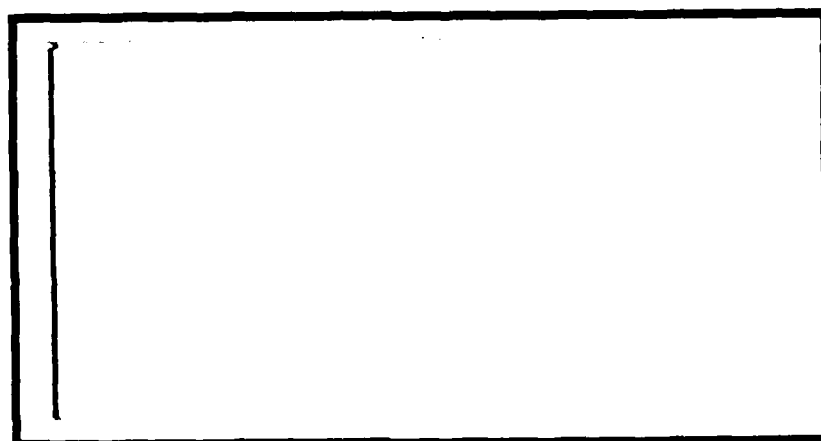


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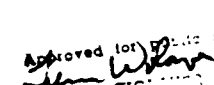
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SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

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Form Approved
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1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution unlimited.	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GLM/LSR/87S-79			7a. NAME OF MONITORING ORGANIZATION	
6a. NAME OF PERFORMING ORGANIZATION School of Systems and Logistics	6b. OFFICE SYMBOL (If applicable) AFIT/LSM	7b. ADDRESS (City, State, and ZIP Code)		
6c. ADDRESS (City, State, and ZIP Code) Air Force Institute of Technology Wright-Patterson AFB OH 45433-6583		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8a. NAME OF FUNDING / SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	10. SOURCE OF FUNDING NUMBERS		
8c. ADDRESS (City, State, and ZIP Code)		PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
		WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) See Box 19				
12. PERSONAL AUTHOR(S) Debra M. Trent, B.S., GS-12, USAF				
13a. TYPE OF REPORT MS Thesis	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 1987 September	15. PAGE COUNT 108	
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP		
05	01		Communications, Productivity, Organizational Development, Conferencing	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
Title: THE CRAWFORD SLIP METHOD: AN ORGANIZATIONAL DEVELOPMENT TECHNIQUE?				
Thesis Chairman: John A. Ballard, Ph.D., LTC, USAF Assistant Professor of Management and Organizational Behavior				
 Approved for public release by E. T. [unclear] Date for [unclear] Air Force Institute of Technology Wright-Patterson AFB OH 45433				
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL John A. Ballard, LTC, USAF			22b. TELEPHONE (Include Area Code) (513) 255-2254	22c. OFFICE SYMBOL AFIT/LSM

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Block 19. Abstract

This study analyzed the Crawford Slip Method, relative to organizational factors and provided insight into the potential utility of the Crawford Slip Method in organizational enhancement efforts. ~~This study~~ examined the advantages/disadvantages of the Crawford Slip Method relative to attitudinal surveys; investigated the relationships between survey variables and the Crawford Slip Method; and examined the relationships between the content of the Crawford Slip Method and attitudinal variables.

Analysis of the literature, and quantitative and content studies indicated that the Crawford Slip Method is a viable organizational development technique and could be useful in Department of Defense organizations. Overall, the analyses indicated that the Crawford Slip Method compliments attitudinal surveys and can be used in conjunction with the surveys to improve organizational communications and development.

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THE CRAWFORD SLIP METHOD:
AN ORGANIZATIONAL
DEVELOPMENT TECHNIQUE?

THESIS

Debra M. Trent
GS-12, USAF

AFIT/GLM/LSR/87S-79

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THE CRAWFORD SLIP METHOD:
AN ORGANIZATIONAL DEVELOPMENT TECHNIQUE?

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Debra M. Trent, B.S.

GS-12, USAF

September 1987

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Preface

The purpose of this study was to analyze the Crawford Slip Method relative to organizational factors and provide insight into the potential utility of the Crawford Slip Method in organizational enhancement efforts.

The Crawford Slip Method was compared to attitudinal surveys in the literature studied and in both quantitative and content analysis. The findings indicate that the Crawford Slip Method is a viable organizational development technique and could be of value to the Department of Defense.

In performing this study I had extensive help from my faculty advisor, Lt Col John A. Ballard. I would like to thank him for his patience, understanding and guidance.

This thesis is dedicated to the memory of Professor John Demidovich, whose interest and research inspired this study.

— Debra Trent

Table of Contents

	Page
Preface	ii
List of Figures	vi
List of Tables	vii
Abstract	viii
I. Introduction	1
Background	1
Statement of Problem	1
Investigative Questions	2
Scope	2
Limitations	2
II. Literature Review	4
Organizational Development	4
Survey Feedback Method	8
Crawford Slip Method	11
Definition	11
The Method	12
Uses	15
Limitations	20
Crawford Slip Method as an Organizational Development Technique.	22
III. Method	23
Participants	23
Instruments	23
AFIT Survey	23
Description	23
Administration	24
Data Processing	24

	Page
Crawford Slip Method	24
Description	24
Administration	25
Data Processing	26
Statistical Procedures	27
Planned Analyses	27
Advantages and Disadvantages	27
Quantitative Analysis	28
Content Analysis	28
IV. Results	29
Advantages/Disadvantages of the Crawford Slip Method versus Attitudinal Surveys	29
Attitudinal Surveys	29
Crawford Slip Method	34
Comparison	38
Relationships Between Quantity of Slips and Group Attitudinal Factors	41
Relationships Between Content of Slips and Group Attitudinal Factors	45
V. Discussion	49
Advantages and Disadvantages of the Crawford Slip Method versus Attitudinal Surveys	49
Relationship Between Quantity of Slips Generated and Working Group Attitudinal Variables	55
Relationship Between Content of Slips Generated and Working Group Attitudinal Variables	56
Uses in Crawford Slip Method in Organizational Development	57
Appendix A: The AFIT Survey of Work Attitudes	59
Appendix B: Crawford Slip Method Target Questions	82
Appendix C: AFIT Survey on Work Attitudes, Survey Results	83

	Page
Appendix D: Crawford Slip Method Total Number of Slips	87
Appendix E: Crawford Slip Method Results	88
Appendix F: Survey Variables, Means by Branch	90
Appendix G: Survey Items Comprising Organizational Attitudinal Variables Shown in Table 3 . . .	92
Appendix H: Survey Items Comprising Organizational Attitudinal Variables Shown in Table 4 . . .	93
Bibliography	94
Vita	97

List of Figures

Figure	Page
1. Average Number of Crawford Slips per Person per Category	35
2. Correlation Between Average Number of Crawford Slips per Person per Branch and Survey Means for Job Importance	44
3. Correlation Between Average Number of Crawford Slips per Person per Category and Survey Means for Feedback	48

List of Tables

Table	Page
1. Comparison of Organizational Factors Used in Both Attitudinal Surveys and the Crawford Slip Method	39
2. Comparison of the Advantages and Disadvantages of the Attitudinal Surveys and the Crawford Slip Method	40
3. Correlations Between Organizational Attitudinal Variables and Average Number of Crawford Slips per Person per Branch	43
4. Correlations Between Organizational Attitudinal Variables and Average Number of Crawford Slips per Person per Category	46

Abstract

This study analyzed the Crawford Slip Method relative to organizational factors and provided insight into the potential utility of the Crawford Slip Method in organizational enhancement efforts. This study examined the advantages/disadvantages of the Crawford Slip Method relative to attitudinal surveys; investigated the relationships between survey variables and the Crawford Slip Method; and examined the relationships between the content of the Crawford Slip Method and attitudinal variables.

Analysis of the literature, and quantitative and content studies indicated that the Crawford Slip Method is a viable organizational development technique and could be useful in Department of Defense organizations. Overall, the analyses indicated that the Crawford Slip Method complements attitudinal surveys and can be used in conjunction with the surveys to improve organizational communications and development.

THE CRAWFORD SLIP METHOD:
AN ORGANIZATIONAL DEVELOPMENT TECHNIQUE?

I. Introduction

This chapter discusses the rationale for this research. It contains background information on productivity improvement and states the specific research problem and questions to be investigated. This chapter concludes with the scope and limitations of the study.

Background

Productivity is a major concern of management and ways to improve productivity are always being sought. It is an established fact that human/group factors affect productivity. The assessment of such factors provides managers with information needed to improve operations. The most common assessment technique used today is the attitudinal survey. Another tool with potential benefits is the Crawford Slip Method. This method uses anonymous inputs by employees to assist in improving productivity.

Statement of Problem

The purpose of this thesis was to analyze the Crawford Slip Method relative to organizational factors and provide insight into the potential utility of the Crawford Slip Method in organizational enhancement efforts.

Investigative Questions

The following specific questions were addressed.

1. What are the advantages and disadvantages of the Crawford Slip Method versus attitudinal surveys in organizational enhancement efforts?
2. What, if any, relationships exist between the quantity of slips generated and working group attitudinal variables such as job satisfaction, organizational commitment, group cohesion, etc.?
3. What, if any, relationships exist between the content of slips generated and working group attitudinal variables such as job satisfaction, organizational commitment, group cohesion, etc.?
4. Is the Crawford Slip Method a viable organizational development technique?

Scope

This research was based on the administration of the Crawford Slip Method and the AFIT Survey of Work Attitudes to seventy employees in one DOD logistical support center. It will compare and contrast the two organizational development techniques based on data gathered in this one organization.

Limitations

This study was limited by the size of the data base and use of group level information as the unit of analysis.

The relatively small data base limited the statistical analyses. As the first empirical study of the Crawford Slip Method, this thesis was primarily exploratory.

II. Literature Review

This chapter will discuss literature reviewed on organizational development and the survey feedback technique. It will review the Crawford Slip Method, explaining what the method is, how it is accomplished, how it is used and the method's limitations.

Organizational Development

Organizational development has been the subject of many studies and analyses. Ways of improving organizations have long been at the forefront of manager's concerns. Organizational development is defined by French and Bell (1973) as a:

. . . long range effort to improve an organization's problem-solving and renewal processes, particularly through a more effective and collaborative management of organization culture - with special emphasis on the culture of formal work teams - with the assistance of a change agent, or catalyst, and the use of the theory and technology of applied behavioral science, including action research [p. 15].

Stated in simpler terms, organizational development is trying to improve an organization through research. Organizational development's aim is to help an organization help itself. It is a problem-solving process that aids an organization in diagnosing problems and initiating improvements. It uses consultation methods to intervene in the ongoing processes of the organization and to assist in

problem-solving situations. Either internal or external consultants are used. According to Nadler (1980), the common uses of organizational development are testing theories, evaluating new programs, and monitoring organizational performance, all in the context of helping the organization make improvements.

There is some disagreement as to the "key" to successful organizational development. Many studies contend that the individual is the key: individual behavior, attitudes, values, etc., dictate resistance of, or acceptance to, change. Other studies indicate that the group is the key: the make-up of groups within an organization determines whether, or how, the organization will change. The most prevalent research today indicates that both the group and the individual must be considered, along with other organizational change (Lloyd, 1977:2). French and Bell carry the "total interacting systems" approach of organizational development into the type of management required for successful change. They stress that another key to organizational development is team work. They state that organizational development is a collaborative management, or a shared management concept, not a "hierarchically imposed" (p. 17) type of management. Organizational development relies on participative decision making as an underlying strategy for success.

The effectiveness of organizational development depends on the nature of the process used to collect information, the nature of the data collected and the characteristics of the feedback process. To facilitate organizational development, assessment data is gathered by some method and this data will, presumably, give valid information for organizational change and improvement. To be useful, the gathered data must be organized, analyzed and fed back to the using organization. This feedback process should then affect individual behavior, group functioning and system adaptation. There are five stages of effective organizational development. They are planning to use the data, collecting the data, analyzing the data, reporting the data back to the client, and following up, or building on the feedback to initiate change (with further data collection, if necessary) (Nadler, 1977:77).

Nadler states that the feedback process is crucial to the success of organizational development, and different types of organizations require different styles of feedback. Each design has a preplanned and systematic approach to using the feedback for effective change. These designs are differentiated by three main characteristics: the composition of the research groups, whether they are groups that already exist within the organizational structure or groups established for the purpose of the study; the sequence the data is presented to the organization, either

top-down or bottom-up; and the nature of the consultant, whether internal or external.

Nadler lists seven major feedback styles. The first, the "family-group survey feedback" style, consists of a formal group of supervisor and employees; it is a top-down feedback style, and the consultant is external to the system (p. 81). The second style is the "survey-guided development" style. It is characterized by a formal working group, top-down feedback and an internal consultant. In both of these styles, data is gathered based on a standardized survey (p. 84). The third type of feedback style is the "subordinate-group feedback" system. It is a bottom-up feedback style with the subordinate groups seeing the gathered data before the supervisors see it. It uses an outside consultant (p. 86). The "peer-group intergroup feedback" system is the fourth feedback style. The group of interest is peer groups, or people at the same organizational level. The sequence is simultaneous and the consultant is external (p. 86). The fifth feedback style is the "intergroup feedback." It was established to improve relations between groups. It uses simultaneous feedback and an external consultant (p. 87). The "collateral problem solving group" is the sixth feedback system and uses new groups from outside the organizational structure. Its feedback system is simultaneous and the consultant is internal. It is characterized by overlapping membership

for communication between groups and the groups are permanent fixtures established to solve new problems (p. 89). The final feedback style is the "ad hoc collateral groups." It also uses new groups, but they exist temporarily to focus on specific problems. It has a top-down feedback cycle and uses an external consultant (p. 89).

Because of the differences that exist in organizations, each organization must be able to choose the feedback style that suits it best. The feedback technique that this paper is concerned with is the family-group survey feedback method and a relatively unknown organizational development technique, the Crawford Slip Method.

Survey Feedback Method

Lloyd (1977) states the theoretical basis for the survey feedback technique is that the data will highlight discrepancies between the current structure of an organization and the desired structure. These discrepancies will then be the motivator for improvement and change. Survey feedback is known by many different names, "attitude survey feedback, data feedback, survey guided development, survey research feedback, or action research" (p. 6). Lloyd defines it as a "process of systematically collecting data on an ongoing system relative to an objective, goal, or

need of that system" (p. 6). After data is collected, it is fed back to the system, a hypothesis is formulated, action is taken to implement change and the result of that action is evaluated by collecting more data. This style commonly uses a standardized questionnaire to sample a specific group of employees. The results are summarized and fed back to the supervisor in a "waterfall" system. The "waterfall" system is one in which one supervisor receives the information from his supervisor and feeds it to his subordinates who will then feed the information to their subordinates. Each supervisor will review the data twice, once when receiving it and once when presenting it. Lloyd contends that this process appears to maximize understanding and enhance organizational communication.

Lloyd indicates that the level of involvement of employees and supervisors in the survey feedback system is critical to the success of the system. Employee involvement can lead to a positive change in employee attitudes, and the earlier and greater the involvement, the greater the effectiveness of that change. The data collected is more valuable if the key people in an organization are involved in the research procedures. The more involved the managers are, the more open they will be to the organization's problems and subsequent change. Non-involved or antagonistic supervisors will thwart needed change.

The supervisor sets the stage for his employee's attitudes. If the supervisor is negative, so will be the employees.

Lloyd also contends that the success of the survey feedback process is contingent upon more than the employees and the supervisors. The way it is administered is also important. An external consultant generally results in greater productivity and problem solving. However, the system can benefit from both an external and an internal consultant; the external consultant will lend credibility to the data and the internal consultant will insure follow through. The amount of feedback also has an impact on the organizational development. The more feedback there is, the greater the change. The type of administration is also important. A participative style of administration will have a more positive affect than a dictatorial style; multiple meetings will have greater impact than a single meeting; and verbal communications are more effective than written communications. Thoughts generally flow more freely in verbal communications than written communications. Lloyd also states that follow-up is crucial to improvements. Changes in attitudes and work styles usually occur immediately following the feedback sessions; however, these changes fade over time without an effective follow-up and monitoring system.

Crawford Slip Method

Definition. One technique for organizational development that has not been extensively researched is the Crawford Slip Method. Rusk and Krone (1984) state the Crawford Slip Method is a "low cost, high speed, and high quality knowledge recording and processing system . . . the finest qualitative systems analysis tool on the market" (p. 251). They include in this comparison "quality circles, Delphi, Nominal Group Technique, Brainstorming, survey questionnaires, creativity enhancing techniques, suggestion boxes and many other idea generating methods" (p. 251).

According to Demidovich and Crawford (undated), the Crawford Slip Method is a system aimed at handling a large amount of inputs from a large number of people. It is a way to interview a crowd. It employs the use of a "looseleaf" style of note taking; that is, it uses information written on individual slips that can later be sorted and grouped easily.

Rusk and Krone (1984:251-257) state that one assumption underlying the Crawford Slip Method is that managers are under-utilizing their greatest resource: their employees. Workers have the knowledge, remedies and procedures for solving problems and given the opportunity, anonymity and controlled mental focusing, this knowledge can be useful. Rusk and Krone further state that the

"Crawford Slip Method is an entire system of idea generation, organization and professionally written product that can lead to improvements" (p. 257). Ross Clayton, in an article by Crawford and Demidovich (1983a), states that few management techniques have the potential of the Crawford Slip Method as an instrument for drawing out and using the knowledge of organizational members. Employees often know the problems of an organization better than management, and finding these problems is the first step towards improvement. Crawford and Demidovich (1981) believe the Crawford Slip Method is a major research and editorial tool, ideal for instigating and activating know-how and brainpower. The idea is to use employee's knowledge to identify problems and deficiencies, then find improvements or remedies (Crawford, Demidovich and Krone, 1984:5). This method captures the employees' know-how on paper and then turns this know-how into written procedures or improvements (Gerletti and Crawford, undated).

The Method. Initially the Crawford Slip Method was described by Crawford (1956a) as a buzz-write workshop involving participation by the audience and integration by the analyst. It was developed in the early 1920s and originally consisted of two parts: difficulty analysis which was described as writing the problems and method analysis which was writing the remedies for the problems

(Kluz and Walker, 1984). Today, the Crawford Slip Method is divided into three distinct parts: writing the inputs; sorting and classifying the inputs; and consolidating the output.

Step 1, writing the inputs, begins with problem diagnosis. Diagnostic workshops consisting of people knowledgeable in the organization that is targeted for improvement are the first step in implementing the Crawford Slip Method. The workshops begin with a motivational orientation that clarifies the problem and includes directions for writing the slips. One of the important principles that must be made clear to the slip writers is that the slips to be generated will be totally anonymous and will be used for the good of the organization, not as punishment or as a way of weeding out "traitors" (Crawford, 1983:187). In these workshops, questions are "targeted" toward a specific goal, such as, troubles, deficiencies, obstacles, imperfections, and remedies (Crawford, 1985:28). It is important to split the problem or goal into individual parts and target these parts, or the replies will be so general that they will be unusable (Crawford, 1955b). The participants then write independent, anonymous inputs, one sentence each, on the top of small slips of paper in response to each target question (Crawford, 1985:28). Crawford and Demidovich (1983a:4) state that it is very important that the slips be of uniform size, exactly

2 3/4" x 4 1/4". Slips this size can be easily cut from 8 1/2" x 11" paper without any waste. Slips should also be written in ink with acronyms spelled out.

After the slips are written, step two begins, that of sorting and classifying the data. Crawford (1983) contends that this is the most tedious and time-consuming part of the method. The administrator must classify all of the slips generated, which can amount to a few thousand from each session. He begins by separating the slips into subject groups. These groups must be mutually exclusive. An index card with the subject title is placed on the top of each group. The groups are then arranged alphabetically. It is important not to discard duplicates or near duplicates. These duplicates can add valuable information as to how crucial a problem is or how widely accepted a solution is. They can add insight into the specificity of a problem and solution. During this step it will also become clear how important "targeting" is to get valuable results. If the questions asked are irrelevant, the answers received will also be irrelevant.

The final step of the method is the consolidation or analysis phase. This phase usually requires someone knowledgeable in the targeted organization to glean logical results from the classified slips. The slips are analyzed and the solutions contained in them are presented to management for action (Crawford, 1983:189). Another

analysis method proposed by Crawford (1956d) in his early writings is to let the group analyze the slips. After the slips are written and collected, they can be read aloud to the group; the group then decides whether the idea is worthwhile and should be implemented. It should be noted that this latter method for analysis was not mentioned in Crawford's later writings.

Uses. The main uses of the Crawford Slip Method have been to improve training, plan new projects and improve operations in ongoing programs; however, the prospects for the method are endless (Demidovich and Crawford, undated). There are many documented examples of its effective use. In one case, a business wanted to produce a new industrial sealant. Twenty people used the Crawford Slip Method to define the requirements for this sealant and within days the sealant was in the prototype stage and being prepared for production, a process that usually takes months. In another example, a 100-page manual with 172 contracted tasks was written in three mornings using the Crawford Slip Method. It required two more mornings of editing and the manual was finished (Crawford, 1983:187). The Crawford Slip Method has also been used to improve the lives of patients in nursing homes (Gerletti, Perkins and Crawford, undated), to run a seminar for courtship and marriage by a church organization (Courtship and

Marriage, 1978), as a recruiting tool (Demidovich and Crawford, 1982), to improve consulting businesses (Crawford, undated), to improve salesmen's techniques (Crawford, 1956b), and to revive dying businesses or improve thriving businesses (Crawford, 1956c).

Demidovich and Crawford (1981) have implemented this method in trying to improve many facets of the United States Government operations. One of these attempts was to try to improve logistics operations. Using the Crawford Slip Method and Air Force personnel as their test group, they found that logistics generally consisted of individual pieces trying to fit into an overall system with little or no guidance; these "pieces" consist of people from the lowest level logistician to the President of the United States. They also found that most logistics employees operated on a "general idea" without clear guidelines. The specific findings of this study were as follows: (1) people were doing their assigned tasks without knowing how to do them; (2) employees were operating with uncertain guidelines and "help" from other employees who were also uncertain of how to accomplish the job; (3) many people used different, confusing terminologies when saying or doing the same things; (4) people did not understand what they were doing; (5) employees in the same office were often adversaries, not team members; and (6) at all levels, too little guidance was provided, and what was

provided was vague and ambiguous. One of the most common complaints was that an individual was receiving too little guidance from above and that subordinates were ineffective. There was no introspection, supervisors did not realize they were doing to subordinates exactly what they were complaining of: giving too little guidance. People were doing their jobs independently. The overall lack of guidance resulted in confusion and hostility. Crawford and Demidovich concluded from this study that managers at all levels tend to be generalists, pushing details to lower levels. They also found that a need exists for procedure writing for all details of logistical operations, and they state the Crawford Slip Method, with its high volume and low time requirements, would be an effective tool to help managers write these procedures.

The Crawford Slip Method has proven effective in identifying ways to reduce fraud, waste and abuse. Crawford and Demidovich (1983b) targeted this area in a workshop centering on improving productivity. Using the Crawford Slip Method and its principle of anonymity, seven major cost raisers were uncovered. They were: (1) "Lazy Pace," this was defined as slow, sluggish work or idle time away from the employee's work station; (2) "Lazy Stealings," or personal use of supplies; (3) "Neglect of Conservation," the unnecessary use or damage of office supplies and equipment; (4) "Prestige Posing," which is the ceremonial costs

of large offices, plush furnishings, etc.; (5) "Time Stealing," defined as tardiness, short days, long lunches, socializing, office parties, or doing personal business on company time; (6) "Training Waste," or training as a way out of work and minimal effort put into training; and (7) "Travel Waste," temporary duty (TDY) involving personal benefits and high cost hotels. It was pointed out through this workshop that all of these wastes exist because they are tolerated and could be easily eliminated, thus saving millions of dollars, with a concerned effort by management and workers.

The Crawford Slip Method was the main tool used to author the Tactical Air Command's Contracting Procedures Guide. It was authored by ninety attendees at the twenty-first TAC Contracting Conference in November 1980. This guide is a ready reference guide for contracting personnel and includes step-by-step procedures for all contractor-related tasks (TAC Contracting Procedures Guide, 1981).

The method's usefulness has been demonstrated by people other than Crawford and Demidovich. It was used during a youth seminar conducted by the State Farm Bureau Federations of North Dakota and Minnesota to help improve youth citizenship and leadership (Thorsness, 1984). Three hundred high school juniors and seniors wrote 1200 slips in a few minutes, developing ideas for teenage leadership methods and opportunities.

Value analysis is another area where the Crawford Slip Method has been useful (Zachary and Krone, 1984). Value analysis is identifying, interpreting and forecasting employees' values in order to channel those values into organizational goals. This is a difficult task because defensive mechanisms arise, but if successful, can be an excellent predictor of motivations and actions. If managers can analyze the values of their employees at the onset of a project, they can then channel individual values into organizational goals. Using the right target questions and with the security of anonymity, the Crawford Slip Method can be a very effective method of determining individual values.

Another area that Crawford (1985) contends the Crawford Slip Method could be useful in is training. He feels the Crawford Slip Method can be used to teach employees how to perform their tasks, from simple routine functions to ultra complex professions. The first step in using the Crawford Slip Method for training is to hold diagnostic workshops just as they would be held for problem solving. In this instance, target questions would center on the job, asking procedures, deficiencies and remedies. An in-depth remedial analysis would be done on these slips, classifying them into subproblems. Much on-the-job learning could be accomplished just by reading these slips.

One person who is knowledgeable about the job would write the procedures from the slips and another knowledgeable person would critique the first draft. Touchups and refinements would be done until the procedures met with approval from all interested parties. Once the procedures were written, the supervisor would, hopefully, approve and enforce them.

Limitations. Crawford (1983) warns that this method has its limitations. He feels it is necessary to have high level administration by someone who is well trained in the method. He states that without this high level of training, many of the outputs and the resultant analysis would be worthless. He warns that "like other complex or highly technical systems, this one can easily go wrong. One misstep can spoil it, just as one fuel leak can ground a space vehicle" (p. 189), and "CAUTION. The Crawford Slip Method is not as foolproof as an electric toaster. It is a high-technology PROFESSIONAL SYSTEM" (Crawford, 1985:30). He then goes on to compare it to performing brain surgery after reading medical journals. The use of skilled, knowledgeable people in all aspects of the method produces the best results. Crawford is very explicit about using skilled people in the administration of the method, but he also implies that the slip writers must be highly trained, motivated employees (Crawford, 1983). His

attitude is that the Crawford Slip Method is an executive system. He states the method is a

"how to" system for executive development [and] involves workshop sessions for pooling, combining and evaluating executive know-how in relation to specific "how-to" problems that confront executives [Crawford, 1955b:10].

Crawford (1983) stated that since the Crawford Slip Method deals with personal issues such as feelings and values, it might be difficult to get honest inputs from participants. It is therefore crucial to have correct targeting. Without the right target questions, the inputs could be worthless, wasting the production time of everyone participating.

Another key is to insure anonymity. If people think their inputs can be traced back to them, they will not be as free with their thoughts. Employees must be motivated to improve their jobs and organizations by writing honest, worthwhile inputs, and the first step to receiving this type of inputs is to insure privacy (Crawford, 1983).

The final limitation stated by Crawford (1983) is in managing the Crawford Slip Method. He feels that the easiest part of the method is getting the slips written; the second easiest step is targeting the questions. The most difficult part of the method is processing the slips. Classifying the slips is a very time-consuming process and is the step that is most crucial in gleaning logical results

from the slip writing. Some workshops can result in over 2000 slips per session. Classifying and categorizing that number of slips is very labor-intensive. Crawford states that it is imperative to have skilled personnel doing this phase of the method.

Crawford Slip Method as an Organizational Development Technique. Although the Crawford Slip Method has not been widely recognized as an organizational development technique, it can be classified as such. Organizational development is trying to improve an organization through research. Its aim is to help an organization help itself through a problem-solving process that aids an organization in diagnosing its problems and initiating improvements (French and Bell, 1973). The Crawford Slip Method fulfills these requirements. One reason the Crawford Slip Method has not been recognized as an organizational development technique is that the literature written about the Crawford Slip Method has been of the "how-to" or results-oriented type. There have been no empirical studies on this method, nor have there been any articles written about the theory of the method. The purpose of this thesis is to present the Crawford Slip Method as an organizational development technique and to provide insight into the potential utility of the method.

III. Method

This chapter explains the method used in conducting this research. It describes the participants, the instruments used, and the identification of organizational factors for the analyses.

Participants

The participants were seventy employees assigned to a government agency in the mid-western United States. Sixty-five percent of the employees were male, 35 percent were female. Eleven percent of the participants were supervisors. All of the participants were civilian, GS graded employees, 38 percent were GS-6s or less, 56 percent were between GS-7s and GS-10s, and 6 percent were either GS-11s or GS-12s. Sixty-two percent of the participants were thirty-one years of age or older; 29 percent of the participants were forty-one or older.

Instruments

AFIT Survey

Description. The AFIT survey is a self-reporting questionnaire commonly used in organizational consulting. It contains 159 questions and measures attitudinal and demographic variables in 33 areas. The survey used in this study is contained in Appendix A.

Administration. This survey was administered by AFIT/LSR, August 1986, to the participants described above. The surveys were completed individually at each employee's work station at the employees' leisure. The participants were given two weeks to complete the survey. When the surveys were completed, they were returned to the organization liaison who then returned them to AFIT/LSR.

Data Processing. After the survey data was collected, it was manually reviewed for errors. Sixty surveys were returned and eight were unusable because they were filled out incorrectly. The common errors noted were organization designators left off or double entries for individual variables. Fifty-two surveys were analyzed. The surveys that were usable were then scored electronically and a data file was created for analyses on the Academic Support Computer (ASC) at the School of Systems and Logistics, Air Force Institute of Technology. The analyses were computed using SPSSx (SPSS, Inc., 1986).

Crawford Slip Method

Description. The AFIT/LSR consultant based his knowledge and ability to administer the Crawford Slip Method upon the information gained in studying the reference material by Dr. C. C. Crawford and others. The consultant then determined in conjunction with organization liaison

officials a target pool of questions to use when administering the Crawford Slip Method. The final selection of questions to be used was made by the AFIT/LSR consultant and the division liaison officer. Eight questions were chosen and are shown in Appendix B.

Administration. The Crawford Slip Method was administered by AFIT/LSR, August 1986. Sessions were conducted in the conference rooms of the organization. These rooms provided an aesthetically pleasing environment away from the participants' work area. Sessions were held in one-hour time blocks. The session leader began each session with personal background information to establish rapport. He then discussed what the Crawford Slip Method is, that it is a way to improve communication in an organization and that it is an idea-generation technique. The session leader stressed that the slips would be anonymous and should be independent. He also told each session that experience shows that the slips do get used, that after all of the slips were received they would be sorted into categories and those categories would be formed into recommendations that would provide a basis for division actions and planned development.

After discussing the Crawford Slip Method in the broad sense, the guidelines and procedures for each particular session were explained. The participants were told

to write as many slips per target question as was possible, writing one sentence per slip and to be as specific as possible. They were directed to work until the time was called. They were also directed to write, not talk. Questions began with the easiest question. Approximately five minutes were allowed for each question, or until only one or two people remained writing. At the completion of each session the consultant asks for ideas for improvement of the sessions.

Data Processing. There were 1328 slips written by the participants. Processing and sorting the slips were accomplished by the AFIT consultant. The slips were initially sorted into two major categories: operational and organizational. Operational, or external, slips were slips concerned with operational problems such as how to improve specific procedures or policies that directly concern the mission of the division. Organizational, or internal, slips were slips concerned with worker attitudes, organizational climate, and supervision of the division.

This thesis focused on the organizational slips. These slips were used because they parallel the type of information gained in attitudinal surveys and therefore were the most appropriate for investigation of the Crawford

Slip Method as an organizational development technique. These slips were sorted into twenty-one categories.

Statistical Procedures

To yield the quantitative data essential to answering the quantitative portion of the research questions, several statistical analyses had to be accomplished. To quantitatively analyze the AFIT surveys, SPSSx procedures were used to compute frequencies, crossbreaks, condescriptives and the Pearson Product Moment correlations. To quantitatively analyze the Crawford slips, the average number of slips per person per category and per branch were computed. Inspection of the quantitative data yielded the specific data subsets discussed in Chapter IV of this study.

Planned Analyses

Advantages and Disadvantages. To identify the advantages and the disadvantages of the Crawford Slip Method and attitudinal surveys, the strengths and weaknesses of each method were explored individually. This was done by identifying through descriptive statistics the areas in both methods that appeared to have the most meaningful feedback. The pictures of the organization that each of these methods provided were then compared and the advantages and disadvantages of each method were concluded.

Quantitative Analysis. To determine whether there was a relationship between the quantity of slips generated and specific working group attitudinal variables, the number of slips per branch for each variable was counted and then divided by the number of participants in each branch and converted into an average number of slips per person per branch. For example, if eleven slips were generated and there were twenty-three participants from that branch, the average number of slips per person would be .48. This enabled a comparison between branches of different size. Correlations were then computed between the average number of slips per person and organizational attitudinal variables selected for analysis.

Content Analysis. To accomplish a content analysis of the Crawford Slip Method and the AFIT Survey on Work Attitudes, an average number of slips per person was computed categorically. These measures for each branch were then correlated with corresponding survey variables to determine similarities and differences in the two methods.

IV. Results

This chapter presents findings from data analyses accomplished to answer the questions posed in Chapter I.

Advantages/Disadvantages of the Crawford Slip Method versus Attitudinal Surveys

A major focus of this research was to determine the relative advantages and disadvantages of the Crawford Slip Method vis-a-vis attitudinal surveys, specifically in organizational development efforts. This focus is embodied in the first investigative question. Multiple sources can be used to try to answer this question. The analyses reported in this section were designed to gain insight into this question through hands-on data analyses, analyses designed and used by AFIT consultants to provide organizational feedback by each method.

Attitudinal Surveys. To accomplish the survey analysis, survey data were first aggregated. Answers on the AFIT survey are based on a numerical scale, typically, a scale of 1 to 7 with the 1 being strongly agree to the 7 being strongly disagree. To compare survey results and provide a picture of an organization, consultants often group responses by frequencies into one of three categories; these categories being agree, disagree or no opinion.

These frequencies are then provided as organizational feedback on the specific questions being asked.

The first step required in analyzing survey results is to decide on a method to translate the data into a meaningful picture for organizational management. How the data is provided back to management is a decision of the organizational consultant. Two methods common in providing feedback are: (1) norms and (2) historical guidelines. For the AFIT Survey on Work Attitudes, historical guidelines have been very useful (Ballard, 1987). Variables that have historically depicted the strengths and weaknesses of organizations and provided managers with the most applicable information are used. The data analyses for feedback used in this study provide organizational data at the individual, group and organizational level. The organizational feedback results of the AFIT Survey of Work Attitudes administered for this study are presented in Appendix C.

The picture of the organization that is suggested by this data follows. Overall, the job was important to each employee; 77 percent rate the job as important and 98 percent feel how well they perform their job was important. The majority of the employees (67 percent) indicated little or no job dissatisfaction. The highest area of dissatisfaction expressed was with supervision and the equipment and information available to do the job. Only

50 percent of the employees were satisfied with these areas. Almost one-half of the employees reported that their co-workers and supervisors cause stress. Over one-third of the employees felt that the amount of work expected of them is unrealistic; over one-half feel that the expected results were difficult to achieve. Approximately one-half of the employees judged their own effort as only moderate and felt that they would perform better if the work were more interesting. Only 50 percent of the employees feel inspired to do their best. Communications in this organization appeared to be only moderate; one-third of the employees feel that they cannot try out new ideas and over 40 percent report that they are not asked about decisions that affect their work. Almost one-third of the employees reported that there is little opportunity to resolve group problems. What appears to be significant is that only 56 percent of the employees felt individually concerned with the fate of the organization; two-thirds would like to change working groups and almost 60 percent of the employees would leave the organization if an opportunity arose.

From this data a picture of the organization can be drawn. On the positive side, employees feel their job is important to them and their overall job satisfaction and commitment are reasonable; however, there is strong dissatisfaction with either the supervision, co-workers, or both. The way the question was worded, it cannot be

determined precisely where the dissatisfaction is. There appears to be a strong motivation problem. The employees are not applying themselves and do not feel that applying themselves would be productive. In the area of participative decision making, the work groups do not appear to have sufficient input into the working group processes. There also appears to be a problem in the commitment the employees feel to the working group and the organization.

In analyzing the AFIT Survey on Work Attitudes in this manner several advantages and disadvantages were apparent. The main advantage of surveys is that they are objective. Participants answer specific questions and base their answers on a scale from 1 to 7 with no "ifs," "ands," or "maybes;" this type of answer eliminates "grey" areas. Another strength of surveys is that they are easy to administer; the administrator simply passes the surveys out to the participants and then collects them when they are completed. Surveys are also relatively simple for the participants to complete; they answer each question as directed, usually at each participant's leisure. Another main advantage of surveys is that they are easy to analyze. They are laid out in such a way that organizational variables are clearly separated and the results can generally be computed electronically.

Also highlighted were weaknesses in the use of attitudinal surveys. One problem is in the wording of the

questions in the survey. If the questions are vague or complicated, the answers will not give a clear picture of the organization. An example of this in this study was the question on the stress caused by either supervisors or co-workers. Because of the wording of the question, it could not be determined precisely where the problem existed. There is a subjective element in analyzing and the analysis can easily be colored by the assessor's feelings toward the organization. In terms of "feedback," the assessor can say "only 50 percent of the people agreed" or "only 50 percent of the people disagreed" depending upon his viewpoint; the analyst's "interpretation" of what the survey implies will have direct bearing on management's actions. Another weakness is in the variables the analyst chooses to assess. They might be the areas that "historically" provide an accurate description of an organization, or they might be the variables that managers feel provide accurate feedback, but these variables might not touch on an organization's specific problem. Also, the questions asked in the survey may not address organizational problem areas. Another disadvantage in surveys is that they provide a "snapshot" picture of the organization with all of the inherent limitations of the snapshot. They depict exactly how the employees feel at the time they are taking the survey; there are no provisions for "if, then" questions.

Crawford Slip Method. To analyze the results of the Crawford Slip Method for this study, the replies received were grouped into subject categories. The total number of organizational slips produced is shown in Appendix D. For analyses purposes an average number of slips per person was computed. This figure is the number of responses divided by the number of people participating. The average number of slips per person, by group and overall, are contained in Appendix E. Although some people write more slips than others, it was assumed for the purposes of this study that these people wrote a high number of slips for each question and, hence, an equal distribution was made among all questions and the results were not skewed (Ballard, 1987). Areas which had higher average numbers of slips were judged to be areas where the employees had more concern. Figure 1 is a histogram depicting the average number of slips per person per category. Inspection of Figure 1 suggests a breaking point among the topic areas between management style - task and management style - relationship. Thus areas with an average rate of .36 slips per person or higher were the focus of this analysis.

The nature of the Crawford Slip Method is that the comments that are made are usually towards improving a situation. Therefore, the areas that have a high average number of slips are generally the areas where problems exist (Crawford, 1983). In this study, the largest problem area

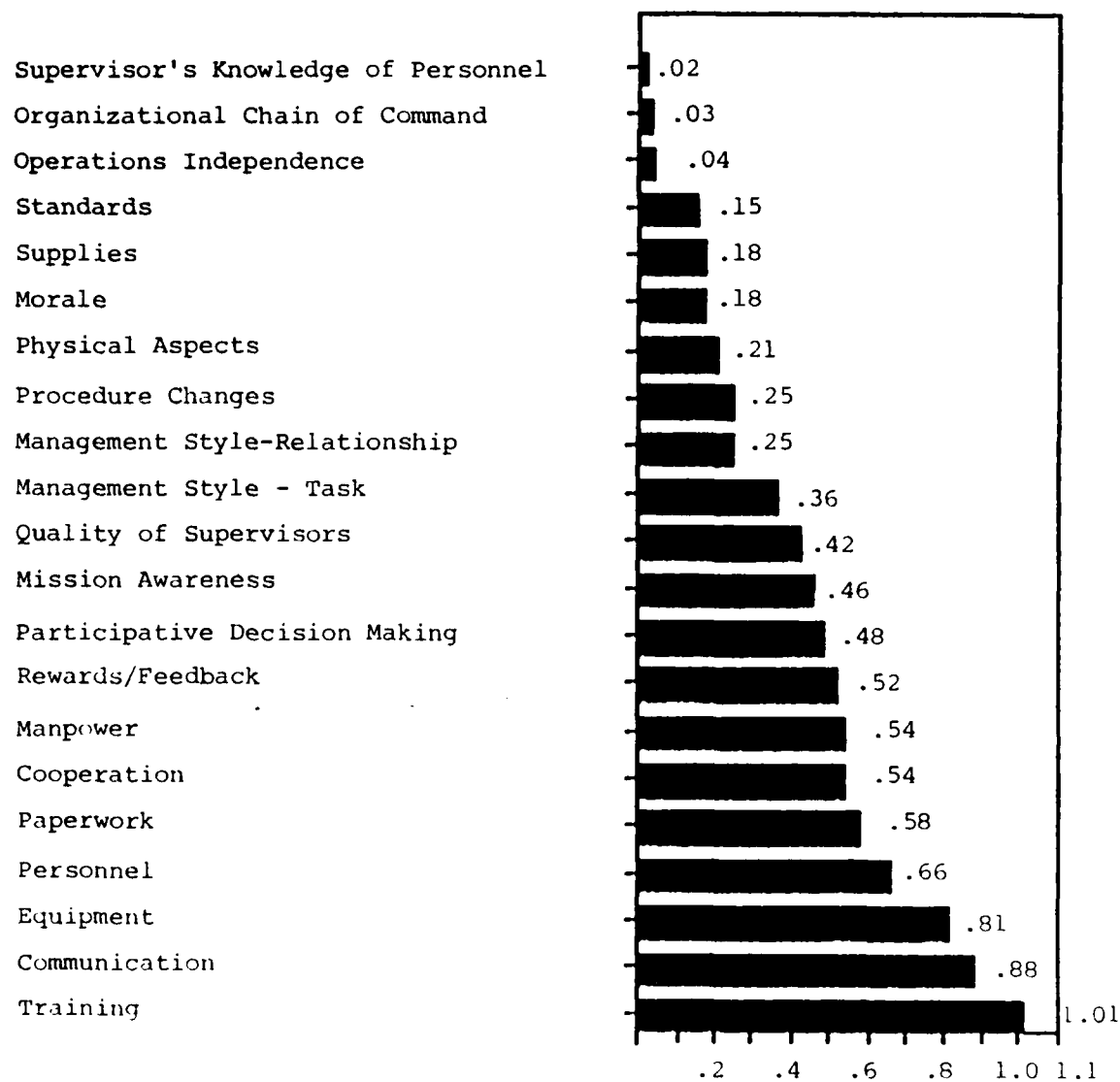


Fig. 1. Average Number of Crawford Slips per Person per Category

in this organization identified by the Crawford Slip Method is training with 1.01 slips per person. Employees feel they are receiving insufficient and incomplete training. The employees also feel that communication within the organization is poor and the equipment provided to them is inadequate. There were .88 slips written on organizational communication and .86 slips per person written on the equipment issue. These employees also state that new personnel should be more qualified and that manpower should be increased. Overall, the employees in this organization feel overworked and they state that the amount of paperwork that is required is excessive and trivial. Cooperation among employees inside and outside the organization also appears to be a problem with .54 slips per person discussing this issue. The quality of the supervisors and their supervisory style is also a cause for concern among employees. They do not feel they receive enough rewards or feedback and they feel there is inadequate participative decision making. Overall, this organization lacks good mission awareness.

The Crawford Slip Method is a subjective method and, if used in the right areas, this can be a real advantage. It can be tailored to any variety of issues, issues where employees' knowledge is desired. A main advantage of the Crawford Slip Method is the variety of responses received. With a system like this, responses are tailored

to the individual employee or problem. Although there are specific target questions, the replies cover every aspect of the targeted field. This system also provides employees with a direct outlet for their feelings and ideas. They are not tied to a specific format as with surveys. They can interpret the questions and answer them in any way they wish. Management can easily tailor the Crawford Slip Method seminars to cover any area of concern. Questions can be directed towards specific problems or broad areas.

The major disadvantages of the Crawford Slip Method are the main strengths of surveys. It is difficult to administer, be a participant in, and analyze. To administer the method requires some training in the method and some forethought as to what results are wanted. It requires group meetings of participants and, unlike surveys where answers are simply a number on a scale, the answers in the Crawford Slip Method can require extensive writing and forethought. The analysis is the biggest disadvantage to the Crawford Slip Method. It is very time-consuming and tedious. There are usually no two replies exactly alike and grouping the slips into general areas and then deciding what these groups of slips are trying to say is a difficult process. Although the directions for writing the slips say to write in clear, complete sentences, many of the replies received are of the two- or three-word variety, such as "improve communications," and the handwriting on

many slips can be difficult to read. Another disadvantage of the Crawford Slip Method is that it does not give positive feedback unless specifically designed to do so. Areas that employees are happy with do not generally receive a large number of replies.

Comparison. The Crawford Slip Method and the attitudinal survey each have areas of strengths and weaknesses. The two methods were compared using a subjective evaluation of each of the reported factors and the picture of the organization these factors depicted. Table 1 is a direct comparison between the survey and the Crawford slip results on several dimensions. This table depicts the organizational factor and whether it is rated positive (+), negative (-), highly negative (--), or no opinion (?) on each of the methods.

As shown in Table 1, there were few that were rated as positive. This is partially due to the nature of the measurement instruments. With the Crawford Slip Method, participants generally only write comments to improve an organization. Positive statements are not usually part of the workshop sessions.

Both methods provide a picture of an organization that is overall, unsatisfied, although the specific picture of the organization differs with each method. Both methods rate equipment/supplies, participative decision making,

TABLE 1

COMPARISON OF ORGANIZATIONAL FACTORS USED IN BOTH
ATTITUDINAL SURVEYS AND THE CRAWFORD SLIP METHOD

Organizational Factor	Surveys	Slips
Participative Decision Making	-	-
Group Cohesiveness/Morale	--	-
Supervisor - Task	--	-
Communications	+	--
Feedback	?	-
Training	?	--
Equipment/Supplies	--	--
Cooperation	-	-
Mission Awareness	-	-
Job Satisfaction	+	?

cooperation and mission awareness as unsatisfactory. The AFIT survey rates group cohesiveness and supervisor - task instruction as highly negative while the Crawford Slip Method indicated a smaller level of dissatisfaction in these areas. The Crawford Slip Method indicates there are problems with both feedback and training while the survey does not address these areas. This is possibly due to the nature of the two instruments, surveys tending to measure attitudes on organizational factors while the Crawford Slip Method indicates more specific problems. Another indication of this is that the surveys indicated overall

job satisfaction which the Crawford Slip Method did not address. The most interesting comparison of these two methods is in the area of communication. The surveys indicate that communication is adequate while the Crawford Slip Method indicates that there are major problems in organizational communication.

Another means of comparison between the two methods is the advantages and disadvantages of each based on these analyses. Table 2 depicts the subject area and whether it is an advantage (+) or a disadvantage (-) for each method.

TABLE 2
COMPARISON OF THE ADVANTAGES AND DISADVANTAGES OF THE
ATTITUDINAL SURVEYS AND THE CRAWFORD SLIP METHOD

Subject	Surveys	Slips
Ease in Administration	+	-
Ease in Analysis	+	-
Ease in Participating	+	-
Variety of Responses	-	+
Ease in Varying Format	-	+
Subjective	-	+
Objective	+	-

Table 2 provides an easy comparison of the administration/use of the two tools. Each method has its strong points and its weak points, and therefore, each should have its place in organizational development, depending upon what the desired results are. Surveys are easier to use than the Crawford Slip Method; administration, analysis and participation are relatively simple compared to the Crawford Slip Method. If a standard survey exists that will accomplish the desired results, it would be much more convenient to use than the Crawford Slip Method. However, the Crawford Slip has the advantage of being much more adaptable to individual organizations and situations.

This table suggests that the Crawford Slip Method and attitudinal surveys have opposite advantages and disadvantages. It would appear then that these two methods compliment each other and could be used in conjunction to aid in organizational development.

Relationships Between Quantity of Slips and Group Attitudinal Factors

The second focus of this research concerned the relationship between numbers of slips produced and certain organizational factors. Are there organizational attitudinal factors that are clearly associated with those branches/units which produce few (or many) slips when the Crawford Slip Method is tried? If so, survey data might be used to

identify organizations where the Crawford Slip Method might be well received.

To provide some insight into this question, several factors from the AFIT Survey on Work Attitudes were correlated with the average number of slips per person for each of five groups which comprised the units of analysis for this study. Survey variables selected for correlation analysis were those which intuitively appeared to be most relevant to slip generation, e.g., participative decision making, organizational commitment, etc. Survey items comprising each variable are identified in Appendix G. Means for survey variables are shown in Appendix F. This was compared to the average number of slips per person per branch as depicted in Appendix E. Table 3 shows the resulting Pearson Product Moment Coefficient of Correlation, "r." Because of the small sample, these correlations are presented descriptively and are not intended for inference. Rather, they are presented as suggestive guides to future research.

Inspection of Table 3 suggests some interesting hypotheses. The highest correlation is in the area of job importance; units in which the job is perceived as important tend to produce more slips. This relationship is depicted graphically in Figure 2. Communications climate has a high negative correlation, suggesting that units with better communications would produce less slips.

TABLE 3
CORRELATIONS BETWEEN ORGANIZATIONAL ATTITUDINAL
VARIABLES AND AVERAGE NUMBER OF CRAWFORD
SLIPS PER PERSON PER BRANCH

Variable	<u>r</u>
Job Satisfaction	-.02
Organizational Commitment	-.27
Job Autonomy	.02
Group Cohesiveness	.10
Supervisor - Consideration	.59
Supervisor - Structure	.73
Communications Climate	-.83
Participative Decision Making	.26
Feedback	-.31
Job Importance	.86
Supervisor's Knowledge of Employees	.35
Understanding of Organization	.43

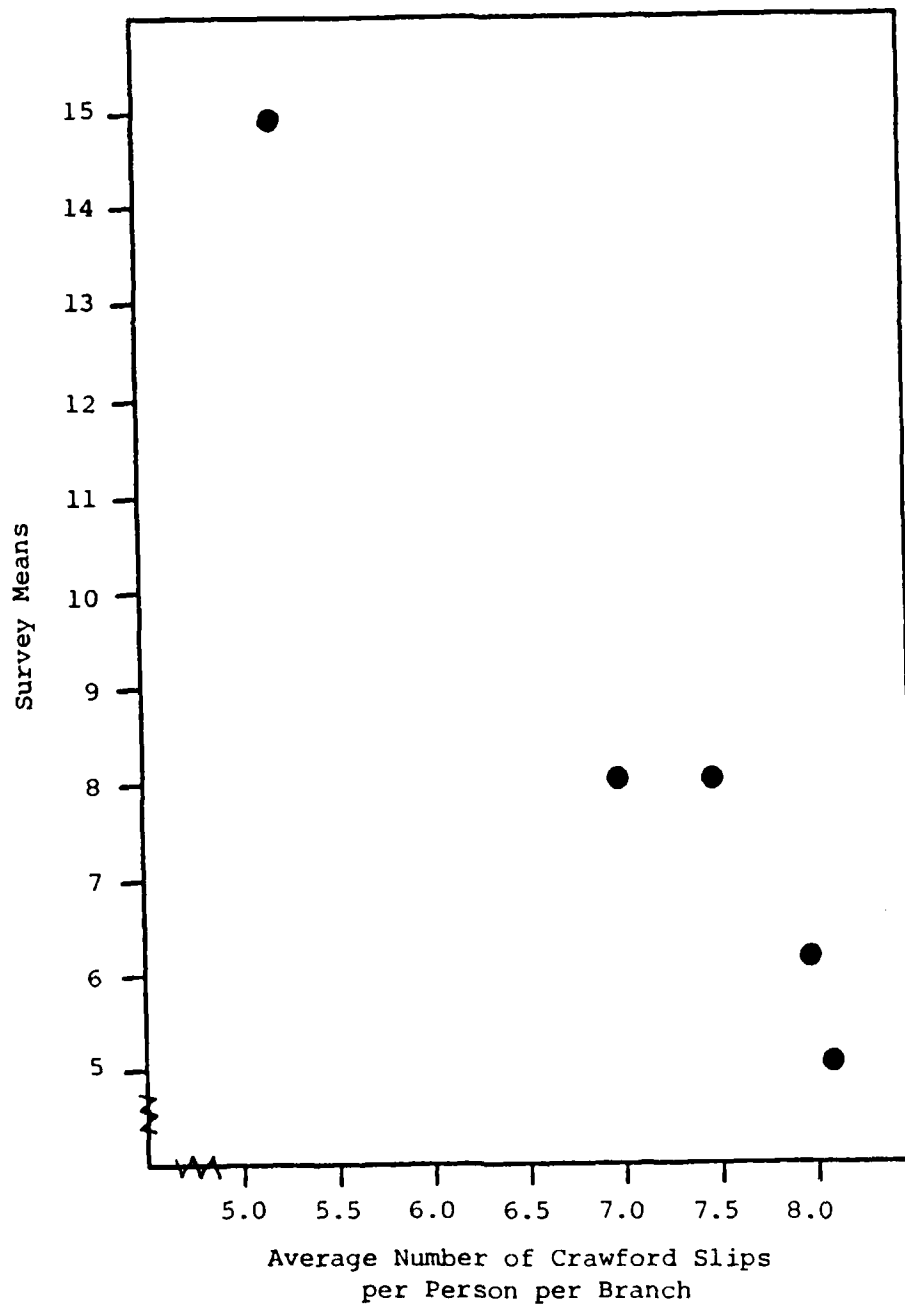


Fig. 2. Correlation Between Average Number of Crawford Slips per Person per Branch and Survey Means for Job Importance

Supervisory ability, including knowledge of structure and consideration, suggests a positive relationship; it would appear that units with good supervision would produce a large number of slips. The correlations on the remaining categories are highly speculative based on the number of data points available. They are reported for information; however, no conclusions were made from these categories.

Relationships Between Content of Slips and Group Attitudinal Factors

Another area of focus for this research was specific content areas and how they compare to each other in the two different methods studied. Are the constructs measured by one method similar to the constructs measured by another? To provide an answer to this question, the Pearson Product Moment correlation was also computed to examine the degree of association between the organizational variable means from the AFIT Survey on Work Attitudes (Appendix F) and the average number of slips written per person for each separate category (Appendix E). Appendix H contains the specific survey items that comprise each variable. By comparing the average number of slips per person for each category, rather than the total average number of slips per person, a comparison of the content of the slips relative to the surveys was possible. Table 4 shows the correlation between the content of the slips and the AFIT Survey on Work Attitudes.

TABLE 4

CORRELATIONS BETWEEN ORGANIZATIONAL ATTITUDINAL VARIABLES
AND AVERAGE NUMBER OF CRAWFORD SLIPS
PER PERSON PER CATEGORY

Variable	<u>r</u>
Participative Decision Making	.45
Group Cohesiveness/Morale	-.42
Supervisor - Consideration	-.31
Supervisor - Structure	-.71
Communications Climate	-.87
Feedback	-.99
Supervisor's Knowledge of Employees	.21
Passing of Poor Work	.77
Training	-.76
Tools & Equipment	.49
Materials & Supplies	.49
Cooperation	-.76
Policies/Procedure Changes	.12
Decision Authority/Operation Independence	.15
Understanding of Organization	-.45

Analysis of Table 4 also provides some interesting hypotheses. The strongest positive correlation is in the variable "passing of poor work." This would indicate that if poor work is accepted, it would be highlighted as a problem in both the attitudinal surveys and the Crawford Slip Method. There are five areas that have a strong negative correlation: Supervisor - Structure, Communications Climate, Feedback, Training and Cooperation. These negative correlations suggest that organizations that have problems in these categories would produce a large number of slips on these topics and, conversely, organizations that are strong in these categories would produce few slips on these subjects. The strongest negative correlation is in the Feedback category. If feedback in an organization is poor, many slips concerning the lack of feedback should be produced; if feedback is good, few slips will be produced. Figure 3 graphically depicts this relationship.

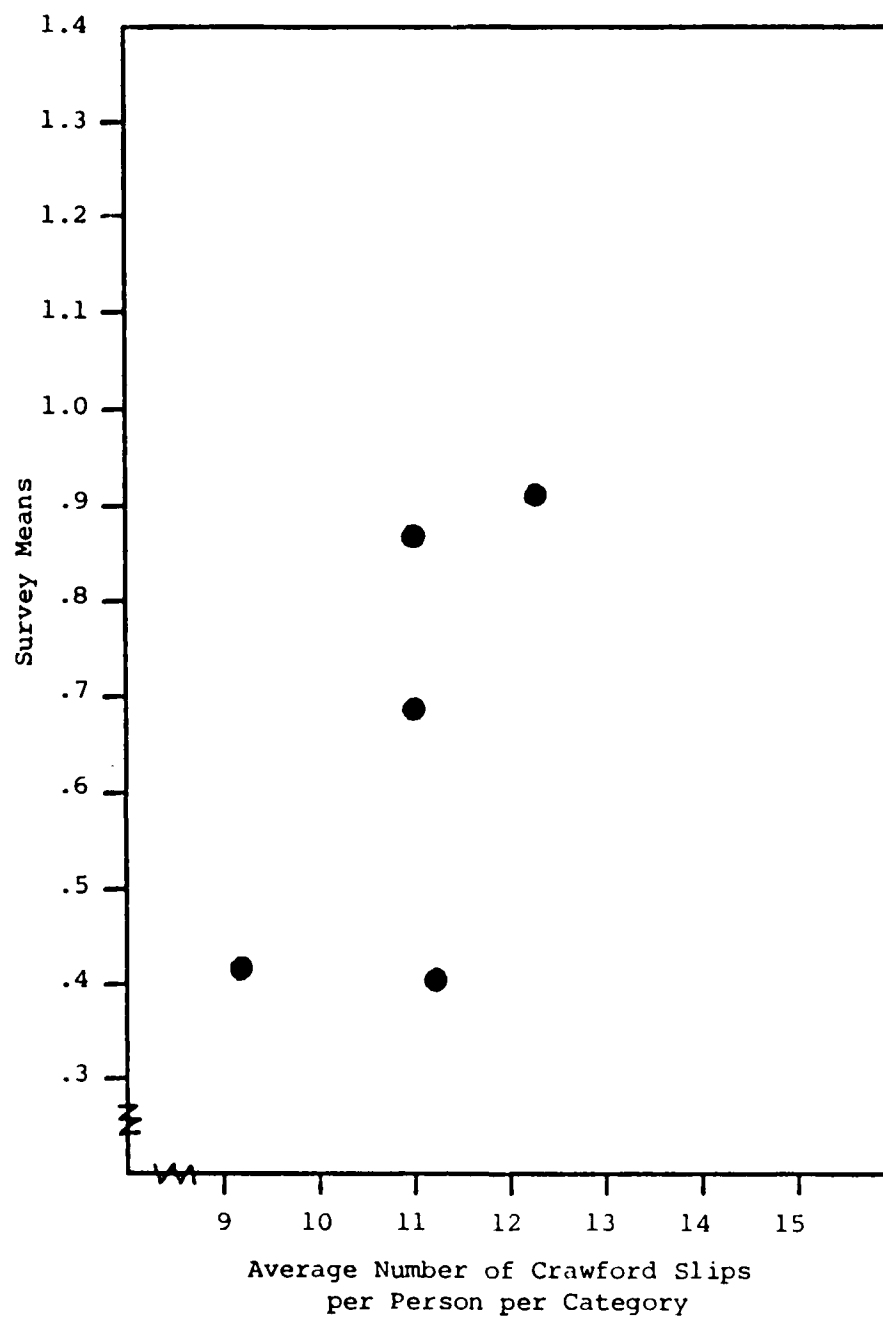


Fig. 3. Correlation Between Average Number of Crawford Slips per Person per Category and Survey Means for Feedback

V. Discussion

This chapter discusses the four questions presented in this study. The first three questions are discussed using information gained in the literature review and in the quantitative and content analysis of the two methods. This chapter concludes with a thorough discussion of the last question posed in this study--how can the Crawford Slip Method be used in the Department of Defense?

Advantages and Disadvantages of the Crawford Slip Method versus Attitudinal Surveys

Both surveys and the Crawford Slip Method have apparent advantages and disadvantages. As stated in Chapter IV of this study, the Crawford Slip Method is a subjective method for evaluating an organization, while surveys are an objective method for evaluating an organization. Although this is true of the overall method, it should be noted that each method has both subjective and objective components. Surveys can have a subjective element in the areas that are analyzed and how the analysis is interpreted. The Crawford Slip Method can be objective in the statistical analysis. Each style has areas in which it will be effective and each style has areas in which it will be ineffective. Surveys appear to have strengths in areas where it is necessary to determine the overall

climate of an organization; the Crawford Slip Method is more effective in detecting and correcting individual problem areas.

Both surveys and the Crawford Slip Method must be developed to achieve the desired end results. Surveys have the immediate advantage over the Crawford Slip Method in this area in that an organization can generally use an existing survey and make minor changes to it to tailor it to that organization's specific needs. Currently, the Crawford Slip Method must be designed by the administrator each time it is used. This is an area that could be studied further and standard Crawford Slip Questions could be developed, much along the lines of standardized surveys. If both the survey and the Crawford Slip Method are to be developed from scratch, the Crawford Slip Method has the advantage of being easier to develop. To develop the questions to ask in the Crawford Slip Method, the administrator must study the organization and decide the questions to which he is interested in receiving answers. To develop a survey, the administrator must study the organization, decide what he is interested in, and then write the survey in such a way that bias is not introduced in the answers, and in such a way that the replies can be made on a numerical scale and analyzed in a way that will present valid results.

Surveys are generally easier to administer, participate in, and analyze than the Crawford Slip Method. To administer surveys, the administrator need not understand the survey process. He needs only to give the participants the surveys and collect them when they are finished. In fact, many surveys are administered by mail, with the participant never meeting the administrator. The Crawford Slip Method, by design, requires that participants meet in one room and write answers to questions in a specific time frame. To achieve the desired results from the Crawford Slip Method, it would not be feasible to mail questions to participants and let them take their leisure to reply. The basis of the method is that people are under pressure to write their most critical replies in the short time period.

Participation is also slightly easier for surveys than for the Crawford Slip Method. Surveys can be completed at the participants' leisure; in the Crawford Slip Method all participants are brought together at one time and are under a certain amount of pressure to perform. However, this pressure to perform may bring about more valid results; the participants are allowed to do nothing else but write slips during the seminars, so they might as well do their best. But in filling out surveys at the participants' own pace, the participants might have

something they want to do more, and will therefore rush through surveys, not giving them the thought that is required.

Surveys are easier to analyze than the Crawford Slips. With the mechanization that currently exists, most surveys can be analyzed electronically. The administrator need do nothing more than feed the surveys into the computer and interpret the results, provided a computer program for the analysis already exists. The analysis of the Crawford Slip Method is the most difficult part of this method. The slips must be manually collated, sorted and analyzed based on content. Considering that some seminars can result in over 2000 slips, this is a major task. However, if no computer exists for use in analyzing surveys, they can be as difficult to analyze as the slips.

The effectiveness of organizational development depends on the nature of the process used to collect information, the nature of the data collected, and the characteristics of the feedback process (Nadler, 1977). Surveys generally collect information based solely on individual effort. Each participant receives the survey and then completes it at his own pace. The Crawford Slip Method collects information from both the group and the individual. Individual effort is involved in writing the slips; however, the writing is accomplished in a group setting. Current research indicates that both the group

and the individual must be considered to maximize organizational development efforts (Lloyd, 1977). Surveys, as previously stated, are generally accomplished as an individual effort. The group setting of the Crawford Slip Method reinforces participative decision making, an underlying component strategy for successful organizational development (Lloyd, 1977).

The nature of the data collected is another component of effective organizational development. The data collected through surveys is strictly objective. The data collected through the Crawford Slip Method is both objective and subjective; objective in the statistics computed from the results, and subjective in the knowledge that can be gained from reading the slips.

The nature of the feedback process is also important to the effectiveness of organizational development. There are two types of consultants used in the administration and analysis of an organizational development technique, internal or external. Surveys usually rely on one consultant, someone external to the system who provides the surveys, analyzes the results, and then provides these results to the organization. The Crawford Slip Method generally employs both types of consultants, an internal consultant that aids in the development of the questions to be asked and an external consultant who actually administers the method. Both types of consultant are often

used in the analysis of the slips and the resultant feedback. Lloyd (1977) states that the level of involvement of employees and supervisors in the feedback system is critical to the success of the system. The Crawford Slip Method would appear to have a distinct advantage in the feedback area in that it uses people internal to the system for analysis and feedback.

The Crawford Slip Method provides for a variety in the responses received that surveys do not allow for. Participants in the Crawford Slip Method can interpret the questions to fit their own organizations and vary their responses accordingly. If there is a major problem in an organization, just by the nature of people, they will find some way of writing it into their replies. Surveys are very rigid in the type of answers that are received and the questions that are asked. If a specific area is not targeted in the survey, there will be no feedback in that area.

Since both surveys and the Crawford Slip Method have advantages and disadvantages it would appear that there are areas where each method would be useful. There are specific circumstances where surveys would be the appropriate tool to measure organizational development and specific circumstances where the Crawford Slip Method would be the appropriate measurement tool. These two methods have also been shown by this study to compliment

each other and could therefore lead to an increased understanding of an organization when used together.

Relationship Between Quantity
of Slips Generated and Working
Group Attitudinal Variables

In reviewing the results of Chapter IV, it appears that there may be a relationship between the quantity of slips generated and individual working group attitudinal variables. This study suggests that the quantity of slips generated may depend on the type or organization that is being measured. It appears that units that have high job involvement would produce a large number of slips. Employees in this type of unit would use the Crawford Slip Method to try to improve their organizations. This study also implies that units with a poor communications climate would produce a large number of slips, suggesting that the Crawford Slip Method could be used as an effective communication development tool in this type of organization. Quantitatively, it would appear that the Crawford Slip Method is useful in organizations where both problems exist and the employees feel that their input could improve the situation.

It should be noted that there is a limitation in the results on job importance. The means for each branch were very similar and may be an unrealistic finding. Further study should be accomplished in this area to

validate the results. This could be done by conducting the Crawford Slip Method on organizations with high job involvement and organizations with low job involvement and comparing the results.

Relationship Between Content of Slips Generated and Working Group Attitudinal Variables

Again, referring back to Chapter IV of this study, it would appear that there is a relationship between the content of slips generated and certain working group attitudinal variables. The theoretical basis for the survey feedback technique is that the data will highlight discrepancies between the current structure of an organization and the desired structure (Lloyd, 1977). This would imply that some technique is required to determine how to move from the current structure to the desired structure. The content analysis accomplished in this study suggests that the Crawford Slip Method could be used to determine appropriate action to achieve the desired structure. If surveys indicate problems in specific categories, the Crawford Slip Method could then be used to isolate those problems and determine corrective action for them.

The content analysis showed Communications Climate and Feedback to be two categories in which the Crawford Slip Method could be very useful. The goal of organizational development is to help an organization help

itself (French and Bell, 1973), and improved communication can only aid in achieving this goal. It would therefore follow that since the Crawford Slip Method is useful in the communications areas that it would be a useful tool for organizational development.

Uses of Crawford Slip Method in Organizational Development

While the Crawford Slip Method has had proponents in Crawford, Demidovich and others, the Crawford Slip Method has not been advanced as an organizational development technique for wide use by organizational development consultants. To some degree, limitations have been suggested in the method, i.e., the requirement for sophisticated training (Crawford, 1983:189; 185:30). While training in the method may enhance the benefits to be derived from the method, the manuals and publications on the Crawford Slip Method, coupled with practice and experience, would seem to be adequate for effective use of the method. This is to say that the Crawford Slip Method could readily be used by many consultants and managers without extensive training. It is recognized that this conclusion is at variance with comments made by Crawford. Only efforts by those less trained than Crawford and his associates can determine the degree of benefits to be derived from the technique.

The Crawford Slip Method as an organizational development technique should be equally useful in the private and public sector. Since this study was accomplished using civilian employees in the DOD, it is not known whether the method would be equally effective for use in military organizations that are predominately composed of members of the armed forces.

This study has shown that the Crawford Slip Method has potential as an organizational development technique. Modifications to the method might be tried to accent the advantages while reducing the disadvantages. For example, the method might be an effective means for a new supervisor to acquaint himself with his organization. As has been demonstrated, it can be used to write manuals and procedures (TAC Contracting Procedures Guide, 1981). The potential uses of the Crawford Slip Method in the DOD are myriad. However, the research clearly indicates that organizations that plan on using the Crawford Slip Method must have dedicated resources to analyze the results. Given those resources, the Crawford Slip Method can be a viable organizational development technique.

Appendix A: The AFIT Survey of Work Attitudes

FOREWORD

The purpose of this survey is to gather information from military and civilian personnel about Air Force and DOD organizations. Participation is entirely voluntary; no adverse action of any kind will be taken against nonparticipants. Please be assured that all information you provide will be held in strictest confidence. Survey results will be analyzed and discussed only at the level of group data, not at the individual level.

Instructions

1. To complete the survey, you should have
 - a. The AFIT survey questionnaire
 - b. Two AFIT Data Collection Form answer sheets
 - c. An envelope in which to place and seal your completed answer sheets and survey instrument
 - d. A no. 2 pencil (not provided)
2. Begin by coding in the identification number spaces on both answer sheets. The "identification number" has 10 spaces. Please fill them in as follows:
 - a. Spaces 1-5: your work center identification code

QEA	01000
QEB	01100
QEP	01200
QP	01300
QR	01400
QT	01500
 - b. Spaces 6-9: the last four digits of your SSN. This information allows you to remain anonymous while providing the researchers a means to track responses across different administrations of the survey.
 - c. Space 10: On the answer sheet you use to answer Part I, questions 1-80, code in a 1. On the answer sheet for Part II, questions 1-79, code in a 2.

3. The survey is in two parts. Part I has 80 questions. Part II has 79 questions. Determine your response to each question and fill in the appropriate spaces on the answer sheet. Choose the response that is closest to how you feel.

a. Please note that on the answer sheet, there are ten spaces. Most questionnaire items only use 1-7. Therefore you will rarely need to use spaces 8, 9, or 10.

b. Please fill in the space you mark on the answer sheet completely and make any erasures clearly.

c. Please don't fold or staple the answer sheet.

4. Here are some definitions of key words that you will encounter in the questionnaire. They are provided here to clarify what we have in mind.

a. Supervisor: The person to whom you report directly.

b. Work Group: All persons who report to the same supervisor that you do. (If you are a supervisor, your work group is the group of employees that report directly to you).

5. Your participation is appreciated.

PART I

BACKGROUND INFORMATION

This section of the survey contains several items dealing with personal characteristics. This information will be used to obtain a picture of the background of the "typical employee."

1. Your age is:
 1. Less than 20
 2. 20 to 25
 3. 26 to 30
 4. 31 to 40
 5. 41 to 50
 6. 51 to 60
 7. More than 60
2. Your highest educational level obtained was:
 1. Non high school graduate
 2. High school graduate or GED
 3. Some college work
 4. Associate degree or LPN
 5. Bachelor's degree or RN
 6. Some graduate work
 7. Master's degree
 8. Doctoral degree
3. Your sex is:
 1. Male
 2. Female
4. Total months in this organization is:
 1. Less than 1 month
 2. More than 1 month, less than 6 months
 3. More than 6 months, less than 12 months
 4. More than 12 months, less than 18 months
 5. More than 18 months, less than 24 months
 6. More than 24 months, less than 36 months
 7. More than 36 months

5. How many people do you directly supervise (i.e., those for which you write performance reports)?

1. None
2. 1 to 2
3. 3 to 5
4. 6 to 8
5. 9 to 12
6. 13 to 20
7. 21 or more

6. You are a (an):

1. Officer
2. Enlisted
3. Civilian (GS)
4. Civilian (WG)
5. Non-appropriated Fund (NAF employee)
6. Other

7. Your grade level is:

1. 1-2
2. 3-4
3. 5-6
4. 7-8
5. 9-10
6. 11-12
7. 13-15
8. Senior Executive Service

JOB SATISFACTION

Below are 5 items which relate to the degree to which you are satisfied with various aspects of your job. Read each item carefully and choose the statement below which best represents your opinion.

- 1 = Delighted
- 2 = Pleased
- 3 = Most satisfied
- 4 = Mixed (about equally satisfied and dissatisfied)
- 5 = Mostly dissatisfied
- 6 = Unhappy
- 7 = Terrible

- 8. How do you feel about your job?
- 9. How do you feel about the people you work with--your co-workers?
- 10. How do you feel about the work you do on your job--the work itself?
- 11. What is it like where you work--the physical surroundings, the hours, the amount of work you are asked to do?
- 12. How do you feel about what you have available for doing your job--
I mean equipment, information, good supervision, and so on?

SUPERVISOR'S ASSESSMENT OF YOUR PERFORMANCE

The following statements deal with feedback you receive from your supervisor concerning your performance. Your frame of reference should be your supervisor's evaluation of your performance in terms of formal feedback (i.e., periodic, written performance appraisals) and informal feedback (i.e., verbal communication on a day-to-day basis). Please think carefully about his/her evaluations of you over the past six months or so.

Based upon the feedback you have received from your supervisor, use the rating scale below to indicate how your job performance would compare with other employees doing similar work.

- 1 = Far worse
- 2 = Much worse
- 3 = Slightly worse
- 4 = About average
- 5 = Slightly better
- 6 = Much better
- 7 = Far better

- 13. Compared with other employees doing similar work, your supervisor considers the quantity of the work you produce to be:
- 14. Compared with other employees doing similar work, your supervisor considers the quality of the work you produce to be:
- 15. Compared with other employees performing similar work, your supervisor believes the efficiency of your use of available resources (money, materials, personnel) in producing a work product is:
- 16. Compared with other employees performing similar work, your supervisor considers your ability in anticipating problems and either preventing or minimizing their effects to be:
- 17. Compared with other employees performing similar work, your supervisor believes your adaptability/flexibility in handling high-priority work (e.g., "crash projects" and sudden schedule changes) is:

JOB EFFORT RATING

18. As fairly and objectively as you can, rate the typical amount of effort you normally put into doing your work.

- 1 = Very little effort
- 2 = Enough effort to get by
- 3 = Moderate effort
- 4 = More effort than most
- 5 = Very much effort

FUTURE WORK PLANS

Use the rating scale given below to indicate your future work plans with respect to the Air Force or whatever equivalent service/company to which you belong.

19. Within the coming year, if I have my own way:

- 1 = I definitely intend to remain with the Air Force.
- 2 = I probably will remain with the Air Force.
- 3 = I have not decided whether I will remain with the Air Force.
- 4 = I probably will not remain with the Air Force.
- 5 = I definitely intend to separate from the Air Force.

ORGANIZATIONAL INFORMATION

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organization for which they work. Use the following rating scale to indicate your own feelings about the particular organizations for which you are now working.

- 1 = Means you strongly disagree with the statement.
- 2 = Means you moderately disagree with the statement.
- 3 = Means you slightly disagree with the statement.
- 4 = Means you neither agree nor disagree with the statement.
- 5 = Means you slightly agree with the statement.
- 6 = Means you moderately agree with the statement.
- 7 = Means you strongly agree with the statement.

20. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.

- 1 = Means you strongly disagree with the statement.
- 2 = Means you moderately disagree with the statement.
- 3 = Means you slightly disagree with the statement.
- 4 = Means you neither agree nor disagree with the statement.
- 5 = Means you slightly agree with the statement.
- 6 = Means you moderately agree with the statement.
- 7 = Means you strongly agree with the statement.

- 21. I talk up this organization to my friends as a great organization to work for.
- 22. I feel very little loyalty to this organization.
- 23. I would accept almost any type job assignment in order to keep working for this organization.
- 24. I find that my values and the organization's values are very similar.
- 25. I am proud to tell others that I am part of this organization.
- 26. I could just as well be working for a different organization as long as the type of work was similar.
- 27. This organization really inspires the very best in me in the way of job performance.
- 28. It would take very little change in my present circumstances to cause me to leave this organization.
- 29. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.
- 30. There's not too much to be gained by sticking with this organization indefinitely.
- 31. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.
- 32. I really care about the fate of this organization.
- 33. For me this is the best of all possible organizations for which to work.
- 34. Deciding to work for this organization was a definite mistake on my part.

JOB INFORMATION

Use the following rating scale for the 15 statements to express your own feelings about your present job or work.

- 1 = Means you strongly disagree with the statement.
- 2 = Means you moderately disagree with the statement.
- 3 = Means you slightly disagree with the statement.
- 4 = Means you neither agree nor disagree with the statement.
- 5 = Means you slightly agree with the statement.
- 6 = Means you moderately agree with the statement.
- 7 = Means you strongly agree with the statement.

- 35. I often have to use the skills I have learned for my job.
- 36. I often have a chance to try out my own ideas.
- 37. I often have a chance to do things my own way.
- 38. I often have a chance to do the kinds of things that I am best at.
- 39. I often feel at the end of the day that I've accomplished something.
- 40. The most important things that happen to me involve my work.
- 41. The most important things I do involve my work.
- 42. The major satisfaction in my life comes from my job.
- 43. The activities which give me the greatest pleasure and personal satisfaction involve my job.
- 44. I live, eat, and breathe my job.
- 45. I would rather get a job promotion than be a more important member of my club, church, or lodge.
- 46. How well I perform on my job is extremely important to me.
- 47. I feel badly if I don't perform well on my job.
- 48. I am very personally involved in my work.
- 49. I avoid taking on extra duties and responsibilities.

WORK ROLE ATTITUDES

This section of the questionnaire contains a number of statements that relate to feelings about your work group, the demands of your job, and the supervision you receive. Use the following rating scale to indicate the extent to which you agree or disagree with the statements shown below.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Neither agree nor disagree
- 5 = Slightly agree
- 6 = Moderately agree
- 7 = Strongly agree

- 50. Within my work-group the people most affected by decisions frequently participate in making the decisions.
- 51. In my work-group there is a great deal of opportunity to be involved in resolving problems which affect the group.
- 52. I am allowed to participate in decisions regarding my job.
- 53. I am allowed a significant degree of influence in decisions regarding my work.
- 54. My supervisor usually asks for my opinions and thoughts in decisions affecting my work.
- 55. My job (e.g., the type of work, amount of responsibility, etc.) causes me a great deal of personal stress and anxiety.
- 56. Relations with the people I work with (e.g., co-workers, supervisor, subordinates) cause me a great deal of stress and anxiety.
- 57. General aspects of the organization I work for (e.g., policies and procedures, general working conditions) tend to cause me a great deal of stress and anxiety.
- 58. Most people are not always straightforward and honest when their own interests are involved.
- 59. In these competitive times one has to be alert or someone is likely to take advantage of you.
- 60. It is safe to believe that in spite of what people say, most people are primarily interested in their own welfare.

61. There is a high spirit of teamwork among my co-workers.
62. Members of my work group take a personal interest in one another.
63. If I had a chance to do the same kind of work for the same pay in another work group, I would still stay here in this work group.
64. My immediate supervisor makes an effort to help people in the work group with their personal problems.
65. My immediate supervisor insists that members of our work group follow to the letter all policies and procedures handed down to him.
66. My immediate supervisor seeks the advice of our work group on important matters before going ahead.
67. My immediate supervisor pushes the people under him (or her) to insure they are working up to capacity.
68. My organization provides all the necessary information for me to do my job effectively.
69. My work group is usually aware of important events and situations.
70. The people I work with make my job easier by sharing their ideas and opinions with me.
71. People in my work group are never afraid to speak their minds about issues and problems that affect them.

WORK GOALS

The following statements deal with your perceptions of the nature of goals and objectives that guide your work. Use the rating scale given below to indicate the extent to which your work goals have the characteristics described.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Neither agree nor disagree
- 5 = Slightly agree
- 6 = Moderately agree
- 7 = Strongly agree

- 72. I know exactly what is expected of me in performing my job.
- 73. I understand clearly what my supervisor expects me to accomplish on the job.
- 74. What I am expected to do at work is clear and unambiguous.
- 75. I understand the priorities associated with what I am expected to accomplish on the job.
- 76. It takes a high degree of skill on my part to attain the results expected for my work.
- 77. Results expected in my job are very difficult to achieve.
- 78. It takes a lot of effort on my part to attain the results expected for my work.
- 79. I must work hard to accomplish what is expected of me for my work.
- 80. I must exert a significant amount of effort to attain the results expected of me in my job.

Your first answer sheet should now be completely filled. If it is not completely filled, go back and check the sequencing of your answers. You may have skipped an item. Use the second answer sheet (the survey control number ends in "2") to respond to the remaining items in the questionnaire (those in Part II).

PART II

WORK GOALS (continued)

1. Means you strongly disagree with the statement.
 2. Means you moderately disagree with the statement.
 3. Means you slightly disagree with the statement.
 4. Means you neither disagree nor agree with the statement.
 5. Means you slightly agree with the statement.
 6. Means you moderately agree with the statement.
 7. Means you strongly agree with the statement.
-
1. The amount of work I am expected to accomplish on the job is realistic.
 2. The results I am expected to attain in my work are realistic.
 3. What my supervisor expects me to accomplish on my job is not impossible.
 4. I find that the results that I am expected to attain in my work are achievable.

JOB CHARACTERISTICS

This part of the questionnaire asks you to describe your job, as objectively as you can.

Please do NOT use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

A sample question is given below:

- A. To what extent does your job require you to work with mechanical equipment?

1-----2-----3-----4-----5-----6-----7		
Very little; the job requires almost no contact with mechanical equipment of any kind.	Moderately	Very much; the job requires almost constant work with mechanical equipment.

Indicate on the answer sheet the number which is the most accurate description of your job. If, for example, your job requires you to work with mechanical equipment a good deal of the time, but also requires some paperwork, you might choose the number six, so you would blacken "6" in on the answer sheet.

If you do not understand these instructions, please ask for assistance. If you do understand them, turn the page and begin.

PLACE ALL ANSWERS ON ANSWER SHEET!

5. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1-----2-----3-----4-----5-----6-----7

Very little; the job gives me almost no personal "say" about how and when the work is done.

Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.

Very much; the job gives almost complete responsibility for deciding how and when the work is done.

6. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1-----2-----3-----4-----5-----6-----7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing a whole piece of work; from start to finish; the results of my activities are easily seen in the final product or service.

7. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1-----2-----3-----4-----5-----6-----7

Very little; the job requires me to do the same routine things over and over again.

Moderate variety.

Very much; the job requires me to do many different things, using a number of different skills and talents.

8. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1-----2-----3-----4-----5-----6-----7

Not very significant;
the outcomes of my work
are not likely to have
important effects on
other people.

Moderately significant

Highly significant;
the outcomes of my
work can affect
other people in
very important ways.

Section Two

Listed below are a number of statements which could be used to describe a job. You are to indicate whether each statement is an accurate or an inaccurate description of your job. Once again, please try to be as objective as you can in deciding how accurately each statement describes your job--regardless of whether you like or dislike your job.

How accurate is the statement in describing your job?

1	2	3	4	5	6	7
Very	Mostly	Slightly	Uncertain	Slightly	Mostly	Very
Inaccu-	Inaccu-	Inaccu-		Accurate	Accurate	Accurate
rate	rate	rate				

9. The job requires me to use a number of complex or high-level skills.
10. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.
11. The job is quite simple and repetitive.
12. This job is one where a lot of other people can be affected by how well the work gets done.
13. The job denies me any chance to use my personal initiative or judgment in carrying out the work.
14. The job provides me the chance to completely finish the pieces of work I begin.
15. The job gives me considerable opportunity for independence and freedom in how I do the work.
16. The job itself is not very significant or important in the broader scheme of things.

JOB FEEDBACK

Use the rating scale below to indicate how you feel about the following two questions.

- 1 = Very little
- 2 = Little
- 3 = A moderate amount
- 4 = Much
- 5 = Very much

- 17. To what extent do you find out how well you are doing on the job as you are working?
- 18. To what extent do you receive information from your superior on your job performance.

Use the same rating scale to indicate how much job feedback is present in your job.

- 19. The feedback from my supervisor on how well I am doing.
- 20. The opportunity to find out how well I am doing in my job.
- 21. The feeling that I know whether I am performing my job well or poorly.

TASK PREFERENCES

Below are listed ten statements that describe various things people do or try to do on their jobs. We would like to know which of the statements you feel most accurately describe your own behavior when you are at work. Please use the following scale to indicate the word (or phrase) which best describes your own actions. Remember, there are no right or wrong answers. Please answer all questions frankly.

- 1 = Never
- 2 = Almost never
- 3 = Seldom
- 4 = Sometimes
- 5 = Usually
- 6 = Almost always
- 7 = Always

- 22. I do my best work when my job assignments are fairly difficult.
- 23. I try very hard to improve on my past performance at work.

24. I take moderate risks and stick my neck out to get ahead at work.
25. I try to avoid any added responsibilities on my job.
26. I try to perform better than my co-workers.
27. When I have a choice, I try to work in a group instead of by myself.
28. I pay a good deal of attention to the feelings of others at work.
29. I prefer to do my own work and let others do theirs.
30. I express my disagreements with others openly.
31. I find myself talking to others around me about non-business related matters.

TASK DEMANDS

This section of the questionnaire contains a number of statements about your job. Use the following rating scale to indicate the extent to which you agree or disagree with the statements shown below.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Neither agree nor disagree
- 5 = Slightly agree
- 6 = Moderately agree
- 7 = Strongly agree

- 32. The job offers me a chance to test myself and my abilities.
- 33. Doing this job well is a reward in itself.
- 34. If the work were only more interesting I would be motivated to perform better.
- 35. Mastering the job meant a lot to me.
- 36. My talents, or where I can concentrate my attention best, are found in areas not related to this job.
- 37. This job is valuable to me for no other reason than I like to do it.
- 38. At times I can get so involved in my work that I forget what time it is.
- 39. Even though the work here could be rewarding, I am frustrated and find motivation continuing only because of my paycheck.
- 40. I honestly believe I have all the skills necessary to perform this task well.
- 41. I would make a fine model for an apprentice to follow in order to learn the skills he/she would need to succeed.
- 42. No one knows this job better than I do.
- 43. If anyone here can find the answer, I'm the one.
- 44. I do not know as much as my predecessor did concerning this job.

SITUATIONAL ATTRIBUTES

These items deal with various attributes and characteristics of your job situation.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Neither agree nor disagree
- 5 = Slightly agree
- 6 = Moderately agree
- 7 = Strongly agree

- 45. My supervisor knows his/her workers very well; that is, he/she can pinpoint personalities and thereby decides who works well with whom.
- 46. There is a great deal of support and unselfishness in our work group.
- 47. Members of our work group are treated equally in terms of their worth to the work group.

GOAL AGREEMENT

- 1 = Not at all
- 2 = To a very little extent
- 3 = To a little extent
- 4 = To a moderate extent
- 5 = To a fairly large extent
- 6 = To a great extent
- 7 = To a very great extent

- 48. To what extent are your organization's goals compatible with your own personal goals?

SELF PERCEIVED ABILITY

- 1 = Much less ability than others
- 2 = Less ability than others
- 3 = Typical or average ability
- 4 = More ability than others
- 5 = Much more ability than others

- 49. Compared to others whose job is similar to yours how would you rate your ability to perform the work?

VIEWS ABOUT CUSTOMERS/CLIENTS

Some jobs involve making products and others involve providing services. In every case the job has some type of customer or client. Customers/clients may be other people, work groups, or departments in the same organization or they may be people outside of your organization that use your products or services. The following items ask for your views about customers/clients that you serve in your job. Use the rating scale below to show whether you agree or disagree with each of the statements.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Neither agree or disagree
- 5 = Slightly agree
- 6 = Moderately agree
- 7 = Strongly agree

- 50. With the type of work we do in this organization, it is difficult to think in terms of specific customers/clients that we serve.
- 51. It would be pretty hard for someone who used or received my work to get in touch with me personally.
- 52. I feel close to the customers/clients I serve.
- 53. It's somebody else's responsibility to deal with dissatisfied customers/clients.
- 54. It doesn't matter if there are errors in my work because somebody else takes the heat.
- 55. Errors and screw-ups always come back to haunt me.
- 56. The customers/clients that we serve have many ways to let us know if they are not satisfied.
- 57. We like to maintain a degree of professional distance between ourselves and the people we serve.
- 58. It is no secret around here that poor work will go through without anybody complaining.
- 59. I know my customers/clients are out there somewhere, but I've never had much contact with them.
- 60. I have no clear idea as to who my customers/clients are.

61. To remain objective in doing this job, you have to separate yourself from the people you service.
62. In my job I have a great deal of personal contact with customers/clients.

FEATURES OF YOUR JOB

Listed below are a number of items which may or may not describe your present situation at DESC. In this section we want to know about your job and not about your attitudes toward your job or the tasks you perform. Using the scale below rate how accurately each statement describes your present job situation. If a statement does not apply mark response choice "6" on your answer sheet.

- 1 = Not at all accurate
- 2 = Somewhat accurate
- 3 = Fairly accurate
- 4 = Very accurate
- 5 = Completely accurate
- 6 = Does not apply to my job

63. I often must work with and depend upon others who are not well trained.
64. I frequently do not have enough of the right tools and/or equipment to do my job.
65. The information I need to do my job is frequently wrong when I receive it.
66. My organization does not provide me with the necessary materials, supplies, and/or parts when I need them.
67. My work doesn't get done because my schedule often gets changed without enough advance notice.
68. I typically am not given the time I need to do my job.
69. My job is frequently made more difficult by bad weather conditions (too hot, too cold, too wet, etc.).
70. I often cannot finish my job on time because of "red tape."
71. The lack of qualified people in my unit typically makes it difficult for me to get my job done.
72. I often cannot obtain the forms I need to get my job done.

73. There are frequent delays in getting the transportation I need in order to do my job.
74. The cooperation I get from others is often so poor that it doesn't help me get my job done.
75. The inconsistent policies, procedures, and instructions I often receive make it difficult for me to get my job done.
76. I am not able to do my job well because I am not allowed to make those job decisions I can make best.

Understanding of Other Organization Functions

The next three items deal with how well you understand the requirements of other departments that you may deal with.

77. I think I understand pretty well how the work of my department fits in with the work of other departments.

1 = Strongly disagree
2 = Slightly disagree
3 = Neither agree or disagree
4 = Slightly agree
5 = Strongly agree

78. It would help me if I better understood how the work of my department strongly effects other departments.

1 = Strongly disagree
2 = Slightly disagree
3 = Neither agree or disagree
4 = Slightly agree
5 = Strongly agree

79. Other departments would be better able to work cooperatively if they understood each others needs better.

1 = Strongly disagree
2 = Slightly disagree
3 = Neither agree or disagree
4 = Slightly agree
5 = Strongly agree

Appendix B: Crawford Slip Method Target Questions

1. If we [the organization] could do one thing to help you do your job better, what would it be?
2. To improve product quality, what should we [the organization] spend more time on?
3. To improve product quality, what should we [the organization] spend less time on?
4. What are we [the organization] doing well in the product quality business that ought to be left alone?
5. If you could change one thing to improve product quality, what would it be?
6. What [command or organization] policy or procedure should be changed to improve product quality?
7. What can [the organization] do to get manufacturers/vendors to get serious about the quality of their products?
8. What would be your number one suggestion for improving the overall operation [of your division] as a product quality team?

Appendix C: AFIT Survey on Work Attitudes, Survey Results

DEMOGRAPHICS

<u>Sex</u>	<u>Supervisor</u>	<u>Civilian Grade (GS)</u>	
Male 65%	Yes 11%	6 or less	38%
Female 35%	No 89%	7-10	56%
		11-12	6%

Age

31 or older	61.5%
41 or older	28.8%

INDIVIDUAL/JOB

% Agree % Disagree % No Opinion

Job Satisfaction

Satisfied with:

Job	67	14	19
Co-workers	77	6	17
Work itself	69	14	17
Work environment, hours, amount of work	86	6	8
Equipment, supervision, information available to do job	50	21	29
Know what's expected to do job	69	23	8
Must work hard to accomplish what's expected of me	76	14	10
Amount of work expected is realistic	48	37	15
Results expected difficult to achieve	51	37	12

	<u>% Agree</u>	<u>% Disagree</u>	<u>% No Opinion</u>
Get to try out own ideas	63	31	6
If work more interesting, I'd be motivated to perform better	48	25	27

Perceived Effort

34% more effort than most
54% moderate effort
12% enough to get by

Perceived Ability

74% more ability than others
26% average ability
0% less ability

	<u>% Agree</u>	<u>% Disagree</u>	<u>% No Opinion</u>
<u>Job Significance</u>			
"Live, eat, breathe job"	10	84	6
How well perform job is extremely important to me	98	0	2
Job is significant/important	77	19	4
Very personally involved in work	78	12	10
Often feel at end of day I have accomplished something	75	11	14

Job Stress

Job causes great deal of stress	39	44	17
Co-workers, supervisors cause stress	48	31	21
Policies, procedures, working conditions cause stress	34	52	14

WORK GROUP

Cohesion

Work Group supportive	59	29	12
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	<u>% Agree</u>	<u>% Disagree</u>	<u>% No Opinion</u>
High spirit of teamwork	48	44	8
Would like to change work group	67	19	14

Communication

People not afraid to speak their minds about issues and problems affecting them	71	19	10
Work group usually aware of important events and situations	59	31	10

Supervisor

Asks opinions on decisions affecting my work	48	44	8
Seeks work group advice on important matters	54	29	17

Participation in Decision Making

Participate in job decisions	54	40	6
People most affected by decisions frequently participate in making decisions	33	54	13
Great deal of opportunity to be involved in resolving work group problems	27	63	10

ORGANIZATION

Commitment

Best of all possible organizations to work for	42	27	31
Very little change in circumstances would cause me to leave	58	31	11
Organization inspires best job performance	50	40	10

	<u>% Agree</u>	<u>% Disagree</u>	<u>% No Opinion</u>
Often difficult to agree with organization's policies on important matters relating to employees	33	46	21
Willing to put in great deal of effort beyond that normally expected to help organization be successful	88	6	6
Care about fate of organization	56	27	17
Feel loyalty to organization	73	17	10
Proud to be part of organization	62	25	13

Appendix D: Crawford Slip Method Total Number of Slips

<u>Category</u>	<u>Total Number of Slips Produced</u>
Training	68
Communication	59
Equipment	54
Personnel	44
Paperwork	39
Cooperation	36
Manpower	36
Rewards/Feedback	35
Participative Decision Making	32
Mission Awareness	31
Quality of Supervisors	28
Management Style - Task	24
Management Style - Relationship	17
Procedure Changes	17
Physical Aspects	14
Morale	12
Supplies	12
Standards	10
Operation Independence	3
Organizational Chain of Command	2
Knowledge of Personnel	1

Appendix E: Crawford Slip Method Results

<u>Variable</u>	<u>Average Number of Slips per Person</u>					<u>Total</u>
	<u>Branch 1</u>	<u>Branch 2</u>	<u>Branch 3</u>	<u>Branch 4</u>	<u>Branch 5</u>	
Participative Decision Making	.48	.14	1.60	.06	.30	.48
Morale	.17	.43	.20	0	.30	.18
Management Style- Relationship	.22	.43	.70	.06	.10	.25
Management Style- Task	.26	1.00	.30	.12	.60	.36
Communication	.65	1.30	.70	.71	1.00	.88
Rewards/Feedback	.30	1.30	.60	.41	.60	.52
Supervisor's Knowl- edge of Personnel	0	0	.10	0	0	.02
Standards	.17	.43	.30	0	0	.15
Training	.87	.86	1.10	1.00	1.40	1.01
Equipment	.91	.14	1.20	.82	.60	.81
Supplies	.26	0	.10	.24	.10	.18
Cooperation	.65	.43	.40	.41	.70	.54
Procedure Changes	.26	.14	.30	.12	.50	.25
Operation Independence	.09	0	0	0	.10	.04
Mission Awareness	.30	1.00	.30	.24	1.00	.46
Quality of Supervisors	.26	.43	.50	.65	.30	.42
Manpower	.52	.29	.30	.47	1.10	.54

<u>Variable</u>	<u>Average Number of Slips per Person</u>					<u>Total</u>
	<u>Branch 1</u>	<u>Branch 2</u>	<u>Branch 3</u>	<u>Branch 4</u>	<u>Branch 5</u>	
Physical Aspects	0	0	.60	.06	.70	.21
Paperwork	.78	.57	.60	.12	.90	.58
Personnel	.78	0	.80	.59	.80	.66
Organizational Chain of Command	<u>.04</u>	<u>0</u>	<u>0</u>	<u>.59</u>	<u>0</u>	0
	8.00	8.90	10.70	6.10	11.10	

Appendix F: Survey Variables, Means by Branch

<u>Variable</u>	<u>Branch 1</u>	<u>Branch 2</u>	<u>Branch 3</u>	<u>Branch 4</u>	<u>Branch 5</u>
Job Satisfaction	24.21	19.50	23.13	24.50	25.17
Organizational Commitment	69.54	49.75	65.88	79.80	73.83
Job Autonomy	23.92	15.50	25.00	26.70	26.83
Participative Decision Making	18.83	9.50	21.13	18.70	21.33
Group Cohesiveness	14.54	7.75	11.13	12.90	16.17
Supervisor - Relationship	4.08	2.25	4.00	4.00	4.17
Supervisor - Task	8.71	5.75	8.38	7.60	8.50
Communications Climate	19.71	11.25	17.25	19.20	18.33
Realism	19.04	19.75	18.88	10.80	19.00
Feedback	15.21	9.50	14.00	15.00	13.00
Competence	6.08	6.00	6.00	5.10	6.67
Supervisor's Knowl- edge of Employees	4.54	2.00	4.00	4.20	3.33
Knowledge of Errors	5.21	4.50	4.50	5.00	5.00
Passing Poor Work	2.38	4.75	2.88	3.00	2.00
Training	4.71	5.75	5.00	5.20	4.17
Tools and Equipment	3.00	2.00	2.25	2.80	2.33
Material and Supplies	2.42	1.75	1.38	1.60	1.67
Time Management	2.29	2.50	2.00	1.60	1.67

<u>Variable</u>	<u>Branch 1</u>	<u>Branch 2</u>	<u>Branch 3</u>	<u>Branch 4</u>	<u>Branch 5</u>
Cooperation	1.96	2.25	2.25	1.90	1.50
Policies	2.29	3.00	2.88	1.60	2.33
Decision Authority	1.92	3.00	2.38	1.50	2.33
Understanding	11.83	11.50	12.88	11.30	11.33

Appendix G: Survey Items Comprising Organizational
Attitudinal Variables Shown in Table 3

<u>Variable</u>	<u>Survey Question Number</u>
Job Satisfaction	8 - 12
Organizational Commitment	20 - 34
Job Autonomy	35 - 39
Group Cohesiveness	61 - 63
Supervisor - Consideration	66
Supervisor - Structure	65, 67
Communications Climate	68 - 71
Participative Decision Making	50 - 54
Feedback	17 - 21
Job Importance	40
Supervisor's Knowledge of Employees	45
Understanding of Organization	77 - 79

Appendix H: Survey Items Comprising Organizational
Attitudinal Variables Shown in Table 4

<u>Variable</u>	<u>Survey Question Number</u>
Participative Decision Making	50 - 54
Group Cohesiveness/Morale	61 - 63
Supervisor - Consideration	66
Supervisor - Structure	65, 67
Communications Climate	68 - 71
Feedback	17 - 21
Supervisor's Knowledge of Employees	45
Passing of Poor Work	58
Training	63, 71
Tools and Equipment	64
Materials and Supplies	66
Cooperation	74
Policies/Procedure Changes	75
Decision Authority/Operation Independence	76
Understanding of Organization	77 - 79

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