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Department of Psychology

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Mary Beth DeGregorio
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**Abstract:**
In the laboratory, subordinate reactions to feedback given in four different ways were assessed. Method one was unilateral, top-down feedback. Method two was supervisory feedback with the subordinate encouraged to participate in the performance discussion. Methods three and four involved a self-appraisal instrument completed prior to the participative performance discussion. In method three, the self-appraisal did not figure in the discussion while in method four it was the heart of discussion. All
participative methods tended to result in more positive subordinate perceptions than the unilateral method, but no one particular participative technique was consistently the best.
Reactions to Varying Forms of Participation in the Appraisal Interview

Research to date has clearly found that performance feedback is necessary in order to maintain and/or improve job performance (Catano, 1976; Erez, 1977; Kim & Hammer, 1976; Komaki, Barwick & Scott, 1978). However, little research has been conducted on how performance appraisal feedback can be conveyed to the ratee in a manner that ensures that the ratee will be satisfied with the process and will be motivated to act on the feedback. This paper will compare the impact of four different methods of providing feedback on ratee attitudes and subsequent performance.

Most of the studies relevant to this topic have been correlational field surveys, in which employee perceptions of the appraisal interview process are related to satisfaction with the interview and/or self-reported performance improvements after the interview. One such investigation was conducted by Dipboye & de Pontbriand (1981). These researchers administered questionnaires to employees who had received an appraisal in the past year. They concluded that positive employee perceptions of the appraisal interview were related to 1) discussion of plans and objectives in the interview, 2) perceived relevance of the performance measures, 3) favorability of the appraisal, and 4) opportunity to state one’s own side in the appraisal interview. Greller (1975), utilizing a similar survey design, also found that the invitation to participate and opportunity to state one’s own side were associated with feelings of being helped by the appraisal interview. Additional field surveys have confirmed that subordinate participation in appraisal discussion and goal-setting and perceived influence in the appraisal interview are positively related to employee satisfaction with the interview, the feedback source, and/or the perceived
helpfulness of the interview (Burke, Weitzel & Weir, 1978; Burke & Wilcox, 1969; Cederblom, 1982; Nemeroff & Waxley, 1979). These studies have also found that subordinate participation enhanced subsequent self-reported performance or reported motivation to improve.

The traditional alternative to participation, top-down supervisory feedback, has not fared so well in research. Kay, Meyer and French (1965) noted the detrimental effects of the critical, unilateral appraisal method in increasing defensiveness and actually reducing subsequent performance. A further disadvantage to supervisors as the sole source of feedback is that the information they provide may be seen as irrelevant or in error. Greller (1980) discovered that supervisors overestimated the importance of the feedback they provided and that subordinates placed more value and assigned greater credibility to feedback sources which were "closer" such as the task, themselves, and their co-workers.

The benefits of employee participation would seem to have been well documented. However, the studies discussed above draw their conclusions from correlational data. Furthermore, most of these studies used self-reported participation and performance measures. A critical test of these ideas would required that participation levels be manipulated and objective measures of performance be obtained.

In light of the problems associated with traditional supervisory feedback, some organizations have opted for more participative methods of providing performance feedback. Unfortunately, admonishing supervisors to act participatively may not be particularly effective in producing the desired results. Employee participation in the performance appraisal interview may be operationalized in many ways, from mere mention to total abdication of supervisory responsibility for the appraisal.
In this study, three variations on the "participative" appraisal will be delineated and compared to traditional top-down feedback. The first of these involves a simple invitation to the subordinate to participate in the appraisal by making comments and asking questions. The second involves use of a written self-appraisal which is not specifically discussed in the participative interview, and the final condition consists of discussing and reconciling self and superior appraisals filled out prior to the interview.

Self-Appraisal and Performance Feedback

A self-appraisal instrument provides a vehicle through which subordinate participation in the feedback process can be ensured. It can also provide the subordinate with a way to state his/her opinion without feeling threatened (Bassett & Meyer, 1968; Kay, Meyer & French, 1965). However, the use of self-assessment on the job has received relatively little attention. Bassett and Meyer (1968) conducted one of the few studies, and one of the only field studies, investigating the role of the self-appraisal in the performance appraisal process. In their study the main responsibility for the performance review was placed in the hands of the subordinate. Subordinates were instructed to rate their own performance on a standardized appraisal form, then to bring the completed form to the appraisal interview. Supervisors were directed not to accept the subordinates' self-ratings if they disagreed, but to insist they be modified until the manager was satisfied. Following the appraisal discussion both supervisor and subordinate were interviewed to determine their respective impressions of the performance feedback session. The results indicated that performance appraisal based on a self-review was more satisfying to managers and subordinates than manager-prepared appraisals. They also found that there was less defensiveness in appraisals based on self-review, as assessed by two
different measures of defensiveness. They concluded that there was a preponderance of evidence of both an objective and subjective variety that self-review appraisal interviews rather than manager-prepared forms resulted in:

1) a superior upward flow of information, in that the manager learned how the employee perceived his/her job responsibilities, 2) systematic thinking by the employee about his/her job and performance, 3) possible resolution or at least clarification of differences of opinion regarding job requirements and job performance. Although the self-appraisal has many positive aspects, there are some potential limitations to the exclusive use of a self-appraisal instrument in performance reviews and feedback discussion.

Disadvantages of the self-appraisal. Although Bassett and Meyer (1968) obtained positive results using a self-appraisal instrument, there was one clear drawback. Employees who had not previously participated in performance discussions were not satisfied with the self-appraisal approach. These employees stated that when supervisory appraisals were used, supervisor expectations were much clearer. These inexperienced employees appeared to want clarity and structure in the feedback session that the exclusive use of a self-appraisal instrument could not provide. Hillery and Wexley (1974) also found that participative appraisals were unsatisfying and relatively ineffective in changing behavior compared to top-down appraisals in a group of inexperienced trainees who expected and desired guidance from expert evaluators.

A second disadvantage associated with self-assessments is psychometric problems. Thornton's (1980) review concluded that self-appraisals over estimate skills and abilities, lack objectivity and reliability, and have less variability than supervisor-based assessments. For example, Meyer (1980) reported that 40% of employees, when asked to appraise themselves, placed themselves in the category, "one of the best - top 10%". His conclusion was
that most individuals have unrealistically favorable impressions of themselves. However, he also found that self-appraisals which would be revealed to one’s superior in an appraisal interview tended to be more realistic than self appraisals given to the researcher in confidence.

A combined self/supervisory appraisal may be successful in minimizing the disadvantages of either approach alone. Clearly a formal self-appraisal would acquaint the ratee with the rating instrument and rating criteria and would require systematic thought on the quality of one’s own performance according to these criteria. Input from the superior would provide the guidance desired by newer workers and help to control leniency error. Thus the best method for providing feedback in a participatory atmosphere might feature both self and superior assessments which are openly discussed in the appraisal interview.

However, instigation of systematic thinking may be sufficient in itself to enhance positive employee perceptions of the interview and subsequently motivate performance. It is not clear whether discussion of the ratings and resolution of disagreements with the superior is necessary. In fact, explicit discussion of self-ratings could conceivably trigger greater disagreement and defensiveness than in a less free-wheeling interview. In this study the effects of private self appraisal versus the effects of self appraisal plus open discussion of that appraisal will be assessed.

It was expected that all forms of participative feedback would result in more positive attitudes and perceptions on the part of the subordinate than top-down feedback. Specifically it was hypothesized that subordinate satisfaction, perceived feedback accuracy, and expectations of improving performance would be greatest in the participative conditions and that all forms of feedback would be superior to no feedback in terms of improving subsequent performance. In addition, a limited amount of literature indicated that use and
discussion of a self-appraisal might be an especially effective feedback technique because it guarantees that the subordinate has thought about his/her performance and requires active subordinate participation in the appraisal discussion. It is therefore tentatively hypothesized that the "joint" self and supervisory feedback method may be superior to all others.

Method

Subjects

One hundred thirty students served as subjects as part of a course requirement in introductory psychology. Of the 130 subjects, 22 served in a pretest, and 8 either did not return for a second performance session or provided data that was not useable. One hundred subjects were therefore included in the analyses (62 female, 38 male). Sixteen graduate and upper level undergraduate students (4 males, 12 females) served as evaluators and supervisors.

Procedure

Upon arrival at the experimental session, subjects were informed that they would be participating in an in-basket exercise. Introductory scripts were read which explained the task and subjects were allowed 60 minutes to work on the exercise. They then filled out several personality questionnaires (which served as a filler task) and a self-appraisal (depending on condition) while the assessor evaluated in-basket performance. Feedback sessions were then conducted (depending on condition), after which subjects were asked to complete a questionnaire regarding the performance feedback they had just received. Subjects returned for their second performance session one to three days later and completed the same in-basket exercise. No feedback was given after this session, subjects were simply debriefed and thanked for their participation.
Assessor Training

Assessors were provided with 3 hours of training regarding in-basket exercises, and were provided with a written guide to correct answers. Assessors who provided performance feedback received training specific to the condition to which they were assigned. This safeguard was taken to ensure that assessors would be unaware of the other experimental conditions. Assessors practiced conducting their assigned type of feedback discussion with the experimenter and with pilot subjects.

Design

Students were randomly assigned to 1 of 5 experimental conditions: 1) no feedback, 2) top-down feedback, 3) simple participative feedback, 4) self-appraisal with participative feedback, and 5) joint feedback.

In the no feedback condition subordinates received no feedback after they performed the in-basket exercise. In the top-down feedback condition, subordinates received feedback but were strongly discouraged from participating in the feedback session and were simply told how well or poorly they had performed on each dimension. In the simple participative feedback condition subordinates received performance feedback and were encouraged to participate in the feedback session. Assessors provided ratings for the subordinate and then solicited subordinate comments on these ratings. The self-appraisal participative feedback session was conducted much the same as the simple participative feedback condition. The only difference in this condition was that the subordinate had filled out a self-appraisal evaluating their own performance on the in-basket exercise, but which was not discussed in the feedback session. This condition served to test whether mere systematic thought regarding one’s own performance was sufficient to affect the dependent measures or if the self-appraisal had to be discussed in the feedback session in order to
effective. In the joint feedback condition, the self-appraisal was explicitly discussed in the feedback session. The self- and supervisory appraisals were compared, discrepancies were reconciled, and a combined rating form was filled out. The assessors emphasized that they and the subordinate had equal roles in the appraisal process. Self-appraisal instruments were identical to the forms used by the assessors.

**Measures**

**Satisfaction with feedback.** Subjects' satisfaction with feedback was assessed using a three item scale developed by Nemeroff & Hexley (1979). A sample item is: I found the interview to be a satisfying experience. Coefficient alpha was .65 for this scale.

**Perceived accuracy of feedback.** Subjects' perceptions of the accuracy of feedback were assessed with a five item scale developed by Stone, Gueutal & McIntosh (1984). A sample item is: The feedback was consistent with how I felt I performed on the task. Coefficient alpha was .94 for this scale.

**Expectations for improved performance.** Subjects' expectations for performance improvements were assessed with a three item scale developed for this study. A sample item is: Given the in-basket again, I would do better. Coefficient alpha was .75 for this scale.

**In-basket performance.** Each in-basket item was assessed on four dimensions: 1) social flexibility, 2) organization and planning, 3) decision-making, and 4) problem analysis. Performance was scored on a 1-5 scale with 1 representing not acceptable performance and 5 representing highly acceptable performance. Performance data were analyzed for each dimension as well as for a summed overall performance measure. In-basket materials, dimensions, and scoring keys were simplified from more extensive materials developed and validated by a Fortune 500 company.
Results

Interrater agreement. A randomly selected sample of 67 in-baskets from trial 1 was evaluated by a second assessor. Interrater reliability estimates were .51, .49, .47, .56, and .63 for the dimensions of social flexibility, organization and planning, decision making, problem analysis, and total performance, respectively.

Satisfaction with feedback. It was expected that subordinate satisfaction with feedback would be greater in the participative feedback conditions than in the top-down condition. Further, we tentatively hypothesized that the joint appraisal condition would result in the highest level of satisfaction. These hypotheses were tested using a one-way analysis of variance across feedback conditions. This analysis revealed a significant group difference $F(3,76)=3.831, p<.01$ on satisfaction. In order to examine where these differences occurred, Tukey's honestly significant difference (HSD) test was used. This test revealed that individuals in the simple participative feedback condition were significantly more satisfied with the feedback than subjects in the top-down feedback condition $F(3,76)=2.70, p<.05$. Similarly, individuals who participated in the joint feedback condition were significantly more satisfied with the feedback than individuals in the top-down feedback condition $F(3,76)=2.70, p<.05$. However, no significant differences were found between the private self-appraisal condition and the top-down feedback condition, nor were significant differences found between any of the participative feedback conditions. Means and standard deviations of all attitudinal measures in each condition appear in Table 1.
**Perceived accuracy of feedback.** It was also expected that perceived accuracy of feedback would be greater in the participative conditions than in the top-down feedback condition and that the joint condition might result in the greatest perceived accuracy. A one-way ANOVA revealed a significant difference between groups $F(3,76)=3.82, p<.01$. Tukey's HSD test revealed that subjects in the joint feedback condition perceived the feedback as more accurate than those in the top-down feedback condition, $F(3,76)=6.14, p<.05$. No other differences between groups were significant.

**Expectations for improved performance.** It was suggested that subjects' expectations for improved performance would be greater in the participative feedback condition and that the joint feedback condition might result in the greatest expectation for improved performance. However, a one-way ANOVA revealed no significant differences between feedback conditions.

**Performance.** Finally, it was hypothesized that actual performance improvements would be greater in the participative feedback conditions than in the top-down or no-feedback condition, and that the joint feedback condition might result in the greatest performance improvements. These hypotheses were tested using a multivariate repeated measures analysis of variance with feedback condition as the between subjects factor, performance by dimensions as the dependent variables, and time as the repeated factor.

A significant time effect was found ($F(1,86)=12.06, p<.01$), indicating that subjects performed slightly better the second time than the first time they took the in-basket. A significant condition effect was found, due to initial non-equivalence of groups. However, there was not a significant interaction, meaning that no condition produced substantially greater gains in performance than any other. Means and standard deviations of performance measures in each condition are shown in Table 2.
Discussion and Conclusion

Practitioners have suggested that self-appraisals are a useful technique for structuring participative feedback sessions (Gelbard, Lee, and Lupton, 1983; Teel, 1978), however no systematic studies have thoroughly investigated this idea. The purpose of this study was to experimentally assess the effects of several methods of delivering feedback, including two methods involving self appraisal. Hypotheses about subordinate reactions to feedback and actual performance following feedback were tested under four feedback and one no-feedback conditions. The hypotheses received mixed support.

We first suggested that subordinate satisfaction would be greater under any participative feedback approach than under the top-down feedback condition. Analyses revealed that of the three participative feedback conditions (simple participative, private self-appraisal, and joint appraisal), both simple participative and joint appraisal conditions produced more subordinate satisfaction with feedback than the top-down condition, suggesting that almost any type of participation may be sufficient to produce subordinate satisfaction. This finding is consistent with past research which suggests that subordinate participation in an appraisal session leads to positive subordinate perceptions.

An unexpected yet interesting finding was that subordinate satisfaction with feedback in the private self-appraisal feedback condition was not superior to the non-participative condition. One explanation may be that subjects felt frustrated that their opinions regarding their own performance were solicited on paper but never referred to again.

The second hypothesis suggested that perceived accuracy of performance feedback also would be greatest in the joint feedback condition, and that all participatory conditions would be seen as more accurate than the top-down condition. It was found that subjects did perceive significantly greater
accuracy in the joint feedback approach than in the top-down approach. Neither simple participative feedback nor private self-appraisal differed significantly from top-down feedback or joint feedback. This result, although not fully supportive of the hypothesized relationship, does follow from previous literature. Landy et al. (1978) found that perceived accuracy of feedback was consistently related to supervisor knowledge of subordinate performance. The joint approach was the only condition that provided a structured upward flow of information. Accordingly, the joint feedback condition resulted in the greatest amount of subordinate perceived accuracy. If the subordinate and supervisor discuss discrepancies that occur in their ratings, misunderstandings regarding subordinate intentions and job requirements can be reviewed and understood. The other participative methods, which did not guarantee a systematic exchange of information, resulted in intermediate levels of rated accuracy.

The final hypotheses stated that expectations for improved performance and actual time 2 performance would be greater for subjects in the participative feedback approaches than in the non-participative conditions. Also, we suggested that the joint feedback condition would provide the greatest increase in these dependent variables. Univariate and multivariate analysis of variance procedures revealed no significant differences across feedback conditions for the dependent variables of expected or actual performance improvements. The fact that actual performance did not improve differentially may be due to unreliability in the ratings of performance. Given the intended objectivity of the in-basket scoring system, interrater reliability was rather low. Another problem encountered in the study was the type of feedback given. Unfortunately, a parallel form of the in-basket was not available, so the same items were used both times. This had the advantage of assuring that changes in performance would be due to feedback condition rather than task differences. On the other
hand, in order to prevent all feedback condition subjects from having perfect scores at time 2, assessors were trained to provide general rather than highly specific feedback. Both feedback and goal-setting experts (Ilgen et al., 1979; Locke et al., 1981) suggest that performance is strengthened by specific support for feedback, therefore specific critical incidents should be included in performance feedback. Since specificity was not possible, it is conceivable that subjects felt role and task ambiguity and were unaware of how to improve their performance.

Overall, the results of the study are mixed. The findings indicate contrary to Hillery & Wexley (1973) but in support of others (Bassett & Meyer, 1968; Cedarblom, 1982; Cummings, 1973; Greller, 1975) that participative feedback does have positive effects. The use of self-appraisal in the feedback interview seems to have enhanced the effects of participation for the perceptual variables of satisfaction and accuracy. Kanfer, Sawyer, Earley & Lind (1985) suggest that an upward flow of information, as was provided in this study by the joint appraisal condition, should affect perceptual variables but appears insufficient alone to improve task performance. They further state that both an upward flow of information from subordinate to supervisor and a downward flow from supervisor to subordinated are necessary to effect performance changes. The extent to which such a reciprocal flow of information actually occurred in this study can be estimated by looking at the impact of initial self rating and initial supervisor rating on the final joint ratings made after the performance discussion. The partial correlations between self- and supervisory appraisal and joint appraisal suggest that a reciprocal flow of information did not take place. The high partial correlations between supervisory and joint appraisals with the self-appraisals removed (Mean r=.83) and the relatively low partial correlations between self and joint appraisals with the effect of supervisory
appraisals removed (Mean r = .44) indicate that the combined ratings were probably not equally influenced by upward and downward information sources.

Future research is needed to test and develop ways of enhancing and encouraging subordinate participation in the performance appraisal process. The use of a self-appraisal may well be a viable method of accomplishing this. However, future studies may extend the present work by investigating longitudinal effects of this type of feedback on performance, allowing for more specific and helpful feedback, and exploring the effect of self-supervisor appraisal discrepancy on reactions to the appraisal process. It may be that self-appraisal is unnecessary when superiors and subordinates initially agree on subordinate performance. Self appraisals may be very beneficial if there is moderate disagreement, but conceivably could increase conflict and defensiveness if there is great disagreement.
References


Table 1

Means and Standard Deviations of Satisfaction with Feedback by Feedback Condition.

<table>
<thead>
<tr>
<th>Feedback condition</th>
<th>Satisfaction</th>
<th>Accuracy</th>
<th>Expectation</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td>Top-down</td>
<td>4.82</td>
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<td>Simple participative</td>
<td>5.72</td>
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<td>4.64</td>
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<td>Joint appraisal</td>
<td>5.72</td>
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<td>5.51</td>
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### Table 2

Means and Standard Deviations for Performance Across Trials and Feedback Conditions.

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<th>Condition</th>
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<th>Time 1 M</th>
<th>Time 1 SD</th>
<th>Time 2 M</th>
<th>Time 2 SD</th>
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<td>No Feedback</td>
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<td>1.44</td>
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LIST 3
NAVMAT & NPRDC

NAVMAT

Program Administrator for Manpower, Personnel, and Training
MAT-0722
800 N. Quincy Street
Arlington, VA 22217

Naval Material Command
Management Training Center
NAVMAT 09M32
Jefferson Plaza, Bldg #2, Rm 150
1421 Jefferson Davis Highway
Arlington, VA 20360

Naval Material Command
Deputy Chief of Naval Material, MAT-03
Crystal Plaza #5
Room 236
Washington, DC 20360

Naval Personnel R&D Center
Technical Director
Director, Manpower & Personnel Laboratory, Code 06
Director, System Laboratory, Code 07
Director, Future Technology, Code 04
San Diego, CA 92152-6800

Navy Personnel R&D Center
Washington Support Office
Ballston Tower #3, Room 171
Arlington, VA 22203-1923
Naval Hospital
Psychology Department
San Diego, CA 92134

Commanding Officer
Naval Submarine Medical Research Laboratory
NaVL Submarine Base
New London, Box 900
Groton, CT 06349

Commanding Officer
Naval Aerospace Medical Research Lab
Naval Air Station
Pensacola, FL 32508

Naval Medical R&D Command
Program Manager for Human Performance (Code 404)
National Naval Medical Center
Bethesda, MD 20014

Wilkins Biomedical Library
Naval Health Research Center
P.O. Box 85122
San Diego, CA 92138-9174
LIST 5
NAVAL ACADEMY AND NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School
ATTN: Chairman, Dept. of
   Administrative Science
Department of Administrative Sciences
Monterey, CA 93940

U.S. Naval Academy
ATTN: Chairman, Department
   of Leadership and Law
Stop 7-B
Annapolis, MD 21402

Superintendent
ATTN: Director of Research
Naval Academy, U.S.
Annapolis, MD 21402
Commanding Officer
Organizational Effectiveness Center
Naval Training Center
San Diego, CA 92133-9000

Commanding Officer
Organizational Effectiveness Center
Naval Submarine Base New London
P.O. Box 81
Groton, CT 06349

Commanding Officer
Organizational Effectiveness Center
Naval Air Station
Mayport, FL 32228

Commanding Officer
Organizational Effectiveness Center
Pearl Harbor, HI 96860

Commanding Officer
Organizational Effectiveness Center
Naval Base (Bldg. NH-46)
Charleston, SC 29408

Commanding Officer
Leadership & Organizational Effectiveness School
Naval Air Station Memphis
Millington, TN 38054-5099

Commanding Officer
Organizational Effectiveness Center
1300 Wilson Boulevard, rm 114A8
Arlington, VA 22209
Commanding Officer
Organizational Effectiveness Center
5621-23 Tidewater Drive
Norfolk, VA 23509

Commander
Organizational Effectiveness Center
5621 Tidewater Drive
Norfolk, VA 23509

Commanding Officer
Organizational Effectiveness Center
Naval Air Station Whidbey Island
Oak Harbor, WA 98278-9000

Commanding Officer
Organizational Effectiveness Center
Box 23
FPO New York 09510

Commanding Officer
Organizational Effectiveness Center
Box 60
FPO San Francisco 96651

Commanding Officer
Organizational Effectiveness System, Pacific
Pearl Harbor, HI 96860

Commanding Officer
Organizational Effectiveness System, Atlantic
5621 Tidewater Drive
Norfolk, VA 23509

Commanding Officer
U.S. Navy Organizational Effectiveness System, Europe
FPO New York 09510

Commanding Officer
U.S. Navy Organizational Effectiveness Center
Box 4
FPO Seattle 98762-2920
Naval Military Personnel Command (2 copies) HRM Department (NMPC-6) Washington, DC 20350

Commander Naval Training Equipment Center (Code 1 - Resource Center) Orlando, FL 32813

Commanding Officer ATTN: TIC, Bldg. 2068 Naval Training Equipment Center Orlando, FL 32813

Chief of Naval Education & Training (N-22) Naval Air Station Pensacola, FL 32508

Chief of Naval Technical Training ATTN: Code D17 NAS Memphis (75) Millington, TN 38054

Navy Recruiting Command Director, Recruiting Advertising Dept. Code 43 801 North Randolph Street Arlington, VA 22203

Navy Weapons Center Code 094 China Lake, CA 93555

Dr. Eduardo Salas Human Factors Division (Code 712) Navy Training Systems Center Orlando, FL 32813-7100
Headquarters, U.S. Marine Corps
Code MPI-20
Washington, DC 20380

Headquarters, U.S. Marine Corps
ATTN: Scientific Adviser,
Code RD-1
Washington, DC 20380

Director
Education Center (E 032B)
MCDEC
Quantico, VA 22134-5050

Commanding Officer
Education Center (E031)
MCDEC
Quantico, VA 22134

Marine Corps Command and
Staff College
Education Center
Quantico, VA 22134
LIST 9
OTHER FEDERAL GOVERNMENT

Defense Advanced Research
Projects Agency
Director, Cybernetics
Technology Office
1400 Wilson Blvd, Rm 625
Arlington, VA 22209

Professor Douglas E. Hunter
Defense Intelligence School
Washington, DC 20374-6111

Dr. Brian Usilaner
GAO
Washington, DC 20548

School Management Unit
National Institute of Education
1200 19th Street, N.W.
Mail Stop 17
Washington, DC 20208

National Institute of Mental Health
Division of Extramural Research Programs
5600 Fishers Lane
Rockville, MD 20852

Information Analyst
Center for Studies of Minority Group
Mental Health
Parklawn Building, Rm 11-94
5600 Fishers Lane
Rockville, MD 20857

Chief, Personnel Policy Analysis Branch
U.S. Coast Guard (G-P-1/2)
Washington, D.C. 20593

Social and Developmental Psychology
Program
National Science Foundation
Washington, D.C. 20550
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Department of Economics & Management  
U.S. Coast Guard Academy  
New London, CT 06320

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National Defense University  
Mobilization Concepts Development Center  
Washington, D.C. 20319

Chairman, Dept. of Medical Psychology  
School of Medicine  
Uniformed Services University of the Health Sciences  
4301 Jones Bridge Road  
Bethesda, MD 20814
Headquarters, FORSCOM
ATTN: AFPR-HR Lt. Col. Sellards
Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Ft. Leavenworth
P.O. Box 290
Leavenworth, TX 66048

Technical Director
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

Head, Department of Behavior Science and Leadership
U.S. Military Academy, New York 10996

LTC. Frederick J. Manning
Deputy Director
Division of Neuropsychiatry
Walter Reed Army Institute
Washington, DC 20307-5100

Army Military Personnel Command
ATTN: DAPC-DE
200 Stovall Street
Alexandria, VA 22322

Army Research Institute
ATTN: PERI-SF (Maj. Dennis Leedom)
5001 Eisenhower Avenue
Alexandria, VA 22333

Commandant
USA OEC
ATTN: ATXW-RMA-S
Ford Ord, CA 93941-7300
LIST II
AIR FORCE

Air University Library
LSE 76-443
Maxwell AFB, AL 36112

Head, Department of Behavioral Science and Leadership
U.S. Air Force Academy, CO 80840

Major Robert Gregory
USAFA/DFBL
U.S.A.F. Academy
Colorado Springs, CO 80840-5941

A. R. Fregley
AFOSR/NL
Building 410
Bolling Air Force Base
Washington, DC 20332-6448

Technical Director
AFHRL/MD(T)
Brooks AFB
San Antonio, TX 78235

AFHRL/MDCYPR
Randolph AFB, TX 78150
LIST 12
MISCELLANEOUS

Australian Embassy
Office of the Air Attaché (S3B)
1601 Massachusetts Avenue, N.W.
Washington, D.C. 20036

British Embassy
Scientific Information Office
Room 615
3100 Massachusetts Avenue NW
Washington, DC 20008

Canadian Defense Liaison Staff,
Washington
ATTN: CDRD
2450 Massachusetts Avenue, N.W.
Washington, DC 20008

Commandant, Royal Military
College of Canada
ATTN: Department of Military
Leadership and Management
Kingston, Ontario K7L 2W3

National Defense Headquarters
ATTN: DPSRSC
Ottawa, Ontario K1A 0K2
LIST 13
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Graduate School of Management  
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