionnaire may not be the same as that in fact, these data and those from the interviews and the COFSS survey indicate that the goal of increasing attendance to the point where the airman is going to the dining hall for the majority of his meals, or any where near the majority, is simply unrealistic.

The 14% of the sample which indicated a preference for a BAS/SIK system rather than on all-BAS one is considerably higher than what would have been anticipated from the interview data where only five of the 115 respondents said they would prefer SIK to BAS. It is also at variance with the observation that less than 1% of the Shaw airmen chose to revert to SIK when given that opportunity. One possible explanation of this discrepancy is that the airmen selecting a BAS/SIK system as best were individuals who would be on BAS even if the traditional BAS/SIK system were reinstituted, but who felt that other persons, particularly younger airmen, should remain on SIK.

Although no data was available to test this hypothesis directly, it was found that 30 (81%) of the 37 favoring the BAS/SIK system were persons who reportedly would have been on BAS had the test system not been instituted. Even though this percentage does not differ significantly from the corresponding percentage of those favoring the all-BAS system (77%), the fact remains that the majority of those who chose the BAS/SIK system as best would have been on BAS regardless of whether the traditional or the test system were in effect. Data recently collected at another test site of the BAS/A La Carte system, Loring AFB, supplement those findings. They show that a not insignificant percent of those eligible for BAS themselves, felt that BAS should not be given to younger airmen because of problems they purportedly would have in budgeting the money judiciously. (These data will be included in a full report on the Loring test to be published in the future.)

FIGURE 37
OPINIONS ABOUT BEST AND WORST RATIIONS SYSTEMS



CONCLUSIONS

1. Consumers at Shaw Air Force Base surveyed in 1974, were more satisfied with almost every aspect of their dining facility than were airmen eating in the traditional Air Force facilities at Travis, Minot, and Homestead AFBs, surveyed in 1972-73. The degree to which this greater satisfaction was related to the BAS/A La Carte system, per se, however, remains a question.

2. Despite positive evaluation, Shaw airmen were not entirely satisfied with their dining situation. The areas which they felt were most problematic were not related to the food, per se, whereas those specified by the airmen at other bases were food features.

3. The consumer problem cited most often by the Shaw respondents was speed of service. In fact, the interviewed nonattenders indicated that the solution of this problem would do more to increase their attendance than anything else.

4. Although the attendance rate reported by the Shaw consumers was less than that reported by airmen at other bases as a whole, it was greater than the rate reported by only those airmen on BAS. The current attendance rate of the Shaw airmen was reported to be less than their attendance either before they came to Shaw or before initiation of the BAS/A La Carte system at Shaw.

5. Differences in attitude about the dining facility, particularly with regard to the food, existed between various segments of the Shaw population. Young airmen were less satisfied than older airmen, and persons who disliked the military expressed less satisfaction than persons who liked the military. Only marginal differences, however, were found between airmen who had been exposed to a number of other Air Force dining facilities and airmen who lacked such exposure, as well as between attenders and nonattenders.

6. The reason for nonattendance in the Shaw system was not a negative opinion about the dining facility. The nonattenders' attitudes were virtually identical to those of attenders. These persons reportedly did not have more meals in the dining hall because of conflicting meal habits to which they gave precedence, particularly eating at home with their families. Furthermore, the majority of these respondents said that there were no conditions under which they would attend more often. The same opinion was expressed in the Alternative Ration System survey, where airmen indicated that, even under their favorite ration system, they would eat no more than an average of six meals in the dining hall per week.

7. Shaw airmen favored an all-BAS, item pricing system considerably more than airmen eating in traditional facilities. In fact, this system was considered the best of a number of possibilities by a large majority of the Shaw respondents.

8. The majority of Shaw airmen were not able to report the BAS rate, 25% being inaccurate by more than 50 cents.

9. Further research into the reaction of consumers to the BAS/A La Carte system is necessary. Since the reaction of the Shaw consumer was likely influenced by the "extra" features of the Shaw facility, the present data are not a sufficient basis on which to judge that system. Future research, therefore, must be conducted under conditions where additional changes are minimized. Such a study is currently being conducted at Loring AFB, and will be the subject of a forthcoming report.

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- Branch, L. G., Meiselman, H. L., and Symington, L. E. A Consumer Evaluation of Air Force Food Service. United States Army Natick Laboratories Technical Report 75-22-FSL, July, 1974.
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- Tactical Air Command, Interim Test and Evaluation Report: Military Feeding Study, Shaw AFB, S. C., February, 1973. Parts I, II.

APPENDIX 1

COFSS Survey

72

Where were you raised? Darken the appropriate circle.

- ☐ In the country
- ☐ In a town with less than 2,500 people
- ☐ In a town or small city with more than 2,500, but less than 25,000 people
- ☐ In a city with more than 25,000, but less than 100,000 people
- ☐ In a large city with more than 100,000, but less than one million people
- ☐ In a very large city with over one million people
- ☐ In a suburb of a large or very large city

In what STATE were you raised? Darken the appropriate circle.

- | | |
|--|--|
| ☐ 01 Alabama | ☐ 28 Nevada |
| ☐ 02 Alaska | ☐ 29 New Hampshire |
| ☐ 03 Arizona | ☐ 30 New Jersey |
| ☐ 04 Arkansas | ☐ 31 New Mexico |
| ☐ 05 California | ☐ 32 New York |
| ☐ 06 Colorado | ☐ 33 North Carolina |
| ☐ 07 Connecticut | ☐ 34 North Dakota |
| ☐ 08 Delaware | ☐ 35 Ohio |
| ☐ 09 Florida | ☐ 36 Oklahoma |
| ☐ 10 Georgia | ☐ 37 Oregon |
| ☐ 11 Hawaii | ☐ 38 Pennsylvania |
| ☐ 12 Idaho | ☐ 39 Rhode Island |
| ☐ 13 Illinois | ☐ 40 South Carolina |
| ☐ 14 Indiana | ☐ 41 South Dakota |
| ☐ 15 Iowa | ☐ 42 Tennessee |
| ☐ 16 Kansas | ☐ 43 Texas |
| ☐ 17 Kentucky | ☐ 44 Utah |
| ☐ 18 Louisiana | ☐ 45 Vermont |
| ☐ 19 Maine | ☐ 46 Virginia |
| ☐ 20 Maryland | ☐ 47 Washington |
| ☐ 21 Massachusetts | ☐ 48 West Virginia |
| ☐ 22 Michigan | ☐ 49 Wisconsin |
| ☐ 23 Minnesota | ☐ 50 Wyoming |
| ☐ 24 Mississippi | ☐ 51 Other U.S. territories or possessions (For example, Puerto Rico or Virgin Islands.) |
| ☐ 25 Missouri | ☐ 52 Outside the U.S. or U.S. Territories or possessions. |
| ☐ 26 Montana | |
| ☐ 27 Nebraska | |

Darken the circle which indicates your PRESENT GRADE.

- ☐ E-1
- ☐ E-2
- ☐ E-3
- ☐ E-4
- ☐ E-5
- ☐ E-6
- ☐ E-7
- ☐ E-8
- ☐ E-9

Do you receive a SEPARATE RATIONS ALLOWANCE (money instead of free meals)?

Darken the appropriate circle.

- ☐ Yes
- ☐ No

What ONE TYPE OF COOKING were you raised on? Darken the appropriate circle.

- | | |
|---|---|
| ☐ 01 Chinese | ☐ 09 Jewish |
| ☐ 02 English | ☐ 10 Mexican |
| ☐ 03 French | ☐ 11 New England |
| ☐ 04 General American Style | ☐ 12 Polish (& Eastern Europe) |
| ☐ 05 German | ☐ 13 Soul |
| ☐ 06 Greek | ☐ 14 Southern |
| ☐ 07 Italian | ☐ 15 Spanish (not Mexican) |
| ☐ 08 Japanese | ☐ 16 Other (please specify _____) |

What TYPE OF COOKING OR SPECIALTY FOODS do you like best? Please darken the circles of your TOP THREE CHOICES.

- | | |
|---|---|
| ☐ 01 Chinese | ☐ 09 Jewish |
| ☐ 02 English | ☐ 10 Mexican |
| ☐ 03 French | ☐ 11 New England |
| ☐ 04 General American Style | ☐ 12 Polish (& Eastern Europe) |
| ☐ 05 German | ☐ 13 Soul |
| ☐ 06 Greek | ☐ 14 Southern |
| ☐ 07 Italian | ☐ 15 Spanish (not Mexican) |
| ☐ 08 Japanese | ☐ 16 Seafood |
| | ☐ 17 Other (please specify _____) |

WHICH MEALS DO YOU EAT DURING A TYPICAL WEEK, REGARDLESS OF WHERE YOU EAT THEM? If you have "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

	Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.		Sun.	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Breakfast	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mid-day Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Evening Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
After Evening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

WHICH MEALS DO YOU EAT DURING A TYPICAL WEEK AT YOUR DINING FACILITY?

If you have "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

	Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.		Sun.	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Breakfast	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mid-day Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Evening Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
After Evening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

BEFORE YOU ENTERED THE MILITARY, WHICH MEALS DID YOU USUALLY EAT?

If you ate "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

	Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.		Sun.	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Breakfast	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mid-day Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Evening Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
After Evening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

WHERE DO YOU EAT when you do not eat in the military dining facility? Indicate how often by filling in one circle in each line.

	Never	Less than once a week	1-3 times a week	4-7 times a week	8-14 times a week	15 or more times a week
a. Private residence (girlfriend's house, friend's or relative's house, your home, your barracks, bringing your food, etc.)	☐	☐	☐	☐	☐	☐
b. An installation snack facility (the bowling alley, the exchange, etc.)	☐	☐	☐	☐	☐	☐
c. An installation NCO club, EM or Airmen Club, or service club	☐	☐	☐	☐	☐	☐
d. Diner, snack bar, pizza parlor, or drive-in off the installation (or having it delivered)	☐	☐	☐	☐	☐	☐
e. Quality restaurant off the installation	☐	☐	☐	☐	☐	☐
f. Bar or tavern (with alcoholic beverages) off the installation	☐	☐	☐	☐	☐	☐
g. From vending machines	☐	☐	☐	☐	☐	☐
h. From mobile snack or lunch trucks	☐	☐	☐	☐	☐	☐
i. Other (write it below and indicate how often)	☐	☐	☐	☐	☐	☐

Listed below are 14 GENERAL AREAS OF CONCERN. For each topic or area, indicate whether it is a significant problem, a minor problem, neither a problem nor an attraction, a minor attraction, or a significant attraction for your dining facility in your opinion.

Area or topic	Signifi- cant Problem	Minor Problem	Neither Problem Nor Attrac- tion	Minor Attrac- tion	Signifi- cant Attrac- tion
a. Convenience of location	☐	☐	☐	☐	☐
b. General dining facility environment	☐	☐	☐	☐	☐
c. Degree of military atmosphere present	☐	☐	☐	☐	☐
d. Desirable eating companions	☐	☐	☐	☐	☐
e. Expense	☐	☐	☐	☐	☐
f. Hours of operation	☐	☐	☐	☐	☐
g. Monotony of same facility	☐	☐	☐	☐	☐
h. Quality of food	☐	☐	☐	☐	☐
i. Quantity of food	☐	☐	☐	☐	☐
j. Service by dining facility personnel	☐	☐	☐	☐	☐
k. Variety of the regular meal food (weekday only)	☐	☐	☐	☐	☐
l. Variety of the regular meal food (weekend only)	☐	☐	☐	☐	☐
m. Variety of the short order food	☐	☐	☐	☐	☐
n. Speed of service or lines	☐	☐	☐	☐	☐

For each of the same 14 general areas, indicate whether it is a major reason for your degree of NON-ATTENDANCE at the dining facility, a minor reason for your degree of non-attendance, or not related to your degree of non-attendance.

Area or topic	Major reason for non- attendance	Minor reason for non- attendance	Not related to non- attendance
a. Convenience of location	☐	☐	☐
b. General dining facility environment	☐	☐	☐
c. Degree of military atmosphere present	☐	☐	☐
d. Desirable eating companions	☐	☐	☐
e. Expense	☐	☐	☐
f. Hours of operation	☐	☐	☐
g. Monotony of same facility	☐	☐	☐
h. Quality of food	☐	☐	☐
i. Quantity of food	☐	☐	☐
j. Service by dining facility personnel	☐	☐	☐
k. Variety of the regular meal food (weekday only)	☐	☐	☐
l. Variety of the regular meal food (weekend only)	☐	☐	☐
m. Variety of the short order food	☐	☐	☐
n. Speed of service or lines	☐	☐	☐

If you have a REGULARLY SCHEDULED ACTIVITY which keeps you from attending the dining facility at certain times, indicate how many meals per week you do not attend because of this activity. (Indicate "zero meals not attended" if you have no such activity.)

Meals not attended: 0 1 2-4 5 6-7 8-10 More than 10
 ☐ ☐ ☐ ☐ ☐ ☐ ☐

Concerning the degree of MILITARY ATMOSPHERE which you feel exists in your dining facility at the present time, indicate whether you feel there should be MORE or LESS military atmosphere in the future.

A Lot More ①	A Little More ②	About the Same ③	A Little Less ④	A Lot Less ⑤
--------------------	-----------------------	------------------------	-----------------------	--------------------

Indicate how you usually travel between each of the following locations:

	Walk	Drive	Ride	Bus	Other (specify)
a. Living area to your job site	①	②	③	④	⑤ _____
b. Job site to dining facility	①	②	③	④	⑤ _____
c. Living area to dining facility	①	②	③	④	⑤ _____

Indicate approximately how many minutes it takes you to travel by the means you indicated in the previous questions from your:

	1-5 min	6-10 min	11-15 min	16-20 min	21-25 min	26-30 min	Over 30 min
a. Living area to your job site	○	○	○	○	○	○	○
b. Job site to dining facility	○	○	○	○	○	○	○
c. Living area to dining facility	○	○	○	○	○	○	○

Indicate approximately how many MINUTES it would take to WALK from your:

	1-5 min	6-10 min	11-15 min	16-20 min	21-25 min	26-30 min	Over 30 min
a. Living area to your job site	○	○	○	○	○	○	○
b. Job site to dining facility	○	○	○	○	○	○	○
c. Living area to dining facility	○	○	○	○	○	○	○

Is your dining facility ever:

	Never	Sometimes	Often	Always
a. Too cold	①	②	③	④
b. Too warm	①	②	③	④
c. Stuffy	①	②	③	④
d. Smoky	①	②	③	④
e. Full of steam	①	②	③	④
f. Full of unpleasant food odors	①	②	③	④

How often do you find:

	Never	Sometimes	Often	Always
a. Inappropriate or missing silverware	①	②	③	④
b. Not enough condiments (ketchup, etc.)	①	②	③	④
c. Left-overs being served day after day	①	②	③	④
d. Serving line has run out of items	①	②	③	④

For each pair of items below, please indicate your opinion of THE GENERAL CONDITION OF YOUR DINING FACILITY by darkening the circle which comes closest to describing your feelings.

		Extremely	Moderately	Neutral	Moderately	Extremely	
a.	Clean kitchen area	☐	☐	☐	☐	☐	Dirty kitchen area
b.	Insect infested	☐	☐	☐	☐	☐	Insect free
c.	Pest infested	☐	☐	☐	☐	☐	Rodent free
d.	Clean serving counters	☐	☐	☐	☐	☐	Dirty serving counters
e.	Dirty dispensing devices	☐	☐	☐	☐	☐	Clean dispensing devices
f.	Dirty silverware	☐	☐	☐	☐	☐	Clean silverware
g.	Clean trays	☐	☐	☐	☐	☐	Dirty trays
h.	Clean dishes and glasses	☐	☐	☐	☐	☐	Dirty dishes and glasses
i.	Dirty floors	☐	☐	☐	☐	☐	Clean floors
j.	Dirty tables and chairs	☐	☐	☐	☐	☐	Clean tables and chairs
k.	Brightly lighted	☐	☐	☐	☐	☐	Dimly lighted
l.	Sunny	☐	☐	☐	☐	☐	Lacking in sunlight
m.	Quiet	☐	☐	☐	☐	☐	Noisy
n.	Crowded	☐	☐	☐	☐	☐	Uncrowded
o.	Roomy	☐	☐	☐	☐	☐	Cramped
p.	Poorly designed	☐	☐	☐	☐	☐	Well designed
q.	Pleasant view	☐	☐	☐	☐	☐	Unpleasant view
r.	Low number of safety hazards	☐	☐	☐	☐	☐	High number of safety hazards
s.	Unpleasant exterior appearance	☐	☐	☐	☐	☐	Pleasant exterior appearance
t.	Unpleasant interior appearance	☐	☐	☐	☐	☐	Pleasant interior appearance

Indicate your opinions about CONVENIENCES WITHIN YOUR DINING FACILITY.

- | | Extremely | Moderately | Neutral | Moderately | Extremely | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| a. Convenient to enter & leave | ☐ | ☐ | ☐ | ☐ | ☐ | Inconvenient to enter & leave |
| b. Far from washroom | ☐ | ☐ | ☐ | ☐ | ☐ | Close to washroom |
| c. Large space between tables allows easy passage | ☐ | ☐ | ☐ | ☐ | ☐ | Small space between tables forbids easy passage |
| d. Inadequate table size for size of trays | ☐ | ☐ | ☐ | ☐ | ☐ | Adequate table size for trays |

Is the overall APPEARANCE OR ATMOSPHERE of your dining facility:

- | | | | | | | |
|--------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| a. Colorful | ☐ | ☐ | ☐ | ☐ | ☐ | Drab |
| b. Cheerful | ☐ | ☐ | ☐ | ☐ | ☐ | Dreary |
| c. Cluttered | ☐ | ☐ | ☐ | ☐ | ☐ | Uncluttered |
| d. Beautiful | ☐ | ☐ | ☐ | ☐ | ☐ | Ugly |
| e. Relaxed | ☐ | ☐ | ☐ | ☐ | ☐ | Tense |
| f. Sociable | ☐ | ☐ | ☐ | ☐ | ☐ | Unsociable |
| g. Crowded | ☐ | ☐ | ☐ | ☐ | ☐ | Uncrowded |

Are the TABLES in your dining facility:

- | | | | | | | |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| a. Colorful | ☐ | ☐ | ☐ | ☐ | ☐ | Drab |
| b. Beautiful | ☐ | ☐ | ☐ | ☐ | ☐ | Ugly |
| c. Wide variety | ☐ | ☐ | ☐ | ☐ | ☐ | Limited variety |
| d. Sturdy | ☐ | ☐ | ☐ | ☐ | ☐ | Easy to damage |
| e. Roomy | ☐ | ☐ | ☐ | ☐ | ☐ | Cramped |

Indicate the TABLE SIZE you prefer:

☐ 2 persons
 ☐ 4 persons
 ☐ 6 persons
 ☐ 8 persons
 ☐ More than 8 persons

Indicate the TABLE SHAPE you prefer:

☐ Round
☐ Square or Rectangular

Indicate how often each of the following statements about SOCIAL aspects of your dining facility applies to you.

	Never	Sometimes	Often	Always
I line up with my friends for the meal	☐	☐	☐	☐
I always sit with my friends at a dining table	☐	☐	☐	☐
I always try to claim a certain table as my area	☐	☐	☐	☐
The feeling of privacy is quite good in this dining hall	☐	☐	☐	☐
I talk to people at other tables during the meal	☐	☐	☐	☐
Room conditions are acceptable for relaxed conversation	☐	☐	☐	☐
There is a friendly social atmosphere in this dining hall	☐	☐	☐	☐
Do you have MUSIC in your dining facility now?		Yes	No	
		☐	☐	

What is your reaction to having MUSIC in the dining facilities:

Very Acceptable	Mildly Acceptable	Neutral	Mildly Unacceptable	Very Unacceptable
☐	☐	☐	☐	☐

Indicate the one type of music you would most prefer in the dining facilities:

- ☐ Any type is fine
- ☐ Hard rock
- ☐ Soul
- ☐ Popular
- ☐ Rock and roll
- ☐ Jazz
- ☐ Instrumental
- ☐ Classical
- ☐ Country western
- ☐ A variety of the above
- ☐ Other (write it here) _____
- ☐ Do not want music

Does your dining facility use a SELF BUSSING system in which each person carries his own tray to the dishwashing area?

Yes No
☐ ☐

Indicate how you do or would feel about having SELF BUSSING in the dining facilities:

Very Mildly
 Acceptable Acceptable Neutral Mildly Very
☐ ☐ ☐ ☐ ☐

Indicate your opinion about the policies concerning the SEPARATE RATIONS SYSTEMS:

Very Mildly
 Acceptable Acceptable Neutral Mildly Very
☐ ☐ ☐ ☐ ☐

Indicate your opinion of the following proposals:

a. In CONUS, everyone should receive the separate rations allowance. Each individual should then pay for the meals he eats in a military dining facility (breakfast: 35 cents; mid-day meal: 80 cents; evening meal: 60 cents).

Extremely Mildly
 Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

b. In CONUS, everyone should receive the separate rations allowance. Each individual should then pay for the specific items he takes from the serving line (2 eggs: 15 cents; hamburger: 20 cents; french fries: 10 cents; chicken: 45 cents).

Extremely Mildly
 Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

c. The current system gives some people a separate rations allowance and requires them to pay for each meal they eat in the dining facility. The others who do not receive that allowance are authorized to eat in the dining facilities without charge. This system should be retained.

Extremely Mildly
 Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

What hours would you like the dining facility to be open for your convenience?

Weekdays: Monday to Friday

	Breakfast	Mid-Day Meal	Evening Meal
From:			
1 hr or more earlier	☐	☐	☐
30 min earlier	☐	☐	☐
15 min earlier	☐	☐	☐
Sufficient as it is	☐	☐	☐
To:			
1 hr or more later	☐	☐	☐
30 min later	☐	☐	☐
15 min later	☐	☐	☐
Sufficient as it is	☐	☐	☐

Weekends: Saturday and Sunday

	Breakfast	Mid-Day Meal	Evening Meal
From:			
1 hr or more earlier	☐	☐	☐
30 min earlier	☐	☐	☐
15 min earlier	☐	☐	☐
Sufficient as it is	☐	☐	☐
To:			
1 hr or more later	☐	☐	☐
30 min later	☐	☐	☐
15 min later	☐	☐	☐
Sufficient as it is	☐	☐	☐

Is the food in your mess hall ever:

	Never	Sometimes	Often	Always
a. Overcooked	☐	☐	☐	☐
b. Undercooked	☐	☐	☐	☐
c. Cold	☐	☐	☐	☐
d. Tasteless or bland	☐	☐	☐	☐
e. Burned	☐	☐	☐	☐
f. Dried out	☐	☐	☐	☐
g. Greasy	☐	☐	☐	☐
h. Tough	☐	☐	☐	☐
i. Too spicy	☐	☐	☐	☐
j. Raw	☐	☐	☐	☐
k. Still frozen	☐	☐	☐	☐
l. Too salty	☐	☐	☐	☐

Do you ever find that the food in your dining facility is, or has:

	Never	Sometimes	Often	Always
e. Gristle or tendon	☐	☒	☒	☒
b. Excess fat	☒	☒	☒	☒
c. Stringy	☒	☒	☒	☒
d. Damaged or bruised (e.g., fruit or vegetables)	☒	☒	☒	☒
e. Over-ripe fruit	☒	☒	☒	☒
f. Under-ripe fruit	☒	☒	☒	☒
g. Stale	☒	☒	☒	☒
h. Old looking	☒	☒	☒	☒
i. Sour (e.g., milk)	☒	☒	☒	☒
j. Spoiled	☒	☒	☒	☒
k. Off-flavor or odor	☒	☒	☒	☒

Other than times of dieting, do you ever LEAVE your dining facility WITHOUT ENOUGH TO EAT?

NEVER SOMETIMES OFTEN ALWAYS
☐ ☒ ☒ ☒

Do you serve yourself or do the dining facility personnel serve you the following items:

	SELF-SERVICE	SERVED BY OTHERS
a. Short order items	☒	☒
b. Meat items	☒	☒
c. Starches (i.e. potatoes)	☒	☒
d. Vegetables	☒	☒
e. Salads	☒	☒
f. Beverages	☒	☒
g. Desserts	☒	☒

Are SECOND HELPINGS PERMITTED for the following items?

	Always	Sometimes	Never
a. Short order items	☒	☒	☒
b. Meat items	☒	☒	☒
c. Starches (i.e. potatoes)	☒	☒	☒
d. Vegetables	☒	☒	☒
e. Salads	☒	☒	☒
f. Beverages	☒	☒	☒
g. Desserts	☒	☒	☒

Answer the following questions for the regular meal only. Exclude the short order meal.
Indicate "Not Appropriate" (8) if you have self-service and/or second helpings permitted.

a. What is your opinion about the amount of meat per serving:

Too Little			About Right			Too Much	NA
①	②	③	④	⑤	⑥	⑦	⑧

b. What is your opinion about the amount of starches per serving:

Too Little			About Right			Too Much	NA
①	②	③	④	⑤	⑥	⑦	⑧

c. What is your opinion about the amount of vegetables per serving:

Too Little			About Right			Too Much	NA
①	②	③	④	⑤	⑥	⑦	⑧

d. What is your opinion about the amount of dessert per serving:

Too Little			About Right			Too Much	NA
①	②	③	④	⑤	⑥	⑦	⑧

Indicate your opinion about the ABILITY of the COOKS to prepare high quality meals in your dining facilities.

Very Poor			Average			Excellent
①	②	③	④	⑤	⑥	⑦

Indicate your opinion about the ATTITUDES of the dining facility WORKERS to make your meal as pleasant as possible.

Very Poor			Average			Excellent
①	②	③	④	⑤	⑥	⑦

Indicate your opinion of the VARIETY of offerings at any particular WEEKDAY meal.

	We need:	Many More Choices	A Few More Choices	Choices Now Enough	Fewer Choices Acceptable
a. For short order foods:		①	②	③	④
b. For meats:		①	②	③	④
c. For starches:		①	②	③	④
d. For vegetables:		①	②	③	④
e. For salads:		①	②	③	④
f. For beverages:		①	②	③	④
g. For desserts:		①	②	③	④

Indicate your opinion of the VARIETY of offerings at any particular WEEKEND meal.

	We need:	Many More Choices	A Few More Choices	Choices Now Enough	Fewer Choices Acceptable
a.	For short order foods:	☐	☐	☐	☐
b.	For meats:	☐	☐	☐	☐
c.	For starches:	☐	☐	☐	☐
d.	For vegetables:	☐	☐	☐	☐
e.	For salads:	☐	☐	☐	☐
f.	For beverages:	☐	☐	☐	☐
g.	For desserts:	☐	☐	☐	☐

Indicate your opinion of the VARIETY of foods offered in the menu during the course of a month or so.

	We need:	Many More Items	A Few More Items	Items Now Enough	Fewer Items Acceptable
a.	For short order:	☐	☐	☐	☐
b.	For meats:	☐	☐	☐	☐
c.	For starches:	☐	☐	☐	☐
d.	For vegetables:	☐	☐	☐	☐
e.	For salads:	☐	☐	☐	☐
f.	For beverages:	☐	☐	☐	☐
g.	For desserts:	☐	☐	☐	☐

Is CARRY OUT SERVICE available in your dining facility? (Disregard any flight feeding programs in this and the following two questions.)

Yes ☐ No ☐

Indicate how you do or would feel about CARRY OUT SERVICE being available from the dining facilities.

Extremely
opposed ☐ ☐ ☐ Neutral ☐ ☐ ☐ Extremely
Enthusiastic ☐

If such a CARRY OUT SERVICE were available, how do you feel it would influence your attendance in the military dining facilities?

- ☐ No influence.
- ☐ I would eat a FEW MORE meals per week.
- ☐ I would eat MANY MORE meals per week.

How long do you USUALLY have to WAIT in line at the headcount station TO GET ADMITTED for a meal:

- ☐ I never have to wait in line.
- ☐ I wait between one and five minutes.
- ☐ I wait between five and ten minutes.
- ☐ I wait between ten and fifteen minutes.
- ☐ I wait longer than fifteen minutes.

How long do you USUALLY have to WAIT IN THE SERVING LINE after the headcount before you get your food?

- ① I never have to wait in line.
- ② I wait between one and five minutes.
- ③ I wait between five and ten minutes.
- ④ I wait between ten and fifteen minutes.
- ⑤ I wait longer than fifteen minutes.

How long do you USUALLY have to WAIT AT THE DISH WASHING AREA when self-bussing?

- ① I never have to wait in line.
- ② I wait between one and five minutes.
- ③ I wait between five and ten minutes.
- ④ I wait between ten and fifteen minutes.
- ⑤ I wait longer than fifteen minutes.
- ⑥ Not applicable; no self-bussing.

For each of the following RULES FOR BEHAVIOR, first indicate whether or not the rules exist in your dining facility and then indicate whether you feel it should be ENFORCED OR INSTITUTED, whether you feel it should be ABOLISHED OR NOT INSTITUTED, or whether you have NO OPINION about it.

		Does Rule Exist?		Enforce or	Abolish or	No
		Yes	No	Institute	not Institute	Opinion
a.	Dress regulations	①	②	①	②	③
b.	Not allowing non-military guests	①	②	①	②	③
c.	Calling "at ease" when officer enters	①	②	①	②	③
d.	No smoking	①	②	①	②	③
e.	Officers and NCO's permitted to cut in line	①	②	①	②	③
f.	Separation of officers and NCO's from enlisted men	①	②	①	②	③

Now we would like to have your opinions of food service systems in general. Therefore, answer the following questions as if your circumstances were different and you held a civilian job instead of being in military service.

Suppose you regularly went out to eat your NOON MEAL and had many places to choose from. Indicate the order of IMPORTANCE of each of the following 10 factors in making your CHOICE OF WHERE TO EAT by darkening the circle under "1st" for the most important factor, darkening the circle under "2nd" for the second most important factor, and so on. Each factor then should have one ranking.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
a. Convenience of location	○	○	○	○	○	○	○	○	○	○
b. General appearance	○	○	○	○	○	○	○	○	○	○
c. Price	○	○	○	○	○	○	○	○	○	○
d. Quality of food	○	○	○	○	○	○	○	○	○	○
e. Quantity of food	○	○	○	○	○	○	○	○	○	○
f. Variety of food	○	○	○	○	○	○	○	○	○	○
g. Speed of service	○	○	○	○	○	○	○	○	○	○
h. Availability of music	○	○	○	○	○	○	○	○	○	○
i. Pleasantness of service personnel	○	○	○	○	○	○	○	○	○	○
j. Cleanliness	○	○	○	○	○	○	○	○	○	○

Suppose you regularly went out to eat your **EVENING MEAL** and had many places to choose from. Indicate the order of **IMPORTANCE** of each of the following 10 factors in making your **CHOICE OF WHERE TO EAT** by darkening the one for the most important factor, darkening the two for the second most important factor, and so on. Each factor then should have one ranking.

		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
a.	Convenience of location	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b.	General appearance	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c.	Price	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d.	Quality of food	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e.	Quantity of food	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f.	Variety of food	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g.	Speed of service	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h.	Availability of music	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
i.	Pleasantness of service personnel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
j.	Cleanliness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Suppose you have decided to have an **INEXPENSIVE NOON** or **EVENING MEAL**. Would you prefer a cafeteria, self-service system or a waitress-service system?

	Definitely	Probably	Neutral	Probably	Definitely
Self-service	☐	☐	☐	☐	☐
Waitress service	☐	☐	☐	☐	☐

Where do you live? (Darken the appropriate circle.)

On base
family quarters
☐

On base
bachelor quarters
☐

Off base
family quarters
☐

Off base
bachelor quarters
☐

At how many installations (besides this one) have you been assigned where you ate regularly in the installation dining hall? (Darken the appropriate circle.)

0
☐

1
☐

2-4
☐

5-7
☐

8 or more
☐

Indicate how often you eat meals at this dining hall, in comparison to dining halls at other installations where you have been assigned.

I eat meals at this dining hall: (Darken the appropriate circle.)

Much more
often
☐

Slightly more
often
☐

No more or
less often
☐

Slightly less
often
☐

Much less
often
☐

In your opinion, how much more or less plate waste of food is there at this dining hall than at other military dining halls in which you have eaten?

At this dining hall, plate waste of food is: (Darken the appropriate circle.)

Much less
☐

Slightly less
☐

No more or less
☐

Slightly more
☐

Much more
☐

How would you rate this dining hall, in comparison to other MILITARY dining halls in which you have eaten?

This dining hall is: (Darken the appropriate circle.)

Much worse
☐

Slightly worse
☐

No better or worse
☐

Slightly better
☐

Much better
☐

How would you rate this dining hall, in comparison to CIVILIAN dining facilities (restaurants, cafeterias, and the like) in which you have eaten?

This dining hall is: (Darken the appropriate circle.)

Much worse
☐

Slightly worse
☐

No better or worse
☐

Slightly better
☐

Much better
☐

If the Food Service Test (with everyone receiving a separate rations allowance) were NOT being conducted at this base, do you feel you would now be receiving a separate rations allowance? (Darken the appropriate circle.)

☐ Yes

☐ No

Before the Food Service Test was started, which meals did you eat during a typical week at your dining facility? If you ate "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

	Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.		Sun.	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Breakfast	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mid-day Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Evening Meal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
After Evening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Listed below are a number of features of this dining hall. Please indicate your opinion of each one by darkening the circle beneath the phrase which best describes your feeling. In regard to the first feature, for example, if your opinion of the decor/atmosphere of this dining hall is extremely favorable, darken circle No. 1; if it is extremely unfavorable, darken circle No. 5.

	Extremely favorable	Slightly favorable	Neither favorable nor unfavorable	Slightly unfavorable	Extremely unfavorable
a. Decor/atmosphere	☐	☐	☐	☐	☐
b. Separation of serving line from dining room	☐	☐	☐	☐	☐
c. A short order line in addition to a main line	☐	☐	☐	☐	☐
d. Everyone receiving separate rations	☐	☐	☐	☐	☐
e. Number of food choices	☐	☐	☐	☐	☐
f. Food priced by the item	☐	☐	☐	☐	☐
g. Carry-out service	☐	☐	☐	☐	☐
h. Food cost	☐	☐	☐	☐	☐
i. Civilian guests	☐	☐	☐	☐	☐
j. Dining hours	☐	☐	☐	☐	☐

APPENDIX 2

ARS Survey

ALTERNATIVE RATIONS SYSTEM SURVEY

The Department of Defense is currently considering new and different ways of providing food service to troops. In making a final decision, they must decide on three important issues. First, they must decide whether all personnel should receive BAS (Basic Allowance for Subsistence, meaning money instead of free food) or whether only some should receive BAS while others receive SIK (Subsistence In Kind, meaning free food instead of money). Secondly, the decision must be made whether a civilian contractor or the government should operate the dining halls, obtain the food, and provide the food service worker. And, thirdly, they must decide whether an individual eating in the dining hall should: (a) be charged a fixed amount for his meals; (b) be charged only for the items he takes from the serving line; or (c) be able to choose among a more expensive "special" meal, a normally priced "regular" meal, or a less expensive "short order" meal, in each case being charged for the total meal.

An important element in these decisions is how you, the consumer, feel about each of these matters. For each of the three issues mentioned above, therefore, please indicate what decisions you feel would lead to the BEST food system.

ISSUE 1. The BEST food system would have (mark one):

All individuals
receiving BAS
☐

Some receiving BAS and
others receiving SIK
☐

ISSUE 2. The BEST food system would be operated, and the food and food service workers provided, by (mark one):

A civilian contractor
☐

The government
☐

ISSUE 3. The BEST food system would charge the individual (mark one):

A fixed amount
for a meal
☐

For only the
items taken
☐

For a "special," "regular,"
or "short order" meal
☐

Assume that, in designing a new food system, the Department of Defense followed the decisions you just indicated. Then, please answer the following four questions about that food system.

QUESTION 1. Under this food system, I would eat in the dining hall (mark one):

Never
☐

Less than
once a week
☐

1-3 times
a week
☐

4-7 times
a week
☐

8-14 times
a week
☐

15 times or
more a week
☐

QUESTION 2. Under this food system, the amount of plate waste of food would be (mark one):

Extremely
high
☐

Slightly
high
☐

Neither high
nor low
☐

Slightly
low
☐

Extremely
low
☐

QUESTION 3. In terms of the amount of money it would cost me to eat, this food system would be (mark one):

An extremely
good deal
☐

A slightly
good deal
☐

Neither a good
nor bad deal
☐

A slightly
bad deal
☐

An extremely
bad deal
☐

QUESTION 4. My overall opinion of this food system is (mark one):

Extremely
favorable
☐

Slightly
favorable
☐

Neither favorable
nor unfavorable
☐

Slightly
unfavorable
☐

Extremely
unfavorable
☐

Consider once again the three issues described on the first page of this questionnaire. This time, for each of these three issues, please indicate what decisions you feel would lead to the WORST food system.

ISSUE 1. The WORST food system would have (mark one):

All individuals
receiving BAS
☐

Some receiving BAS and
others receiving SIK
☐

ISSUE 2. The WORST food system would be operated, and the food and food service workers provided, by (mark one):

A civilian contractor
☐

The government
☐

ISSUE 3. The WORST food system would charge the individual (mark one):

A fixed amount
for a meal
☐

For only the
items taken
☐

For a "special," "regular,"
or "short order" meal
☐

Assume, once again, that the Department of Defense followed your decisions in designing a new food system. Again, please answer the following questions about this food system.

QUESTION 1. Under this food system, I would eat in the dining hall (mark one):

Never
☐

Less than
once a week
☐

1-3 times
a week
☐

4-7 times
a week
☐

8-14 times
a week
☐

15 times or
more a week
☐

QUESTION 2. Under this food system, the amount of plate waste of food would be (mark one):

Extremely
high
☐

Slightly
high
☐

Neither high
nor low
☐

Slightly
low
☐

Extremely
low
☐

QUESTION 3. In terms of the amount of money it would cost me to eat, this food system would be (mark one):

An extremely
good deal
☐

A slightly
good deal
☐

Neither a good
nor bad deal
☐

A slightly
bad deal
☐

An extremely
bad deal
☐

QUESTION 4. My overall opinion of this food system is (mark one):

Extremely
favorable
☐

Slightly
favorable
☐

Neither favorable
nor unfavorable
☐

Slightly
unfavorable
☐

Extremely
unfavorable
☐

Currently, I receive (mark one):

☐ BAS (money instead of free food)

☐ SIK (free food instead of money)

APPENDIX 3
Interview Protocol

INTERVIEW FORMAT FOR ATTENDERS AND NONATTENDERS OF CASH FOOD SYSTEMS

QUESTIONS FOR ATTENDERS AND NONATTENDERS

1. Name.
2. SS No.
3. Unit.
4. Age.
5. Years in Service.
6. Time at this installation.
7. Will you make a career of the military? (Yes, No, or Undecided)
8. Before coming to this installation (OR Before the new food system was established at this installation), were you on BAS (receiving money instead of free food) or on SIK (receiving free food instead of money)?
9. During an average work week (Monday through Friday), how many breakfasts do you eat in the dining hall?
 - a. How many lunches?
 - b. How many evening meals?
10. During an average weekend (Saturday and Sunday), how many breakfasts do you eat in the dining hall?
 - a. How many lunches?
 - b. How many evening meals?
11. From your experience, how much do you like the food served at this dining hall? Use this chart to give your answer. (Like extremely=5; Like slightly=4; Neither like nor dislike=3; Dislike slightly=2; Dislike extremely=1)
12. From your experience, how much do you like the dining hall, itself, not counting the food? This would include such things as decor, service, cleanliness, and the like. Again, use this chart. (Refer to rating scale for #11)
13. What things do you specifically like about this dining hall, including both the food and the dining facility itself?
14. What things do you specifically dislike about this dining hall, again including both the food and the dining facility itself?
15. The food test here involved placing all personnel on BAS and requiring the individual to pay only for the food items he selects off the serving line. Have these changes influenced your eating habits?

Specifically:

- a. Are you eating any more or less often in the dining hall than when you were under the old type of food system? (No; Yes, More; Yes, Less)
 - b. When you do have meals in the dining hall, is the amount of food you eat any more or less now than when you were under the old type of food system? (No; Yes, More; Yes, Less)
 - c. When you do have meals in the dining hall, are you now eating any more or less of the foods you like than when you were under the old food system? (No; Yes, More; Yes, Less)
 - d. Are there any other eating habits which have changed? (No or Yes)
16. Do you know the current daily BAS rate, that is, the amount of money the government gives you for food for one day? (No, Yes and amount)
 17. The current rate is \$2.28 per day. On an average day do you spend more than this amount to feed YOURSELF? (No, Yes and amount)
 18. Approximately, how much of this \$_____ do you spend in the dining hall?
 19. Approximately how many miles is it from your place of work to the dining hall?
 20. Approximately how many miles is it from your residence to the dining hall?
 21. Do you own a car? (No or Yes)
 22. When you do eat in the dining hall, do you typically drive there?
 23. Do you typically find that parking near the dining hall is a problem? (No or Yes)

QUESTIONS FOR NONATTENDERS ONLY

1. Previously you mentioned that you don't eat meals in the dining hall very often. Why is this?
2. What changes in the dining hall or in the food system, in general, would get you to eat more often in this dining hall?

QUESTIONS FOR ATTENDERS ONLY

1. Would you prefer remaining on BAS (getting money instead of free food) or going onto SIK (getting free food instead on money)? Use this chart to give your answer. (Extremely prefer BAS=5; Slightly prefer BAS=4; No preference between BAS and SIK=3; Slightly prefer SIK=2; Extremely prefer SIK=1)
2. What are the reasons for this preference?

APPENDIX 4
Statistical Notes

Appendix 4

Many of the responses to this questionnaire were on the basis of rating scales. Since information on the characteristics of these scales was lacking, analysis was primarily done with nonparametric statistics, principally the chi-square statistic. The χ^2 allows one to determine whether two distributions differ significantly, but not whether the values of one are stochastically larger than those of the other. Given a significant χ^2 , however, one may visually determine where the differences in the distributions lie and, thereby, judge whether the values of one tend to exceed those of the other. It is judgements of this type which are indicated in the text by phrases such as, "The ratings of A tended to be greater than those of B".

There are some instances in which parametric statistics (mainly z, t, and f statistics) were used. These were instances where nonparametric statistics would have been unwieldy or where variables measured on interval or ratio scales were involved.

The level of significance used in these tests varied depending on the nature of the comparison. In the first part of the report, comparisons between the Shaw and traditional facilities were made in order to determine whether one was more desirable to the consumer than the other. If the Shaw BAS/A La Carte system were judged more desirable than the traditional system and if conversion to that system were authorized, a tremendous amount of money and manpower would be necessitated. It was felt, therefore, that the consequences attendant upon falsely rejecting the null hypothesis, i.e., concluding that the responses of the two samples differed when, in fact, they did not, were more serious than those resulting from falsely accepting that hypothesis, i.e., concluding that the responses of the two samples did not differ when, in fact, they did. In response to these contingencies, a stringent (.001) level of significance was adopted. In the remainder of the report, however, this level was relaxed to more normal levels.

In all cases where statistical tests were used, the specific statistic and level of significance are noted.

Statistical Analyses

1. $\chi^2 = 49.31$, $df=15$, $p < .001$
2. $z = 5.65$, $p < .001$, two-tailed
3. $z = 5.23$, $p < .001$, two-tailed
4. $\chi^2 = 56.37$, $df = 8$, $p < .001$
5. $\chi^2 = 47.03$, $df = 6$, $p < .001$
6. $\chi^2 = 32.74$, $df = 4$, $p < .001$
7. $F(2,3894) = 1567.49$, $p < .001$
8. $F(2,3894) = 23.58$, $p < .001$
9. $z = 5.14$, $p < .001$, two-tailed
10. $\chi^2 = 58.0$, $df = 4$, $p < .001$
11. $\chi^2 = 29.90$, $df = 5$, $p < .001$
12. $r = 0.40$, $p < .1$
13. $\chi^2 = 44.93$, $df = 4$, $p < .001$
14. χ^2 , $p < .001$
15. χ^2 , $p < .001$
16. $z = 4.00$, $p < .001$, two-tailed
17. $z = 1.59$, $p > .1$, two-tailed
18. χ^2 , $p < .001$
19. χ^2 , $p < .001$
20. χ^2 , $p < .001$
21. $\chi^2 = 66.27$, $df = 3$, $p < .001$
22. χ^2 , $p < .001$
23. χ^2 , $p < .001$
24. χ^2 , $p < .001$
25. $\chi^2 = 37.52$, $df = 4$, $p < .001$

Statistical Analyses (cont'd)

26. χ^2 , $p < .001$
27. $z = 6.63$, $p < .001$, two-tailed
28. χ^2 , $p < .001$
29. month vs weekday means, $t = 3.94$, $df = 6$, $p < .01$, two-tailed
30. month vs weekend means, $t = 5.09$, $df = 6$, $p < .01$, two-tailed
31. $\chi^2 = 28.29$, $df = 3$, $p < .001$
32. χ^2 , $p < .001$
33. $t = 2.43$, $df = 26$, $p < .05$, two tailed
34. $t = 1.91$, $df = 26$, $p > .10$, two-tailed
35. r (rank correlation) = 0.80
36. r (rank correlation) = 0.80
37. $t = 3.02$, $df = 26$, $p < .05$, two-tailed
38. $t = 0.27$, $df = 26$, $p > .2$, two-tailed
39. r (rank correlation) = 0.92
40. $\chi^2 = 5.29$, $df = 4$, $p > .25$
41. $\chi^2 = 2.40$, $df = 4$, $p > .50$
42. $t = 6.04$, $df = 30$, $p < .001$, two-tailed
43. $t = 6.93$, $df = 114$, $p < .001$, two-tailed
44. $t = 3.35$, $df = 144$, $p < .01$, two-tailed
45. $\chi^2 = 3.23$, $df = 3$, $p > .25$
46. $\chi^2 = 1.70$, $df = 3$, $p > .50$
47. $\chi^2 = 4.41$, $df = 1$, $p < .05$
48. $\chi^2 = 7.73$, $df = 1$, $p < .001$
49. $t = 0.87$, $df = 105$, $p > .10$, two-tailed
50. $\chi^2 = 91.2$, $df = 4$, $p < .001$
51. χ^2 , $p < .001$

APPENDIX 5
Results of Interview

Appendix 5

Presented below are the frequencies with which the listed categories were mentioned by the attenders (N=115) and nonattenders in response to the question of what they liked and disliked about the food service at Shaw AFB. It should be noted that interviewees were free to name as many things as they wished.

Category	Nonattenders		Attenders	
	Like	Dislike	Like	Dislike
Food				
In General	2	1	15	0
Quality	4	3	10	14
Quantity	0	1	2	7
Variety	9	0	25	13
Price	8	2	19	7
Appearance	1	0	1	2
Specific Foods	0	3	10	15
Miscellaneous	0	0	1	0
Total	24	10	83	58
Physical Facility				
In General	14	0	53	0
Noise	1	0	2	1
Lay Out	2	0	10	2
Temperature	1	0	8	3
Furnishings	4	0	23	0
Military Atmosphere	2	3	1	1
Miscellaneous	2	0	10	19
Total	26	3	107	26
Service				
Speed	2	5	5	39
Attitude	1	2	11	19
Miscellaneous	0	0	7	1
Total	3	7	23	59
BAS/A La Carte				
BAS	1	1	7	0
A La Carte	5	0	14	0
Total	6	1	21	0

	Nonattenders		Attenders	
	Like	Dislike	Like	Dislike
Rules	0	0	0	6
General Miscellaneous	4	0	9	1
Nothing	1	14	5	22
Overall Total	64	35	248	175