

AD-A178 754

PERFORMANCE APPRAISAL - A PROCESS APPROACH(U)
CONNECTICUT UNIV STORRS DEPT OF PSYCHOLOGY
J L BARNES-FARRELL FEB 87 TR-87-3 N00014-86-K-0077

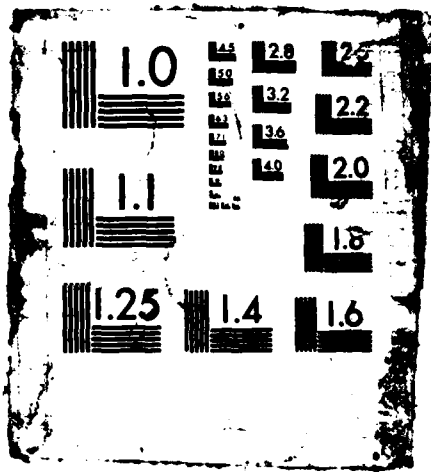
1/1

UNCLASSIFIED

F/G 5/9

NL





AD-A178 754

12

Performance Appraisal: A Process Approach
A Final Report

by

Janet L. Barnes-Parrell
University of Connecticut

DTIC
ELECTE
MAR 25 1987
S D

Prepared for
Office of Naval Research
Group Psychology Unit

Contract No. N00014-86-K-0077

Period Covered: 15 September 1986 - 14 September 1986

Technical Report No. 87-3

February 1987

DISTRIBUTION STATEMENT A

Approved for public release
Distribution Unlimited

DTIC FILE COPY

87 3 24 011

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 87-03	2. GOVT ACCESSION NO. AD-A178754	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Performance Appraisal: A Process Approach Final Report		5. TYPE OF REPORT & PERIOD COVERED Final Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Janet L. Barnes-Farrell		8. CONTRACT OR GRANT NUMBER(s) N00014-86-K-007
9. PERFORMING ORGANIZATION NAME AND ADDRESS Department of Psychology, U-20 University of Connecticut Storrs, CT 06268		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 170-960
11. CONTROLLING OFFICE NAME AND ADDRESS Group Psychology Unit Office of Naval Research Arlington, VA 22217-5000		12. REPORT DATE February 1987
		13. NUMBER OF PAGES 9
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Performance appraisal Rating accuracy		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The report briefly describes research conducted during the one year period of this contract. Products of the contract are described; and reports and convention presentations made during the period of support are listed.		

Performance Appraisal: A Process Approach

A Final Report

Performance appraisal systems play an important role in the effective functioning of any large organization. However, in spite of their relevance and the increasing demand for effective performance appraisal systems, our ability to improve these systems seems to have reached a plateau. In order to advance beyond our present state with regard to performance appraisal, it is necessary to have a better understanding of the psychological processes involved as one person makes judgments about the performance of another.

The theoretical positions which have been developed in the field of social cognition provide a useful framework for examining these processes, since performance appraisal is essentially a cognitive task performed within the social and motivational constraints of a particular type of social situation. Therefore, the purpose of this one-year research contract was to adopt a process view to performance appraisal and then explore and test assumptions from this framework with empirical research. Variables that have been identified as important to appraisal were manipulated and/or measured, in order to explore those factors that influence the accuracy of performance appraisals. Specifically, the purpose of this contract was to continue and complete research already begun under contracts to Barnes-Farrell and Ilgen (#N00014-82-K-0449) and to Barnes-Farrell (#N00014-83-K-0757).

The bulk of the work carried out under this contract focused on four issues: (1) the development of procedures and materials for indexing the accuracy of performance assessments; (2) an examination of the



<input checked="" type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
y Codes	
nd/or	
cial	
A-1	

processes underlying occupational age-typing; (3) the impact of gender-related variables in the evaluation context on the process and accuracy of performance appraisal; and (4) the integration and evaluation of recent empirical research which has examined performance appraisal from a process perspective. The work performed relevant to each of these issues is briefly summarized below.

Indexing Accuracy

A time-consuming, but extremely important, project for this contract was the completion of the development and testing of laboratory materials that would allow us to index the accuracy with which performance measurements are made. Three types of materials were developed: videotaped samples of waiter/waitress performance, with accompanying measurement instruments; stimulus materials for the controlled presentation of distributions of performance for the job "field interviewer"; and paper-and-pencil measures for the evaluation of performance in a variety of gender-typed occupations.

Videotapes. The most extensive and ambitious effort undertaken for this project was the development of a set of videotaped vignettes of performance for the occupation "waiter/waitress". Production of the videotapes and the accompanying BARS scales used to index the accuracy of performance assessments was completed under previous contracts, and is described in detail in Barnes-Farrell, L'Heureux-Barrett & Kealy (1986). During the current contract, these materials were used to produce interactive-video programs intended to fulfill two purposes. First, interactive-video technology provides an efficient means of controlling and presenting known stimulus materials to subjects, and for

recording their assessments of performance. Programs allowing us to interface our videotaped stimulus materials with the computer allow us to select and control the order and amount of performance information that subjects encounter when they are given the task of appraising worker performance. They will be of continuing value to us as we continue to explore the impact of various aspects of the appraisal context and the appraisal task on the accuracy of performance measurement. Second, this approach represents a very practical application of our research materials for the purpose of training appraisers to improve the quality of their performance assessments. The rationale and procedures which were used to develop our prototype interactive training program are described in Kealy, Barnes-Farrell & L'Heureux-Barrett (1987).

Distributional Measurement. A second approach to presenting appraisers with realistic, but known, samples of worker performance is the distributional measurement approach developed and endorsed by Kane (cf. Kane, 1980). Materials originally developed by Dr. Kane for the evaluation of "field interviewer" performance were revised and pretested under this contract. Although there appeared to be some problems initially with one of the performance dimensions being manipulated with these materials, these problems have been resolved, and we have now produced stimulus materials which will allow us to simulate actual distributions of worker performance over extended periods of time, rather than tapping into performance at a single point in time, as is typically done in appraisal research.

Gender-typed Occupations. The final group of stimulus materials produced for this contract is a collection of paper-and-pencil measures which describe behaviors associated with known levels of performance for a variety of male-dominated and female-dominated occupations. These materials are accompanied by behaviorally anchored rating scales designed to measure work performance on the underlying performance dimensions represented by these behavioral descriptions. Portions of the development work on these materials were carried out in collaboration with Drs. Jeanette Cleveland and Kevin Murphy of Colorado State University. The stimulus materials were subsequently used to conduct two studies which are described later in this report, and are currently being utilized in additional studies of the appraisal process.

Occupational Age-typing.

Two studies were conducted which addressed the processes underlying age-typing in work organizations. Both studies have implications for understanding the conditions under which age discrimination is likely to occur. As such, they address one possible source of contamination in the assessment of worker performance. First, a pair of laboratory experiments by Barnes-Farrell (1985) investigated the evidence for the existence of occupational age-typing. Barnes-Farrell argued that age-typing may be the logical outcome of the process of matching age-related social stereotypes of workers with our expectations about the skills required by different occupations. The results of these experiments support her contention that some occupations are age-typed, and that the "age-type" of an occupation is closely associated with the types of skills thought to be required by that occupation. A second study, by

Barnes-Farrell and L'Heureux-Barrett (1986), was designed to investigate the implicit personality theories that adults hold about the work-related characteristics associated with workers of different ages. Although a number of studies have investigated social stereotypes that our society holds about the elderly, we have very little empirical data about our perceptions of older workers. In particular, it is important to identify our expectations about the relationship between worker age and work-related skills. In this field survey, we were able to operationalize age stereotypes in terms of profiles of the work-related skills believed to be held by workers in different age groups. The profiles provide a means of identifying the kinds of occupations that are likely to be of particular concern to employers because of the increased potential for age discrimination in personnel decisions concerning workers in these occupations.

Gender-related Variables and the Appraisal Process.

Barnes-Farrell and L'Heureux-Barrett (1987) conducted a laboratory investigation which focused on the effects of job and task gender-typing on rating accuracy. It was found that the accuracy of ratings of task performance was significantly affected by the interaction between the gender-type of the task and the gender-type of the job in which the worker was employed, although worker gender did not affect either the level or the accuracy of performance evaluations. The reasons that performance information in task areas which are congruent with the gender-type of the job is evaluated more accurately are unclear. One plausible explanation is that the most elaborate category structures accessible when evaluating workers in female-typed occupations will be

those that are closely associated with the female sex role stereotype. Similarly, the accurate evaluation of performance in male-typed task areas may be easier to accomplish in the context of male-typed occupations because the job context increases the accessibility of male-typed categories. This interpretation is consistent with suggestions made by a number of researchers regarding the cognitive processes which lead to accurate appraisal of social information. A second study by Barnes-Farrell and L'Heureux-Barrett (1987) examined the manner in which task evaluations, once made, are integrated to form overall evaluations of employee work performance. It was expected that the manner in which performance information is weighted and combined may also be affected by gender-related variables. Of particular interest in the study was the way in which worker gender might affect the relative weighting of positive and negative performance information. A significant interaction of performance level and target sex was observed, suggesting that performance information is integrated differently for male workers and female workers. The results of these two experiments demonstrate that there are a number of ways that gender may play a role in the way we carry out the cognitive tasks which underly the accurate appraisal of employee work performance. These go beyond the direct effects of worker gender and the interactive effects of worker gender and occupation on the level of performance ratings. The gender-related effects of the context in which evaluations of behavioral information are made, and on the manner in which such evaluations are combined suggest that sex discrimination in the level of performance ratings and the allocation of rewards may be only the most visible outcomes of the way we view men and women at work.

Evaluation of Current Research on Performance Rating Accuracy.

A final product supported by this research contract is an integrative literature review which represents a collaboration between this contract and a similar program of research conducted by Dr. Daniel Ilgen of Michigan State University (Ilgen, Barnes-Farrell & McKellin, 1986). Our purpose was to examine the research which has been generated by the recent refocusing of the performance appraisal field on cognitive processes. The review focuses on the relative contributions of this "change of course" to our understanding of accurate performance assessment, and to the identification of interventions and systems designs which may facilitate accurate appraisal. Specifically, a conceptual framework for performance appraisal from the appraiser's perspective is presented, and the empirical research between 1980 and 1986 is evaluated as it relates to that framework.

REFERENCES¹

- * Barnes-Farrell, J. L. (1985, August). Process underlying occupational age-typing. Paper presented at the annual convention of the American Psychological Association, Los Angeles, CA.
- * Barnes-Farrell, J. L. & L'Heureux-Barrett, T. (1986). Age stereotypes of work-related skills. Unpublished manuscript, University of Connecticut.
- * Barnes-Farrell, J. L. & L'Heureux-Barrett, T. (1987a). Effect of work, task, and job gender-type on performance appraisal accuracy. Unpublished manuscript, University of Connecticut.
- * Barnes-Farrell, J. L. & L'Heureux-Barrett, T. (1987b). Effects of performance level and worker gender on the integration of performance information. Unpublished manuscript, University of Connecticut.
- * Barnes-Farrell, J. L., L'Heureux-Barrett, T. & Kealy, W. (1987, February). Development and evaluation of a laboratory measure of accuracy in performance appraisal. (Technical report #87-01). Office of Naval Research, University of Connecticut.
- * Ilgen, D. R., Barnes-Farrell, J. L. & McKellin, D. B. (1986, July). Performance rating accuracy. Paper presented at the 21st International Congress of Applied Psychology, Jerusalem, Israel.

Kane, J. S. (1980, April). Alternative approaches to the control of systematic error in appraisals. Paper presented at the 1st Annual Scientist-Practitioner Conference in Industrial/Organizational Psychology, Virginia Beach, VA.

* Kealy, W., Barnes-Farrell, J. & L'Heureux-Barrett, T. (1987, February). The development of a prototype for PAR training using interactive video computer-assisted-instruction. (Technical Report #87-02). Office of Naval Research, University of Connecticut.

¹ Research which was supported by this contract is indicated by an asterisk (*).

LIST 1 MANDATORY*

Defense Technical Information Center (12)
ATTN: DTIC DDA-2
Selection & Preliminary Cataloging Section
Cameron Station
Alexandria, VA 22314

Library of Congress
Science and Technology Division
Washington, DC 20540

Office of Naval Research (3)
Code 4420E
800 N. Quincy Street
Arlington, VA 22217

Naval Research Laboratory (6)
Code 2627
Washington, DC 20375

Office of Naval Research
Director, Technology Programs
Code 200
800 N. Quincy Street
Arlington, VA 22217

LIST 2 ONR FIELD

Psychologist
Office of Naval Research
Detachment, Pasadena
1030 East Green Street
Pasadena, CA 91106

LIST 3 OPNAV

Deputy Chief of Naval Operations
(Manpower, Personnel & Training)
Head, Research, Development, and
Studies Branch (OP-115)
1812 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, & Training)
Director, Human Resource Management
Plans & Policy Branch (OP-150)
Department of the Navy
Washington, DC 20350

Director
Civilian Personnel Division (OP-14)
Department of the Navy
1803 Arlington Annex
Washington, DC 20350

LIST 4 NAVMAT & NPRDC

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 Personnel R&D Center (4)
Technical Director
Director, Manpower & Personnel
Laboratory, Code 06
Director, System Laboratory, Code 07
Director, Future Technology, Code 41
San Diego, CA 92152

*Number in parentheses is the number of copies to be sent.

Navy Personnel R&D Center
Washington Liaison Office
Ballston Tower #3, Rm 93
Arlington, VA 22217

LIST 5 BUMED

NONE

LIST 6
NAVAL ACADEMY AND NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School (3)
ATTN: Chairman, Dept. of
Administrative Science
Department of Administrative Sciences
Monterey, CA 93940

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

LIST 7 HRM

Officer in Charge
Human Resource Management Division
Naval Air Station
Mayport, FL 32228

Human Resource Management School
Naval Air Station Memphis (96)
Millington, TN 38054

Commanding Officer
Human Resource Management School
Naval Air Station Memphis
Millington, TN 38054

LIST 8 NAVY MISCELLANEOUS

Naval Military Personnel Command (2)
HRM Department (NMPC-6)
Washington, DC 20350

LIST 9 USMC

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

LIST 10 OTHER FEDERAL GOVERNMENT

Dr. Brian Usilaner
GAO
Washington, DC 20548

Social and Developmental Psychology
Program
National Science Foundation
Washington, DC 20550

Office of Personnel Management
Office of Planning and Evaluation
Research Management Division
1900 E. Street, NW
Washington, DC 20415

LIST 11 ARMY

Technical Director (3)
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

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

LIST 12 AIR FORCE

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

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

LIST 13 MISCELLANEOUS

Dr. Eduardo Salas
Human Factors Division
Code 712
Navy Training Systems Center
Department of the Navy
Orlando, FL 32813-7100

LIST 14 CURRENT CONTRACTORS

Dr. Janet L. Barnes-Farrell
Department of Psychology U-20
University of Connecticut
406 Cross Campus Road
Storrs, CT 06268

Dr. Lawrence R. James
School of Psychology
Georgia Institute of Technology
Atlanta, GA 30332

Jeanne M. Brett
Northwestern University
Graduate School of Management
2001 Sheridan Road
Evanston, IL 60201

Dr. J. Richard Hackman
School of Organization & Management
Box 1A
Yale University
New Haven, CT 06520

Dr. Terry Connolly
Georgia Institute of Technology
School of Industrial & Systems
Engineering
Atlanta, GA 30332

Dr. Frank J. Landy
Department of Psychology
Pennsylvania State University
450 Moore Bldg.
University Park, PA 16802

Dr. Richard Daft
Texas A&M University
Department of Management
College Station, TX 77843

Dr. Bibb Latane
University of North Carolina
at Chapel Hill
Manning Hall 026A
Chapel Hill, NC 27514

Dr. Randy Dunham
University of Wisconsin
Graduate School of Business
Madison, WI 53706

Dr. Edward E. Lawler III
Graduate School of Business
University of Southern California
Los Angeles, CA 90007

Dr. William H. Mobley
College of Business Administration
Texas A&M University
College Station, TX 77843

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
404C West 17th Avenue
Columbus, OH 43210

Dr. Robert Rice
Department of Psychology
SUNY - Buffalo
Buffalo, NY 14226

Dr. Benjamin Schneider
Department of Psychology
University of Maryland
College Park, MD 20742

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard M. Steers
Graduate School of Management
University of Oregon
Eugene, OR 97403

Dr. Harry C. Triandis
Department of Psychology
University of Illinois
Champaign, IL 61820

Dr. Anne S. Tsui
Duke University
The Fuqua School of Business
Durham, NC 27706

Andrew H. Van de Ven
University of Minnesota
Office of Research Administration
1919 University Avenue
St. Paul, MN 55104

END

5-87

DTic