



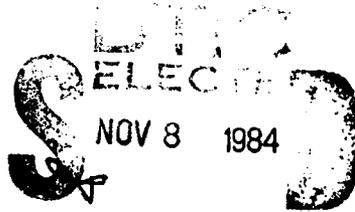
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FIELD TEST OF THE UNIT EQUAL OPPORTUNITY TRAINING
DIAGNOSIS AND ASSESSMENT SYSTEM (TDAS)

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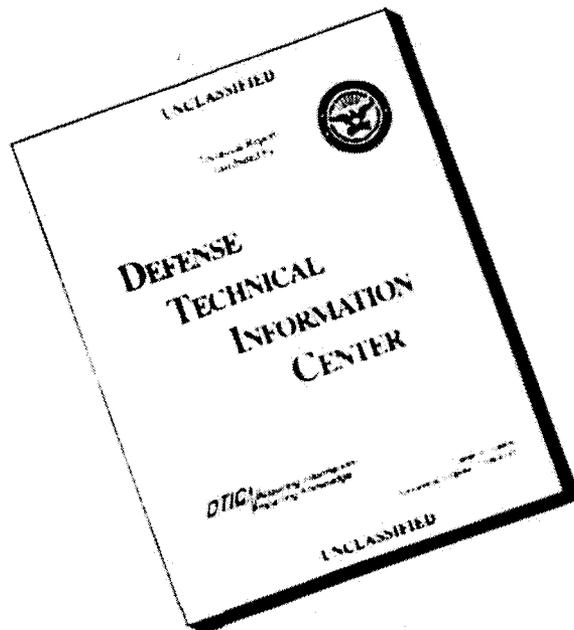
U. S. Army
Research Institute for the Behavioral and Social Sciences

February 1980

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20. Abstract (continued)

machine-scored answer sheets. Another component, the TDAS computer program, translates the questionnaire responses to the form of a Commander Feedback Report. This report describes unit members' responses to ten "key diagnostic items," and to all other survey questions. The results are reported for three racial groupings, for men and women, and for four rank groupings. Also provided is a listing of unit scores on nine race-related and seven gender-related diagnostic scales, listed in order from that most likely to be a unit problem area to that least likely. Four attitude scales are also included, as is a measure of knowledge of Army equal opportunity policy. The system also includes a prescribed set of administrative and procedural responsibilities for executing the survey in close consonance with existing missions of various staff agencies and positions. The Feedback Report is used by commanders as a basis for designing Unit EO Training Program presentations as required by AR 600-21.

**FIELD TEST OF THE UNIT EQUAL OPPORTUNITY TRAINING
DIAGNOSIS AND ASSESSMENT SYSTEM**

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February 1980

A handwritten "A1" is written in the lower right quadrant. To its right is a partially visible form with a checkmark in the top box and some illegible text below.

**Army Project Number
2Q263744A769**

Equal Opportunity Management

FOREWORD

Since 1972, the Army Research Institute (ARI) has been active in research on the policy, operational problems, and programs of the Army Equal Opportunity Program. In 1977, ARI, at the request of DA/DCSPER, was responsible for the development of the system designed to assist company-level commanders execute the unit EO training responsibilities as outlined in AR 600-21, Army Equal Opportunity Program (Sep 77). In 1978 the experimental TDAS was field tested at three Army installations and revised accordingly. This report describes the research involved in developing the TDAS and in its subsequent field testing. The research was accomplished under Army Project 2Q263744A769, Army Contemporary Issue Development, as an in-house effort in the FY 77 and 78 Work Program augmented by contracts with Human Sciences Research, Inc. under contract numbers DAHC 19-77-C-0036 (Development) and DAHC 19-78-C-0030 (Field Test)

Special appreciation is given to Mr. Gean Bigler and Mr. Stephen Bradshaw, ARI-POM, and Miss Gale Patterson, MISO, Fort Stewart, Georgia, for their contribution to the development and operationalization of the TDAS Computer Program.

FIELD TEST OF THE UNIT EQUAL OPPORTUNITY TRAINING DIAGNOSIS AND ASSESSMENT SYSTEM (TDAS)

BRIEF

Requirement:

To develop and field test a system designed to assist the company-level commander to diagnose unit-level equal opportunity problems, to develop a unit equal opportunity training program designed to reduce subject problems and to assess the effectiveness of the training program.

Procedure:

The Unit Equal Opportunity Training Diagnosis and Assessment System (TDAS) was developed consisting of the following components:

- a. The Unit EO Survey. A questionnaire covering perceptions of EO acts primarily at unit level.
- b. A Users' Manual
- c. An Administration and Processing Manual
- d. A Computer Program
- e. Workshop Lesson Plans for orientation of potential users.
- f. DA PAM 600-43, Measuring Changes in Institutional Racial Discrimination in the Army, and Supplementary Lesson Plans for assistance in developing training programs.

A computer program translates the questionnaire responses to the form of a Commander Feedback Report. This report describes unit members' responses to ten "key diagnostic items," and to all other survey questions. The results are reported for three racial groupings, for men and women, and for four rank groupings. Also provided is a listing of unit scores on nine race-related and seven gender-related diagnostic scales, listed in order from that most likely to be a unit problem area to that least likely. Four attitude scales are also included, as is a measure of knowledge of Army equal opportunity policy. The system also includes a prescribed set of administrative and procedural responsibilities for executing the survey in close consonance with existing missions of various staff agencies and positions. The Feedback Report is used by commanders as a basis for designing Unit EO Training Program presentations as required by AR 600-21.

The survey was revised several times based upon primary administrations as was the other system components including the Users' Manual and the Computer Program. The draft system was then subjected to a trial administration at three Army installations.

Findings:

System Administration and Management.

In a very real sense, the field test reported here was not a true test of the system as designed, because each location included some modifications in the assignment of system functions and responsibilities which deviated from the basic system description originally developed. Nevertheless, one provision of the system was to allow for such local deviations. The difficulty is, however, that the system was designed to integrate the TDAS into routine, ongoing activities in appropriate areas outside the EO operation as well as within. The extent to which this was accomplished was minimal in that, in all three field test locations, the TDAS was viewed and administered as an EO function.

What the field test did illustrate in this regard is that the system is flexible enough to be administered in more than one fashion, and can be readily adapted to the local philosophy of EO program management, i.e., whether or not EO is a separate or an integrated program.

Data Collection Activities.

The field test experience demonstrated unequivocally that centralized control over scheduling and administration of unit surveys is far superior in efficiency to any procedure whereby unit commanders act autonomously.

Data Analysis.

The use of optical mark reader (OMR) answer sheets and hardware presented some difficulties. Equipment, though available, was not reliable, or at least did not function reliably in the hands of inexperienced, self-trained users. In addition, the less-than-ideal conditions under which the unit surveys were administered often led to a considerable loss of data by virtue of the answer sheets being too damaged or soiled to be scanned accurately. Even where successful, it was very time consuming, and it is suspected that some data loss still occurred. In the case of Fort Stewart, an OMR approach was abandoned completely in favor of keypunching.

A number of problems with the data analysis program were encountered and remedied. However, problems in transporting the program from one location to another, a function primarily of variations in ADP system architecture, requires resolution.

Feedback and Data Utilization

In every case, every unit commander who participated in the TDAS field test was provided with a feedback report, and in many cases it was reported that EO unit training sessions were developed around identified problem areas. The Fort Stewart experience showed that with increased experience in using the TDAS and increased quality of the system as well as increased efficiency on the part of its implementors, commanders became more willing and more likely to ask for EO staff assistance.

The issue of confidentiality, which had been the most serious bone of contention among commanders in their anticipatory reactions to the TDAS, was found to be an actual problem in only one documented instance.

There was some difficulty on the part of EO staff who were called upon for consultation in producing clear-cut interpretations of survey results. One major factor was lack of EO staff experience in the interpretation of survey results and other quantified representations of group perceptions. In addition, the decided absence of any extreme findings within any one unit makes the problem of interpreting results that much more difficult, especially to what is, at the present time, a "paraprofessional" social scientist.

Utilization:

The findings of the field test were used to make additional revisions to the TDAS by in-house personnel. The TDAS in draft form is currently being used on a number of Army installations of CONUS, Korea and Panama.

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**FIELD TEST OF THE UNIT EQUAL OPPORTUNITY
TRAINING DIAGNOSIS AND ASSESSMENT SYSTEM (TDAS)**

CHAPTER I

Background and Overview

Introduction

In the decade of the 1960's, American society experienced strong pressure from racial minority groups, especially black Americans who represented the largest and perhaps most severely oppressed minority in the nation, to guarantee equality for all Americans in all aspects of life. School integration and voter registration were key national issues, and racial tensions mounted to crises levels as the civil rights movement gained in strength. Racial confrontations on various scales, including full-scale riots, were experienced throughout the country. The military services did not escape experiences of this type.

As early as 1963, the Department of Defense had issued a directive concerning equal opportunity in the military.¹ By 1965, the Army had issued a formal policy on race relations and equal opportunity.² This regulation, with its subsequent changes, along with AR 600-42,³ established a framework within which the Army would address any and all aspects of race relations and equal opportunity (RR/EO). A formal Army RR/EO program was instituted, which called for the creation of an MOS (OOU) for persons specially trained to deal with matters in this area. Formal education and training experiences for all Army members were also called for, with such experiences being provided in all Army service and professional schools and colleges, and as part of the unit training program. In addition, special seminars were provided for general officers concerning RR/EO.

During the course of the 1970's, some noticeable trends occurred in the Army's RR/EO program. Racial violence declined in frequency and in scale. Focus of the program was broadened from concentration on "racial harmony" and personal or individual bigotry to the inclusion of institutional or systemic aspects of racial discrimination. Plans for

¹DoD Directive 5120.36, "Equal Opportunity in the Armed Forces," July 26, 1963.

²AR 600-21, "Race Relations and Equal Opportunity," 18 May 1965.

³AR 600-42, "Race Relations Education for the Army," 11 December 1973.

“affirmative actions” were required as well as “awareness training.” There was also a broadening of scope from black-white racial problems to problems of all racial, ethnic and cultural minorities, to women in the Army, and to other groups with some specific characteristic around which discrimination might focus (religion, physical handicap, advanced age).

Within the program itself, procedures for accomplishing Army EO objectives gradually became modified as well. As the crisis orientation declined with the declining incidence of overt violence, the perception of the RR/EO program as a “special program” became an item of controversy. In the early stages of the program, the local RR/EO officer or NCO often had direct access to the installation commander, with no requirement to work through the intermediate chain of command for the resolution of problems. This “stovepipe” aspect of the program received severe criticism from the intermediate commanders who felt that their authority was being usurped and eroded. Sentiment began to shift in the direction of institutionalizing RR/EO activities within the chain of command, giving the unit leader at every level the opportunity to address his or her own RR/EO problems just as any other type of problem in the unit would be addressed.

This sentiment was acknowledged in the revision of AR 600-21 which became effective in September 1977. In that document, which consolidates policy on equal opportunity in the Army, there is formal recognition that the commander is responsible for equal opportunity in the unit, with the Equal Opportunity Staff Officer serving in a staff capacity, to provide advice and consultation to the unit commander as required. This satisfies the “stovepipe” criticism of EO operations, but it leaves a different problem in its wake. That is that the EO program is now the responsibility of those with the least training in EO matters to conduct or supervise EO-related activities. The statement that commanders are responsible for planning for EO training in their units is a case in point. The guidelines (page D-2 of AR 600-21) for this portion of the program state that commanders will:

1. determine the level of awareness and the degree of knowledge of equal opportunity of personnel currently assigned to the organization;
2. select the best method of training based on the results of the initial survey of basic needs . . .
3. Once the commander determines the topic and method of presentation, the instructor/project officer/NCO is selected; and the time and training sites are established and confirmed.

4. Finally, the commander will assure that the training is scheduled and attendance is mandatory for all unit personnel. Adequate compliance monitoring procedures must be implemented to assure quality of training and maximum participation of all members of the command, without exceptions.

The vast majority of commanders at company level do not have the training and expertise necessary to carry out these requirements, nor do they have the resources within their units to delegate the responsibility.

The development of tools and procedures for assisting the small unit commander in carrying out these requirements was assigned to the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). A contract was awarded by ARI to Human Sciences Research, Inc., a private, civilian corporation, to perform the required work under ARI direction. That project is the subject of the present report.

Study Objectives

The objectives of the study were to develop and field test a system of instruments and procedures which would allow the small unit (company level) commander to:

1. assess the status of intergroup relations and equal opportunity in the unit;
2. develop a unit training program to address the problem areas identified; and
3. evaluate the extent to which training has been successful in addressing and eliminating the problems initially identified.

It was determined that the system should have the following characteristics:

1. It must be viewed as an aid to the commander and not as an added burden.
2. It must be relatively simple to implement.
3. It must require a minimum of personnel time.
4. It must have face validity in that the implications for unit training are directly relevant and obvious.

5. It must give timely and current information on conditions in the unit.
6. It must be compatible with standard operating procedures in the unit.
7. It must be compatible with and take maximum advantage of existing resources outside the unit.

The system was viewed as having three major components: an instrument or set of instruments for acquiring assessment and evaluation data; an administrative/management component with clearly defined assignment of responsibilities for operating the system; and a training component for orienting commanders and others to the proper utilization of the system, which became known as the Unit EO Training Diagnosis and Assessment System (TDAS).

The three major components of the system defined above, instruments, administrative procedures and an orientation/training package, each required a separate developmental effort. The elements and the ways in which they interact are described below.

The Diagnostic Questionnaire

The primary objective of the system was seen as the provision of a periodic report on unit EO conditions to the commanders of units at the company, troop or battery level. The system would provide some sort of problem diagnosis so that a unit EO training program could be tailored to diagnosed problem areas specific to the unit. The best vehicle for accomplishing this diagnostic objective was judged to be a survey of unit members, asking their perceptions of EO conditions. The main focus of the survey would be to determine which aspects of the soldier's life over which unit chain of command has some control or influence are perceived as being affected by EO problems.

The logic of the system is that something that is perceived as a serious problem by unit members should be acknowledged and examined. If the perceptions are accurate, unit EO training would be one means to rectify the situations. If the perceptions are inaccurate, unit training can be used to correct misperceptions and give the unit members a more realistic view of unit conditions. In either case, of course, unit training is not the only possible solution

and might not even be the best. Nevertheless, unit training is the problem-solving method toward which the survey is directed.

What areas of unit and Army life should be included in the data collection instrument? A number of broad general areas was initially defined, and questions were developed to ascertain unit members' perceptions of EO conditions in a number of more specific areas subsumed under the broad, general headings. The generic categories which guided the development of questionnaire content were: personal discrimination and institutional discrimination; race discrimination and sex discrimination; and on-post and off-post factors. Within each area defined by these variables an effort was made to determine what activities occur which are important to the soldier and can be influenced by the chain of command, either directly or indirectly. For example, under institutional race discrimination on-post, it was possible to ask questions about the fairness with which dress regulations are enforced, the distribution of promotions among majority and minority races, the equality of duty assignments, and so forth. Under personal sex discrimination on-post questions were formulated concerning such things as the prevalence of sexist jokes and statements, categorizing of certain tasks as "men's work" or "women's work," displays of disrespect by men against women and *vice versa*, and so forth.

The general philosophy underlying questionnaire development was to formulate questions about as many important areas as possible, from the perspective of both the majority and minority groups, so as to give as well rounded a view of unit EO conditions as possible.

Administration and Management

In order to make the TDAS as compatible as possible with the routine functioning of the Army, administrative and management procedures for the system were designed to take maximum advantage of existing structures and functions having relevance to some part of the TDAS. To accomplish this, the system was broken down into discrete tasks, and the agency or individual within the Army which routinely handled tasks similar in nature were identified. The ongoing Army activities most directly related to the TDAS were identified as: unit training activities; EO staff activities; and organizational development activities. Making maximum use of the existing structures in these three areas, while placing ultimate responsibility for utilization of the system on the unit commanders was seen as the desired mode of operation.

The total system was originally envisioned as operating in the following way:

1. The unit commander schedules a survey.
2. The Organizational Effectiveness Staff Officer administers the survey and transports the raw data for processing.
3. The Management Information Systems Office (MISO) implements a packaged data analysis program to produce a feedback report.
4. The Equal Opportunity Staff Officer delivers the feedback report to unit commander.
5. The unit commander, alone or in conjunction with others, e.g., the unit chain of command, a Unit Discussion Leader, an EO staff member or the OESO, interprets the results.
6. The commander designates an individual as responsible for developing a unit training program based on survey results.
7. Unit EO training is conducted.
8. A follow-up survey is scheduled to assess the effects of training.

This was the model on which the TDAS was based. Certain modifications which were made in that basic model are described in Chapter III of this report:

Training for System Users

The ultimate utilization of TDAS, should it be adopted by the Army, would occur at small unit level throughout the Army. It was deemed necessary under those circumstances that a system for orientation and training of unit commanders and others involved in system implementation be an integral part of the system. As a result, two products were seen as essential outcomes of the system development process, a "user's manual" and materials to support a training program for users of the TDAS.

The "user's manual" was envisioned as an overview document which would describe the rationale behind the system, the system's objectives, the operation of the system, and the interaction of the various participants in system implementation. The user's manual was seen as a necessary item of system documentation to be distributed to every commander for reference purposes. The manual alone, however, was not considered to be sufficient to provide adequate and thorough orientation to all participants. As a result, a set of lesson plans was

to be developed to provide more detailed information. The lesson plans were seen as following the same outline as the user's manual, but with somewhat more detailed explanation and examples than would be possible in a brief written document alone.

Initial development of the three components of the system was begun in July 1977, and a field test of the system was initiated in April 1978. This report documents and describes the results of the two developmental phases.

CHAPTER II

Questionnaire Development

The central element of the TDAS is the survey questionnaire used to collect unit-specific data. The development of a valid, reliable survey instrument with supporting materials including instructions to the survey administrator and the respondent, answer sheets, and a program for translating the results of the survey into a readily-usable feedback report format was the item of highest priority in the study.

Design of a survey questionnaire for the TDAS began with the definition of a set of characteristics that such a system should have. Among these desired system characteristics are:

1. Coverage of a broad range of content areas.
2. Ease of administration and scoring.
3. Production of valid and reliable measures of unit EO conditions.
4. Requires minimal personnel time to complete.
5. Face validity in the eyes of the unit commander.
6. Unit-specific results.
7. Compatibility with other existing systems.

These characteristics are dealt with in detail below in terms of three topic areas: content, administrative characteristics, and psychometric characteristics.

Questionnaire Content

A major command conference convened at the Pentagon in November 1976 to prepare a revised statement of Army policy on equal opportunity produced the following description of the objectives of EO training at small unit level:

1. Eliminate and prevent the causes of racial and minority tensions and unrest in the Army; and
2. Facilitate the implementation of and improve the understanding of the Army Equal Opportunity Program.

At a more specific level, these objectives might be stated as follows:

- Eliminate both arbitrary institutional discrimination and the perception that such discrimination exists.
- Eliminate arbitrary individual or personal discrimination.
- Eliminate negative interpersonal and intergroup attitudes and behaviors which are based on such differences as skin color, sex, national origin, religion, etc.
- Increase knowledge of the objectives, structure, and functioning of the Army Equal Opportunity Program.

It is possible to extrapolate from these objectives to the kinds of things a diagnosis/assessment instrument should deal with in order to identify areas of weakness in EO and to assess effects of unit training. Generally, the kinds of phenomena to be measured include: the effects of institutional decisions; individual attitudes; individual perceptions; individual behavior; group behavior; and individual knowledge of relevant factual material. These phenomena can be summarized in terms of three dimensions of content and several types of measures of unit conditions. The three dimensions, mentioned in Chapter I, are:

- basis for discrimination (race and/or sex);
- type of discrimination (personal or institutional); and
- location (in the unit, on post outside the unit, off post).

The various types of measures of unit EO conditions include:

- attitudes or value judgements of one group concerning another;
- perceptions of unit EO conditions;
- reports of behavior; and
- individual knowledge of relevant factual material.

These dimensions and types of measures provided the framework within which the initial draft questionnaire was constructed. The specific questions to be asked of unit members were based on this framework as applied to those areas of unit and Army life seen as being important to unit members and as being areas with potential for discrimination. Promotions, daily duty assignments, interpersonal and intergroup relations, verbal and non-verbal interactions on and off the job, treatment received in the PX, from Military Police, at the

barber shop, from local landlords, procedures for finding housing, all were seen as legitimate, even necessary areas of inquiry.

The most important type of measurement for most purposes in the TDAS was judged to be "perceptions," that is, how one describes reality. This is done on the assumption that one's perceptions of reality, whether accurate or not, determines one's response to that reality. If I perceive a problem, then, for me, there is a problem, and I will respond accordingly.

Administrative Characteristics

Company-level commanders are traditionally viewed as the most over-worked people in the Army. Every Army requirement, every policy, every procedure, every program ultimately gets implemented at the small-unit level. In addition, "unit mission" in all of its manifest forms, depends on "unit readiness." All activities—training, maintenance, supply—are high-priority items. These obviously mission-related activities occupy the highest place in the unit commander's schedule. Activities which are not directly mission-related often are set aside to wait "until everything else is done." This has been found to be the usual *status of EO activities, including unit EO training. In order to make the TDAS acceptable* to the company-level commander, then, the system must be an aid to the commander, rather than a burden, and the end result must be seen as worth the number of person-hours required to implement it.

This means that the TDAS must be relatively short and easy to administer, and must be something which alleviates some of the commander's existing workload rather than adding to it. Starting with a questionnaire, which can be completed in around 40 minutes, a survey of an entire company of, for example, 100 members would undoubtedly average considerably over one hour per member, including time spent scheduling sessions, transporting unit members to and from a central location, and so forth. This is usually viewed by commanders as time lost from "mission-oriented" activities.

In order to reduce to a minimum the number of person-hours required for the survey, a number of steps were taken. First, scheduling and administration of the survey were seen as a function occurring outside the unit, either at battalion or brigade level or in some organization designated to perform the task. Second, the number of items might be reduced to the

bare minimum needed for valid and reliable results concerning all important elements of unit life. Third, the format of the questionnaire could be simplified to the extent that time spent in listening to and reading directions is minimized. All of these tactics were pursued in the development of the TDAS questionnaire.

Administrative efficiency extends beyond simply administering a short questionnaire, however. For example, to the extent that the commander's (or his/her designated surrogate's) time can be used efficiently in the interpretation of results, the system becomes more acceptable. At the inception of the present project, the only model available after which the TDAS might be patterned was the General Organizational Questionnaire (GOQ) used to accomplish organizational diagnoses by Organizational Effectiveness Staff Officers. Inquiry was made into the procedural workings of that system.

In reviewing the use of the GOQ, it was determined that this system made use of a questionnaire with a separate answer sheet suitable for scoring using optical mark reading (OMR) equipment, thus allowing repeated usage of the questionnaires. The raw data were processed and analyzed using a program especially designed for the GOQ and its accompanying answer sheet, and the end product was a computer-produced feedback report which provided *rather specific information* about various aspects of organizational functioning. Because all of these features had independently been determined to be desirable characteristics of the TDAS, and in the interests of developing a TDAS which would not be unique in its ADP requirements, but compatible with existing systems, the OE/GOQ model was adopted for development of the TDAS.

The TDAS questionnaire was, therefore, adapted to the existing GOQ answer sheet. The existing GOQ analysis program was used as a starting point for a TDAS analysis program, on the assumption that it could readily be tailored to the new application. The format and content of the feedback report was, however, to be considerably different for the two systems. This imitation of the TDAS after the GOQ was seen as an efficient way to proceed, both in terms of developmental time required in the study and in terms of ultimate implementation of the TDAS.

Psychometric Characteristics

The psychometric characteristics of validity and reliability of the measures of unit EO conditions computed under the TDAS were seen as very important. Perhaps even more important, however, was the consideration of the face validity of the questionnaire and its results from the perspective of the unit commander.

Face validity is the characteristic of an instrument such as a questionnaire which determines the extent to which it appears, on the surface, to relate to the purpose for which it is to be used. It is possible to develop statistically valid measures which have no face validity. A well-known example is that the birth rate in Sweden was, at one time, very reliably predictable from the number of storks in the country. Although no cause-effect relationship could be attributed, a stable statistical relationship could be demonstrated. In a more relevant context, even if research has documented a relationship between, say, a set of characteristics including age and place of birth and racial attitudes, so that only a few questions need be asked about the demographic characteristics of unit members in order to develop a rather accurate picture of unit racial climate, such an approach may not be acceptable to the unit commander because it *appears* too tenuous. The commander would probably rather see data on how many black unit members feel that whites get easier duty assignments, or how many white unit members feel that minority soldiers get away with breaking rules that whites would be punished for breaking.

Every effort was made, therefore, in the development of the TDAS, to build in face validity so as to enhance the likelihood of acceptance by commanders.

In considering statistical validity, however, one has a more difficult task. Ideally, one would want to determine that the TDAS accurately reflects unit EO conditions, as determined by some independent source. In the development of the TDAS, however, there was no independent source of EO-relevant information of known validity against which TDAS results could be compared. Criterion-referenced validity, then, was outside the scope of the developmental effort. Therefore, estimation of the validity of the TDAS has necessarily been non-statistical, relying on content validity which asks: Does it make sense to ask these questions for this purpose? and expert judgment, i.e., do those familiar with the content area accept these measures as valid?

Reliability of the measures of EO conditions as reported by unit members is also an important consideration. Is a particular measure, taken at two different times under identical conditions, sufficiently free of measurement error to give acceptably similar results? Reliability of measures was seen as a high-priority characteristic of the TDAS.

Development and Successive Refinement of the TDAS Questionnaire

Starting with the substantive, administrative and psychometric goals and requirements described above, an initial draft version of the TDAS was developed as the basis for a series of pretests and analyses, leading to successive refinements over time.

That initial draft, labelled Version A, consisted of 168 separate items and questions, as follows.

Part I contained:

- 6 questions concerning respondent background, i e., sex, race, ethnic group, time in service, time in company, and pay grade; and
- 7 general questions about the status of race relations in and outside the unit and about perceptions of command support for the EO Program.

The questions were all in a closed-end, multiple-choice format.

Part II of Version A was made up of 62 questions concerning perceptions of differential treatment of majority and minority soldiers, and men compared to women, and of interpersonal behaviors between soldiers of different races. The first 59 items in this section used a five-point, Likert-type response scale, with response alternatives labelled: "Does not happen;" "Not a problem;" "Slight problem;" "Serious problem;" and "Very serious problem." Instructions were for the respondent to mark one box for each item to describe whether or not each type of situation described occurred in the respondent's (company-level) unit, and the extent to which it was a problem. Most items in Part II were in pairs with one member of each pair asking about treatment of majority soldiers and the other about minority soldiers in the same area. For example, items 1 and 2 in Part II read as follows:

1. Whites in this unit are given more responsibility than minorities in the same MOS.
2. Minorities in this unit are given more responsibility than whites in the same MOS.

This "mirror image" phrasing was done in a deliberate effort to circumvent the often-heard criticism from whites that the EO Program is a program for minorities only. Increasing evidence of the growing extent of feelings of "reverse racism" on the part of white soldiers prompted the move.

The first 18 questions dealt with institutional functioning and its relationship to discrimination. The next 22 items were concerned with intergroup behaviors and personal discrimination in various forms, ranging from name-calling to physical attacks. The following four items had to do with leader behavior toward soldiers of different races. Items 45 through 59 then asked questions about conditions on post outside the unit.

The final three questions in Part II dealt with perceptions of battalion-level EO conditions. These were in a multiple-choice format not of the Likert-type.

Part III of the initial questionnaire consisted of two sections:

- 6 questions which compared characteristics of men and women; and
- 6 questions which compared characteristics of minority and majority group soldiers.

The question format in these sections listed characteristics which might or might not be more typical of one group than another. The same six characteristics were presented for comparison of whites and non-whites, and for men and women. The response alternatives were:

- whites (men) much more than non-whites (women);
- whites (men) slightly more than non-whites (women);
- no difference;
- non-whites (women) slightly more than men (whites); and
- non-whites (women) much more than whites (men).

Part IV of the Version A questionnaire contained a varied mixture of questions. The first five questions asked soldiers' perceptions of the adequacy ("right amount," "too much," "too little") of command support given the EO Program at various echelons, from DA on down to "your company, battery, troop."

The following four questions were focused on soldiers' perceptions of whether or not Army performance standards are fair to all groups and whether or not there should be different standards for different groups. These were multiple-choice questions with tailored answers.

Ten questions of factual knowledge concerning Army policy on equal opportunity were asked next. The respondent was asked to answer "Yes" or "No" depending on whether or not he or she believed each of several actions described is required by Army policy. Topic areas covered ranged from minority representation on promotion boards to procedures governing efficiency reports and Article 15 actions. The final nine questions in Part IV asked the respondent to describe how well informed ("very well," "fairly well," "not very well," or "no information at all") he or she is concerning a number of procedural items such as promotion procedures up to E-4, rights concerning field- and company-grade punishments, and finding quarters after a PCS.

Part V had three sub-sections in this version of the questionnaire. The first 13 items asked about quality of treatment received by the respondent on post outside the unit, from such people as the Military Police, employees in the PX, Commissary and snack bar, clubs, clinics, etc. Five questions were asked about off-post discrimination. The range of answers available to describe treatment received was five points, from "very good" to "very bad."

The final two questions in Part V asked about personal experiences with discrimination in the unit and perceptions of how a discrimination complaint might be handled by the unit chain of command.

The final section of the questionnaire, Part VI, was designed to be answered only by members of units to which women were assigned. Part VI consisted of 33 questions parallel to those asked in Part II about institutional forms of treatment and interpersonal behavior in the unit, with the focus on gender rather than race.

It was this questionnaire which was first pretested at Fort Carson and Bliss in late 1977, and circulated for comment from EO staff personnel at both Forces Command, and Training and Doctrine Command.

The Pretest of Version A

The initial pretest of Version A occurred at Fort Carson (CO). This pretest consisted of administering the questionnaire to a total of 197 enlisted persons randomly selected from the rosters of four designated units, an infantry company, a field artillery battery, a finance company and a signal company. In addition to the group-administered surveys, group interviews were conducted with selected subsamples of the personnel from the four units after they had completed the questionnaire. In addition, the commander, executive officer, first sergeant and a platoon sergeant or equivalent from each unit were surveyed and interviewed in groups. The group interviews of enlisted personnel were aimed at eliciting assessments of the TDAS survey in regard to such features as completeness of content coverage, readability, ease of understanding, ability of respondents to answer from personal experience, adequacy of instructions, and so forth. The group interviews with members of the chain of command were oriented more toward an overall assessment of the total TDAS system as described to the interviewees.

Version A of the questionnaire was also pretested using the same methods at Fort Bliss (TX), with 178 respondents randomly selected from four company-size units.

As a result of the analysis of survey results from the two pretest locations and the interview results as well, Version B of the questionnaire was developed. This modified questionnaire was considerably different from its predecessor in a number of ways, described below.

Version B

The major changes in the questionnaire were in the format of the various sections. Wherever possible, multiple-choice items with tailored responses for each question were modified to fit a common format. For example, item 13 in Version A was changed from the following forced-choice, multiple-choice item:

13. Which one of the following statements best describes the most serious problems in your unit? (*Check one.*)

- There are no really serious problems in my unit.
- There are serious problems in my unit, but *not* related to race or equal opportunity.
- The most serious problems in my unit are problems between white and non-white soldiers.
- The most serious problems in my unit are problems between minority soldiers and the chain of command (officers or NCO's).
- The most serious problems in my unit are problems between white soldiers and the chain of command.

to a set of separate questions using an agree-disagree format:

Check one box for each statement below to show whether you **AGREE** or **DISAGREE** with that statement.

Agree **Disagree** (*Check one for each item.*)

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 13. There are no really serious problems of any kind in my unit. |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. There are serious problems in my unit, but <i>not</i> related to race or equal opportunity. |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. There are serious problems in my unit between white and non-white soldiers. |
| <input type="checkbox"/> | <input type="checkbox"/> | 16. There are serious problems in my unit between minority soldiers and the chain of command (officers and NCO's). |
| <input type="checkbox"/> | <input type="checkbox"/> | 17. There are serious problems in my unit between white soldiers and the chain of command. |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. There are serious problems in my unit between men and women who work together. |
| <input type="checkbox"/> | <input type="checkbox"/> | 19. There are serious problems in my unit between female soldiers and the chain of command. |

Another major format change occurred in Part II, with the separation of items concerning "minority personnel" and "white Anglo personnel" into two separate sections, rather than having the items paired as they had been in Version A.

Substantive changes were also made between Versions A and B. In Version B, the items concerning factual knowledge of Army EO policy were dropped, but two new sections of questions were added. One new section (Version B, Part VI) contained 17 items which asked respondents to compare the chances of whites and non-whites in the unit to achieve such things as promotion, advanced technical training, awards, and reenlistment. The alternative answers provided were: "whites have a better chance," "chances are the same," "non-whites have a better chance," and "don't know."

The major substantive addition to the questionnaire consisted of a set of 43 items concerning general racial and sex-role attitudes, in a standard, five-point, Likert-type, agree-disagree format.

The final set of changes had to do with shifting the positions of certain items in the questionnaire to provide a more logical grouping of items within sections.

One result of the substantive changes was that, rather than shortening the length of the questionnaire, they added 26 percent to it, for a total of 212 separate items.

Version C

A test of the revised questionnaire was then conducted at Forts Hood (TX) and McClellan (AL). Once again, the survey was administered to randomly selected enlisted personnel from each of four units at each location, for a total of 176 respondents at Fort Hood and 142 at Fort McClellan. The resultant Version C was considerably shortened, containing 141 items compared with 168 in Version A and 212 in Version B. This was accomplished primarily by eliminating items within sections which were found to have unacceptably high non-response rates or which seemed to elicit almost total consensus across all respondents and showed little promise of differentiating between various sets of good and poor EO conditions in units.

There were some sub-sections of items dropped *in toto* from the questionnaire at this point, for much the same reasons as those cited above. The comparison of white and non-white soldiers on several job-related characteristics was eliminated, although the parallel items comparing men with women were retained. The several items concerning performance standards were also removed because they added little to the utility of the survey in diagnosing unit EO conditions. Another total group of items removed was the set dealing with comparisons of white and non-white soldiers' chances for receiving certain positive and negative actions from the chain of command, which can better be determined from unit statistics than from unit member perceptions.

The set of racial and sex-role attitudes added to Version B was reduced from 43 to 24 in Version C, with those items having the most direct relevance to the survey and the best spread of responses being retained. Finally, a relative few items were dropped from the section for units with women assigned.

Version D, the Field Test Questionnaire

At this point, the TDAS questionnaire was viewed as being ready for a final pilot test, to determine more accurately the best set of items to be retained for maximum impact from the smallest number of usable items in the final form.

It should be mentioned at this point that ARI was under pressure from the Army to reduce the questionnaire to the barest minimum size. Personnel both at HQDA and at the local installation level were pushing for an instrument on the order of 20 items in length, on the assumption that anything more would be too burdensome in terms of personnel time for survey administration and commander time required for interpreting results. Both ARI and HSR staff considered this an unrealistic goal, for the reasons described below.

A topic so pervasive and complex as equal opportunity in the Army, which touches on virtually every interpersonal interaction and every institutional program, activity and decision made at any level in the organization cannot reasonably be expected to be reduced to as small a number of items as requested and still be meaningful for purposes for which

the TDAS was intended to be used. A maximum of 20 items would only allow, for example, approximately two questions to be asked in each of the eight areas defined by the intersection of the three major dimensions of inquiry identified earlier, basis for discrimination (race and sex), type of discrimination (personal and institutional), and location (in the unit and outside), plus identification of the respondent's race, sex, and rank. At this level, all one could reasonably expect to ask would be a question like: Have you, in the past six months, been a victim of race discrimination in your unit in some area such as daily duty assignments, promotion, selection for awards or other positive actions taken by the Army?

Close scrutiny indicates that this level of information, reduced to number of each race answering "Yes" or "No," would provide the unit commander with extremely little information from which to build a unit training program. It is only when there is the possibility of identifying different areas of unit life which produce dissatisfaction that unit EO training implications become clear.

Concerning the demands on personnel time, which result from a unit survey, it must be recognized that there is a fixed minimum of time required simply to assemble unit members, pass out required materials (questionnaires, answer sheet and pencil), and instruct respondents. This time will be expended regardless of the length of the questionnaire. To increase the questionnaire from 20 items to, say, 100 items may increase the time on top of the fixed minimum from five minutes to 25 minutes. But the added information obtained would seem to be well worth the added effort of approximately 40 minutes per unit member per year if the survey is conducted every six months. If the survey is to be administered at all, cost benefit or efficiency analysis would argue for making the most of the experience.

In response to the feeling that commander time required to analyze and interpret results would be much less for a 20-item survey than for a 100-item survey, it must be recognized that this is not necessarily true. Much depends on the form in which results are presented. To present simple frequency counts of yes-and-no answers by race to a small number of items would provide little or no guidance to the commander in terms of training program implications. To present the commander with a computer-produced listing of priority problem areas, rank-ordered from worst to best for the unit, backed up by responses to highly specific items would probably save the time of the commander even if the survey totalled 200 items rather than 20. This is the rationale behind the TDAS feedback report, described elsewhere in this document.

One final comment on efficiency of implementation should be made at this point. It has been suggested that a shorter questionnaire would allow the commander to have the data produced by hand, within the unit, relatively quickly. Those who have had to hand-tabulate questionnaire responses of 100 or more respondents, subdivided into several groups on the basis of race, sex and rank, recognize how long such an activity can take, and what the likelihood of error is. By almost any criterion, machine processing of relatively large amounts of data can well be as cost-effective as hand-tabulation of relatively small amounts. In addition, machine processing takes advantage of existing, fixed-cost assets rather than drawing more heavily on unit-specific resources which could be more effectively used in other ways.

As a compromise position, however, it was decided that reducing the questionnaire to the number of items which can be answered on the machine-scorable answer sheet employed with the General Organizational Questionnaire (GOQ) would be a reasonable goal. This was one purpose of the pilot test of Version C. (Another objective was to attempt to assess some psychometric characteristics of the survey. This objective is treated more fully in a later chapter.) Version C was administered at Fort Bragg (NC) and Fort Jackson (SC). Numbers of respondents were 57 at Fort Bragg and 100 at Fort Jackson. Although these numbers were considerably less than requested, and some analyses (e.g., test-retest reliability) were precluded, the results were analyzed and Version D was designed.

Version D consisted of 120 items and was designed specifically for use with the GOQ answer sheet. This version, which was the one to be field tested, included further refinements in formatting, especially to meet the needs of the separate machine-scored answer sheet (Versions A through C required keypunching). Version D was structured as described below.

The questionnaire was no longer divided into separate sections (Part I, Part II, etc.), but was numbered consecutively from 1 through 120, to facilitate use of the answer sheets. Questions 1 through 3 were very general assessments of racial climate in the unit and outside, and question 4 asked for a report of the respondent's personal experiences with race discrimination in the unit in the preceding six months.

Questions 5 through 65 all employed a five-point, Likert-type, agree-disagree response scale. Questions 5 through 16 concerned behavior of and treatment received by minority personnel in numerous areas of unit life; questions 17 through 29 were parallel questions about white soldiers in the unit. Following this were four questions about the behavior of officers and NCO's in the unit. Questions 34 through 52 elicited perceptions on a number of general aspects of life in the unit and outside. The final 13 items in this format asked questions about racial attitudes and perceptions in general, corresponding to the "general racial attitudes" in Versions B and C.

The next seven items dealt with treatment received at various places on post, and the following five with off-post treatment.

Questions 78 through 82 compared job-related characteristics of male and female soldiers. Following this, six of the questions on Army EO policy which had been included in Version A, but not B and C, were added back in as a test of knowledge.

The final 29 substantive questions were asked only in units where women were assigned, and they paralleled those asked in the earlier part of the questionnaire concerning behavior of and treatment received by various groups, in this case male and female soldiers rather than whites and non-whites.

The questionnaire concluded with questions on the respondent's sex, race, and rank.

Version D, the field-test version, is included with this report as Appendix A.

The Survey Feedback Report

The development of the TDAS questionnaire is inextricably related to the development of the feedback report. The objective in designing the survey feedback report to be provided each participating unit commander was to provide as thorough an analysis of the survey data as possible in as much a "pre-digested" fashion as possible, so as to minimize the commander's task. Achievement of this objective required considerable attention to the manner in which questions and items of various types were to be combined to provide indices which could be readily compared by the commander to determine the highest priority areas for unit EO training program design.

The idea of a computer-generated survey feedback report designed for ease of analysis is not new to the Army. The Army's Organizational Effectiveness program has employed such a design with the General Organizational Questionnaire (GOQ), in a rather sophisticated way. That report was not, however, designed to be used by the unit commander, but by a trained specialist in organizational diagnosis and intervention, the Organizational Effectiveness Staff Officer (OESO). The TDAS feedback report attempts to take this concept one step further, to allow the commander alone to analyze and interpret results, if he or she so desires.

The display of results is largely dependent upon the way in which the separate and specific measures of unit EO conditions are structured. It was envisioned that the commander would be given a report which first describes the makeup of the respondent population in terms of sex, race and rank. This will allow immediate detection of deviations from what is known about the unit's composition. If there is major deviation, it would be because a non-representative group of unit members took the survey, rather than all unit members, as recommended. Or there could conceivably be an error in the analysis. In either case, it is better to identify such deviations early and correct for them if necessary.

It was planned that the substantive output of the analysis program would be presented in such a way as to lead the commander from very general to progressively more and more specific levels of detail of analysis. This was to be carried out in the feedback report by presenting first the responses, by race, sex and rank, of all respondents to a set of global-level questions about racial climate and equal opportunity in the unit, e.g., personal experiences with race or sex discrimination, quality of race relations in the unit, and changes perceived on that dimension over time. This would be followed by the presentation of a listing of several different areas of possible concern in EO in the unit. These areas would be rank-ordered on the basis of survey results, with the most serious problem area at the top of the list. A similar presentation of areas relevant to sex discrimination would follow. This would be followed, in turn, by frequency distributions of responses to all items in the survey, in order, with number and percent of unit members who selected each response described and grouped by race (black, white, other), sex, and rank (E1-E4, E5-E9, WO-1 to O3, and O4 and above).

This style and order of presentation, it was felt, would allow the commander to get a general feeling of the perceptions of racial climate in the unit, a more specific grasp of the absolute and relative seriousness of complaints in different areas, and, finally, a fix on specific areas of discontent, e.g., sexist language, unfairness in the promotion process, housing discrimination in the civilian community, and so forth.

What specific dimensions were summarized for the commander in the report? Version D of the survey presented data on nine race-related measures (R-scales) and on eight measures of sex discrimination (S-scales). These were labelled:

- R-1. Unit racial climate
- R-2. Perceptions of discrimination against minorities and/or favoritism toward whites.
- R-3. Perceptions of discrimination against whites and/or favoritism toward minorities.
- R-4. Negative behavior by whites.
- R-5. Negative behavior by minorities.
- R-6. Racial confrontation and violence.
- R-7. Favoritism/discrimination in the delivery of services to unit members.
- R-8. Treatment received on post by unit personnel (by race).
- R-9. Treatment received by unit members off post (by race).

- S-1. General perceptions of women in the Army.
- S-2. Perceived discrimination against women and/or favoritism toward men.
- S-3. Perceived discrimination against men and/or favoritism toward women.
- S-4. Treatment received on post by unit personnel (by sex).
- S-5. Treatment received by unit members off post (by sex).
- S-6. Access to public facilities.
- S-7. Negative behavior by women.
- S-8. Negative behavior by men.

In addition, a measure of knowledge of Army policy and several measures of general racial and sex-role attitudes were designed into the system. These were labelled as follows:

- K-1. Knowledge of Army EO policy.
- A-1. General racial attitudes.
- A-2. Attitudes toward racial integration.
- A-3. General attitudes toward EO for women.

Each of the scales described above was made up of multiple items from the questionnaire, ranging from a low of two items (scale A-3) to a high of nine (scales R-3 and S-2). The average number of items per scale was about six, with five being the modal number. In general, the race-related scales contained more items than did the gender-relevant scales. The grouping of items into scales was based mainly on logical judgments concerning similarity of content. The attitude scales were based on factor analyses of earlier survey results.

Scale scores were computed as the average of all responses for the group in question. To allow for easier interpretation of results, the scale scores were converted to a common metric which ranged from a low of 1.0 to a high of 5.0, with 3.0 as the midpoint.

Several sample pages from the feedback report for a hypothetical Army unit are included in this report as Appendix B, to illustrate the various parts of the feedback report.

This, then, was the data collection and analysis package implemented on a trial basis at three locations. The following chapters describe the administrative structure surrounding that package and the orientation and training materials which supported it.

Additional Supporting Elements

Two additional aspects of the TDAS are deserving of discussion here. Both can be classified as "software" elements of the system's data processing function, but each also has implications for system-supporting hardware. The two items are the answer sheet and the analytic program. It was mentioned earlier that both of these items were adapted from the use of the General Organizational Questionnaire (GOQ) by Organizational Effectiveness Staff Officers (OESOs) throughout the Army. Given the temporal and monetary constraints under which system development took place, adaptation of these features of the GOQ for use in the TDAS was seen as the most efficient and cost-effective way to proceed.

The Answer Sheet

The COQ answer sheet is a separable page especially designed for use with the GOQ. It is two-sided and is machine scorable, using optical mark reader (OMR) hardware available to most Army installations. The answer sheet has space for answers to 115 items, each having up to 10 response alternatives, plus an additional 19 items with up to nine alternatives. There is also space for a four-digit case number on each side of the sheet, for a date of survey administration, for a four-digit unit code, and a four-digit supervisor code.

The survey respondent reads a question from the questionnaire, determines the code number for the response which best suits him or her, and records the answer by blackening the proper space for that code in the column on the answer sheet which bears the same number as the questionnaire item. A soft (No. 2) pencil is used for this purpose. Upon completion of the survey, all answer sheets are visually scanned and extraneous marks removed. The sanitized sheets are then fed into the OMR which, using a specially-prepared scoring mask, converts the responses to punchcard format, suitable for computer processing.

This procedure was viewed, at the outset of the field test, as a much faster and more efficient method for data reduction than the other alternative considered, i.e., keypunch. Numerous problems were encountered, however. These are described later in this report.

The Analysis Program

Conversion of data from punchcard form to a final, unit-specific feedback report of the type described above requires the use of a computer program. On the assumption that the requirements for the TDAS feedback report would be quite similar to those for the GOQ report, the analytic program used with the GOQ was obtained from the Organizational Effectiveness Training Center (OETC) at Fort Ord (CA). Programmers on the staff of the ARI Field Unit at the Presidio of Monterey (CA) were given the task of modifying that program for use with the TDAS.

Unfortunately, the similarities between the actual GOQ report and the desired TDAS report were much less than was originally anticipated. Methods for producing scale scores differed; format of the output differed; and the TDAS required the addition of a subroutine to compute a measure of intergroup scale score differences, a variant of the t-test.

These major differences, plus a number of smaller considerations, necessitated the abandonment of the effort to revise the GOQ program. As a result, an entirely new program had to be developed for use with the TDAS, in a matter of only a few weeks. This effort was largely successful, although some problems remained in the program at the start of the field test. The nature, effects and ultimate solutions of these problems are described later in this report.

CHAPTER III

The Administrative and Management Component

It became apparent early in the development of the TDAS that considerable attention would have to be devoted to the design of an administrative structure to support the survey data collection and feedback system. At one extreme, it might be possible to turn the entire system over to company-level commanders and charge them with implementing the total system, from survey administration through data processing to analysis and interpretation. This was viewed as being much too burdensome on company resources, however, and a structure was sought which would provide operational efficiency and maximum utilization of existing resources for specific functions to which those resources are particularly well suited.

By analyzing the system's implementation into its component functions, tasks and task elements, and identifying existing resources suited to each of those aspects, it was possible to define an administrative structure for the TDAS. The separate facets of the system were defined as follows:

1. Scheduling
2. Survey administration
3. Processing of answer sheets
4. Computer analysis and report reproduction
5. Interpretation of findings
6. Training program development
7. Implementation of unit EO training
8. Assessment of the results of training

Table 1 describes the resources which were identified as potentially amenable to participation in one or more of those aspects of the system at each of several organizational echelons. Matching up the functions and resources resulted in an initial conception of the administrative and management component of the TDAS system as described in Table 2.

Table 1

**Available Resources for Support of Unit EO Training
Diagnosis and Assessment System**

Company-Level Resources

Chain of command

- Commander
- First Sergeant
- Platoon/Section Leaders (Officers)
- Platoon/Section Supervisors (NCO's)

Staff

- Equal Opportunity
 - EO Officer or NCO (additional duty)
 - DLC Graduate (additional duty) if available
- Training officer or NCO

Battalion-Level Resources

EO Officer (additional duty)
S-3/Training Officer

Brigade-Level Resources

EO Staff (primary duty, school-trained)
S-3/Training Officer

Division/Installation-Level Resources

G-3/DPT
Test Control Officer (TCO)
ADP Operation (MISO, SIDPERS, etc.)
Organizational Effectiveness Staff Officer (OESO)

INITIAL CONCEPTION OF THE SYSTEM:

Table 2: Proposed Distribution of Functions and Responsibilities for the EO Diagnosis/Assessment System for Unit Training

Function	Agent	Rationale
1. Schedule the diagnosis/assessment cycle by unit.	Brigade/Battalion S-3*	The S-3 is the "training manager" identified in TC 21-5-7 as having responsibility for: (a) selecting training objectives; (b) providing support for training; (c) conducting evaluations of training effectiveness; (d) using feedback from evaluations to direct further training.
2. Administer the survey on a unit-by-unit basis.	Division/Installation OESO	The OESO is trained in the methods of survey research and has direct access to the company/battery/troop commander.
3. Insure that results are tabulated without violating confidentiality.	Division/Installation OESO	The OESO is trained in the methods of survey research and has direct access to the company/battery/troop commander.
4. Process questionnaire data.	ADP operation on post under direction (e.g., MISO).	ADP equipment is required for efficient, accurate tabulation of survey results, using a standard computer program.
5. Interpret results.	Brigade (or higher echelon) OESO, OESO	The OESO staff has the requisite content-specific training and experience for this task, as well as <i>de facto</i> responsibility for the identification of RR/EO problem areas.
6. Develop recommended training package.	Brigade (or higher echelon) OESO.	The OESO staff has the requisite content-specific training and experience for this task, as well as <i>de facto</i> responsibility for the identification of RR/EO problem areas.
7. Review recommended training package and establish training objectives and schedule.	Brigade/Battalion S-3	Part of training responsibilities.
8. Implement unit training program.	Company/battery/troop commander.	Responsibility delegated by AR 600-21, effective 1 September 1977.
9. Monitor compliance with training schedule.	Brigade/Battalion S-3	Part of training responsibilities.
10. Assess effectiveness of training program.	Brigade/Battalion S-3, Unit Commander, OESO.	TC 21-5-7, AR 600-21

During the pretesting of Versions A and B of the survey questionnaire, as described in Chapter II, group and individual interviews were conducted with various types of Army personnel to solicit their assessments of the proposed system. At each of the four pretest installations, group interviews were conducted with members of the chain of command (commander, executive officer, first sergeant and an E7 supervisor) from several selected units, and individual interviews were conducted with several brigade and battalion S-3s, with the officer in charge of the installation's Equal Opportunity Program, with a local Organizational Effectiveness Staff Officer (OESO) and with the Test Control Officer.

These interviews raised a number of interesting and potentially troublesome issues concerning the implementation of the system as initially proposed. Some had been predicted, others were unexpected.

For example, the issue of confidentiality of unit survey results was anticipated as being of concern to commanders and to other participants in the system as well. The concern of company-level commanders was not centered on the possibility of results leaked by other system participants so much as it was on the possibility of higher echelon commanders acquiring copies of the results and using them as a means for evaluating and comparing their subordinate, company-level commanders.

Another issue raised by unit leaders was the question of whether use of the TDAS would be on a voluntary or a mandatory basis. The dilemma here is that, if the system is voluntary, those most likely to use it might be commanders who have nothing to fear from the survey results, and those least likely to use it might be those who need it most. This interacts with the confidentiality issue raised above. If the system were made mandatory, however, the old criticism from commanders that "the EO program is being shoved down my throat" might prevail, with the effect of negating any positive results of the system.

One issue which was raised in both the EO staff and OESO interviews was unexpected. This had to do with the role of the OESO in the system. Both EO and OE staff members objected to the OESO's involvement in the TDAS, despite the emphasis in revised AR 600-21 on the inherent compatibility of EO and OE. From the equal opportunity staff perspective, any involvement of the OESO in EO matters was viewed as an encroachment into the EO's "territory," with the perception that this would be a first step toward the usurpation of the entire EO domain into the Organizational Effectiveness staff function.

From the OESO perspective, a number of reasons were given for an unwillingness to participate in the TDAS system. These reasons included the following:

- OE staff are already overburdened with routine consultation on non-EO matters.
- Both administration and interpretation of EO survey results could better be done by others.
- OE personnel enter a unit at the commander's request only.
- OE personnel must maintain confidentiality of information in order to operate most effectively; EO personnel must have the option to report to higher levels of command in order to operate most effectively; this incompatibility presents obvious difficulties.
- Many (perhaps most) OESO's hesitate to become involved in formal interactions with EO personnel because of the negative image of EO left over from the days when confrontation tactics were employed as an education and training approach.

Members of both groups had determined that the two obvious functions of the OESO in the TDAS system, survey administration, analysis and interpretation of results, could be handled adequately by others.

These issues, and others of lesser import, had obvious implications for the way the TDAS system should be handled. It was determined that:

- Unit-specific survey results would be forwarded to higher-echelon commanders only in aggregated form, i.e., with no breakout by unit. This gives the higher-echelon commander information of a general nature, but still useful, while protecting the lower-level commander.
- The TDAS should be mandatory, at least annually, and more frequently, at the commander's discretion. The potential negative effect of a poor EO situation on unit performance is too important to allow for choice in the matter. Proper presentation of the system as an aid in carrying out command responsibilities which already exist, rather than as an additional responsibility, and as another tool to be used in assessing and improving unit status should help alleviate some of the complaints anticipated.
- OESO involvement would be limited to interpretation of results at the invitation of the commander, with the survey administration function performed by the Test Control Officer.

Table _ shows the revised conception of the administrative structure for the TDAS. This was the form in which the administrative and management component was presented for the field test.

REVISED CONCEPTION OF THE SYSTEM

Table 3: Proposed Distribution of Functions and Responsibilities for the EO Diagnosis/Assessment System for Unit Training

Function	Agent	Rationale
1. Schedule the diagnosis/assessment cycle by unit.	Division G-3, Brigade and Battalion S-3.	The G-3/S-3 is the "training manager" identified in TC 21-5-7 as having responsibility for: (a) selecting training objectives; (b) providing support for training; (c) conducting evaluations of training effectiveness; (d) using feedback from evaluations to direct further training.
2. Administer the survey on a unit-by-unit basis.	Installation Test Control Office	This function is compatible with the duties of that office.
3. Insure that results are tabulated without violating confidentiality.	Installation Test Control Office	This function is compatible with the duties of that office.
4. Process questionnaire data.	ADP operation on post under direction (e.g., MISO).	ADP equipment is required for efficient, accurate tabulation of survey results, using a standard computer program.
5. Interpret results.	Commander, assisted by EO staff at appropriate levels.	The EO staff has the requisite content-specific training and experience for this task, as well as <i>de facto</i> responsibility for the identification of RR/EO problem areas.
6. Develop recommended training package.	Commander, assisted by EO staff.	The EO staff has the requisite content-specific training and experience for this task, as well as <i>de facto</i> responsibility for the identification of RR/EO problem areas.
7. Review recommended training package and establish training objectives and schedule.	Brigade/Battalion S-3	Part of training responsibilities.
8. Implement unit training program.	Company/battery/troop commander.	Responsibility delegated by AR 600-21, effective 1 September 1977.
9. Monitor compliance with training schedule.	Brigade/Battalion S-3	Part of training responsibilities.
10. Assess effectiveness of training program.	Brigade/Battalion S-3, Unit Commander, EOSO.	TC 21-5-7, AR 600-21

CHAPTER IV

The Orientation and Training Component

In order to insure maximum benefit from the TDAS, it was deemed necessary to have a formalized orientation and training package as an integral part of the system. The system itself is new, commanders are not accustomed to personal participation in activities of this kind, and a variety of functions and responsibilities are widely distributed among various individuals and Army organizations. This is all the more reason to formalize the training process. The TDAS orientation and training component was envisioned as requiring two major products, a User's Manual and a program of instruction for system participants.

Training for System Participants

When the subject of participant training was first considered, it was viewed as requiring the development of a rather lengthy and detailed set of lesson plans designed to provide system participants, especially commanders, with an updated view of Army EO policy and current conditions as well as with instruction concerning the background, objectives and detailed workings of the TDAS. The initial step in design of such a program of instruction was the development of a total program outline, with estimates of the time required for each block of instruction within the program. On the assumption that a two-day period of instruction would be required in order to provide adequate training to participants, the outline in Table 4 was derived.

Following this model, each item in the outline was then converted to a lesson outline, with a stated lesson objective, several desired learning outcomes, a list of instructional aids required, and a list of relevant references. A time estimate and a plan for lesson presentation was described. As an early step in assessing the adequacy of the proposed approach, these lesson outlines were compiled into a draft document for review and comment in the field. These outlines were then distributed to a sample of company-level commanders from each of several selected units at Fort Riley (KS) and Fort Benning (GA). The commanders were asked to review the TDAS description contained in the draft User's Manual (described

Table 4
Outline of Training for TDAS Participants

I. Background

- A. Equal Opportunity in the Army—Policy and Reality (1 Hour)
- B. Requirements of AR 600-21 (10 Minutes)
- C. Description and Use of an EO Unit Diagnosis and Assessment System (35 Minutes)
- D. Overview of Instruction for System Implementors (15 Minutes)

II. System Implementation

- A. Description of the Instrument (1 Hour)
- B. Allocation of Responsibilities (1 Hour)
- C. Administering the Instrument (30 Minutes)
- D. Obtaining Unit Statistics (Difference Indicators) (30 Minutes)
- E. Tabulation of Survey Results (2 Hours)
- F. Analysis and Interpretation of Results (3 Hours)
- G. Design of Unit EO Training Programs (3 Hours)
- H. Developing Additional Courses of Action from Survey Findings (30 Minutes)
- I. Communicating Survey Findings and Their Implications (30 Minutes)
- J. Implementation of Unit EO Training (30 Minutes)
- K. Assessing the Effectiveness of Unit Training (30 Minutes)

later in this chapter), then give the training program outline a thorough critical review. Two weeks later, members of the contractor staff visited these installations and interviewed those commanders who had reviewed the draft documentation.

In the course of this field review, much valuable information was obtained about commanders' views of the total system. Unfortunately, feedback concerning the training program outlines was sparse and of minimal value. Many commanders gave no more than a cursory glance to the lesson outlines. A fairly large minority had not read them at all, and an equal proportion read them as unit EO training program lesson outlines rather than as TDAS participant training outlines. Of the remainder, the most frequent comment concerned the length of the proposed training course, and the inability of most commanders to leave their units long enough to participate in the training. No meaningful assessment of the potential value of the substance of the lesson plans was elicited.

The effort, which went into revising the lesson plans after this initial field review, was oriented toward reducing the length of the program, without sacrificing meaningful content. By March 1978, the revised training program was ready for pilot testing.

The pilot test of the training program occurred at the Presidio of Monterey (CA) and was hosted by the ARI Field Unit at that location. Attendance was at the invitation of ARI. Those invited to attend included: representatives from DA/ODCSPER/HRD/OEOP, HQ FORSCOM and HQ TRADOC; several company commanders from Fort Ord (CA); and representatives from the EO staff offices at Forts Stewart (GA), Rucker (AL) and Carson (CO). These last three installations had been selected as the field test sites for TDAS implementation. Project staff from HSR served as instructors.

Two days were devoted to the training session. Because the audience was made up largely of knowledgeable and sophisticated specialists in equal opportunity, considerable discussion occurred around numerous points. Because much of this discussion would not be expected to occur with a less knowledgeable group, it was decided that one-and-one-half days, including frequent breaks and adequate time for administrative matters, was adequate for completion of the program. Critique sheets acquired at the program's conclusion showed an overall high level of satisfaction with the training program, along with some well-thought-out suggestions for modifying certain aspects of the presentation.

As a result, revised lesson plans were prepared for use in participant training in the three field test locations.

In considering the time requirements, however, it was determined that effort should be devoted to preparing shortened versions of the training program for comparison at the field test locations. The three versions of training which resulted from this decision were: a full one-and-one-half day program; a one-day course; and a brief, 90-minute orientation session. The first two were substantially the same as described in Table 4. The outline for the 90-minute session appears in Appendix C to this report.

The System User's Manual

The system User's Manual was envisioned as a relatively brief document to be used primarily as a reference source by system participants who had experienced the formal training course described above. It was also to serve as a stand-alone orientation to system operations for those who did not experience the training course, as would be the case for an incoming commander replacing a commander who had been trained.

As was true of the training program outlines, a draft version of the User's Manual was prepared and distributed for field review in the manner described earlier. The initial reactions of commanders were oriented more toward features of the administrative and management component of the system than toward the manual itself, as a source of documentation in the system. These comments paralleled those described in Chapter III. Apparently, however, the manual as an entity was adequate to the purpose of providing an orientation to the system. But could not be determined from this type of review whether the system could survive on the basis of the manual alone, without the training course.

The manual was also distributed to attendees at the pilot test session for the training program. The experience of project staff members as a result of the field review, as a result of using the manual as a reference document during the pilot training, and as a result of training program participants' comments on the manual culminated in a thorough revision of the document for use in the field test. The major change between the draft version of the manual and the field test version was in the amount of detail devoted to interpretation of survey results. Whereas the draft had concentrated heavily on administrative assignment of responsibilities within the system and less so on the substantive issues, the reverse was true of the field test edition of the manual. This made for a longer document, but one which was more self-sufficient.

Appendix D contains the table of contents from the final field test version of the system User's Manual.

CHAPTER V

The Field Test—Fort Stewart and Hunter Army Air Field

As the development of the various system components and supporting products was occurring, plans were being made for a full-scale field test of the TDAS. Three locations had been selected for participation; the installations selected were Fort Stewart and Hunter Army Air Field (GA), Fort Rucker (AL), and Fort Carson (CO). In the first two cases, the entire installations were to take part in the field test. At Fort Carson, participation was limited to one brigade. This chapter reports the results of the test involving the 24th Infantry Division at Fort Stewart and Hunter Army Air Field (FS/HAAF).

Field Test Conditions

The materials to be employed in the field test were as described in earlier chapters: the Version D survey questionnaire, the administrative and management component as described, the GOQ answer sheet, the TDAS analysis computer program, the system User's Manual, and the participant training courses. Although these materials were standard across the three field test sites, each location presented a situation with certain unique factors.

At Hunter/Stewart, an experiment was undertaken concurrently with the TDAS field test which called for the reorganization of the division's EO staff structure. Whereas the "standard" EO organization consisted of a small staff of primary-duty EO personnel assigned at brigade-equivalent level, the experimental staff structure consolidated all EO staff at division level. The exact form of organization before and after the start of the experiment are described elsewhere.⁴ This staff consolidation had a decided impact on the manner in which the TDAS field test was carried out, as is described in detail later in this report. The main area of impact was in the assignment of responsibility for various functions within the system.

⁴Dale K. Brown, *The Results of an Experimental Restructuring of EO Staffing Patterns in an Infantry Division*, Human Sciences Research, Inc., October 1979.

Field Test Methodology

The objective of a field test of such a system as the TDAS is, of course, to implement the system on a trial basis, under conditions which approximate as nearly as possible the environment ultimately envisioned for Army-wide implementation. In doing so, not only will the value of the system for its intended purpose be assessed, but also the opportunity to identify and solve problems with the system is presented prior to investment in a full-scale implementation. These two things, assessment and refinement, were the goals of the field test.

The Hunter/Stewart field test preparation began, in reality, with the pilot test of the TDAS training course, which was attended by several members of the FS/HAAF division-level Human Resources Management/Equal Opportunity (HRM/EO) staff. This provided three key members of the staff, who would later be centrally involved in the field test, with an early and thorough orientation to the TDAS. This orientation was reinforced by contractor site visits to Hunter/Stewart prior to the implementation of the field test to discuss field test requirements with the HRM/EO staff.

One such visit included several hours spent in describing the system to all primary duty EO personnel in the entire division. This occurred before the experimental staff consolidation described above, so that most of those attending this briefing were still assigned to brigade-equivalent units. This was an advantage in that these staff members were able to go directly back to their units and brief their commanders on the system. The briefing did provide an opportunity for all EO staff to learn about and ask questions about the TDAS.

The next major step in preparing for system implementation was to conduct the training courses for system participants. The three levels of training were scheduled for two days, one day, and 90 minutes; these were referred to as Type A, Type B and Type C classes, respectively. Each company/battery/troop commander was tasked to attend one of the three class types, and to be accompanied by an alternate point of contact to be the person with responsibility for system implementation activities in the unit. In addition, each staff agency having some role in the TDAS was tasked to send a point-of-contact representative to a training class. Participation in training was at the direction of the Division Chief of Staff.

In all, three Type A classes were held, two at Fort Stewart and one at Hunter Army Air Field. Four Type B classes were held, two at each location. Type C classes included four at Fort Stewart and two at Hunter Army Air Field, for a total of six sessions. While each unit was required to send the designated representatives described above, there was some flexibility for each attendee in selecting the class period he or she would attend. All training was scheduled across a one-week period. Due to other unit commitments, several units were unable to send representatives during that time period. For those units, make-up classes were scheduled within two weeks of the regular classes. All company-size units at both installations were included in training, divided approximately equally across the three types of classes.

During the orientation and training sessions, which were based on the lesson plans and User's Manual described above, the system was described *as designed*. It was recognized from the beginning of system development activities, however, that conditions might vary greatly from one local installation to another, and that any one or more aspects of system administration might have to be modified to suit local conditions. These deviations were also described to the course attendees, and each person in attendance was given a handout describing the allocation of responsibility for specific system functions at Fort Stewart.

Course attendees were told during the sessions that survey administration would commence within one week of the conclusion of training, and that each unit would be responsible for scheduling its own survey, for obtaining questionnaires and answer sheets for its own survey, for the actual administration of the survey for unit members, and for forwarding answer sheets for processing, as well as returning the questionnaires to the distribution point upon completion. They were told to expect a turn-around time, from submission of answer sheets for processing to distribution of a completed feedback report to the unit commander, of about two weeks. At that time, HRM/EO would accept requests to assist commanders in interpreting survey results, on a first-come, first-serve basis, within the limits of staff availability. HRM/EO personnel could not be expected to volunteer assistance on this matter, but would make every effort to assist upon request by the commander.

At the conclusion of training, which was conducted by members of the ARI and contractor staffs, system implementation was entirely in the hands of local personnel, with the understanding that any problems which were encountered should be solved locally, if

possible, or referred to ARI if necessary. Local solutions to problems were to be reported to the contractor for the record, and so that uniformity across the several field test locations could be maintained.

Deviations from the Model

During the course of the Hunter/Stewart field test, several types of deviation from the model initially proposed were experienced. These are discussed below.

The Orientation and Training Program

The major deviation for the field test plan for the orientation and training component of the system was in the actual implementation of Type A and Type B classes at Fort Stewart and Hunter Army Air Field. During the first Type A session, which was scheduled for two days, it quickly became apparent that training was proceeding at a much faster rate than had been anticipated. As a result, the entire training session, including background, system operations and discussion of questions raised by commanders and other attendees, was completed in about six hours. The same was true for Type B training. The net effect, then, was that, in reality, only two types of classes were conducted, the six-hour version, attended by approximately two-thirds of the units' representatives; and the 90-minute version, which was implemented on a schedule very close to that which was planned.

In all other important respects, the training was implemented as designed.

System Administration and Management

Numerous deviations in system implementation were introduced at the request of cognizant personnel at Fort Stewart and Hunter Army Air Field, and these must be noted as affecting the field test.

With regard to overall coordination of survey scheduling, the TDAS model called for this process to be handled by the G-3/S-3/Training or DPT chain. In the case of Fort Stewart and Hunter Army Air Field, however, that responsibility resided in the Division

HRM office and was assigned to the Chief/EO. The rationale for this was based on the staff consolidation experiment. This assignment of responsibility was seen as a good way to test the adequacy of the new staff structure. As a result, survey scheduling was handled by the Operations Section of HRM/EO.

The process of actually administering the unit surveys was also handled quite differently than originally designed, as well. The original intent was to have the Organizational Effectiveness Staff Officer (OESO) administer the surveys. This was changed prior to the development of the field test plan, for reasons described earlier. In any case, that arrangement would probably have been totally unworkable at Fort Stewart in that the Division had only two school-trained OESOs, one of whom served double duty as Chief/HRM. The workload involved in surveying the entire division on a company-by-company basis would have required the total cessation of OE activities for a considerable period of time, probably several months.

The TDAS model for the field test called for the Test Control Officer (TCO) to handle survey administration. This also turned out to be unworkable. Discussions with the TCO concerning the requirements for that task indicated that his organization had neither the facilities required to store the questionnaires and answer sheets, nor the personnel to carry out the administrative processes involved.

The most workable solution to this problem seemed to be to assign the survey administration task to each unit commander (or designated surrogate) who would be responsible for obtaining the necessary materials, assembling unit members at the scheduled time, distributing the materials to respondents, providing instructions from a prepared script, and collecting materials at the conclusion of the survey. Because the questionnaires were reusable, the plan was adopted that HRM/EO would store these materials and log them out to commanders on a pre-arranged schedule. Upon completion of the survey for a given unit, the materials would be returned to HRM/EO for distribution to other units.

Another area of deviation from the model was in the conversion of survey results to punchcard form. Originally, it was planned that this function would be performed either by the Test Control Officer, the OESO or some element of the ADP system locally. The assumption was that the TCO would have access to optical mark reader equipment for scoring standardized MOS tests, the OESO would have such equipment for scoring the GOQ,

and/or the SIDPERS or MISO would have responsibility for this equipment in its status as ADP equipment. Unfortunately, there seems to be no uniformity from one location to another with regard to the availability of OMR equipment or the expertise required to use it for its intended purpose where it is available. It seems to be true that, in many places, OMR equipment is in disuse or disrepair. An additional complicating factor is that not all OMR equipment is compatible, that is, certain types of mark-sense answer sheets are readable on some machines but not others.

The situation at Hunter/Stewart at the time of the pilot test was that equipment was available, but that there was a lack of trained personnel available to handle the volume of work envisioned as emanating from the TDAS. The plan which was adopted called for certain members of the HRM/EO staff to be trained in the use of the available equipment and to be responsible for that aspect of data reduction.

The final plan for management of the TDAS at Fort Stewart, as described to commanders during the training sessions, can be summarized in the following sequent of activities.

1. The unit commander selects a date (or dates) for a survey of unit members.
2. The commander acquires survey materials, i.e., questionnaires, answer sheets, instructions and pencils, from Division HRM/EO.
3. The commander administers the unit survey as scheduled, and returns the survey materials, including completed answer sheets, to HRM/EO.
4. HRM/EO converts answer sheets to punchcards using available OMR hardware.
5. Punchcards are forwarded to MISO where the survey analysis program is implemented, feedback reports produced, and unit data stored for aggregation at battalion, brigade and division levels.
6. Unit and aggregate reports are forwarded to HRM/EO for distribution to commanders.
7. HRM/EO informs each commander whenever his or her feedback report is available for pickup.

8. The commander picks up his or her report and does whatever he/she thinks is necessary to analyze and interpret results.
9. The commander designates a responsible officer or NCO to design a unit training program.
10. The commander may or may not call upon HRM/EO for assistance in interpretation of survey results, or in design or implementation of unit EO training.
11. Unit EO training is conducted.
12. The cycle is repeated.

Results of the Hunter/Stewart Field Test

Numerous problems arose in the course of the field test at Hunter/Stewart. The most serious of these problems are described below.

Problems in Survey Administration

By far the most pervasive and disruptive problems encountered in this field test resulted from the manner in which survey administration was handled. This phase of system implementation had adverse effects on virtually every other aspect of system functioning.

Scheduling of surveys was a particular problem, for a number of reasons. Many commanders were anxious to have the survey conducted in their units, so that soliciting commander cooperation was not an immediate problem. What was a problem was that most units could not be surveyed in a single session; as a result, multiple sessions were required, often over a considerable period of time, up to several weeks in some cases. Since the number of questionnaires available was only sufficient to serve about one-fourth of the division's company-size units at one time, the delays which were experienced when commanders retained the questionnaires for several weeks and/or failed to return them in a timely manner upon completion of the survey had the effect of **greatly** elongating the time period required to survey the entire division. What had been planned to take no more than eight to ten weeks ultimately spread out through nine months.

There were several other factors which contributed to this, among them the fact that some commanders actively avoided scheduling their unit surveys for long periods of time.

Administration of the questionnaires as a separate element of the data collection process also raised some difficulties. Because each commander was given full responsibility for the manner in which the unit survey was conducted, there was a great deal of variability in methods employed. Some commanders complied fully with both the letter and the spirit of the recommended survey administration procedures. They were conscientious in scheduling all unit members to be surveyed, in scheduling the survey sessions at convenient times for unit members to attend, in selecting adequate facilities in which to complete the questionnaire, in providing explicit instructions as per the script provided by HRM/EO, and in appearing personally at each session to stress the level of support being given the effort.

In stark contrast, other commanders failed on at least one, usually more, and often all of those dimensions. Surveys were scheduled at the end of duty hours or during meals; some units completed questionnaires while sitting in outdoor bleachers with no writing surface or at their work locations, including the motor pool. Many were given no instruction or briefing. Many units were severely underrepresented in the surveys. Some commanders *delegated* all the responsibilities for surveying to low-ranking enlisted personnel and gave no overt indication of command support for the program. And in a few instances, the answer sheets showed evidence that one or two people from the unit may have been delegated to complete a specific number of answer sheets, in order to "satisfy the requirement."

Problems of Data Quality

For these reasons and others, much of the data obtained were of questionable value. Even in instances where proper procedure had been followed in administering the surveys, the condition of the answer sheets when returned to HRM/EO severely limited the utility of results. Problems ranged from entire units showing the exact same pattern of response, to answer sheets being returned in damaged condition unsuitable for scanning by the OMR equipment, to inadvertent extraneous pencil marks on the sheets, to deliberate attempts by individuals familiar with OMR procedures to place marks in the margins of the answer sheet which would invalidate the scanning mask's accuracy.

Added to these problems of low quality data input were difficulties created in the scanning process itself which resulted from a combination of unreliable equipment and inexperienced operators.

To counteract some of the less deliberate factors which lowered data quality, HRM/EO instituted a sanitizing procedure prior to submission of answer sheets for scanning. This consisted of a visual check for obviously "doctored" answer sheets, e.g., those with all items answered with the same response or with a repeated 1-2-3 pattern, etc. Once those had been removed, the remainder were cleaned of extraneous pencil marks, marginal comments, and other marks, smudges and dirt. Even after this process was completed, however, the condition of the answer sheets, including tears, folds and bent edges, sometimes resulted in up to 75 percent of a given unit's data being rejected by the equipment.

At this point, midway in the initial survey cycle, local HRM/EO personnel decided to abandon machine scoring of the answer sheets. Instead, a new answer sheet was designed in which the respondent wrote the number of his or her chosen response in a box, numbered to correspond to a specific questionnaire item. These data were reduced to punchcard form by means of the keypunch process. This resulted in a vast improvement in the quality of data which ultimately got tabulated. Nonetheless, the initial round of surveys produced only about 55 percent usable data per unit, on the average.

Problems in Data Analysis

It was mentioned earlier that the preparation of a computer program for analyzing TDAS results was a much more extensive task than originally anticipated. The fixed time schedule for starting the field test, combined with that situation, created what amounted to crisis conditions for writing the program. As a consequence of this time pressure, there was no opportunity to do a complete pilot run of the analysis program before its installation on the ADP equipment at Hunter/Stewart. This, and other factors, resulted in numerous bugs remaining in the program, no one of which in itself was of major consequence, but which, cumulatively, created considerable delay in producing the first feedback reports and may have had the effect of lowering commander credence concerning the total TDAS system, to some extent.

The problems encountered were varied in nature. Early on, it was recognized that some program adjustments would have to be made simply to accommodate differences in the architecture of the ADP systems on which the program was developed compared to that on which it was mounted for the field test. This necessitated a visit to Fort Stewart by an ARI programmer to make the necessary adaptations. Meanwhile, the data processing task for Fort Stewart was "farmed out" to Fort Rucker, another of the field test sites where the same problem did not exist.

A second problem had to do with the requirements for core space generated by the TDAS program. Because that program required 140K bytes of memory, as compared to the 130K byte limit imposed on most programs run on the Fort Stewart ADP system, the TDAS was consistently assigned a very low priority. Considerable delays resulted, and the promise of a two-week turnaround time from survey to feedback report was impossible to satisfy.

Other difficulties associated with the analysis program included:

1. The "key item" data in the feedback reports were based on the wrong questions, and had to be disregarded.
2. The rank-ordering of the race and sex scales was erroneous and also had to be disregarded.
3. The groupings of unit members by rank were labeled incorrectly.
4. In describing the composition of the unit samples, any number in excess of 99 was printed out as an astrisk.

Additional shortcomings of the program, not the direct result of program errors included: the absence of any definition of the scales in the feedback report, necessitating constant referring back and forth between the report and the User's Manual. and the absence of complete restatement of the question in association with the responses.

All of the major problems identified here have been solved, and subsequent versions of the feedback reports are more in line with initial expectations. Nonetheless, there was a problem of credibility and of commander faith in the system during the early part of the Stewart/Hunter field test. Fortunately, subsequent improvements in all aspects of the TDAS have served to remove that negative image.

Problems in Interpreting Results

Some of the problems mentioned immediately above in relation to the feedback reports had obvious dampening effects on the utility of survey results to the commander. The system was designed to provide a report which flows in a logical manner from general to specific levels of information, performing as much analysis and priority-setting as possible without human intervention so as to simplify the commander's task in interpreting results. The fact that the most general level of information, the "key items" on race and sex discrimination, was unusable, as was the priority ranking of problem areas, effectively defeated the logic of the report.

Added to this is the fact that the vast majority of Army personnel at company command level have had absolutely no exposure to the use and interpretation of survey data in regard to "people problems." This combination of conditions resulted in a situation where unit commanders who were seriously interested in getting the most out of the TDAS were virtually forced into seeking guidance and advice from EO staff specialists. These EO staff specialists, however, despite the fact that each was school-trained in EO matters and in advising commanders concerning EO, were not fully prepared to undertake the analysis of the survey results. This was not part of the training they had received in preparing for MOS OOU. And yet, preparations for the field test did not pay adequate attention to providing training in that area to staff members who would be assigned to work with commanders. All staff had been briefed on the system, and those responsible for assisting unit commanders had attended the commander training. Yet none had been given specific training or guidance over and above that level.

It is fortunate, nevertheless, that those charged with the responsibility of filling commander requests for this type of assistance were experienced in their field of specialization, and were sensitive to both the needs of commanders and the advantages and limitations of survey data. They did, however, lack specific experience in determining what constitutes a "serious," "very serious," or "not so serious" problem on the basis of survey data. With some experience during the field test, however, that skill was developed. The application of survey results to the design of some course of problem-solving action was an area of specialization of the staff members assigned, so that this was a definite plus for the system.

As a result of the initial survey cycle, 69 unit commanders requested assistance from HRM/EO, or approximately 60 percent of the units involved in the field test. This, in itself, was a tremendous burden on the EO staff, requiring virtually full-time effort from the Operations Section of HRM/EO, consisting of three senior NCOs. With experience in using the TDAS and with the alleviation of problems in other areas such as turnaround time and scheduling of unit surveys, subsequent cycles of survey administration at Stewart/Hunter have resulted in tremendous increases in efficiency, to the extent that the second cycle led to 92 requests for advice and the third and most recent cycle resulted in 198 separate requests for assistance, all of which were accommodated by HRM/EO, and in a shorter time frame than in the first cycle.

It must be stated that the HRM/EO staff performed extremely well under very adverse circumstances in the initial cycle. They were the people who had to sit, face-to-face with unit commanders in implementing the system. Most of these commanders were, at best, passively acceptant of the TDAS; some were openly hostile. Because the HRM/EO staff were the only visible point of contact between the commander and the system, staff members often were blamed, directly or indirectly, for faults in the system which were totally beyond their control. They are to be greatly commended for their patience in handling the total situation.

Summary of Fort Stewart/ Hunter Army Air Field Field Test

From an administrative point of view, the initial survey cycle and subsequent cycles of the field test at Stewart/Hunter served well the objective of surfacing and developing solutions to problems encountered in implementing the TDAS. The TDAS suffered from numerous problems, as described above, some specific to Stewart/Hunter and some inherent in the system's design. By the end of the second cycle most of the problems, and all of the major ones, had been resolved satisfactorily, and by the end of the third cycle both efficiency and utilization of results of the system had improved greatly, thanks to the efforts of the HRM/EO staff.

CHAPTER VI

The Fort Rucker Field Test

At the same time that the field test was being implemented at Fort Stewart and Hunter Army Air Field, a similar test was underway at the U.S. Army Aviation Center and Fort Rucker (AL). Fort Rucker was considered to be an ideal choice for a second field test because it is a training installation and would be likely to pose a set of conditions and problems different from those likely to arise at Fort Stewart, a Forces Command installation. The commanding general of Fort Rucker represented by the Human Relations Division, which includes both Organizational Effectiveness and Equal Opportunity activities under the office of the DPCA, volunteered to participate in the field test.

Field Test Conditions

The field test was implemented at Fort Rucker in a manner virtually identical to that described for Fort Stewart, with the exception that the commander training was all of the one-day type. The Version D questionnaire was used as the survey vehicle, the GOQ answer sheet was employed with optical scanning as the conversion method. The TDAS analysis program was used for production of commander feedback reports.

The pilot test of the training program held at the Presidio of Monterey in March 1978 was attended by an officer on the staff of the HRD, one who had attended the Organizational Effectiveness Training Course at Fort Ord, but was not a graduate of DRRI. He, in turn, transported the program to Fort Rucker and provided training in the use of the TDAS for several NCOs in HRD. One of these, a staff sergeant who was a DRRI graduate, became the main point of contact for the field test within HRD.

As was the case at Fort Stewart, some deviations in administering and managing the TDAS were made for the Fort Rucker field test to accommodate local conditions. The deviations which were initiated here were quite similar to those described as pertaining to the Fort Stewart test. These included allocating central control of the system to the EO/OE operation within HRD, rather than to the training family (DPT). Neither was the

Test Control Office involved in the field test. Data processing was accomplished by the MISO, with support from keypunch personnel in the SIDPERS section of the Adjutant General Division. Somewhat closer control was exercised over survey administration in the Fort Rucker field test than was true at Fort Stewart because scheduling and administration were performed by HRD personnel rather than by unit commanders.

Field test conditions at Fort Rucker differed in one other important respect from those at Fort Stewart by virtue of the different missions and organizational structures prevailing at the two locations. Fort Stewart/Hunter Army Air Field had a relatively standard TO&E structure, with a few tenant units in addition. The TD&A structure of Fort Rucker, whose mission surrounds the Aviation Center and School, provided a much less clearly defined set of integral organizations to be surveyed. The major question which had to be answered concerning the conduct of surveys and the distribution of feedback reports was: In reality, what constitutes a "work group" as an organizational entity? In a TD&A unit, what is the conceptual equivalent of a "company-size unit" and who is the "company commander"?

These questions become especially important when one considers the intended confidentiality of results. Every effort must be made to identify working groups who have a common supervisor who is responsible for the EO unit training received by the unit members, but which have sufficient numbers of unit members to make a survey such as the TDAS both worthwhile and valid. There were units at Fort Rucker which, as an example, though part of the First Aviation Brigade served essentially the function of a headquarters company for the installation staff structure. While the commanders of such units were tasked with responsibility for insuring that EO unit training was conducted, their daily contact with certain unit members was minimal, and in some cases non-existent. Several layers of supervisory personnel intervened between commanders and unit members in some cases, and to report survey results from some of the smallest work units back to the company commander would have effectively defeated the purpose of the survey.

The course of action selected to deal with this problem involved identifying each sub-unit of the total organization with at least 20 assigned members. No feedback report would be prepared for any group smaller than this. Groups of 20 or more members were given unit codes which identified all major intervening echelons of command up to the

overall company level. The EO/OE staff then worked with unit commanders to determine the most appropriate level of aggregation of survey data so that the feedback report would go to the officer or civilian supervisor best able to respond to the TDAS results in the form of remedial action. The considerable time and effort invested in this activity by the HRD staff appears to have been well worthwhile.

Field Test Results

For reasons having mostly to do with the sheer size of the respective posts and the types of administrative procedures employed, fewer problems related to survey administration were encountered at Fort Rucker than had occurred at Fort Stewart. Because the number of total units to be surveyed was relatively small and because delays in administering the surveys were minimized by retaining overall coordination of the system within HRD, the total survey process was accomplished at Fort Rucker within approximately a three-month period.

Data quality problems were also minimal because of the screening/editing procedures employed at Fort Rucker. First, because HRD personnel administered the surveys, they were able to maintain some control over the condition of answer sheets. Secondly, a procedure for successive screening of answer sheets was developed so that those which were scorable on the first pass through the OMR were then removed. This constituted a relatively high percentage (ranging from 60 to 90%) due to the quality control exercised during survey administration. The remainder were then cleaned up as needed and re-submitted.

There were other problems of data quality, however, related to unit members' approach to the survey and/or to the conditions under which the survey was administered. Once again, certain units were scheduled for surveying after regular duty hours. Some surveys took place in less-than-ideal conditions, such as severely overcrowded classrooms. In one case, an entire battalion was told to report to a particular classroom at a specified time, then the survey was conducted among only the number who could be seated in the classroom, while the others waited outside. Some soldiers waited as long as 90 minutes before being surveyed. In a few cases, due to extraordinary circumstances, company commanders did administer the surveys themselves, and there is no telling what data quality problems might have arisen from that procedure. It is known that some classes made up

of officers were allowed to take their surveys home to complete them, but this, in itself, is not necessarily likely to influence data quality negatively and might even have had a positive effect.

Data processing problems encountered were not serious ones. Local ADP specialists from MISO and SIDPERS operations worked effectively to install and implement the TDAS program. This was the only one of the three field test locations where no major ADP-related problems were encountered. This is attributed to the fact that Fort Rucker has a larger and more advanced ADP arrangement than do the other sites. In fact, it was even possible for Fort Rucker to provide backup support to Fort Stewart in the production of feedback reports while the Fort Stewart version of the TDAS program was still being debugged. Average turnaround time from submission of data to receipt of a feedback report was reported to be about three days, which considerably enhanced HRD's ability to meet the two-week criterion promised the unit commanders.

The problems mentioned earlier as inherent to the program package itself were, of course, present at Fort Rucker. These difficulties (incorrect "key item" results, incorrect rank-ordering of scales, etc.) once again contributed to the lack of credence placed by commanders in the system on that initial round of surveys.

The overall acceptance of the system was reported as high. However, as late as two months into the survey cycle, no commander had requested HRD assistance in interpreting and using the survey results. Interviews conducted with a sample of commanders revealed that this was because there were "no big surprises" or serious problems uncovered by the surveys.

Another set of complicating factors, however, resulted from the fact that other EO survey activities were going on in slightly different, but highly related areas at the same time as the TDAS field test. The other surveys were often followed by formal feedback sessions wherein some interpretation of findings was provided by an outside consultant. There is evidence that some unit commanders confused the two surveys and felt no need for further consultation. Still others apparently felt "over-surveyed," resulting in their not wishing to devote additional time to analysis of the TDAS. A poll of unit commanders by HRD staff, in fact, resulted in the determination that most commanders felt their units

had invested more than enough time in EO surveys during the initial TDAS field testing period. Therefore, a second cycle of TDAS administration was not undertaken at Fort Rucker, in the interests of maintaining goodwill between commanders and HRD.

Overall, the Fort Rucker field test of the TDAS appears to have been a very successful experience. Most procedures operated smoothly. Commanders generally accepted the survey idea readily, found few problems, and, when some area of shortcoming in EO was noted (e.g., lack of knowledge of Army EO policy on the part of unit members, the most frequently noted problem area), remedial action was taken.

CHAPTER VII

The Fort Carson Field Test

The third field test of the TDAS took place at Fort Carson (CO) within one brigade of the 4th Infantry Division (Mechanized). In all, eleven companies within that brigade participated in the test. Coordination of the field test at Fort Carson was under the auspices of the Human Resources Office, EO Division. Organizational Effectiveness (OE) activities were also housed as a separate division within this office.

Field Test Conditions

Although the scope of the field test at Fort Carson was more limited than at the other test sites, being confined to a single brigade, conditions were otherwise very similar. An orientation and training program was provided on site for members of the HRO staff who would be involved in the field test as well as for primary- and additional-duty EO staff members within the brigade. Three separate one-day training sessions were also conducted for commanders and designated points of contact from the participating units.

The administrative and management component of the TDAS took a slightly different form at this location than at the other two in that the Human Resources Office had, as an integral component, an Organizational Diagnostic Division, whose mission was the use of surveys to obtain data about unit EO and other organizational conditions. The responsibilities for managing the various components of the TDAS were distributed as follows:

- **Survey Scheduling:**
 - Brigade Operations NCO (E-8)
 - Chief, EO Division, HRO
- **Survey Administration**
 - Chief, EO Division, HRO
- **Processing of Answer Sheets**
 - Survey NCO (E-7), Organizational Diagnostic Division/HRO

- Computer Analysis
 - Survey NCO (E-7), Organizational Diagnostic Division/HRO
- Delivery of Feedback Reports to Commanders
 - Operations NCO (E-6), EO Division, HRO
- Primary Point of Contact for EO Consultation
 - Operations NCO (E-6), EO Division, HRO

Questionnaires, answer sheets and analysis program were all identical to those at the other field test locations.

Field Test Results

The nature of the problems which surfaced during the Fort Carson field test generally paralleled those at the other two locations, but some comment is necessary concerning some differences in the results.

In terms of survey scheduling, it was possible to survey all eleven units within a two-week period following initiation of the field test. This caused some problem for commanders of headquarters units in that their personnel were so scattered, physically, as to require numerous sessions. In a few instances, as a result, as few as 20 percent of unit members appeared for survey sessions. The overall average participation rate by unit was about 60 percent, with one unit reporting 90 percent responding. Most units were surveyed in appropriate facilities, although at least one company's members completed the questionnaire in a damp, drafty and poorly lighted theater.

There was little overt and visible command support for the survey procedure, as evidenced by the fact that most unit commanders did not make an appearance at the survey sessions, as well as by the relatively low rate of participation in some units. Nevertheless, when interviewed, most unit commanders agreed that the survey approach to EO diagnosis was helpful to them and, if employed on a regular schedule, would be minimally disruptive.

Data quality suffered from the factors mentioned earlier, i.e., low rate of participation in some units, poorly cared-for answer sheets, and lack of experienced personnel to operate the scanning equipment. In addition, there was concern that the questionnaire

might be too complex for many enlisted personnel to answer in a meaningful way. Respondent attitudes may have had a negative effect on survey results, since several commanders reported the "oh, no, not another survey" reaction to the field test.

Data processing problems were rather extreme at this location, for administrative reasons. Success in implementing the TDAS analysis program was never achieved. Analysis was performed for Fort Carson by the ARI Field Unit at the Presidio of Monterey. The reasons for this was reported to be the low priority assigned the TDAS in the MISO schedule, with the result that the program was never run as planned.

Perhaps the most serious difficulty encountered at this site had to do with factors surrounding turnaround time. Several such factors prevailed, of which the necessity to farm-out the data processing was a major one. In addition, however, the decision was made at HRO that each feedback report would be reviewed by EO Division, and a brief summary prepared before results were forwarded to unit commanders. This not only required considerable time to accomplish, since only one staff officer was available for that task, but it also violated the confidentiality promised to commanders during training. This seems to have caused major consternation on the part of at least one commander. However, it did not seem to detract from the overall level of acceptance of the system among commanders.

Most of those interviewed had not sought HRO/EO staff help in designing training, but reported that they felt such assistance would have been immediately forthcoming if requested. Some few commanders reported having directed that training sessions be designed around the survey results. Knowledge of EO policy and off-post discrimination were the specific areas of concern that were mentioned.

Thus, despite the usual administrative problems, the TDAS was generally viewed as a potentially useful tool for commanders in managing their units' EO programs, although overt evidence of command support for the TDAS was notably lacking at all levels. Here again, passive acceptance of the system was the most frequent response by commanders.

CHAPTER VIII

Conclusions and Recommendations

The results of the field test of the TDAS are summarized below, followed by some conclusions which can reasonably be drawn on the basis of those results. Finally, a set of recommendations for future development of the TDAS is provided.

Summary of Field Test Results

The three-site field test surfaced a number of problems in the implementation of the TDAS which were common to all the locations and some which were unique to specific locations. All such problems identified are amenable to prevention and/or solution with further development of the system. The findings and results of the field test are summarized below in terms of administration and management of the system, data collection, data analysis and feedback, and data utilization.

System Administration and Management

In a very real sense, the field test reported here was not a true test of the system *as designed*, because each location included some modifications in the assignment of system functions and responsibilities which deviated from the basic system description originally developed. Nevertheless, one provision of the system was to allow for such local deviations. The difficulty is, however, that the system was designed to integrate the TDAS into routine, ongoing activities in appropriate areas outside the EO operation as well as within. The extent to which this was accomplished was minimal in that, in all three field test locations, the TDAS was viewed and administered as an EO function. Members of the training family of staff offices were not included in the system, and the Test Control Office was not included. Organizational Effectiveness staff members did become involved, centrally at Fort Rucker and peripherally at Forts Stewart and Carson, even though all indications from field interviews in the early stages of system design were that OE participation was neither necessary nor desired.

What the field test did illustrate in this regard is that the system is flexible enough to be administered in more than one fashion, and can be readily adapted to the local philosophy of EO program management, i.e., whether or not EO is a separate or an integrated program.

Data Collection Activities

Interacting with the local assignment of system functions and responsibilities is the matter of data collection methods and procedures. The field test experience demonstrated unequivocally that centralized control over scheduling and administration of unit surveys is far superior in efficiency to any procedure whereby unit commanders act autonomously.

In terms of scheduling of unit surveys for maximum participation by unit members in the least disruptive, most efficient and timely manner, the procedure in which a master schedule, coordinated by a central office (EO or other), is employed appears to produce the best results. In effect, it is easier for such a central coordinating body to organize a number of disparate requests on a proactive basis rather than to react to a number of demands. The coordinator, working through the appropriate brigade/battalion/company staff function can schedule survey sessions more efficiently than it can perform when attempting to satisfy numerous, autonomous demands from individual companies.

Such a method also allows for the selection and reservation of appropriate facilities for the survey administration. A full-time coordinator with knowledge of the nature of facilities needed and reasons why certain criteria must be met (e.g., lighting, writing surfaces, cleanliness, heat/air conditioning, etc.) is more likely to find adequate facilities than is a unit commander, or, more likely, an NCO, who does not have that knowledge.

Administration of the survey has been found to benefit from such factors as commander presence at the survey sessions (not to "take names" but to emphasize command support for an important element of unit management), and a clear, concise set of standardized instructions presented by a knowledgeable individual rather than a naive person who is obviously reading a script for the first time. Both factors can be effective in increasing

the quality of unit member responses to the survey. In terms of data quantity, i.e., proportion of unit members who participate, it is obvious from the field test that this can vary greatly from one organization to another. Again, command attention to and support of the TDAS is a great asset in increasing the rate of participation.

Data Analysis

Problems relating more or less directly to the reduction and machine processing of survey data were the most prevalent, and in some ways the most serious, of the difficulties surfaced by the field test.

First, data reduction. The use of optical mark reader answer sheets and hardware presented serious difficulties. Equipment, though available, was not reliable, or at least did not function reliably in the hands of inexperienced, self-trained users. In addition, the less-than-ideal conditions under which the unit surveys were administered often led to a considerable loss of data by virtue of the answer sheets being too damaged or soiled to be scanned accurately. Staff efforts to clean and edit the answer sheets prior to scanning were successful in two locations, but unsuccessful in the third. Even where successful, it was very time consuming, and it is suspected that some data loss still occurred. In the case of Fort Stewart, the OMR approach was abandoned completely in favor of keypunching.

The specific problems encountered within the data analysis program have been described. These were remediable, however, and have subsequently been corrected. Certain other difficulties are less easily corrected. The difficulties in transporting the program from one location to another, a function primarily of variations in ADP system architecture, deserves careful attention, for example. It is also necessary that the matter of assigning a reasonable priority to the processing of TDAS data be attended to if the desire for quick turnaround time is to be fulfilled.

Feedback and Data Utilization

In every case, every unit commander who participated in the TDAS field test was provided with a feedback report, and in many cases it was reported that EO unit training sessions were developed around identified problem areas. Sometimes this was accomplished

with the assistance of EO staff and sometimes without such help. No commander who was interviewed at any of the three field test sites complained of lack of responsiveness on the part of EO staff, or anticipated anything of that nature. On the contrary, it was more likely that EO staff would complain about the relatively small number of commander requests for assistance. The Fort Stewart experience shows, however, that with increased experience in using the TDAS and increased quality of the system as well as increased efficiency on the part of its implementors, commanders become more willing and more likely to ask for EO staff assistance. One might infer from this that the implicit threat initially represented by the TDAS did not materialize, commanders found they had less to fear than they had anticipated, and became more comfortable with the system as a result of routine use.

The issue of confidentiality, which had been the most serious bone of contention among commanders in their anticipatory reactions to the TDAS was found to be an actual problem in only one documented instance. Here again, experience with the system has verified that the TDAS report will not go "to the wrong people." This, coupled with the finding that the survey's results (so far as can be determined) showed relatively few and minor problems, has helped enhance commander credence in and acceptability of the system. Even in the case where reports were prepared for commanders without their requesting them, no widespread feeling of confidentiality having been violated was expressed.

There was some difficulty on the part of EO staff who were called upon for consultation in producing clear-cut interpretations of survey results. Several factors are involved here. One major factor is lack of EO staff experience in the interpretation of survey results and other quantified representations of group perceptions. To add to this, the TDAS was a new instrument and only the rare person had had the opportunity and/or initiative to study it in depth. Another complicating factor is, of course, that certain centrally important portions of the feedback reports were invalidated by problems in the analysis program. In addition, the decided absence of any extreme findings within any one unit makes the problem of interpreting results that much more difficult, especially to what is, at the present time, a "paraprofessional" social scientist.

Conclusions Drawn from the Field Test

What conclusions can be drawn from these results? Above all, it appears that the TDAS as a management tool will be used by unit commanders, albeit with little more than an attitude of passive acceptance rather than active support. Increasing experience with the system will undoubtedly strengthen its acceptance as its value is recognized and as fears related to the possibility of the system's being biased in the direction of identifying problems where none exist and fears related to concerns over confidentiality are allayed. The TDAS has proven to be, in fact, a tool which commanders can take as far as they desire, without feeling it is being "crammed down their throats."

At the same time, EO staff who were intimately involved with the field test expressed no reservations about their roles in it. It does give them a concrete, routine, and recurring basis for talking with commanders, which many of them have been searching for in recent years. It also takes some of the onus off of them which goes along with the image of being "troublemakers." The TDAS gives a very objective, quantified approach to problem diagnosis, and helps remove the aura of the EO specialist as one who must invent or exaggerate problems in order to justify his job or satisfy his own ego requirements.

The most frequently-voiced fear of EO staff members prior to system implementation was that they would suddenly be deluged with commander requests for assistance and would be unable to fill the demand. This did not happen in any of the three field test locations. There are, however, problems of scale. The number of staff members assigned to the TDAS field test at Fort Stewart, the largest of the three test sites, was much larger than at the others. During the initial survey cycle, several staff members at Fort Stewart were occupied virtually full time in administering the system, even though they were simply coordinating and not personally conducting surveys. Experience gained during the ensuing cycles led to much greater efficiency, however. The advantage of the TDAS as designed (rather than as implemented) is that such routine matters as scheduling, survey administration, logging answer sheets, and scoring of responses are not placed with the EO staff, but with organizations whose mission corresponds with those functions. The EO staff, under those conditions, need only provide expert consultation to commanders, as specified in AR 600-21.

Regardless of which staff agency is responsible for the routine coordination, administration and management of the TDAS, however, it has been shown that centralization at installation level is far superior in efficiency to allowing each small unit commander to implement the system in an autonomous fashion. But it is essential that unit commanders show an overt form of support for the TDAS if it is to be used successfully. Such support should be in the form of assurance of maximum participation rates in the units and presence at survey sessions to emphasize their personal commitment.

Some few commanders at each test site did call for EO staff consultation in utilizing the survey results. Others reported using those results for productive purposes without EO staff assistance. We would conclude, then, that the system can be of value to unit commanders in implementing their unit EO training responsibilities.

The numerous technical problems involved in the analysis and feedback of survey results must, obviously, be attended to, and many already have been as a result of the field test reported here. The question of the efficiency of optical scanning as a response and data reduction mechanism is still unresolved. In two locations that method worked reasonably well, in the third it was abandoned completely in favor of keypunch. Here again, local option, based on availability of equipment and experienced operators, appears to be the most workable approach.

Also, it is obvious that, if the TDAS is to work effectively, the transportability of the analysis program from one ADP system to another must be improved. In addition, some mechanism for assuring a reasonable operating priority for the TDAS among the numerous jobs performed in the typical MISO would be desirable. The survey schedule must be coordinated in some way with the ADP schedule so that the TDAS does not impact at the same time as payroll, inventory, maintenance reports and other long-established high-priority functions of ADP. Also, maximum efficiency is achieved when analysis runs for numerous units are done at one time rather than on a piecemeal basis. The submission of all data for a single battalion, even a brigade, at one time would maximize the efficiency of processing. All of these are matters which can be suggested as local procedures but cannot necessarily be mandated and enforced from higher-up, outside the installation.

Finally, we must note once again the matter of confidentiality of survey results which, though anticipated as a major drawback to the acceptance of the TDAS resulted in only one problem of significant proportions. Confidentiality is desired, and it appears that confidentiality can and will be maintained, for the most part, even without a mandate by regulation as exists for OE activities.

Recommendations

The following recommendations are made concerning the future development of the TDAS, based on the results of the field test.

It is recommended that:

1. the TDAS be further tested and refined in other contexts, other locations, and on a broader scale, e.g., a major command;
2. the system, when implemented, be integrated into the routine functions of Army organizations as originally designed (see page 33); however;
3. there should still be flexibility in the system for its adaptation *to local conditions*;
4. the system should be implemented at any particular location on a systematic, planned basis to include:
 - a. installation and testing of the analysis program, using pre-packaged test data, until all bugs have been removed prior to the first cycle;
 - b. extensive briefing of all local EO staff members, both primary and additional duty, with a workshop on survey interpretation; and
 - c. a training program for unit commanders (company up to brigade), much like that employed in the field test.
5. all those having system responsibilities be gathered at one time for a briefing and question-and-answer session so that all are clear on system operations;

6. provision be made for keeping longitudinal records of prior surveys within the unit's archives;
7. provision be made for briefing new commanders on the TDAS as turnover occurs;
8. the feedback report format be designed to include the following features:
 - a. each time data for a specific item are presented, the corresponding questionnaire item number and the entire text of the item be printed out on the report; this would reduce the need for the commander to go back and forth between report and questionnaire;
 - b. the response alternatives be labelled for each item over the columns where data are presented, this also will reduce the need to read the report and the questionnaire simultaneously;
 - c. unnecessary data be suppressed, such as:
 - the sixth response column where only five alternatives are used;
 - data columns for men and women where no women are assigned to the unit;
 - answers to questions about "women in this unit" where no women are assigned to the unit;
 - key item data on sexism where no such data are available;
 - d. data for all warrant and commissioned officers be combined in a single category;
 - e. more space be provided between rows of figures so that it is easier to follow a particular row across all alternatives, and that the respondent subgroups be more clearly separated for the purpose of comparison (see attached example);
 - f. the label on the column for the group-item mean score for individual items be changed from "MEAN NUMBER" to "ITEM AVERAGE";
 - g. data for key items on race not be presented for the men-women subgroups, and key item data for sex not be presented for the race subgroups;

APPENDIX A
Version D Questionnaire (Field Test)

Nº 5165

UNIT EQUAL OPPORTUNITY SURVEY

The purpose of this survey is to allow each member of your unit to tell what he or she thinks about race relations and equal opportunity conditions in the unit. This will allow the commander to take some action to solve any serious problems that are reported by unit members.

Please answer the questions carefully and honestly. If you don't have any complaints and don't know of any equal opportunity problems in the unit, that's great. But if you do see problems, this is a good way to let your commander know about them.

You don't have to put your name or any other identifying information on your answer sheet. This way, no one will know how you, as an individual, answered the questions. Of course, your participation is voluntary. You are asked to give complete and accurate information, but if there is any question you don't want to answer, you don't have to answer it, and no action will be taken against you.

Now, please turn the page and read the instructions carefully.

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TECHNICAL DIRECTOR, ARMY RESEARCH INSTITUTE
FOR THE BEHAVIORAL AND SOCIAL SCIENCES
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PERSONNEL
DEPARTMENT OF THE ARMY

PT 5177A (D)

DATA REQUIRED BY THE PRIVACY ACT OF 1974

(5 U.S.C. 552a)

TITLE OF FORM PT 5177A Questionnaire on Race Relations and Equal Opportunity		PRESCRIBING DIRECTIVE
1. AUTHORITY 10 USC Sec 4503		
2. PRINCIPAL PURPOSE(S) The data collected with the attached form, whether in writing or through interviews, are to be used for research purposes only.		
3. ROUTINE USES This is an experimental personnel data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. Data collected in this research are not being identified with specific individuals; that is, there will be no way of matching the information you provide with your name or any other means of identification.		
4. MANDATORY OR VOLUNTARY DISCLOSURE AND EFFECT ON INDIVIDUAL NOT PROVIDING INFORMATION Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research, but there will be no effect on individuals of not providing all or any part of the information.		

FORM Privacy Act Statement - 26 Sep 75

DA Form 4368-R, 1 May 75

INSTRUCTIONS

DO NOT MAKE ANY MARKS IN THE QUESTIONNAIRE. You have been given a separate answer sheet. Answer each question by filling in the space on the answer sheet that comes *closest* to telling how you feel or how you see things. For example, in the questionnaire will be a question or statement such as:

164. I like the food served in the dining facility.

To show how you feel about this statement, you would find the column on your answer sheet for Item 164. You would choose from the "possible answers" given for that question (or section):

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

and fill in the space on the answer sheet. For the item in the example, if you "Strongly Agree" with the statement, you would fill in the space numbered 1 in that column, as shown below.

Item No. 

When you are given the signal to begin, go ahead and answer each question in this way.

For each statement, blacken the space on the *answer sheet* that tells how you feel, or how you see things.

1. In general, race relations in my company/troop/battery are:

- 1 = Very good.
- 2 = Good.
- 3 = Neither good nor bad.
- 4 = Bad.
- 5 = Very bad.

2. Since I joined this unit, in general, race relations:

- 1 = have been getting better.
- 2 = have not changed.
- 3 = have been getting worse.

3. In general, race relations at this post outside of my company are:

- 1 = Very good.
- 2 = Good.
- 3 = Neither good nor bad.
- 4 = Bad.
- 5 = Very bad.

4. During the past six months, do you feel you have been discriminated against because of your race, ethnic group, or national origin by someone in your unit's chain of command?

- 1 = Definitely yes.
- 2 = I think I have, but I'm not sure.
- 3 = Definitely no.

NOW CHECK YOUR ANSWER SHEET TO BE SURE THAT THE NEXT EMPTY SPACE IS FOR ITEM 5. Now go on to the next page.

Mark the box on the answer sheet which tells how much you agree or disagree with each of the following statements. The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

MINORITY PERSONNEL IN THIS UNIT:

- 5. get their complaints handled faster than whites.
- 6. get promoted ahead of white soldiers, even when the white soldier is better qualified.
- 7. get away with breaking rules about appearance, for example, being out of uniform, having long hair, etc.
- 8. are given better opportunities for technical training than whites.
- 9. don't do their share of the work.
- 10. get worse punishment than whites for the same offense.
- 11. get easier or better details and assignments than whites.
- 12. don't show proper respect to white officers and NCO's.
- 13. say insulting things about the music, food, or clothing that white soldiers like.
- 14. use words like "honky" and "gringo" when talking about whites.
- 15. tell insulting jokes about whites.
- 16. display such things as Black Liberation flags, revolutionary posters, and other symbols that are offensive to many whites.

ON YOUR ANSWER SHEET, THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 17.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

WHITE PERSONNEL IN THIS UNIT:

- 17. get their complaints handled faster than minorities.
- 18. get promoted ahead of minority soldiers, even when the minority soldier is better qualified.
- 19. get away with breaking rules about appearance, for example, being out of uniform, having long hair, etc.
- 20. are given better opportunities for technical training than minorities.
- 21. don't do their share of the work.
- 22. get worse punishment than minorities for the same offense.
- 23. get easier or better details and assignments than minorities.
- 24. don't show proper respect to officers and NCO's.
- 25. say insulting things about the music, food, or clothing that minority soldiers like.
- 26. use words like "nigger" and "spic" when talking about minorities.
- 27. tell insulting racist jokes about minorities.
- 28. display such things as Confederate flags, Nazi symbols, and other things that are offensive to many minorities.
- 29. make fun of soldiers who do not speak English well.

PLEASE CHECK YOUR ANSWER SHEET. THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 30.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

THE OFFICERS AND NCO'S IN THIS UNIT:

- 30. ignore racial problems that exist in this unit.
- 31. are afraid to discipline a minority soldier because the soldier might file a discrimination complaint.
- 32. show more respect to whites than to minorities.
- 33. show more respect to minorities than to whites.

IN GENERAL:

- 34. There are serious racial problems in my unit between white and non-white soldiers.
- 35. There are serious racial problems in my unit between minority soldiers and the chain of command (officers or NCO's).
- 36. There are serious racial problems in my unit between white soldiers and the chain of command (officers or NCO's).
- 37. Racial tension interferes with getting this unit's mission accomplished.
- 38. There are fights in this unit that are caused by differences of opinion over racial issues.
- 39. On the job, white and minority soldiers in this unit stay away from each other as much as they can.
- 40. White and minority soldiers in this unit avoid each other after duty hours.
- 41. Entertainment in the clubs on this post is selected to please minorities only.
- 42. Entertainment in the clubs on this post is selected to please whites only.
- 43. The PX and Commissary on this post don't have certain items that minority group members want.

ON YOUR ANSWER SHEET, THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 44.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

- 44. On this post, whites get assigned to better living quarters than minorities do.
- 45. On this post, minorities get assigned to better living quarters than whites do.
- 46. On this post, women get assigned to better living quarters than men do.
- 47. There are places on this post where a white soldier is in danger if he/she goes there alone.
- 48. There are places on this post where a minority soldier is in danger if he/she goes there alone.
- 49. White soldiers are afraid to go into clubs on post where minority soldiers go.
- 50. Minority soldiers are afraid to go into clubs on post where white soldiers go.
- 51. Public facilities (craft shop, snack bar, gym, etc.) are "taken over" by white soldiers.
- 52. Public facilities (craft shop, snack bar, gym, etc.) are "taken over" by minority group soldiers.

Using the SAME POSSIBLE ANSWERS, now answer these general questions about how you see things.

- 53. Men are giving up too many of their rights so that women can get ahead.
- 54. Minorities often cry "discrimination" rather than accept blame for personal faults.
- 55. Everybody would be better off if we all lived and worked only with people of our own race.
- 56. Most minority soldiers think the Army should lower its standards to help them get ahead.

PLEASE CHECK YOUR ANSWER SHEET. THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 57.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

- 57. Minorities were better off before this integration business got started.
- 58. American women now have the best of everything—job equality with men, and special privileges just because they are women.
- 59. The reason minorities stick together is to keep out whites.
- 60. Minorities could *have* equal opportunity if they would spend more time working and less time complaining about discrimination.
- 61. Trying to bring about racial integration is more trouble than it's worth.
- 62. Minorities are trying to get ahead too fast.
- 63. Minorities are not satisfied with having equal opportunity—they want to be treated *better* than whites.
- 64. Calling attention to racial problems only makes things worse.
- 65. Equal opportunity is not the business of the Army; the business of the Army is to fight.

BEFORE GOING TO THE NEXT SET OF QUESTIONS, CHECK YOUR ANSWER SHEET TO BE SURE THAT THE NEXT EMPTY SPACE IS FOR ITEM 66.

Following are some questions about the way you get treated by certain people on and off post. For each item, mark the box on the answer sheet which tells whether the treatment you receive is:

- 1 = Very good.
- 2 = Good.
- 3 = Neither good nor bad.
- 4 = Bad.
- 5 = Very bad.
- 6 = No opinion

HOW GOOD OR BAD IS THE TREATMENT YOU RECEIVE *ON POST* FROM:

- 66. Military Police (MP's).
- 67. People who work in the Finance Office.
- 68. People who work in the Personnel Office.
- 69. Employees in snack bars.
- 70. Employees in the PX or Commissary.
- 71. Employees in EM, NCO, or Officer's Clubs.
- 72. Employees in barber and beauty shops.

HOW GOOD OR BAD IS THE TREATMENT YOU RECEIVE *OFF POST* FROM:

- 73. Employees in most local stores and shops.
- 74. Employees in most local restaurants.
- 75. Employees in most local clubs, lounges, bars.
- 76. Local police.
- 77. Landlords and rental agents.

**AGAIN, CHECK THE NEXT EMPTY SPACE ON YOUR ANSWER SHEET.
IT SHOULD BE ITEM 78.**

Look at each of the five statements below and tell whether you think it is more often true of men or of women. The choices are:

- 1 = Men much more often than women.
- 2 = Men slightly more often than women.
- 3 = No difference.
- 4 = Women slightly more often than men.
- 5 = Women much more often than men.

- 78. Waste time by socializing.
- 79. Have leadership potential.
- 80. Work well with co-workers.
- 81. Will work extra hours when needed.
- 82. Can be depended on in an emergency.

For each of the items below, answer YES, NO or DON'T KNOW to indicate whether you believe it is required somewhere in an Army regulation?

- 1 = Yes
- 2 = No
- 3 = Don't Know

- 83. All local promotion/selection boards in commands where there are minority enlisted personnel must have at least one minority enlisted personnel as a voting member of the board.
- 84. All officers are to be rated in their Officer Evaluation Reports (OERs) as to how well they perform on Equal Opportunity matters.
- 85. All enlisted personnel who are supervisors are to be rated on their Enlisted Efficiency Reports (EERs) as to how well they perform on Equal Opportunity matters.
- 86. Post commanders have the authority to declare housing off-limits if the owner or manager discriminates on the basis of race and cannot be persuaded to change his policy.
- 87. Post commanders have the authority to declare bars, restaurants, and other places of public accommodation off-limits if their owners or managers discriminate on the basis of race and cannot be persuaded to change their policy.
- 88. Post commanders have the authority to refuse to allow civilian groups to use on-post facilities if the groups have been proven to discriminate because of race or sex.

ON YOUR ANSWER SHEET, THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 89.

89. Are there any women assigned to your company, troop, or battery?

1 = Yes

2 = No

If you marked the "YES" space, answer the items below.

If you marked the "NO" space, turn to the last page of the questionnaire and answer Items 118, 119, and 120.

90. During the past six months, do you feel you have been discriminated against because of your sex by someone in your unit's chain of command?

1 = Definitely yes.

2 = I think I have, but I'm not sure.

3 = Definitely no.

Now, answer the following questions as you did earlier, marking a space on your answer sheet for each statement to tell how much you agree or disagree. The possible answers are:

1 = Strongly Agree

2 = Agree

3 = Neither Agree Nor Disagree

4 = Disagree

5 = Strongly Disagree

WOMEN IN THIS UNIT:

91. get promoted ahead of men, even when the man is better qualified.
92. are given better opportunities for technical training than men.
93. get their complaints handled faster than men.
94. don't do their share of the work.
95. get worse punishment than men for the same offense.
96. get easier or better details and assignments than men.
97. are often not allowed to work in the MOS's for which they were trained.
98. embarrass men by using filthy language.
99. try to get special treatment just because they are women.
100. do not show proper respect for male officers and NCO's.

ON YOUR ANSWERSHEET, THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 101.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

MEN IN THIS UNIT:

- 101. get promoted ahead of women even when the woman is better qualified.
- 102. are given better opportunities for technical training than women.
- 103. get their complaints handled faster than women.
- 104. don't do their share of the work.
- 105. get worse punishment than women for the same offense.
- 106. get easier or better details and assignments than women.
- 107. are often not allowed to work in the MOS's for which they were trained.
- 108. embarrass women by using filthy language.
- 109. have to help women do their heavy or dirty work in order to get the job done.
- 110. do not show proper respect to female officers and NCO's.

ON YOUR ANSWER SHEET, THE NEXT EMPTY SPACE SHOULD BE FOR ITEM 111.

The possible answers are:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree Nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

OFFICERS AND NCO'S IN THIS UNIT:

- 111. ignore sex discrimination problems that exist in the unit.
- 112. are afraid to discipline a female soldier because she might file a discrimination complaint.
- 113. treat men better than women.
- 114. treat women better than men.

IN GENERAL:

- 115. There are public places on this post where a woman is in danger is she goes there alone.
- 116. Public facilities (gym, snack bar, etc.) are "taken over" by men.
- 117. Public facilities (gym, snack bar, etc.) are "taken over" by women.

TURN THE PAGE AND ANSWER ITEMS 118, 119, and 120.

**BE SURE YOU MARK YOUR ANSWER SHEET IN THE CORRECT SPACES FOR
ITEMS 118, 119, and 120.**

118. Sex:

- 1 = Male**
- 2 = Female**

119. Race:

- 1 = White**
- 2 = Black**
- 3 = Neither White nor Black**

120. What is your grade or rank?

- 1 = E1 to E4**
- 2 = E5 to E9**
- 3 = Warrant Officer to O3**
- 4 = O4 or higher**

PT 5177A

APPENDIX B
Sample Pages From Feedback Report

.....
 EQUAL OPPORTUNITY SURVEY - PROGRAM
 REVISED FOR RACIAL CLIMATE

1 IN GENERAL, RACE RELATIONS IN MY COMPANY/INDUSTRY ARE:

	VERY GOOD	NEITHER	VERY BAD	MISSING DATA
	1	2	3	4
ALL	0	18	17	65
MALE	0	17	17	66
FEMALE	0	16	15	69
WHITE	0	14	14	72
MINORITY	0	10	13	77
UP	0	2	0	98
DOWN	0	0	0	100
MEAN				
SD				

2 SINCE I JOINED THIS UNIT, IN GENERAL, RACE RELATIONS HAVE BEEN:

	GETTING BETTER	NEITHER	GETTING WORSE	MISSING DATA
	1	2	3	4
ALL	0	22	13	65
MALE	0	22	13	65
FEMALE	0	21	12	67
WHITE	0	21	10	69
MINORITY	0	17	12	71
UP	0	0	0	100
DOWN	0	0	0	100
MEAN				
SD				

3 IN GENERAL, RACE RELATIONS AT THIS POST OUTSIDE OF MY COMPANY ARE:

	VERY GOOD	NEITHER	VERY BAD	MISSING DATA
	1	2	3	4
ALL	0	22	57	12
MALE	0	22	57	12
FEMALE	0	25	62	13
WHITE	0	10	71	19
MINORITY	0	7	60	33
UP	0	1	50	49
DOWN	0	0	100	0
MEAN				
SD				

4 DURING THE PAST SIX MONTHS, DO YOU FEEL YOU HAVE BEEN DISCRIMINATED AGAINST

	DEFINITELY YES	NEITHER	DEFINITELY NO	MISSING DATA
	1	2	3	4
ALL	11	28	57	4
MALE	11	28	57	4
FEMALE	9	19	62	10
WHITE	8	21	59	12
MINORITY	17	17	51	15
UP	1	0	99	0
DOWN	0	0	100	0
MEAN				
SD				

 SOCIAL OPPORTUNITY SURVEY - PROGRAM

 SCALE SCORES -- LOW SCORES INDICATE PROBLEM AREAS

SCALE R-1: LAT RACIAL CLIMATE

	MEAN
ALL	1.1
MALE	1.0
FEMALE	1.3
WHITE	1.1
MINORITY	1.5
E1 TO E4	1.1
E5 TO E9	1.1
W1 TO W3	1.0
C4 UP	1.2

SCALE R-2: PERCEPTIONS OF DISCRIMINATION AGAINST MINORITIES/FAVOR WHITES.

	MEAN
ALL	3.5
MALE	3.5
FEMALE	3.6
WHITE	3.6
MINORITY	3.1
E1 TO E4	3.4
E5 TO E9	3.4
W1 TO W3	3.4
C4 UP	3.3

SCALE R-3: PERCEPTIONS OF DISCRIMINATION AGAINST WHITES / FAVOR MINORITIES.

	MEAN
ALL	3.4
MALE	3.5
FEMALE	3.3
WHITE	3.2
MINORITY	3.7
E1 TO E4	3.5
E5 TO E9	3.5
W1 TO W3	4.1
C4 UP	3.7

SCALE R-4: NEGATIVE BEHAVIOR BY WHITES.

	MEAN
ALL	3.0
MALE	3.0
FEMALE	3.0
WHITE	3.0
MINORITY	3.0
E1 TO E4	3.0
E5 TO E9	3.0
W1 TO W3	3.0
C4 UP	3.7

.....
EQUAL OPPORTUNITY SURVEY - PROGRAM
.....

R SCALES CRIERED BY MEANS

SCALE	DESCRIPTION	MEAN	GROUPS DIFFER?
R-9	TREATMENT RECEIVED BY UNIT MEMBERS WHILE OFF POST (BY RACE)	3.0	NO
R-1	NEGATIVE REACTION BY WHITES	3.0	NO
R-1	NEGATIVE REACTION BY MINORITIES	3.0	YES
R-5	NEGATIVE REACTION IN DELIVERY OF SERVICES TO UNIT MEMBERS	3.0	NO
R-7	FAVORITISM AGAINST WHITES BY UNIT PERSONNEL BY RACE	3.0	NO
R-7	FAVORITISM AGAINST MINORITIES BY UNIT PERSONNEL BY RACE	3.0	NO
R-2	PERCEPTIONS OF DISCRIMINATION AGAINST WHITES/FAVOR WHITES	3.4	NO
R-2	PERCEPTIONS OF DISCRIMINATION AGAINST MINORITIES/FAVOR MINORITIES	3.4	NO
R-3	PERCEPTIONS OF DISCRIMINATION AGAINST WHITES / FAVOR MINORITIES	3.4	NO

S SCALES CRIERED BY MEANS

SCALE	DESCRIPTION	MEAN	GROUPS DIFFER?
S-1	ACCESS TO PUBLIC FACILITIES	3.0	NO
S-5	TREATMENT RECEIVED BY UNIT MEMBERS WHILE OFF POST (BY SEX)	3.0	NO
S-1	NEGATIVE REACTION BY MEN	3.0	YES
S-1	NEGATIVE REACTION BY WOMEN	3.0	YES
S-2	PERCEPTIONS OF DISCRIMINATION AGAINST MEN AND/OR FAVORITISM TOWARDS WOMEN	3.4	NO
S-2	PERCEPTIONS OF DISCRIMINATION AGAINST WOMEN AND/OR FAVORITISM TOWARDS MEN	3.4	NO

FOR ALL SCALES, P-VALUES INDICATE PROBLEM AREAS (ITEMS IN R-8, R-9, S-4, AND S-5) WHICH WERE SIGNIFICANT. P-VALUES ARE THE RESULT OF A STATISTICAL TEST OF DIFFERENCES BETWEEN WHITES AND MINORITIES FOR R SCALES AND BETWEEN MEN AND WOMEN FOR S SCALES.

.....
EQUAL OPPORTUNITY SURVEY PROGRAM
.....
QUESTION BREAKDOWN

1. IN GENERAL, RACE RELATIONS IN MY COMPANY/DEPT/FACTORY ARE:

	VERY GOOD	NEITHER	VERY BAD	MEAN	MISSING DATA
ALL	00	34	66	1.1	000000000
MALE	00	17	14	1.1	000000000
FEMALE	00	33	67	1.1	000000000
WHITE	00	15	17	1.1	000000000
MINORITY	00	32	68	1.1	000000000
BLACK	00	32	68	1.1	000000000
ASIAN	00	32	68	1.1	000000000
HI SPANIC	00	32	68	1.1	000000000
OTHER	00	32	68	1.1	000000000

2. SINCE JOINING THIS UNIT, IN GENERAL, RACE RELATIONS HAVE BEEN:

	GETTING BETTER	GETTING WORSE	MEAN	MISSING DATA
ALL	6	28	2.3	000000000
MALE	6	14	2.3	000000000
FEMALE	6	30	2.3	000000000
WHITE	6	19	2.3	000000000
MINORITY	6	50	2.3	000000000
BLACK	6	27	2.3	000000000
ASIAN	6	28	2.3	000000000
HI SPANIC	6	0	2.3	000000000
OTHER	6	100	2.3	000000000

3. IN GENERAL, RACE RELATIONS AT THIS POST OUTSIDE OF MY COMPANY ARE:

	VERY GOOD	NEITHER	VERY BAD	MEAN	MISSING DATA
ALL	0	29	71	1.0	000000000
MALE	0	22	78	1.0	000000000
FEMALE	0	35	65	1.0	000000000
WHITE	0	19	81	1.0	000000000
MINORITY	0	70	30	1.0	000000000
BLACK	0	27	73	1.0	000000000
ASIAN	0	60	40	1.0	000000000
HI SPANIC	0	150	0	1.0	000000000
OTHER	0	1	99	1.0	000000000

4. DURING THE PAST SIX MONTHS, DO YOU FEEL YOU HAVE BEEN DISCRIMINATED AGAINST

	DEFINITELY YES	DEFINITELY NO	MEAN	MISSING DATA
ALL	11	89	1.1	000000000
MALE	11	89	1.1	000000000
FEMALE	11	89	1.1	000000000
WHITE	11	89	1.1	000000000
MINORITY	11	89	1.1	000000000
BLACK	11	89	1.1	000000000
ASIAN	11	89	1.1	000000000
HI SPANIC	11	89	1.1	000000000
OTHER	11	89	1.1	000000000

APPENDIX C
Outline for 90-Minute Commander Training,
Fort Stewart, Georgia

**OUTLINE FOR 90-MINUTE COMMANDER TRAINING,
FORT STEWART, GEORGIA**

I. Introduction

- A. Objective of this briefing: To acquaint commanders of company-size units with an experimental program for designing unit EO training programs and for assessing the effectiveness of those programs.

- B. Background of the Unit EO Training Diagnosis and Assessment System
 - 1. AR 600-21 (revised) puts responsibility for unit EO training in the hands of the commander.

 - 2. DA recognized the need to provide commanders with the means to diagnose their units' EO training requirements and to design training to fill those needs.

 - 3. The U.S. Army Research Institute was tasked with the development of such tools, and has done so under contract with HSR.

 - 4. The System is now in its prototype state, ready for field testing.

 - 5. FORSCOM and Major General Vaught agreed to the implementation of such a field test at Fort Stewart.

II. The Unit EO Training Diagnosis and Assessment System

- A. Principles underlying the System
 - 1. Commanders need and want some method to assist them in carrying out their EO training responsibilities.

 - 2. Unit EO training should take account of the issues, questions, and problems which prevail in each unit, and should not rely solely on judgments made at DA or MACOM level about what is best for everybody throughout the Army.

 - 3. Any such system should take full advantage of existing organizational structures and procedures which are standard in the Army; EO should not have the status of a "special program" as it did in its early days, when a crisis situation prevailed.

B. The data-collection component of the System.

1. Unit-specific EO-related information is acquired through a survey questionnaire administered to unit members.
2. The questionnaire provides information on each of the following areas:
 - (a) the perceived "racial climate" in the unit; that is, how well people of the majority race and people of minority races get along with each other;
 - (b) the presence or absence of behaviors which have the potential to create or increase racial tension or tension between men and women who work together;
 - (c) the perceived equality of treatment received by members of different races within the unit;
 - (d) the perceived equality of treatment received by men and women within the unit;
 - (e) the quality of treatment received in the military community outside the company, troop, or battery, and in the civilian community;
 - (f) knowledge of Army EO policy; and
 - (g) racial and sex-role activities.

C. The administrative component of the System at Fort Stewart/HAAF

1. Scheduling of unit surveys will be coordinated by:
2. Unit surveys will be administered by:
3. Data will be tabulated by:
4. Staff assistance will be available from:
5. Unit EO training will be a part of the unit master training schedule monitored by the battalion S-3.

D. The commander's responsibilities:

1. To insure that his or her unit is surveyed.
2. To analyze and interpret the survey findings.
3. To develop a unit EO training program based on survey findings.
4. To conduct or supervise unit training.
5. To call on appropriate staff agencies (EO, OE, etc.) for assistance in carrying out these responsibilities.

III. The Unit EO Survey Feedback Report (Distribute Copies)

C. Confidentiality:

1. All information pertaining to data obtained from the survey will be labeled with a unit code, to provide confidentiality.
2. Battalion, brigade, and division/installation commanders will receive only aggregated statistics; no separate unit statistics will be presented; each commander receives a single-copy feedback report.

B. Report format: Four major sections

1. Key items—2 race, 2 sex
2. Average score on each of 21 dimensions for each group:
 - (a) 9 race scales
 - (b) 7 sex scales
 - (c) 4 attitude scales (2 race, 2 sex)
 - (d) 1 knowledge scale (Army EO policy)
3. Priority ordering of the 9 race and 7 sex scales by order of importance as targets for unit training.
4. Responses by each race, gender, and rank grouping for each question in the survey.

IV. Guidelines for Interpretation of Results

- A. Discuss steps in reviewing feedback reports.
- B. Indicate that User's Manual has examples.
- C. End product: A set of specific topics for unit EO training.

V. Translation of Survey Results to a Training Program

- A. Discuss steps in design of training.
- B. Stress the use of available resources.
- C. Introduce HRM/EO people to provide a short segment on their responsibilities and resources.
- D. End product: A master unit EO training schedule with a schedule, defined topics, specific training objectives, and a clear-cut definition of responsibilities for carrying out unit EO training.

VI. Implementation of Training

VII. Assessment of Training Effectiveness

- A. Repeat survey in about six months.
- B. Compare Time One and Time Two results.
- C. Plan next training cycle in the same way.

VIII. Wrap-Up

- A. Stress the use of the User's Manual.
- B. Ask for designation of unit POC on forms provided.
- C. Remaining questions.
- D. Thanks.

APPENDIX D
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User's Manual

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APPENDIX E
Psychometric Characteristics of TDAS Version D

Psychometric Characteristics of TDAS Version D

Version D of the EO Training Diagnosis and Assessment System (TDAS) consisted of nine race-oriented measurement scales, seven gender-oriented measurement scales, one scale to measure knowledge of Army equal opportunity (EO) policy, and four attitudinal scales, of which two tapped racial attitudes and the other two attitudes toward women. As a result of the field test phase of system development it was possible to acquire a limited amount of data on which to perform analyses relating to the statistical aspects of the survey questionnaire and the ability of the various scales to distinguish among units on relevant dimensions.

Data for the analyses described here came from seven company-size units of the following types: three supply and transportation units from a single battalion, including the Headquarters and Headquarters Company (HHC); two engineer companies from different battalions; one MP company; and one infantry company. The number of male respondents ($n = 491$) was sufficient for reliability estimation on the race, knowledge and attitude scales; however, the number of female respondents ($n = 36$) was, at best, marginally adequate for the analysis of the S-scales. The total number of respondents represented in this sample of units ($N = 527$) was adequate for estimation of scale reliabilities and for one-way analysis of variance of between-unit differences. Although data from surveys for two different time periods were made available for the seven units, the quality of data for the earlier survey was uneven and generally low. This, plus the generally high turnover rate in the units resulted in a decision not to try to track changes over time using these data.

The results of the reliability analysis and of the between-unit analysis of variance are described below.

Scale Reliabilities

Reliability estimates for the TDAS scales were computed using the SPSS reliability program which computes coefficient alpha. Each R, S, and A scale is based on a range from 1.0 to 5.0, with a midpoint of 3.0. The scale reliability estimates are as follows:

Scale R-1. Unit Racial Climate

This scale gives a very general view of how unit members describe the racial climate within the unit. A high score indicates a healthy climate with little racial tension.

The scale is a composite of the following items: 30, 34, 35, 37, 39, 40.

Mean = 3.010

Variance = 0.027

Alpha = 0.811

Scale R-2. Perceptions of Discrimination Against Minorities and/or Favoritism Toward Whites

This scale reflects unit members' views of the extent to which minorities are discriminated against or whites receive favored treatment as a result of the normal functioning of the Army in the areas of discipline, opportunities for training, the handling of complaints, etc. This is a way of describing the actions of the chain of command. A high score indicates that most unit members feel that there is little or no such discrimination/favoritism in the unit.

Items included in this scale are: 10, 17, 18, 19, 20, 21, 23, 32.

Mean = 3.330

Variance = 0.003

Alpha = 0.897

Scale R-3. Perceptions of Discrimination Against Whites and/or Favoritism Toward Minorities

This scale also deals with the outcomes of routine Army procedures. It describes the extent to which minority personnel are seen as being favored and white personnel as being the victims of discrimination. A high score reflects the fact that most unit members do not believe this type of "reverse discrimination" occurs in the unit.

The scale is made up of items: 5, 6, 7, 8, 9, 11, 22, 31, 33.

Mean = 3.290

Variance = 0.045

Alpha = 0.890

Scale R-4. Negative Behavior by Whites

Scale R-4 describes unit members' perceptions of the extent to which white personnel say or do things which degrade, demean, or insult members of minority groups. These are behaviors which would tend to increase racial tension in the unit. A high score on this scale says that most unit members do not believe that most whites in the unit practice these tension-producing behaviors.

The items involved here are: 24, 25, 26, 27, 28, 29.

Mean = 3.190

Variance = 0.034

Alpha = 0.862

Scale R-5. Negative Behavior by Minorities

This scale is like Scale R-4, but indicates the extent to which *minority* members of the unit are seen as guilty of saying and doing things which might produce racial tension. A high score is good in that it reflects the absence of such negative actions.

The scale is made up of items: 12, 13, 14, 15, 16.

Mean = 3.100

Variance = 0.028

Alpha = 0.850

Scale R-6. Racial Confrontation and Violence

This scale reflects the level of actual or potential interracial hostility, confrontation, and violence in the unit. The items in this scale deal with such things as: interracial fights; harassment or intimidation of one group by another; polarization on and off duty; fears of physical harm, etc.

Items in this scale include: 38, 47, 48, 49, 50, 51, 52.

Mean = 3.250

Variance = 0.050

Alpha = 0.729

Scale R-7. Favoritism/Discrimination in the Delivery of Army Services to Unit Members

This scale reflects the extent to which unit members feel that one racial group or another gets either favored or discriminatory treatment in areas such as service clubs, PX and commissary, and assignment to living quarters. For the most part, these are things beyond the immediate control of the unit chain of command. A high score indicates general satisfaction with equality of services.

The items included here are: 4, 1, 42, 43, 44, 45.

Mean = 3.390

Variance = 0.106

Alpha = 0.539

Scale R-8. Treatment Received on Post by Unit Personnel (by Race)

Scores on Scale R-9 indicate the general quality of the treatment that unit personnel have experienced in their dealings with a variety of types of individuals in the local civilian community, including employees in stores, restaurants and bars, local police, and landlords. This scale reflects differences in treatment by race; another scale (Scale S-5) reflects differences by sex. In this scale, a high score again indicates a high level of satisfaction with treatment received.

Scale R-9 includes items: 73, 74, 75, 76, 77.

Mean = 3.340

Variance = 0.062

Alpha = 0.506

[Scale S-1 was deleted from this version of the survey.]

Scale S-2. Perceived Discrimination Against Women and/or Favoritism Toward Men

This scale indicates the extent to which actions of the chain of command are seen as being systematically biased against women, in favor of men, in carrying out the day-to-day

business of the unit. A high score indicates an absence of perceptions of discrimination against women.

The items included here are: 95, 97, 101, 102, 103, 106, 113.

Mean = 2.550

Variance = 0.032

Alpha = 0.866

Scale S-3. Perceived Discrimination Against Men and/or Favoritism Toward Women

Scale S-3 reflects the views of unit members about the extent to which routine, daily chain of command actions are systematically biased against men, showing favoritism to women. A high score shows that most unit members do not see this type of discrimination in the unit.

Included here are items: 91, 92, 93, 96, 105, 107, 109, 112, 114.

Mean = 2.307

Variance = 0.019

Alpha = 0.868

Scale S-4. Treatment Received on Post by Unit Members (by Sex)

This scale is the same as Scale R-8, except it looks at gender differences rather than race differences in the perceived quality of treatment received by unit members outside the company, on post. A high score reflects good experiences with people in such places as the military police, personnel and finance offices, PX, commissary, snack bars, etc.

The following items are included here: 66, 67, 68, 69, 70, 71, 72.

Mean = 3.600

Variance = 0.029

Alpha = 0.814

Scale S-5. Treatment Received by Unit Members While Off Post (by Sex)

This scale reflects the way men and women in the unit report being treated by certain types of people in the civilian community (as Scale R-9 does by race). A high score on Scale S-5 indicates a high level of satisfaction with unit members' experiences in the civilian community.

Scale S-5 includes items: 73, 74, 75, 76, 77.

Mean = 3.260

Variance = 0.094

Alpha = 0.173

Scale S-6. Access to Public Facilities

This scale tells generally how unit members feel about whether or not women have free access to public facilities on post, without fear of harassment or physical harm from men. A high score indicates the relative absence of problems of this type.

The items in this scale include: 115, 116, 117.

Mean = 2.400

Variance = 0.030

Alpha = 0.632

Scale S-7. Negative Behaviors by Women

This scale indicates whether or not unit members see women in the unit as behaving in ways which are disruptive to unit morale and mission effectiveness. A high score reflects the absence of such behavior problems.

The items included here are: 94, 98, 99, 100.

Mean = 2.320

Variance = 0.033

Alpha = 0.742

Scale S-8. Negative Behaviors by Men

This scale describes disruptive behaviors performed by men, which have the potential to cause attitude or performance problems in the unit.

Items included in this scale are: 104, 108, 110.

Mean = 2.440

Variance = 0.053

Alpha = 0.597

Scale A-1. General Racial Attitudes

This scale reflects answers to a variety of questions concerning minorities in the United States. A low score on this scale reflects, generally, the attitude that minorities want more than they deserve but are unwilling to earn what they want through honest work. A high score represents the absence of these negative and disruptive attitudes.

The items here are: 54, 56, 59, 60, 63.

Mean = 3.020

Variance = 0.046

Alpha = 0.825

Scale A-2. Attitudes Toward Racial Integration

Scale A-2 is a measure of the extent to which unit members feel that racial integration is a worthwhile goal, requiring effort on the part of the Army, as well as individuals. A high score reflects a favorable attitude toward racial integration.

The questions included here are: 55, 57, 61, 62, 64, 65.

Mean = 3.370

Variance = 0.014

Alpha = 0.769

**Scale A-3. General Attitude Toward
EO for Women**

This scale consists of two items which reflect "male backlash," that is, the feeling that American women are being given undeserved favoritism at the expense of men.

Included here are items: 53 and 58.

Mean = 2.920

Variance = 0.002

Alpha = 0.695

**Scale A-4. General Perceptions of
Women in the Army**

Scale A-4 reflects unit members' feelings about whether men and women in the Army differ on a number of factors important to mission accomplishment. This scale is computed for all units, whether or not women are included on the unit roster. A high score indicates that most unit members feel that there are no important differences in terms of men's and women's abilities to get the job done. A low score says there are perceived differences, but does not indicate which group is seen as superior.

Scale A-4 includes the following items: 78, 79, 80, 81, 82.

Mean = 2.000

Variance = 0.016

Alpha = 0.488

**Scale K-1. Knowledge of Regulations Concerning
the Army's Equal Opportunity Program**

Scale K-1 tells the general level of knowledge that unit members have concerning the Army regulations that govern Equal Opportunity. They reflect unit members' answers to six questions concerning things required or allowed by regulation. A high score indicates widespread familiarity with the regulations.

This scale is made up of items: 83, 84, 85, 86, 87, 88.

Mean = 1.539

Variance = 0.156

Alpha = 0.824

Analysis of Unit Differences

If one makes the rather conservative assumption that each unit has a unique organizational climate and a unique set of dynamics operating in regard to cross-race and cross-gender co-worker relations, it is reasonable to expect an instrument like the TDAS to detect such differences. If it cannot, its value is highly questionable. To determine the ability of the TDAS to detect between-unit differences, four separate tests were made of the data on each scale in the TDAS.

For each scale, a one-way ANOVA was performed, using the SPSS ONEWAY program. This was followed by three separate multiple-range tests to detect differences in the scale means among individual units. The multiple-range analyses were performed using the Scheffe procedure, the Duncan procedure, and the LSD procedure. Of these three methods, Scheffe's is the most stringent, i.e., requires the largest between-group mean difference to meet the criteria for the chosen level of statistical significance (in this case, $\alpha = .05$). The results of this analysis are described below.

Scale R-1. Unit Racial Climate

The overall F ratio for this scale was statistically significant ($p = 0.046$). Of the 21 possible pairs of unit comparisons, the LSD procedure identified 13 as statistically significant; the Scheffe test identified five. Duncan's multiple-range test identified four separate homogeneous subsets of groups, each of which differed significantly from other subsets on this scale.

Scale R-2. Perceptions of Discrimination Against Minorities and/or Favoritism Toward Whites

For this scale, the ONEWAY analysis resulted in an F ratio significant at $p = 0.014$. The LSD procedure identified seven pairs of units which differed significantly. The Scheffe procedure identified only one pair. The Duncan test shows two homogeneous subsets, one of three units, the other of six.

Scale R-3. Perceptions of Discrimination Against Whites and/or Favoritism Toward Minorities

The overall F ratio for this scale was significant beyond the level of $p = 0.0001$. Fifteen significant pair-wise differences were detected by the LSD procedure, and nine by Scheffe's test. The Duncan method identified four separate homogeneous subsets.

Scale R-4. Negative Behavior by Whites

The F ratio for the ANOVA was significant at $p = 0.0103$. Eight significantly different pairs were identified by the LSD multiple-range test, three by Scheffe's test, and two homogeneous subsets, each of five units, resulted from Duncan's test.

Scale R-5. Negative Behavior by Minorities

This scale also resulted in a highly significant F ratio ($p < 0.0001$). Thirteen pairs differed significantly as determined by the LSD procedure, five as determined by Scheffe's test, and Duncan's test identified three homogeneous subsets of two, five, and one units, respectively.

Scale R-6. Racial Confrontation and Violence

Here the ANOVA shows an F ratio significant at $p = 0.0035$. While the Scheffe method indicates four significantly different pairs, the LSD procedure shows eleven. Duncan's test defines three homogeneous subsets, of five units each.

Scale R-7. Favoritism/Discrimination in the Delivery of Army Services to Unit Members

The overall F ratio for this analysis was significant at $p = 0.0424$. Scheffe's test identified three and the LSD test seven significantly different pairs of units. The Duncan method found no differences at the selected level of significance.

Scale R-8. Treatment Received on Post by Unit Members (by Race)

The overall F ratio was not significant for this scale, although the Scheffe test identified three and the LSD procedure four pair-wise differences. The Duncan method found none.

**Scale R-9. Treatment Received by Unit Members
While Off Post (by Race)**

The final race scale analysis yielded no overall significance. Small, but significant, differences were identified for six pairs of units by the LSD method, three by the Scheffe test, and Duncan's test found two homogeneous subsets of six units each.

[Scale S-1 was deleted from this version.]

**Scale S-2. Perceived Discrimination Against
Women and/or Favoritism Toward Men**

For the S-scales, given that only four units had females on their rosters, the total possible number of pair-wise comparisons was 12. For Scale S-2, although the overall F ratio was significant, only two pair-wise differences were identified by the Scheffe test and four by the LSD. The Duncan procedure identified three homogeneous subsets of one, two, and two units, respectively, to account for the four units.

**Scale S-3. Perceived Discrimination Against
Men and/or Favoritism Toward Women**

In this scale an overall significant F ratio was found. The Scheffe and LSD procedures found two and five pair-wise differences, respectively, and Duncan's test identified two subsets of two groups each.

**Scale S-4. Treatment Received On Post by
Unit Members (by Sex)**

For this scale, there was no significant overall F ratio, and no homogeneous subsets of units by Duncan's test, although the Scheffe and LSD procedures each identified one significant pair-wise difference.

**Scale S-5. Treatment Received by Unit
Members Off Post (by Sex)**

An insignificant F ratio in this analysis was found along with two significantly different units in both the LSD and Scheffe tests. There was no differentiation according to Duncan's procedure.

Scale S-6. Access to Public Facilities

This scale produced an overall F ratio in the statistically significant range. In addition, the LSD procedure identified six significantly different pairs of units, while the Scheffe procedure identified only three. The Duncan test differentiated the four units into three subsets of two, one and one groups, respectively.

Scale S-7. Negative Behaviors by Women

For this analysis, the overall significant F ratio is associated with two pair-wise differences as identified by both the LSD and the Scheffe procedures. No group differences were detected under the Duncan procedure.

Scale S-8. Negative Behaviors by Men

Results for Scale S-8 were as described for Scale S-7.

Scale K-1. Knowledge of Army EO Policy

This analysis indicates that the significant overall unit difference was attributable mainly to the high scores obtained in two units. The LSD procedure shows 10 pair-wise differences out of 21 possible, while Scheffe shows only three. The same two units stand out as a distinct subset under the Duncan procedure.

Summary of Findings

In general, the analyses reported above are encouraging. Six of the nine race scales had reliabilities above 0.80, one between 0.70 and 0.80. The remaining two were marginal, with reliabilities in the low 0.50's. Among the seven S-scales, three were in the 0.80's, one in the mid-0.70's, two in the neighborhood of 0.60, and only one (Scale S-5) was completely outside the realm of acceptability at $\text{Alpha} = 0.173$. The attitude scales varied more with the two race-oriented scales (A-1 and A-2) at 0.825 and 0.769, respectively, A-3 at 0.695, and A-4 at 0.488. The knowledge scale had an estimated reliability of 0.824.

Obviously, there is some problem with Scale S-5, Off Post Treatment (by Sex). Scales R-7, R-9 and A-4 need some refinement as well. Otherwise, the reliabilities are quite acceptable for the present stage of development of the TDAS.

In so far as being able to differentiate between units on the relevant dimensions, Version D appears quite capable in that regard overall, again with some need for refinement in one or two scales. Further evidence of construct validity comes from the fact that, if all seven units are rank-ordered in terms of the scale means for all nine race scales, three specific units account for 19 of the 27 positions in the top three rank-order places and a different set of three units account for 20 of the 27 in the lowest three positions. On the sex scales, where only four units are involved, one particular unit scores highest on five scales typified as being "in-unit" scales, and lowest on two "out-of-unit" scales (S-4 and S-5).

All things considered, the TDAS appears, in general, quite adequate to the tasks it is designed to perform. Some refinement is needed in one or two areas, however.