

TECHNICAL REPORT  
NATICK/TR-86/029

AD \_\_\_\_\_

**IMPROVING U.S. NAVY FOODSERVICE  
MANAGEMENT TRAINING  
PART I:  
EVALUATION OF THE CURRENT SYSTEM**

**BY**

**C.A. SALTER  
L.E. SYMINGTON  
B.A. JEZIOR  
AND T. HOVAGIMIAN**

**FINAL REPORT - 1981-1984**

**NOVEMBER 1985**

**APPROVED FOR PUBLIC RELEASE;  
DISTRIBUTION UNLIMITED**

**UNITED STATES ARMY NATICK  
RESEARCH, DEVELOPMENT AND ENGINEERING CENTER  
NATICK, MASSACHUSETTS 01760-5000  
SCIENCE & ADVANCED TECHNOLOGY DIRECTORATE**

### Disclaimers

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

Citation of trade names in this report does not constitute an official endorsement or approval of the use of such items.

### DESTRUCTION NOTICE

For classified documents, follow the procedures in DoD 5200.1-R, Chapter IX or DoD 5220.22-M, "Industrial Security Manual," paragraph 19. For unclassified documents, destroy by any method which precludes reconstruction of the document.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER NATICK/TR-86/029	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) IMPROVING U.S. NAVY FOODSERVICE MANAGEMENT TRAINING. Part I: Evaluation of the Current System	5. TYPE OF REPORT & PERIOD COVERED Final 1981-1984	
	6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s) C. A. Salter, L. E. Symington, B. A. Jezior and T. Hovagimian	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Natick Research & Development Center STRNC-YBH Natick, MA 01760-5020	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS O&MA 728012.1900 Task #Q. 8332.11 Work Unit NM 81-22	
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Natick Research & Development Center ATTN: STRNC-YBH Natick, MA 01760-5020	12. REPORT DATE November 1985	
	13. NUMBER OF PAGES 67	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report) Unclassified	
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES This report is Part I of a two-part series. Part II is entitled Recommendations for Improving On-Site Training Ashore and Afloat (NATICK/TR-86/030).		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) FOODSERVICE SURVEYS MANAGEMENT TRAINING QUESTIONNAIRES EDUCATIONAL TRAINING TRAINEES NAVY DINING FACILITIES		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In order to recommend ways to improve U.S. Navy foodservice management training, the authors evaluated the current system to determine its strengths and weaknesses. To do do, several Navy groups were surveyed: 26 junior Mess Management Specialists (MSs) on one ship afloat and 38 MSs at one Enlisted Dining Facility (EDF) ashore, the 8 managerial level MSs at both sites, 20 Food Management Team members, and 240 enlisted customers at each site. The survey team also made its own independent assessment at each site.		

The major strengths in the current system include positive ratings of managers by their subordinates, positive work attitudes, and recruitment of MSs with valuable civilian training or experience. EDF sanitation was rated highly, and food items rarely ran out during a meal.

The major weaknesses include poor equipment maintenance, poor physical conditions in the EDF, inadequate prior training and current job rotation for MSs, lack of recognition for good work, and only neutral or mildly positive customer ratings. Training improvements should be directed at these and related areas.

## PREFACE

This study was conducted during 1981 to 1984 by the Behavioral Sciences Division, Science and Advanced Technology Laboratory (SATL), of the U.S. Army Natick Research and Development Center in response to the United States Navy Requirement NM 81-22, Navy/Marine Corps Foodservice Management Training/Development Program.

The authors wish to thank all the USN foodservice managers for their cooperation and all the Navy personnel who completed questionnaires and interviews. We also wish to thank Ms. Karen Campetti, Mr. Robert Swain, and Mr. Charles Greene for their assistance with data reduction and analysis.





## TABLE OF CONTENTS

	PAGE
PREFACE	iii
LIST OF TABLES	vii
INTRODUCTION	1
RESPONSES OF JUNIOR MSs	2
Evaluation of EDF Operation	2
Evaluation of the Galley and Serving Line	4
Satisfaction with Present Job	4
Opinion of Present Job	7
Foodservice Training	7
Foodservice Experience	11
Job Rotation	15
Knowledge of Equipment	15
Work Attitudes	18
RESPONSES OF EDF MANAGERS	18
RESPONSES OF FOOD MANAGEMENT TEAM MEMBERS	21
Quality of Navy Foodservice	22
Problems in Navy Foodservice Management	22
Most Helpful Changes	22
Types of Managers Most Needing Help	22
Strengths and Weaknesses in Navy Preparation for Management	23
Command Support	23
Types of Training Managers Need	24
Indicators of Quality of Management	24
Need for Improvement	24
RESPONSES OF EDF CUSTOMERS	24
Meal Ratings	25
Dining Facility Evaluation	25
SURVEY TEAM EVALUATIONS	27
Sanitation	27
Food Attractiveness	29
Food Runouts	29

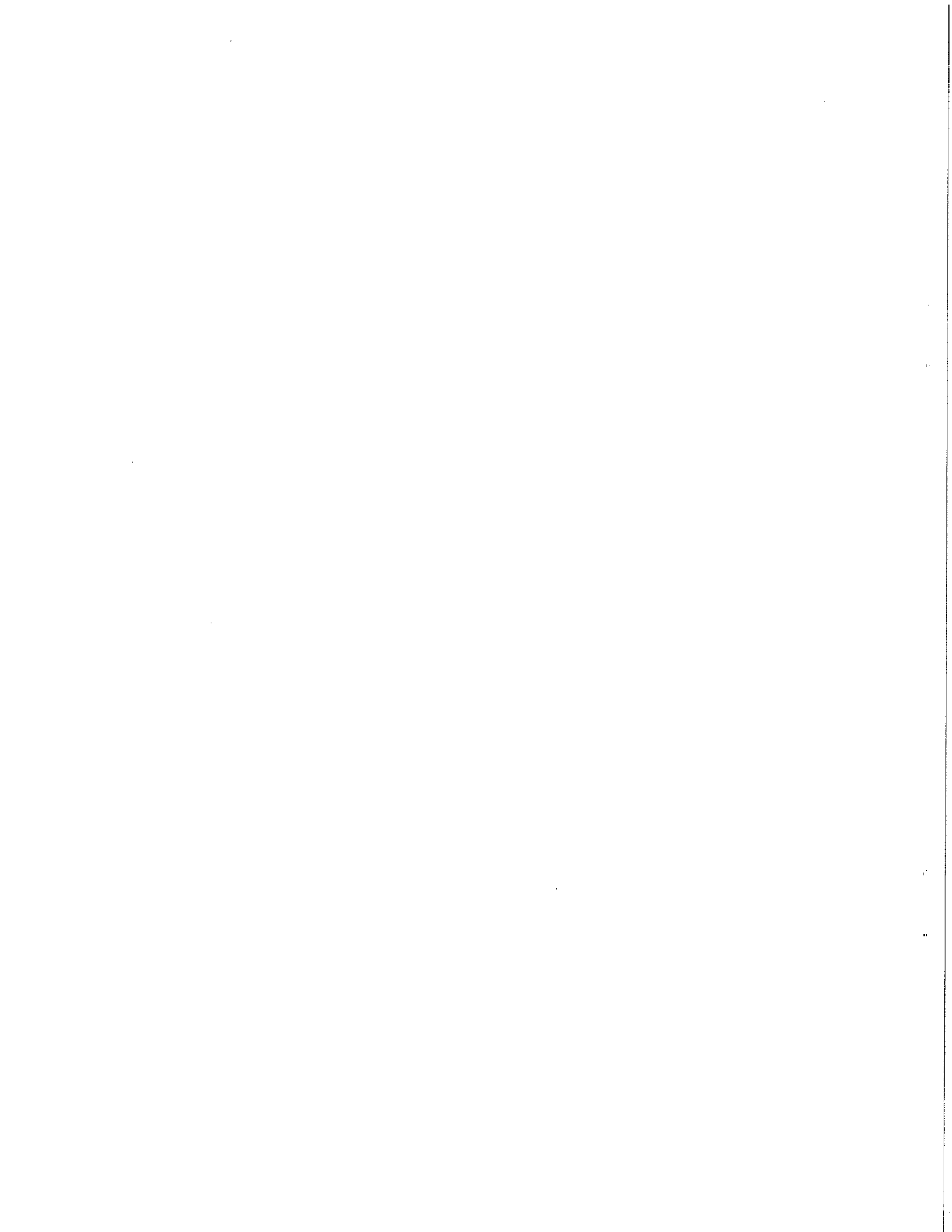
TABLE OF CONTENTS (Cont'd)

	PAGE
CONCLUSIONS	31
Strength of the System	31
Weaknesses of the System	31
REFERENCES	35
APPENDICES: SURVEY, INTERVIEW AND RATING FORMS	
A. USN Foodservice Worker Questionnaire	39
B. USN Foodservice Management Team Interview	49
C. Food Survey Card	51
D. USN Foodservice Customer Survey	53
E. Sanitation/Cleanliness/Orderliness Rating Form	55
F. Food Appearance Data Collection Form	57
G. Entree Variety/Runouts Rating Form	59



## LIST OF TABLES

TABLE	PAGE
1. Initial Evaluation of Present Foodservice Operation	1
2. Initial Evaluation of Galley and Serving Line Area	5
3. Satisfaction with Present Job	6
4. Opinion of Present Job	8
5. Foodservice Training	9
6. Training Topics Covered Recently	12
7. Civilian Training and Experience	13
8. MS Experience With Job Rotation	16
9. MSs Knowledge of Equipment	17
10. Work Attitudes of MSs	19
11. Customer Ratings of Sample Meals	25
12. Customer Survey of Dining Facility	26
13. Customer Evaluation of Dining Area Conditions	28
14. Survey Team Evaluation of EDF	30



# IMPROVING U. S. NAVY FOODSERVICE MANAGEMENT TRAINING

## Part 1: Evaluation of the Current System

### INTRODUCTION

In order to recommend ways to improve the U. S. Navy Foodservice Management training Program, this study team focused on six major elements, both ashore and afloat:

(1) an evaluation of the current training system, including its strengths and weaknesses;

(2) a definition of the scope of what an effective management training program should include;

(3) an examination of techniques with potential for effective training;

(4) an implementation of some of these techniques at dining facilities both ashore and afloat;

(5) an evaluation of the effectiveness of these implemented techniques for improving management training, and

(6) an examination of ways to motivate managers toward superior performance.

Parts of topics (2) and (3) were covered in an earlier report. This report will focus primarily on topic (1). Part II will focus on topics (4), (5) and (6). The ultimate purpose in improving training and motivation is to help the Navy increase the level of effectiveness of its foodservice managers.

To evaluate the strengths and weaknesses of current U. S. Navy foodservice management and the training system which produced it, four different groups were surveyed: lower ranking Foodservice Workers or Mess Specialists (MSs), managerial level MSs, Food Management Team (FMT) members and enlisted dining facility (EDF) customers. The project investigators also made their own independent assessment. Surveys were conducted both ashore and afloat at the beginning of the project, prior to introducing any change in training.

#### RESPONSES OF JUNIOR MSs

A fairly extensive questionnaire (see Appendix A) was administered to 26 junior MSs afloat and 38 ashore. The majority in both cases were cooks or storeroom workers (Jacks of the Dust). The average grade afloat was E-3.4, while that ashore was E-4.9. The majority in both cases planned to reenlist or were undecided. Only 24% of those afloat and 27% of those ashore planned to leave the Navy at the expiration of their current enlistment. When asked how the foodservice at their current location compared to other EDFs where they had worked previously, the responses of MSs afloat averaged 4.1 on a 7-point scale where 1 = "much worse", 4 = "no better or worse", and 7 = "much better". MSs ashore averaged 6.0. Thus MSs afloat believed their current EDF was typical of others, whereas MSs ashore believed their current EDF was "somewhat better" than others in their experience. These differences should be kept in mind when evaluating MSs responses about their current operations.

#### Evaluation of EDF Operation

Table 1 presents the MSs evaluations of 11 different facets of their current operations on a 7-point scale where 1 = "very bad", 4 = "neither bad nor good", and 7 = "very good". Afloat, nine facets were rated above neutral, with the strongest two being (f) the interest and support of the supply officer (5.16) and (c) supervision from the senior MS (5.07). Only two factors had

2

TABLE 1. Initial Evaluation of Present Foodservice Operation

ITEM	AFLOAT	ASHORE
a. Food preparation of USN cooks	4.69	5.73
b. Supervision from watch captain	4.69	5.56
c. Supervision from senior MS	5.07	5.67
d. Support and cooperation among cooks	4.11	5.45
e. Interest and support of the food service officer	4.92	6.00
f. Interest and support of the supply officer	5.16	5.94
g. Interest and support of the base/ship command	4.15	5.92
h. Customer satisfaction	4.29	5.72
i. Maintenance of equipment	3.30	5.32
j. Amount of paperwork	4.36	5.10
k. The civilian mess attendants of mess cooks	3.80	5.68

2

Mean ratings based on a 7-point scale where 1 = "Very Bad", 4 = "Neither Bad Nor Good", 7 = "Very Good".

average ratings on the negative side of the scale: (k) the civilian mess attendants (3.80) and (i) Maintenance of equipment (3.30). Ashore all 11 facets were rated on the positive side, with the two highest being (e) the interest and support of the foodservice officer most MSs rated their managers relatively well.

#### Evaluation of the Galley and Serving Line

Table 2 presents the MS's ratings of 10 different aspects of their galleys and serving lines. MSs afloat rated nine features on the positive side on the same 7-point scale as before. They rated (b) sanitary conditions (5.46) and (c) ease at reaching supplies (5.45) the highest. Only (e), noise, received a negative rating (3.91). The afloat galley as a whole was rated 5.15, or "somewhat good". MSs ashore rated all 10 features positively, with the highest being (d) size of the galley (6.47), (b) sanitary conditions (6.21), and (f) lighting (6.21). The ashore galley overall was rated 6.05, or "moderately good". Thus the MSs rated their galleys and serving lines positively. And since EDF managers could control many of these features, the implication is that they were doing a good job.

#### Satisfaction With Present Job

Table 3 presents MS's evaluations of their present jobs on a 7-point scale where 1 = "very dissatisfied", 4 = "neutral," and 7 = "very satisfied". For MSs afloat, only 5 out of the 8 factors were rated positively, the highest being (h) the actual work (4.84) and (g) the supervisors (4.57). The lowest ratings were for (a) the number of hours of work (3.65) and (c) recognition for doing good work. MSs ashore rated all factors positively, the highest being (b) work schedules (6.02) and (a) the number of hours of work (5.89). MSs ashore rated supervisors 5.05, thus opinions of Navy food service managers once again came out solidly on the positive end of the scale.

a

TABLE 2. Initial Evaluation of Galley and Serving Line Area

ITEM	AFLOAT	ASHORE
a. Type and amount of equipment to do the job	4.07	5.60
b. Sanitary conditions in galley	5.46	6.21
c. How easy to get at supplies	5.45	5.81
d. Size of galley	5.11	6.47
e. Noise	3.91	4.91
f. Lighting in galley	5.12	6.21
g. Lighting on serving line	4.80	6.13
h. Bumping into other cooks while working	4.68	5.57
i. Temperature in galley	4.38	4.57
j. The galley overall	5.15	6.05

a  
 Mean ratings based on a 7-point scale where 1 = "Very Bad", 4 = "Neither Bad Nor Good", 7 = "Very Good".



a  
TABLE 3. Satisfaction With Present Job

ITEM	AFLOAT	ASHORE
a. Number of hours a week worked	3.65	5.89
b. Work Schedules	4.26	6.02
c. Recognition for doing good work	3.65	4.65
d. Customer attitudes	3.73	4.97
e. Co-workers	4.50	5.68
f. The opportunity for promotion	4.19	5.15
g. Supervisors	4.57	5.50
h. The actual work done	4.84	5.68

a  
Mean ratings based on a 7-point scale where 1 = "Very Dissatisfied", 4 = "Neutral", 7 = "Very Satisfied".

### Opinion of Present Job

Table 4 also presents data on MSs attitudes toward their jobs. But instead of giving responses on a satisfactions-dissatisfactions scale, MSs were presented with 15 propositions and asked to state their agreement concerning each, on a 7-point scale where 1 = "strongly disagree", 4 "unsure", and 7 = "strongly agree". Some of the propositions were positive and some were negative, so agreement with a given item does not necessarily indicate a positive condition. MSs afloat did give positive average responses to 9 of the 15 factors, but they expressed some discontent over 6 of them: (b) long work shifts, (d) getting criticized, (h) having no say over work hours, (i) the difference between school training and real Navy cooking, (e) sometimes not understanding the supervisor, and (l) the senior MS playing favorites. MSs ashore also gave negative ratings to the first four of those factors rated lowly by MSs afloat (b, d, h, and i), but the former gave positive ratings to (e) understanding one's supervisor and (l) the senior MS not playing favorites. Both groups gave positive ratings to (f) the senior MS being fair, (j) the senior MS's knowledge, (k) the senior MS knowing how to treat people, (m) the watch captain's knowledge, (n) the watch captain knowing how to treat people, and (o) the watch captain not playing favorites. Thus, once again, Navy foodservice managers were rated generally well by their subordinates.

### Foodservice Training

Effective managers must be concerned with training, so the condition of an EDF's training program reveals something about its management. Table 5 cites the responses of MSs to a number of questions about training in their respective EDFs. MSs afloat generally indicated that training had low priority, that too little time was spent on it, that group training was rare, and that individual training was rare. But MSs ashore indicated that training there had very high

a  
TABLE 4. Opinion of Present Job

ITEM	AFLOAT	ASHORE
a. I frequently get praised for a job well done	4.42	4.31
b. I have long work shifts	4.76	4.84
c. I have a good chance to learn more about cooking through Navy training	4.23	5.65
d. I frequently get criticized for mistakes	4.23	4.15
e. Sometimes I don't understand what my supervisor is trying to say	4.11	3.63
f. The senior MS doesn't treat me fairly	3.07	3.52
g. I don't like cooking	3.15	2.21
h. I have no say over my work hours	5.42	4.44
i. There's a large difference between Navy MS school training and real Navy cooking	5.53	5.18
j. The senior MS really knows a lot about Food Service	5.03	5.70
k. The senior MS doesn't know how to treat people	3.57	3.44
l. The senior MS plays favorites	4.03	3.76
m. The watch captain really knows a lot about food service	4.61	5.23
n. The watch captain doesn't know how to treat people	3.00	2.86
o. The watch captain plays favorites	3.50	2.94

a  
Mean ratings based on a 7-point scale where 1 = "Strongly Disagree", 4 = "Unsure", 7 = "Strongly Agree"

TABLE 5. Food Service Training

ITEM	Respondents (%)	
	AFLOAT	ASHORE
Training in your dining facility is given...		
THERE IS NO TRAINING DONE AT ALL	39	---
VERY LOW PRIORITY	19	---
MODERATELY LOW PRIORITY	11	---
MEDIUM PRIORITY	19	8
MODERATELY HIGH PRIORITY	4	29
VERY HIGH PRIORITY	8	63
The training done in this facility takes...		
MUCH TOO MUCH TIME	8	---
SOMEWHAT TOO MUCH TIME	4	3
SLIGHTLY TOO MUCH TIME	4	2
JUST ABOUT THE RIGHT AMOUNT OF TIME	36	90
SLIGHTLY TOO LITTLE TIME	4	---
SOMEWHAT TOO LITTLE TIME	8	2
MUCH TOO LITTLE TIME	36	3
How often do you have group training (e.g., lectures, films, demonstrations) in this dining facility?		
NEVER	27	---
ALMOST EVERY DAY	---	---
TWO OR THREE TIMES A WEEK	4	61
ABOUT ONCE A WEEK	8	37
ABOUT TWICE A MONTH	11	2
ABOUT ONCE A MONTH	23	---
LESS THAN ONCE A MONTH	27	---

TABLE 5 (CON'D)  
Food Service Training

ITEM	Respondents (%)	
	AFLOAT	ASHORE
When is group training MOST OFTEN done in your facility		
IT IS NEVER DONE IN MY FACILITY	36	---
DURING YOUR WORK TIME	28	37
DURING YOUR OWN TIME	36	64
How often do you have individual training while you are actually working in the galley in your dining facility?		
NEVER	40	14
ALMOST EVERY DAY	4	35
TWO OR THREE TIMES A WEEK	20	16
ABOUT ONCE A WEEK	8	24
ABOUT TWICE A MONTH	8	3
ABOUT ONCE A MONTH	8	3
LESS THAN ONCE A MONTH	12	5
Since you've been a Navy MS, have you taken...		
MILITARY FOOD SERVICE CORRESPONDENCE COURSES	54	55
CIVILIAN FOOD SERVICE CORRESPONDENCE COURSES	---	13

priority, that the right amount of time was spent on it, that group training was fairly frequent, and that individual training was fairly frequent. These marked differences indicate ongoing training as an area where improvements are needed, at least for some EDFs.

Table 6 reveals the percent of MSs who reported having training in each of 12 key food service fields within the last three months. Only a minority of MSs afloat reported training in each of the various areas, but a majority of those ashore reported training in 8 of the 12 areas. Customer relations, however, fared poorly among both groups, with only 8% of MSs afloat and 24% of MSs ashore indicating recent training on that subject. It is well recognized in the civilian world<sup>2</sup> that customer relations is of paramount importance to the success of a foodservice establishment. Improving customer relations through training is, therefore, another important area for manager development.

#### Foodservice Experience

In addition to ongoing training at the work site, MSs could have gained valuable foodservice knowledge through civilian training and experience prior to joining the Navy or concurrent with their Navy work. Table 7 has the results given by MSs when asked about these matters. The percents of each set of subquestions in this table do not add to 100% because each MS could have listed experience in more than one area. As this table reveals, a majority of MSs, both afloat and ashore, had prior cooking experience in civilian foodservice, although few continued such work after joining the Navy. The majority of MSs afloat (65%) but only a minority of those ashore (37%) reported having had civilian foodservice training prior to joining the Navy. Very few reported civilian training after joining, although some did report on-the-job training conducted by civilians. These data indicate that the Navy is attracting into the MS rate a sizeable proportion of people with some

TABLE 6. Training Topics Covered Recently

ITEM	Respondents (%)	
	AFLOAT	ASHORE
What topic were covered in dining facility training session within last three months?		
THERE WERE NO TRAINING SESSIONS IN THE LAST THREE MONTHS	20	---
EQUIPMENT OPERATION	24	81
RECIPE CONVERSION	28	60
RECORD KEEPING	20	51
CUSTOMER RELATIONS	8	24
GARNISHING	12	89
SUPPLY AND PROCUREMENT PROCEDURES	20	57
OTHER	24	8
SAFETY	44	76
SANITATION	44	92
MENU PLANNING	44	62
PORTION CONTROL	8	46
MILITARY SUBJECTS	---	46



TABLE 7. Civilian Training and Experience

ITEM	Respondents (%)	
	AFLOAT	ASHORE
Experience in civilian foodservice before joining Navy?		
FAST FOOD FRANCHISE	35	24
BAKERY	31	8
RESTAURANT	39	37
COFFEE SHOP	15	8
CAFETERIA	15	16
DELICATESSEN	4	5
NONE	42	45
WORKED AS A COOK	54	61
Training in foodservice before joining Navy?		
COURSES IN HIGH SCHOOL	50	16
VOCATIONAL-TECHNICAL SCHOOL	12	8
JUNIOR COLLEGE COURSES	---	3
COLLEGE COURSES	---	3
CORRESPONDENCE COURSES	4	5
FOODSERVICE INSTITUTE	8	---
ON-THE-JOB TRAINING	15	24
NONE	35	63

TABLE 7. (CONT'D)  
Civilian Training and Experience

ITEM	Respondents(%)	
	AFLOAT	ASHORE
Have you worked in civilian foodservice since joining Navy?		
FAST FOOD FRANCHISE	12	8
BAKERY	15	5
RESTAURANT	12	18
COFFEE SHOP	8	---
CAFETERIA	8	---
DELICATESSEN	---	---
NONE	81	73
Have you had training in civilian foodservice since joining the Navy?		
COURSES IN HIGH SCHOOL	19	---
VOCATIONAL-TECHNICAL SCHOOL	---	3
JUNIOR COLLEGE COURSES	---	3
COLLEGE COURSES	---	5
FOOD SERVICE INSTITUTE	---	8
ON-THE-JOB TRAINING	4	21
NONE	77	66

previous training and/or experience in foodservice. Previous work and training should ease somewhat the need for current training on the job and the data indicate that many future managers will have had a variety of work and training experiences to prepare them for their jobs. It is noteworthy, however, that a large minority lacks civilian experience, suggesting that the Navy could increase recruiting efforts among students of food service programs so as to increase the number with senior experience.

3

### Job Rotation

Another way to train MSs to improve their current performance and better prepare them for future management positions is through job rotation. If an MS is allowed to spend time working at one task until he or she masters it, then is rotated to another one, and so on, the MS can eventually master most facets of Navy foodservice. Effective managers will use this approach to alleviate boredom as well as help train. The MSs in this survey were asked about their experiences with work station job rotation, and the results are in Table 8. As can be seen, majorities of MSs afloat have only served at 4 out of 14 work stations, in the past year, while majorities of those ashore have served at 9 out of 14 stations. In no case did 100% of MSs report experience at a given work station. These data clearly point to a need for more and better organized job rotation.

### Knowledge of Equipment

Related to job rotation is an MSs total knowledge of equipment, that is, the total list of equipment which he knows how to handle based on all his previous training and experience. Table 9 lists the percent of MSs who indicate competence with each of 17 key items of equipment. In no case did respondents indicate 100% competence. But three-quarters or more of afloat MSs said they had adequate knowledge of only 5 of the 17 items, while that many ashore MSs

TABLE 8. MS Experience with Job Rotation

ITEM	Respondents (%)	
	AFLOAT	ASHORE
What work station did you work at in in the last year?		
STEAMERS	36	84
DEEP FAT FRYERS	56	84
PASTRY KITCHEN	44	37
VEGETABLE PREP	48	63
CASHIER	8	8
STOREROOM	48	29
DINING FACILITY OFFICE	4	24
MAIN SERVING LINE	48	61
GRIDDLES	64	82
STEAM JACKETED KETTLES	52	76
BUTCHER SHOP	32	18
SHORT ORDER LINE	16	66
OVENS AND RANGES	52	74
TILTING FRYING - BRAISING PAN	16	53

TABLE 9. MSs Knowledge of Equipment

ITEM	Respondents	
	AFLOAT	ASHORE
Do you feel comfortable enough with equipment to show someone else how to use and sanitize equipment?		
GRIDDLE	86	97
STEAM JACKETED KETTLE	81	90
DECK OVEN	62	76
RANGE	54	74
BENCH MIXER	62	53
ROLLER/SHEETER	42	24
PROOF BOX	69	66
DOUGH DIVIDER/ROUNDER	58	34
SOFT SERVE ICE CREAM MACHINE	42	74
DEEP FAT FRYER	89	95
STEAMER	73	95
CONVECTION OVEN	81	90
BROILER	42	47
VERTICAL MIXER	58	61
SLICER	92	90
TILTING FRYING - BRAISING PAN	31	63
CARBONATED BEVERAGE DISPENSER	31	53

indicated knowledge of only 7 of the 17 items. Thus data indicate another area for improvement, namely, training in equipment operation.

#### Work Attitudes

The work morale and other attitudes of MSs are another indicator of managerial effectiveness. Table 10 has the responses given by MSs to some key question on work attitudes. The average responses for MSs afloat were that time dragged about 1/4 of the day, they were moderately involved in their jobs, they had to do extra work several times a week, and they worked a little harder than most others. Ashore, the average responses were that time dragged about 1/8 of the day, they were strongly involved in their work, they had to do extra work several times a week, and they worked a little harder than most people. It appears that the two groups differed only slightly from each other and that their work attitudes were reasonably positive.

#### RESPONSES OF EDF MANAGERS

At each installation, the food service officer, the leading MS, and all the chief petty officers directly involved in EDF management were interviewed about the strength and weaknesses in foodservice management at their EDF. Four managers afloat and four ashore were interviewed. When asked to summarize the quality of foodservice at their dining facility, responses ranged from "good", to "outstanding". Of course, these were essentially self-ratings since the respondents were responsible for the foodservice management in question.

When asked their major problems in management, respondents cited these problems: The junior cooks were often inexperienced and lacking in motivation, the mess cooks or attendants were the lowest caliber people sent down from other departments, there was not enough training for junior MSs, there were not enough assigned managers, and it was difficult to get foodservice equipment repaired at sea because it had low priority.

TABLE 10. Work Attitudes of MSs

ITEM	Respondents(%)	
	AFLOAT	ASHORE
On most days on your job, how often does time seem to drag for you?		
ABOUT HALF THE DAY OR MORE	36	11
ABOUT 1/3 OF THE DAY	12	13
ABOUT 1/4 OF THE DAY	12	29
ABOUT 1/8 OF THE DAY	24	5
TIME NEVER SEEMS TO DRAG	16	42
How involved do you feel in your job?		
VERY LITTLE INVOLVED; MY OTHER INTERESTS ARE MORE ABSORBING	19	--
SLIGHTLY INVOLVED	11	3
MODERATELY INVOLVED; MY JOB AND MY OTHER INTERESTS ARE EQUALLY ABSORBING	39	47
STRONGLY INVOLVED	19	24
VERY STRONGLY INVOLVED; MY WORK IS THE MOST ABSORBING INFLUENCE IN MY LIFE	12	26
How often do you do some extra work for your job which isn't really required of you?		
ALMOST EVERY DAY	48	35
SEVERAL TIMES A WEEK	36	32
ABOUT ONCE A WEEK	4	14
ONCE EVERY FEW WEEKS	8	16
ABOUT ONCE A MONTH OR LESS	4	3



TABLE 10. (CONT'D)  
Work Attitudes of MSs

ITEM	Respondents(%)	
	AFLOAT	ASHORE
Would you say you work harder, less hard, or about the same as other people doing your type of work on this base/ship?		
MUCH HARDER THAN MOST OTHERS	36	19
A LITTLE HARDER THAN MOST OTHERS	24	34
ABOUT THE SAME AS MOST OTHERS	36	37
A LITTLE LESS HARD THAN MOST OTHERS	--	5
MUCH LESS HARD THAN MOST OTHERS	4	5

When asked what changes in the system would be most helpful, these were listed: better screening and selection of recruits for the MS rate so that only those who wanted to cook got the job, more cooks and mess cooks to handle all the work, more managerial training early in the MS Career (E-4 and E-5 level), and better equipment maintenance.

When asked about the support given foodservice operations by the commanding officer, all responses were positive, including "very helpful", "full support", "he's heavily involved", and "he wants to win the NEY award".

When asked about equipment problems, respondents mentioned that items tended to be of poor quality, to be not durable, and to be out of order a lot of time. In particular, these equipment items were listed as causing the most difficulties: Potato extruder (FRISBO-MATIC), ice cream machine, refrigeration units, and deep fat fryers.

When asked if they felt that they, as managers, were capable of doing all the tasks that their staff had to do, all said "yes". When asked if the Navy had prepared them adequately for their management positions, three-fourths said "no". They felt they had had insufficient formal or school training and insufficient job rotation among the work stations. Many indicated that they were essentially self-taught, learning from their mistakes. Many of these comments point to a need for improved foodservice management training in the Navy.

#### RESPONSES OF FOOD MANAGEMENT TEAM MEMBERS

U. S. Navy Food Management Team members at Charleston, SC, Norfolk, VA, Pearl Harbor, Hawaii, and the Pearl Harbor detachment at Yokosuka, Japan, were interviewed, 20 individuals in all. They were all asked the USN Food Management Team interview questions (see Appendix B).

### Quality of Navy Foodservice

When asked to summarize the quality of foodservice in the Navy, FMT respondents varied widely. Several (10%) said it was in "poor condition", with ratings of 3 or 4 on a 10-point scale. Several (20%) said it was "average" or "adequate". Still others (70%) said it was "superior", "good"; or even "very good". These differences in opinions might reflect the individual respondents' differing experiences with particular ships or bases.

### Problems in Navy Foodservice Management

When asked about problems in management, FMT respondents most commonly cited inadequate leadership (60%), inadequate training (30%), poor communication with subordinates (20%), motivation problems (20%), too many collateral duties for supervisors to concentrate on managing (20%), and undermanning (20%).

### Most Helpful Changes

When asked what would be the changes most helpful to improving management, FMT respondents cited several things. One common suggestion (by 40%) was to have cooks be required to demonstrate competence before being allowed to graduate. In many different ways, FMT members called for more and better training: job rotation (10%), improved schools (10%), more cross-training (10%), an orientation program for managers just before they assumed their supervisory responsibilities (10%), etc. Other than improved training, the only suggestions were to add more money, (particularly for equipment maintenance (20%)), and more workers (10%).

### Types of Managers Most Needing Help

FMT members were asked to rank in order which type of foodservice manager needed help the most. The leading MS was judged on average to need help the most, followed by the foodservice officer, the watch captain, and the galley captain. This ranking suggests that money, effort, and thought expended on

improving Navy foodservice management should be expended with the highest priority being given to the leading MS.

#### Strengths and Weaknesses in Navy Preparation for Management

When asked about the strong points in the Navy system for developing managers, FMT members mentioned the Food Management Team inspections and assistance (30%), the "C" schools, both for management and food production (40%), continuing education and on-the-job training (20%), the NEY awards (10%), Supply Management Inspections (10%), and foodservice manuals and related publication (10%).

When asked about the weak points in the system, FMT members cited insufficient amount of training (30%), inadequate training (30%), unqualified people in charge (30%), lack of realism in training (10%), improper assignment sequencing without logical progression (20%), lack of command support (30%), and the drain on managerial time required by collateral duties (10%), and poor evaluation systems (30%).

#### Command Support

When asked to what extent commanding officers took interest in and supported food service operations on their bases/ships, FMT members' responses varied widely. Some thought support was generally good throughout the Navy, while others thought it was poor. Some thought it ranged considerably from very good at some installations to very poor at others. Overall, about two thirds of responses were negative, while only one third were positive.

#### Types of Training Managers Need

FMT members were also asked if there were any other types of training that foodservice management personnel should be receiving. Responses included equipment maintenance and safety (20%), sanitation (10%), FMT short courses (10%, more OJT (20%), management science (10%), business administration (10%), and

internships in civilian restaurants (10%). Also mentioned by 10% each were training in communications, culinary arts, how to teach, and how to discipline subordinates.

#### Indicators of Quality of Management

FMT members were asked to state what indicators they could spot during visits to a dining facility to determine whether it was managed well or poorly. On the positive side, indicators mentioned were sanitary conditions (70%), well-maintained equipment (40%), an attractive facility (30%), attractive food (20%), good tasting food (10%), good service (20%) good worker morale (10%), good worker appearance (10%), positive reactions of consumers (20%) well-organized storerooms (10%), and orderliness to forms and records (20%).

#### Need for Improvement

When asked whether EDFs or officer wardrooms most needed improvement, 65% of FMT members said EDFs needed the most help, 20% said wardrooms needed it most, and 15% said they both needed it equally. Many of those who said the EDFs most needed improvement explained that they made that selection not because the EDFs were worse off but either because improvements there would benefit the most people or because it was assumed that officers could better look out for themselves.

#### RESPONSES OF EDF CUSTOMERS

Meal rating cards and dining facility rating forms were distributed to enlisted diners both ashore and afloat. At each installation, a Food Survey Card (see Appendix C) was administered to 40 customers at each of four meals -- two lunches and two dinners. At each installation, the USN Food Service Customer Survey (see Appendix D) was administered to 40 customers at each of two meals -- one lunch and one dinner. Thus, about 240 customers were surveyed at each EDF.

### Meal Ratings

The average meal ratings are listed in Table 11. The number 5 is the neutral point in this scale. The lower the rating below 5, the more negative the rating. As can be seen, average meal ratings were mostly in the mildly positive category, although it should be realized that the individual scales for each meal usually ranged all the way from 1 to 9. The overall EDF average afloat was 5.12, just barely over the neutral point, and ashore was 5.57, somewhat higher. Both sets of numbers clearly illustrate room for improvement.

### Dining Facility Evaluation

The average responses to the various questions on the customer survey are listed in Tables 12 and 13. In Table 12, the means are based on a 7-point scale where 4 is neutral point, lower numbers are increasingly negative, and higher numbers are increasingly positive. The EDF, afloat, with its greater restraints of time and space, was rated positively on only 5 of the 16 factors. The lowest rating went to speed of service (2.22), the highest to lighting (4.84). Serving line appearance, the cleanliness of the facility, and cleanliness of the workers were also rated positively. Nevertheless, the overall average of all responses to all 16 factors turned out slightly negative (3.60). The EDF ashore was rated positively on all 16 factors, the highest rating going to lighting (6.16).

TABLE 11. Customer Ratings of Sample Meals<sup>a</sup>

MEAL	AFLOAT	ASHORE
Lunch 1	4.72	5.78
Lunch 2	5.46	6.10
Dinner 1	5.63	4.64
Dinner 2	4.63	5.74
Average	5.12	5.57

<sup>a</sup> Mean ratings based on a 9-point scale where 1 = "dislike extremely", 5 = "neither like nor dislike", and 9 = "like extremely".

TABLE 12. Customer Survey of Dining Facility<sup>a</sup>

ITEM	AFLOAT	ASHORE
a. HOURS OF OPERATION	3.98	4.95
b. QUALITY OF FOOD	3.48	4.74
c. AMOUNT OF FOOD	3.41	4.81
d. VARIETY OF FOOD AT A SINGLE MEAL	3.68	4.76
e. VARIETY OF MENU OVER LAST TWO WEEKS	3.20	4.18
f. TEMPERATURE OF FOOD	3.30	4.73
g. SPEED OF SERVICE	2.22	5.25
h. CLEANLINESS OF DINING FACILITY	4.07	5.88
i. COURTESY OF COOKS	3.00	5.36
j. COURTESY OF MESS COOKS OR CONTRACT FOOD SERVICE WORKERS	3.22	5.40
k. APPEARANCE OF SERVING LINE	4.11	5.61
l. CLEANLINESS OF MESS COOKS OR CONTRACT FOOD SERVICE WORKERS	4.20	5.93
m. CLEANLINESS OF COOKS	4.20	5.62
n. APPEARANCE OF DINING AREA (DECOR)	3.63	5.94
o. LIGHTING	4.84	6.16
p. DINING FACILITY OVERALL	3.26	5.40
OVERALL MEAN	3.60	5.29

<sup>a</sup> Mean ratings based on a 7-point scale where 1 = "very bad", 4 = "neither bad nor good", and 7 = "very good".



Decor and cleanliness also got quite high ratings. The overall average of all 16 factors was 5.29, quite a bit higher than for the EDF afloat.

Table 13 has the customer evaluations of conditions in the dining area. Answers are based on a 4-point scale where 1 = "almost never" and 4 = "almost always". The EDF afloat was rated as being often "too noisy", "too crowded", and "too hot", and sometimes "too cold". The EDF ashore was rated as being sometimes "too noisy" and "too crowded", but only rarely "too hot" or "too cold". Again, the EDF ashore was rated higher, at least in part because of constraints on EDF's afloat which are beyond the control of the food service managers. Nevertheless, the customer ratings as a whole clearly leave room for improvement. And as previously identified in this report, customer relations is an area of prime concern for effective food service managers.

#### SURVEY TEAM EVALUATIONS

During the site visits to the EDFs ashore and afloat to collect data from MSs, EDF managers, and customers, the survey team also conducted its own evaluations.

##### Sanitation

As FMT members pointed out in their interviews, good food service management involves keeping the dining facility clean and training the workers to keep themselves clean and neat. The form in Appendix E was used to rate a number of different aspects of the EDFs' sanitation level at three different times and also all members of three groups of EDF workers -- servers, attendants, and cooks -- at three different times. The results are in Table 14. On a 5-point scale where 3 is "average", lower numbers indicate deficiency, and higher numbers indicate superiority, both the EDF afloat and ashore were rated approximately 4. Thus, the overall level of both the EDFs' sanitation and worker appearance was rated as being clean, orderly, and neat.

TABLE 13. Customer Evaluation of Dining Area Conditions<sup>a</sup>

ITEM	AFLOAT	ASHORE
How frequently the dining area is:		
a. Too Noisy	3.07	1.91
b. Too Crowded	3.63	2.30
c. Too Hot	3.15	1.39
d. Too Cold	1.64	1.42

<sup>a</sup> Mean ratings based on a four-point scale where 1 - "almost never", 2 = "sometimes", 3 = "often", and 4 = "almost always".

### Food Attractiveness

As FMT members also pointed out, good food service management entails the production of food that looks appetizing and is arranged in attractive displays in the serving line. The form in Appendix F was used by the survey team to rate the food items themselves and the overall appearance of the serving line at three meals for each EDF, twice each meal. On the same basic 5-point scale as before (see Table 14), the EDF's ashore and afloat mostly got ratings around 3, which indicates "average" or "satisfactory" appearance. This, then, is another area with significant room for improvement.

### Food Runouts

As FMT members noted, customer satisfaction is a vital indicator of good food service management. Few things irritate customers more than to come through the serving line to find that items they expected have runout. The form in Appendix G was used to measure item runouts. For each installation, the form was used at three different meals, four times during each meal. As table 14 indicates, for entrees, the main item at most meals, no runouts were observed. For salad bar items, however, roughly a fifth of the items were gone by the end of the meal. The survey team did observe workers periodically checking and replenishing all parts of the serving line. But apparently in regard to the salad bar they could not keep up completely with the demand.

TABLE 14. Survey Team Evaluation of EDF

CATEGORY	MEAN AFLOAT	MEAN ASHORE
EDF Sanitation	3.97 <sup>a</sup>	3.99 <sup>a</sup>
Worker Appearance	3.81 <sup>a</sup>	4.03 <sup>a</sup>
Serving Line Appearance	2.86 <sup>a</sup>	2.90 <sup>a</sup>
Food Appearance	3.66 <sup>a</sup>	2.91 <sup>a</sup>
Entree Item Runouts	0%	0%
Salad Bar Item Runouts	17%	18%

<sup>a</sup> Mean ratings based on a 5-point scale where 1 = "very deficient", 3 = "average/satisfactory", and 5 = "very attractive or immaculately clean".

## CONCLUSIONS

This report assesses the current state of U. S. Navy foodservice managerial effectiveness to indicate the strengths and weaknesses in the current training system. The conclusions below are based on interview or survey data from Navy cooks (MSs), enlisted dining facility managers, Food Management Team (FMT) members, and enlisted dining facility customers. The survey team also made its own independent evaluation.

### Strengths of the System

1. Most MSs rated their supervisors fairly well. In fact, ratings of their interest and support, as well as the quality of their supervision, were among MS's highest ratings of the current system.
2. Sanitation in the enlisted dining facility (EDF) and of food service workers was consistently given high ratings.
3. The majority of Navy MS's have had prior civilian food service training and/or experience in the civilian world. Such widespread skill development outside the Navy can supplement that training provided within the Navy.
4. Most MSs had fairly positive work attitudes.
5. The NEY awards program appeared to be a powerful motivator towards better performance.
6. EDF managers generally minimized the potential problem of menu item runouts.

### Weaknesses of the System

1. Equipment maintenance was consistently seen by MSs as a major problem. However, many blamed this not on the enlisted dining facility (EDF) manager, but on low command priority and lack of funds for equipment.
2. Physical conditions in the galley and dining area were often given low marks, by workers and customers alike, especially for noise, crowding, and and temperature control.

3. MSs afloat perceived a lack of recognition for their work, both from managers and customers. Total job satisfaction of MSs afloat was quite a bit lower than those ashore.

4. MSs complained about the discrepancy between MS school training and actual Navy cooking.

5. The amount of continuing education training for MSs appears inadequate, especially for those afloat. Ongoing training afloat had low priority and was conducted rarely. Relatively few MSs afloat had had any training in the last three months on any of the 12 key topics asked about. Even on such vitally important topics as safety and sanitation, only 44% of those afloat had recent training. For both those ashore and afloat customer relations, although very important, had a low rating. It appears that inadequate time off for training is a problem.

6. Although job rotation is an effective and relatively inexpensive way to enhance the skills of MSs, only a minority of those afloat had much job rotation in the past year. More MSs ashore had had such experience, but still far from all of them. This lack of job rotation was reflected in the fact that many MSs, especially those afloat, lacked competence with a number of different types of basic cooking equipment.

7. Most said the Navy had not adequately prepared them for their management positions. They felt they had lacked both sufficient school training and job rotation.

8. Workers, managers, and FMT members alike generally agreed that EDFs were undermanned, and thus current staff had too much work.

9. Although the importance of customer attitudes was recognized, unfortunately, customer attitudes toward their meals and the dining facility

averaged at the neutral point, indicating considerable room for improvement.

10. The survey team gave only average ratings to the attractiveness of most menu items.

This document reports research undertaken at the US Army Natick Research and Development Command and has been assigned No. NATICK/TR-561029 in the series of reports approved for publication.





## REFERENCES

<sup>1</sup>  
C. A. Salter, J. B. Knight, and L.E. Symington. A survey of civilian foodservice management training programs NATICK/TR-85/014. US Army Natick Research and Development Center (AD A156 965).

<sup>2</sup>  
S. R. Daniel. How to develop a customer complaint feedback system. Food Technology, Sept., 1984, 38 (9), 41-46.

<sup>3</sup>  
H. B. Masor, C. A. Salter, L. E. Symington, and J. B. Knight. Analysis of the U. S. Navy Food Service Recruiting Program. Part II: The feasibility of recruiting cooks from civilian vocational and technical schools. NATICK/TR-84/026. U.S. Army Natick Research & Development Center (1984) (AD A148 047).



## APPENDICES

- A. USN Foodservice Worker Questionnaire
- B. USN Food Management Team Interview
- C. Food Survey Card
- D. USN Food Service Customer Survey
- E. Sanitation/Cleanliness/Orderliness Rating Form  
(General Appearance) Non Equipment
- F. Food Appearance Data Collection Form
- G. Entree Variety/Runouts Rating Form



APPENDIX A

USN FOODSERVICE WORKER QUESTIONNAIRE

The USN Food Service Systems Office is trying to improve the training and development of food service workers. In order to help us better understand what your problems and needs are, we have developed several questions. If you can take the time to answer these questions for us, we will be able to do a much better job of recommending improved training and development programs for you and the USN cooks of the future.

1. How would you describe your present job? (PLEASE CIRCLE THE MOST APPROPRIATE NUMBER)
  1. Food Service Officer
  2. Senior MS
  3. Assistant to Senior MS
  4. Galley Captain
  5. Watch Captain
  6. Cook
  7. Cooks Apprentice
  8. Clerk
  9. Storeroom (Jack of the Dust)
  10. Supply
  11. Other (please specify) \_\_\_\_\_
  
2. Please write in the number of your present grade. E- \_\_\_\_\_
  
3. Do you plan to reenlist in food service when your present enlistment ends? (CIRCLE THE APPROPRIATE NUMBER)
  0. No, I am retiring
  1. Definitely no
  2. Probably no
  3. Undecided
  4. Probably yes
  5. Definitely yes
  
4. How would you compare the food service on this base or ship to other bases or ships on which you have worked as a food service worker? (CIRCLE ONE NUMBER)

This base/ship is:

My First Base/Ship	MUCH WORSE	SOMEWHAT WORSE	SLIGHTLY WORSE	NO BETTER OR WORSE	SLIGHTLY BETTER	SOMEWHAT BETTER	MUCH BETTER
0	1	2	3	4	5	6	7

PLEASE USE THE FOLLOWING SCALE FOR THE NEXT TWO QUESTIONS:

VERY BAD	MODERATELY BAD	SOMEWHAT BAD	NEITHER BAD NOR GOOD	SOMEWHAT GOOD	MODERATELY GOOD	VERY GOOD
1	2	3	4	5	6	7

5. We would like you to rate each factor below on HOW GOOD OR BAD each is in terms of the PRESENT FOOD SERVICE OPERATION on this base. Please use the scale above.

a. The food preparation skills of the USN cooks	1	2	3	4	5	6	7
b. Supervision from your watch captain	1	2	3	4	5	6	7
c. Supervision from the senior MS	1	2	3	4	5	6	7
<hr/>							
d. Support and cooperation among cooks	1	2	3	4	5	6	7
e. Interest and support of the food service officer	1	2	3	4	5	6	7
f. Interest and support of the supply officer	1	2	3	4	5	6	7
<hr/>							
g. Interest and support of the base/ship command	1	2	3	4	5	6	7
h. Customer satisfaction	1	2	3	4	5	6	7
i. Maintenance of equipment	1	2	3	4	5	6	7
<hr/>							
j. Amount of paperwork you have to do	1	2	3	4	5	6	7
k. The civilian mess attendants or mess cooks	1	2	3	4	5	6	7

6. Using the same scale as the last question, please rate each factor below on HOW GOOD OR BAD you feel it is in your galley and serving line area.

a. Type and amount of equipment to do the job	1	2	3	4	5	6	7
b. Sanitary conditions in the galley	1	2	3	4	5	6	7
c. How easy to get at supplies	1	2	3	4	5	6	7
<hr/>							
d. Size of the galley	1	2	3	4	5	6	7
e. Noise	1	2	3	4	5	6	7
f. Lighting in the galley	1	2	3	4	5	6	7
<hr/>							
g. Lighting on the serving line	1	2	3	4	5	6	7
h. Bumping into other cooks while working	1	2	3	4	5	6	7
i. Temperature in the galley	1	2	3	4	5	6	7
<hr/>							
j. The galley OVERALL	1	2	3	4	5	6	7

7. Please tell us how satisfied or dissatisfied you are with the following aspects of your present job. (PLEASE CIRCLE ONE NUMBER FOR EACH ASPECT, USING THE SCALE BELOW)

	VERY DISSATISFIED	MODERATELY DISSATISFIED	SOMEWHAT DISSATISFIED	NEUTRAL	SOMEWHAT SATISFIED	MODERATELY SATISFIED	VERY SATISFIED				
	1	2	3	4	5	6	7				
a. The number of hours a week you work					1	2	3	4	5	6	7
b. How your weekly work hours are scheduled					1	2	3	4	5	6	7
c. Recognition for doing good work					1	2	3	4	5	6	7
d. The attitude of the customers					1	2	3	4	5	6	7
e. Your co-workers					1	2	3	4	5	6	7
f. The opportunity for promotion					1	2	3	4	5	6	7
g. Your supervisors					1	2	3	4	5	6	7
h. The actual work you do					1	2	3	4	5	6	7

8. Please read each of the following statements and decide how much you agree with it. Then indicate your current feelings about each statement by circling the number corresponding to the words of your choice on the scale below. For example, if you strongly agree with the statement, "I frequently get praised for a job well done," you would circle "7".

	STRONGLY DISAGREE	MODERATELY DISAGREE	SOMEWHAT DISAGREE	UNSURE	SOMEWHAT AGREE	MODERATELY AGREE	STRONGLY AGREE				
	1	2	3	4	5	6	7				
a. I frequently get praised for a job well done					1	2	3	4	5	6	7
b. I have long work shifts					1	2	3	4	5	6	7
c. I have a good chance to learn more about cooking through Navy training					1	2	3	4	5	6	7
d. I frequently get criticized for mistakes					1	2	3	4	5	6	7
e. Sometimes I don't understand what my supervisor is trying to say					1	2	3	4	5	6	7
f. The Senior MS doesn't treat me fairly					1	2	3	4	5	6	7
g. I don't like cooking					1	2	3	4	5	6	7
h. I have no say over my work hours					1	2	3	4	5	6	7
i. There's a large difference between Navy MS School training and real Navy cooking					1	2	3	4	5	6	7
j. The Senior MS really knows a lot about food service					1	2	3	4	5	6	7
k. The Senior MS doesn't know how to treat people					1	2	3	4	5	6	7
l. The Senior MS plays favorites					1	2	3	4	5	6	7
m. The Watch Captain really knows a lot about food service					1	2	3	4	5	6	7
n. The Watch Captain doesn't know how to treat people					1	2	3	4	5	6	7
o. The Watch Captain plays favorites					1	2	3	4	5	6	7

9. Training in your dining facility is given .... (CIRCLE ONE NUMBER)

- 0. There is no training done at all
- 1. Very low priority
- 2. Moderately low priority
- 3. Medium priority
- 4. Moderately high priority
- 5. Very high priority

10. The training done in this facility takes .... (CIRCLE ONE NUMBER)

- 1. Much too much time
- 2. Somewhat too much time
- 3. Slightly too much time
- 4. Just about the right amount of time
- 5. Slightly too little time
- 6. Somewhat too little time
- 7. Much too little time

11. How often do you have group training (e.g., lectures, films, demonstrations) in this dining facility? (CIRCLE ONE NUMBER)

- 0. Never
- 1. Almost every day
- 2. Two or three times a week
- 3. About once a week
- 4. About twice a month (every other week)
- 5. About once a month
- 6. Less than once a month

12. When is group training MOST OFTEN done in your facility? (CIRCLE ONE NUMBER)

- 1. It is never done in my facility
- 2. During your work time
- 3. During your own time

13. How often do you have individual training while you are actually working in the galley in your dining facility? (CIRCLE ONE NUMBER).

- 0. Never
- 1. Almost every day
- 2. Two or three times a week
- 3. About once a week
- 4. About twice a month (every other week)
- 5. About once a month
- 6. Less than once a month

14. Did YOU have any experience in civilian food service before joining the Navy? (PLEASE CHECK ALL THAT APPLY TO WHERE YOU WORKED)

\_\_\_\_\_ Fast Food Franchise  
\_\_\_\_\_ Bakery  
\_\_\_\_\_ Restaurant  
\_\_\_\_\_ Coffee Shop

\_\_\_\_\_ Cafeteria  
\_\_\_\_\_ Delicatessen  
\_\_\_\_\_ None



15. Was any of this civilian food service experience working as any kind of cook? (CIRCLE ONE)

Yes No

16. Did you have any training in food service before joining the Navy? (PLEASE CHECK ALL THAT APPLY)

<input type="checkbox"/> Courses in High School	<input type="checkbox"/> Correspondence Courses
<input type="checkbox"/> Vocational-Technical School	<input type="checkbox"/> Food Service Institute
<input type="checkbox"/> Junior College Courses	<input type="checkbox"/> On-The-Job Training (specify where: _____)
<input type="checkbox"/> College Courses	<input type="checkbox"/> None

17. Have you had any training in civilian food service since joining the Navy? (PLEASE CHECK ALL THAT APPLY)

<input type="checkbox"/> Courses in High School	<input type="checkbox"/> Food Service Institute
<input type="checkbox"/> Vocational-Technical School	<input type="checkbox"/> On-The-Job Training (specify where: _____)
<input type="checkbox"/> Junior College Courses	<input type="checkbox"/> None
<input type="checkbox"/> College Courses	

18. Have you worked at all in civilian food service since joining the Navy? (PLEASE CHECK ALL THAT APPLY TO WHERE YOU WORKED)

<input type="checkbox"/> Fast Food Franchise	<input type="checkbox"/> Cafeteria
<input type="checkbox"/> Bakery	<input type="checkbox"/> Delicatessen
<input type="checkbox"/> Restaurant	<input type="checkbox"/> None
<input type="checkbox"/> Coffee Shop	

19. Since you have been a Navy MS, have you taken ...

a. Military Food Service Correspondence Courses	Yes	No
b. Civilian Food Service Correspondence Courses	Yes	No

20. Please place a check mark next to EACH piece of equipment you feel you know how to use and sanitize well enough to show someone else how to use and sanitize it.

<input type="checkbox"/> Griddle	<input type="checkbox"/> Deep fat fryer
<input type="checkbox"/> Steam jacketed kettle	<input type="checkbox"/> Steamer
<input type="checkbox"/> Deck oven	<input type="checkbox"/> Convection oven
<input type="checkbox"/> Range	<input type="checkbox"/> Broiler
<input type="checkbox"/> Bench mixer	<input type="checkbox"/> Verticle mixer
<input type="checkbox"/> Roller/sheeter	<input type="checkbox"/> Slicer
<input type="checkbox"/> Proof box	<input type="checkbox"/> Tilting frying - braising pan
<input type="checkbox"/> Dough divider/rounder	<input type="checkbox"/> Carbonated beverage dispenser
<input type="checkbox"/> Soft serve ice cream machine	

21. Please place a check mark next to EACH work station at which you have worked in the last year.

<input type="checkbox"/> Steamers	<input type="checkbox"/> Griddles
<input type="checkbox"/> Deep fat fryers	<input type="checkbox"/> Steam jacketed kettles
<input type="checkbox"/> Pastry kitchen	<input type="checkbox"/> Butcher shop
<input type="checkbox"/> Vegetable prep	<input type="checkbox"/> Short order line
<input type="checkbox"/> Cashier	<input type="checkbox"/> Ovens and ranges
<input type="checkbox"/> Storeroom	<input type="checkbox"/> Tilting frying - braising pan
<input type="checkbox"/> Dining facility office	
<input type="checkbox"/> Main serving line	

22. Which of these topics was covered in one of your dining facility training sessions in the LAST 3 MONTHS? (PLEASE CHECK EACH TOPIC COVERED).

<input type="checkbox"/> There were no training sessions in the last 3 months	<input type="checkbox"/> Safety
<input type="checkbox"/> Equipment operation	<input type="checkbox"/> Sanitation
<input type="checkbox"/> Recipe conversion	<input type="checkbox"/> Menu planning
<input type="checkbox"/> Record keeping	<input type="checkbox"/> Portion control
<input type="checkbox"/> Customer relations	<input type="checkbox"/> Military subjects
<input type="checkbox"/> Garnishing	
<input type="checkbox"/> Supply and procurement procedures	
<input type="checkbox"/> Other (please specify) _____	

23. In this question we are interested in your feelings about your work in Navy food service. Please read each item carefully and CIRCLE THE NUMBER that BEST describes your current feelings.
- a. On most days on your job, how often does time seem to drag for you?
    - 1. About half the day or more
    - 2. About 1/3 of the day
    - 3. About 1/4 of the day
    - 4. About 1/8 of the day
    - 5. Time never seems to drag
  - b. Some people are completely involved in their job -- they are absorbed in it day and night. For other people, their jobs are simply one of several interests. How involved do you feel in your job?
    - 1. Very little involved; my other interests are more absorbing
    - 2. Slightly involved
    - 3. Moderately involved; my job and my other interests are equally absorbing
    - 4. Strongly involved
    - 5. Very strongly involved; my work is the most absorbing influence in my life
  - c. How often do you do some extra work for your job which isn't really required of you?
    - 5. Almost every day
    - 4. Several times a week
    - 3. About once a week
    - 2. Once every few weeks
    - 1. About once a month or less
  - d. Would you say you work harder, less hard or about the same as other people doing your type of work on this base/ship? (CIRCLE ONE NUMBER)
    - 5. Much harder than most others
    - 4. A little harder than most others
    - 3. About the same as most others
    - 2. A little less hard than most others
    - 1. Much less hard than most others

Please check one  Food Management Team  
 Leading MS  
 MSC, MSCS, MSCM, but not leading MS

Please tell us how important you think each factor listed below is to effective food service management. Rate each factor as follows:

4. Extremely important
3. Very important
2. Moderately important
1. Slightly important
0. Not important

Please write in the appropriate number next to each factor.

1. Planning meetings which include the food service workforce.
2. On-the-job training being provided for cooks.
3. School training in food service being provided for cooks.
4. Management training for the leading MS.
5. Management training for the watch captain.
6. Food service training for the food service officer.
7. Providing recognition to the cooks for work well done.
8. Managers getting recognition for work well done.
9. Communication between managers/supervisors and the workforce.
10. A preventive maintenance program being provided for all food service equipment.
11. A self-inspection/evaluation program for food service managers and supervisors.
12. Work assignments that rotate workers among food service tasks.
13. Customers-food service personnel relations.
14. Accurate and timely submission of reports.
15. Customer satisfaction.
16. Managers knowing how to correctly prepare financial reports.
17. Having a dining facility with attractive decor (that looks nice).
18. Managers knowing how to operate all equipment in the dining facility.

4. Extremely important
3. Very important
2. Moderately important
1. Slightly important
0. Not important

- \_\_\_\_\_ 19. Managers pointing out mistakes to the cooks.
- \_\_\_\_\_ 20. Managers helping workers under them with personal problems.
- \_\_\_\_\_ 21. Managers knowing a lot about foodservice.
- \_\_\_\_\_ 22. Managers emphasizing portion control.
- \_\_\_\_\_ 23. Managers enforcing progressive cookery.
- \_\_\_\_\_ 24. A sanitary, clean dining facility and galley.
- \_\_\_\_\_ 25. Clearly defining the job each worker is to do.
- \_\_\_\_\_ 26. Manager having higher rank than everyone who works for him.
- \_\_\_\_\_ 27. Please write in any other factors that you think are very important in effective food service management.

Please check one  Food Management Team  
 Leading MS  
 MSC, MSCS, MSCM, but not leading MS

If we agree that only a well-motivated workforce is productive, it is important for managers to know what will motivate food service workers. Please tell us what you think will motivate workers by rating each factor below as follows:

4. Extremely effective motivator
3. Very effective motivator
2. Moderately effective motivator
1. Slightly effective motivator
0. Not an effective motivator

Please write in the appropriate number next to each factor.

1. Recognition for good performance on the job, such as: picture on the bulletin board, name mentioned in written newsletter, etc.
2. Awards for good performance on the job, such as 3 day passes, tickets to events, cash, restaurant tickets.
3. Written commendation from supervisor.
4. Words of appreciation from supervisor/superintendent.
5. Managers checking up on cooks to make sure they do things correctly.
6. Feedback from customers that service is appreciated.
7. Being included in planning and evaluating the food service operation.
8. Manager conducting daily inspections of cooks.
9. Allowing flexible work hours.
10. Manager taking good suggestions from the cooks seriously.
11. Having the dining facility be in the running for the Ney award.
12. Short term (2, 3, or 4 weeks) OJT in a good-high quality civilian restaurant.
13. The Navy providing time and paying for courses toward a food service degree in a college or community college program (e.g., Johnson & Wales).
14. The chance to obtain food service certification in preparation for later civilian employment.
15. Taking names and kicking \*\*\*.
16. Please write in any other things you can think of that might be good motivators for food service workers (cooks) on the back of this sheet.

APPENDIX B

USN FOOD MANAGEMENT TEAM

INTERVIEW

1. How would you summarize the quality of food service in the Navy?
2. What are the problems in Navy food service management and what are the causes?
3. What changes or assistance would be most helpful in your opinion?
4. Please rank order the following levels of food service management in terms of where most help is needed. Label that needing most assistance as "1" and that needing the least as "4". (SHOW CARD)
5. In your opinion what are the strong points in the way the Navy currently prepares its food service personnel to be managers?
6. What are the weak points?
7. To what extent do your Commanding Officers take interest in and support the food service operations on their bases/ships?
8. Are there any (other) types of training that food service management personnel should be receiving?
9. If you were to visit a dining facility, what kinds of things would you look for to indicate whether it is well or poorly managed?
  - a. What (other) things would you expect to find in a well-managed facility?
  - b. What (other) things would you expect to find in a poorly-managed facility?
10. Can you identify some of your best managed EDFs?
11. Can you identify some of your bases or ships where the EDF is most in need of assistance?
12. Which do you think in general most needs improvement -- EDF's or wardrooms? Why?
13. In your opinion, does the food management team help develop management effectiveness in food service? Why (not)? How?





APPENDIX C

FOOD SURVEY CARD

We would like your opinion of the meal you have just eaten. Please circle the number next to the words which best describe how much you liked or disliked the MEAL OVERALL.

- 9 Like Extremely
- 8 Like Very Much
- 7 Like Moderately
- 6 Like Slightly
- 5 Neither Like Nor Dislike
- 4 Dislike Slightly
- 3 Dislike Moderately
- 2 Dislike Very Much
- 1 Dislike Extremely



APPENDIX D

USN FOOD SERVICE CUSTOMER SURVEY

PLEASE HELP US ASSIST THE USN FOOD SERVICE OFFICE IN EVALUATING NAVY DINING FACILITIES BY ANSWERING THE FOLLOWING QUESTIONS ABOUT YOUR DINING FACILITY.

1. FOR EACH PART OF THIS QUESTION, PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR OPINION OF THIS DINING FACILITY.

	VERY BAD	MODER- ATELY BAD	SOME- WHAT BAD	NEITHER BAD NOR GOOD	SOME- WHAT GOOD	MODER- ATELY GOOD	VERY GOOD
a. Hours of operation	1	2	3	4	5	6	7
b. Quality of the food	1	2	3	4	5	6	7
c. Amount of food	1	2	3	4	5	6	7
d. Variety of food at a single meal	1	2	3	4	5	6	7
e. Variety of the menu over the last two weeks	1	2	3	4	5	6	7
f. Temperature of the food	1	2	3	4	5	6	7
g. Speed of service	1	2	3	4	5	6	7
h. Cleanliness of the dining facility	1	2	3	4	5	6	7
i. Courtesy of cooks	1	2	3	4	5	6	7
j. Courtesy of mess cooks or contract food service workers	1	2	3	4	5	6	7
k. Appearance of the serving line	1	2	3	4	5	6	7
l. Cleanliness of mess cooks or civilian food service workers	1	2	3	4	5	6	7
m. Cleanliness of cooks	1	2	3	4	5	6	7
n. Appearance of the dining area (decor)	1	2	3	4	5	6	7
o. Lighting	1	2	3	4	5	6	7
p. The dining facility OVERALL	1	2	3	4	5	6	7

2. HOW OFTEN IS YOUR DINING AREA: (PLEASE CIRCLE ONE NUMBER FOR EACH OF THE FOLLOWING)

	ALMOST NEVER	SOME- TIMES	OFTEN	ALMOST ALWAYS
a. Too noisy	1	2	3	4
b. Too crowded	1	2	3	4
c. Too hot	1	2	3	4
d. Too cold	1	2	3	4

PLEASE FEEL FREE TO WRITE ANY COMMENTS YOU MIGHT LIKE TO MAKE ABOUT THIS DINING FACILITY ON THE OTHER SIDE OF THIS FORM.



APPENDIX E

SAHITATION/CLEANLINESS/ORDERLINESS RATING FORM  
(GENERAL APPEARANCE)  
NON EQUIPMENT

Base No. \_\_\_\_\_

Dining Facility Description Location \_\_\_\_\_

Collector \_\_\_\_\_

Dates: #1 \_\_\_\_\_

Times: #1 \_\_\_\_\_

#2 \_\_\_\_\_

#2 \_\_\_\_\_

#3 \_\_\_\_\_

#3 \_\_\_\_\_

INSTRUCTIONS:

Rate facility and personnel on 3 days at different hours, e.g., Day #1 - 0800, Day #2 - 1300, Day #3 - 1800.

	2 SOMEWHAT DIRTY			3 CLEAN BUT CLUTTERED			4 CLEAN AND ORDERLY			5 SPOTLESS BEAUTIFUL		
	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3
Floor, dining area												
Floor, Kitchen												
Floor, serving area												
Floor, wash area												
Tables, work												
Tables, diner												
							Total					
							Ratings			_____		

WORKER APPEARANCE  
(SERVERS, MESS ATTENDANTS, COOKS)

	1 DIRTY/ LOT OF UNIFORM			2 DIRTY			3 CLEAN BUT UNKEMPT			4 CLEAN NEXT			5 IMMACULATE								
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3			
SERVERS: #1																					
#2																					
#3																					
#4																					
#5																					
#6																					
ATTENDANTS: #1																					
#2																					
#3																					
#4																					
#5																					
#6																					
COOKS: #1																					
#2																					
#3																					
#4																					
#5																					
#6																					

WEIGHTED X



APPENDIX F

BASE \_\_\_\_\_

DINING FACILITY \_\_\_\_\_

FOOD APPEARANCE DATA  
COLLECTION FORM

DATE \_\_\_\_\_ MEAL \_\_\_\_\_

DATA TAKER \_\_\_\_\_

OVERALL SERVING LINE	VERY DEFICIENT	SOMEWHAT DEFICIENT	AVERAGE/SATISFACTORY	SOMEWHAT ATTRACTIVE	VERY ATTRACTIVE
1. Lighting	1	2	3	4	5
2. Orderliness	1	2	3	4	5
3. Serving Line Decorations	1	2	3	4	5
4. Food Color Combination	1	2	3	4	5
5. Salad Bar	1	2	3	4	5
6. Food Identifiability	1	2	3	4	5
7. Beverage Area	1	2	3	4	5

OVERALL SERVING LINE ATTRACTIVENESS (SUM OF CIRCLED NUMBERS)

INDIVIDUAL FOOD ITEMS (BY CATEGORIES)	10 Minutes After Opening Line					20 Minutes Before Closing Line						
ENTREES												
1	1	2	3	4	5	1	2	3	4	5		/
2	1	2	3	4	5	1	2	3	4	5		/
3	1	2	3	4	5	1	2	3	4	5		/
4	1	2	3	4	5	1	2	3	4	5		/
5	1	2	3	4	5	1	2	3	4	5		/
STARCHES											///	
1	1	2	3	4	5	1	2	3	4	5		/
2	1	2	3	4	5	1	2	3	4	5		/
3	1	2	3	4	5	1	2	3	4	5		/
4	1	2	3	4	5	1	2	3	4	5		/
VEGETABLES											///	
1	1	2	3	4	5	1	2	3	4	5		/
2	1	2	3	4	5	1	2	3	4	5		/
3	1	2	3	4	5	1	2	3	4	5		/
4	1	2	3	4	5	1	2	3	4	5		/
DESSERTS											///	
1	1	2	3	4	5	1	2	3	4	5		/
2	1	2	3	4	5	1	2	3	4	5		/
3	1	2	3	4	5	1	2	3	4	5		/
4	1	2	3	4	5	1	2	3	4	5		/

Average Appeal of Food on Serving Line

Y=

Appearance of Customer's Trays Leaving Serving Line

(1 point for each of 20 consecutive customers with well served menu items)

Total Food Appearance Score/Index  $X + Y + Z$

Take data at 2 breakfasts, 2 lunches and 2 dinners.







