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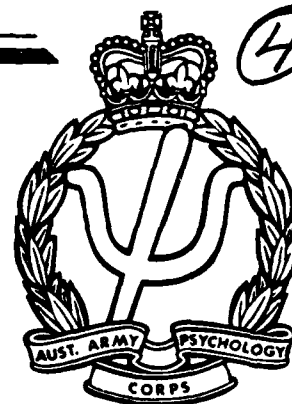
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THE GROUP SELECTION OR ASSESSMENT CENTRE (AC)  
APPROACH TO PERSONNEL SELECTION: AN ANNOTATED BIBLIOGRAPHY

BY

MAJOR T.P. HODGE

**1st PSYCHOLOGICAL  
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| 16. Abstract<br><p>&gt; With the continuing use of the group selection method by the Australian Army for officer selection comes the need to review the available literature not so much to reconsider the commitment to this approach but to evaluate the potential of the developments and refinements which have occurred since the WOSB was adopted in 1954. What follows is an annotated bibliography of books, journal articles and research reports dealing with the group selection/assessment centre approach in general and the WOSB in particular. Although the literature surveyed and reviewed in this report is considered to be comprehensive, it is by no means exhaustive.</p> |                                          |                                                                                                                                                 |                    |

Technical Note 1/88

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Major T.P. Hodge

February 1988



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**Abstract**

With the continuing use of the group selection method by the Australian Army for officer selection comes the need to review the available literature not so much to reconsider the commitment to this approach but to evaluate the potential of the developments and refinements which have occurred since the WOSB was adopted in 1954. What follows is an annotated bibliography of books, journal articles and research reports dealing with the group selection/assessment centre approach in general and the WOSB in particular. Although the literature surveyed and reviewed in this report is considered to be comprehensive, it is by no means exhaustive.

## INTRODUCTION

1. The procedure followed by the Australian Army since 1954 for the selection of officer trainees is directly derived from the War Office Selection Board (WOSB) introduced to the British Army in 1942. In turn developed from an approach pioneered by the German Wehrmacht before World War II, the WOSB was also adapted in the United States of America initially for the selection and classification of personnel in public and private civilian employment.

2. In what became known in the US as the "assessment centre" method, group selection essentially involves observation and evaluation of the candidate across a variety of tasks and contexts and, in contrast to the simple selection interview, over an extended period. As well as employing multiple tasks or methods of assessment, group selection involves multiple assessors or an experienced panel of observers who follow a "holistic" approach to assessment, i.e. concerned with many dimensions of performance leading to a single assessment. (Australian Army Officer Selection Board Manual for Group Procedures, 1986). As noted by Earles & Winn (1977), the approach has many advantages over "traditional" supervisor-oriented selector systems: first, assessors are rigorously trained and usually non-acquaintances of the candidates; secondly, it focusses directly on the job-related behaviour of candidates; thirdly, the tasks or exercises are standardised and job-specific; and, fourthly, it has face validity.

3. Following its establishment in the US by the Office of Strategic Services (OSS Assessment Staff, 1948) during the latter part of World War II, the assessment centre method was rapidly and widely adopted by industry and government agencies not only for the selection of supervisory and managerial staff but for individual career planning and development. Accompanying this increasing use of group selection was a growing body of literature reporting its latest application and evaluating its reliability and validity. Within the US, the level of interest was such that publication was commenced in 1978 of the Journal of Assessment Center Technology. Prior to that and at least as early as 1972, chapters dealing with personnel selection in the Annual Review of Psychology regularly reported under separate heading developments in the assessment centre method.

4. With the continuing use of the group selection method by the Australian Army for officer selection comes the need to review the available literature not so much to reconsider the commitment to this approach but to evaluate the potential of the developments and refinements which have occurred since the WOSB was adopted in 1954. What follows is an annotated bibliography of books, journal articles and research reports dealing with the group selection/assessment centre approach in general and the WOSB in particular. Although the literature surveyed and reviewed in this report is considered to be comprehensive, it is by no means exhaustive. A number of relevant references

identified for inclusion were unavailable within the time or through the resources available. Wherever possible, these references have been listed without annotation. Also included are a number of references unavailable to the present author but which had been incorporated in Earles & Winn's 1977 annotated bibliography. These are acknowledged where they occur.

5. The articles reviewed in this report were principally identified from Psychological Abstracts, Personnel & Training Abstracts, the Annual Review of Psychology and from reference lists and material provided through the 1st Psychological Research Unit library. For the latter, the author is grateful to SGT Rick Dawson of 1st Psychological Research Unit.

#### BIBLIOGRAPHY

Acker, S.R., & Perlson, M.R. (1971). Can we sharpen our management of human resources? Corporate Personnel Department, Company Distribution, Olin Corporation. (From Earles & Winn, 1977).

Reports the implementation of an assessment centre program for selection of foremen by a division of Olin Corporation. The AC method is justified as a program which permits fixed standards of evaluation. Candidates were assessed in four groups approximately one week apart with the same assessors used each time. It was found that assessors developed stricter standards during this period and that their ratings began to agree more closely over this period. While no validation was made, the program was considered successful because of the training and experience received by the assessors and because of the acceptance by and developmental benefit to the assessees.

Albrecht, P.A., Glaser, E.M., & Marks, J. (1964). Validation of a multiple-assessment procedure for managerial personnel. *Journal of Applied Psychology*. 48, 361-360.

Reports the results of a study using a multiple-assessment procedure to predict the performance of 31 individual managers. Concludes that:

- predictions based on a multiple-assessment procedure were significantly related to criterion rankings of managerial performance made by two sets of superiors and by a set of peers;
- while two objective tests of intellectual functions showed some statistically significant relations to the criterion variable, they did not predict performance as well as the multiple-assessment procedure.

Alon, A. (1977). Assessment and organizational development. In Moses & Byham (1977), 225-240.

Seeks to demonstrate that it is possible to translate concepts from different disciplines as a vehicle for enhancing organizational effectiveness in using ACs. Deals with the developmental impact of the AC method on an organisation. Begins with brief discussions of some concepts and ideas related to Organisational Development (OD), then describes the implementation of a planned learning process aimed at capturing vital developmental aspects of the AC concept and channeling them back into the actual work situation of the line manager.

Anstey, E. (1977). A 30-year follow-up of the CSSB procedure, with lessons for the future. Journal of Occupational Psychology. 50, 149-158.

Describes the results of follow-up research into use of the (British) Civil Service Selection Board, introduced in 1945 and derived from the WOSB. Shows high predictive validity with high correlation between initial selection scores and ranks attained. Looking also at other follow-up results, concludes that it is better for an elaborate (multimethod) selection procedure to be integrative rather than additive.

Archambeau, D.J. (1979). Relationships among skill ratings assigned in an assessment center. Journal of Assessment Center Technology. 2, 7-20.

Bass, B.M. (1954). The leaderless group discussion. Psychological Bulletin. 51, 465-492.

Describes the leaderless group discussion - its history, application, administration, reliability, and validity - as a technique for assessing leadership potential. Notes consistent reports of high reliability and validity.

Bass, B.M., & Coates, C.H. (1952). Forecasting officer potential using the leaderless group discussion. Journal of Abnormal & Social Psychology 47, 321-325.

Attempt to measure the extent to which leadership potential could be forecast by means of the leaderless group discussion technique. Results verify the hypothesis that the attainment of leadership status during initially leaderless discussions is predictive of leadership status and leadership potential outside the discussion.

Bass, B.M., & Fay-Tyler, M.N. (1951). Group size and leaderless discussions. Journal of Applied Psychology. 35, 397-400.

Investigates the effects of variation in group size of initially leaderless discussions on: mean leadership rating attained by participants; extent of developed stratification. Reports:

- significant decline in mean leadership assessment earned by participants as the group became larger;
- maximum stratification occurring in discussion groups of six;
- observer agreement at a maximum with a discussion group of six;
- no systematic trends observed in consistency of leadership behaviour.

Bass, B.M., & Klubeck, S. (1952). Effects of seating arrangements on leaderless group discussion. Journal of Abnormal & Social Psychology. 47, 724-727.

Analyses the relationship between the particular seat or position a participant occupied during an initially leaderless discussion and the leadership status he attained. Found that, despite adjustment, the variations among participants could be accounted for by factors other than seating position. The particular seat occupied is of negligible importance in determining a participant's tendencies to attain leadership status during the course of the discussion.

Bender, J.M. (1973). What is typical of assessment centers? Personnel. 50, 50-57.

Blumenfeld, W.S. (1971). Early identification of managerial potential by means of assessment centers. Atlantic Economic Review. 21, 35-38.

Describes the history and operation of ACs and discusses reasons for the research findings that show AC procedures are likely to yield higher validity than usual employment office procedures.

Boche, A. (1977). Management concerns about assessment centers. In Moses & Byham (1977), 243-260.

Examines issues raised by the sponsors of ACs, e.g. their cost in terms of the time lost by senior managers because of their participants as assessors. Emphasises the need to address these issues.

Boehm, V.R. (1981). An assessment center practitioner's guide to the Division 14 Principles. Journal of Assessment Center Technology. 4, 3-14.

Argues for the utility of ACs on the basis of their content validity.

Boehm, V.R. (1986). Using assessment centers for management development. The Journal of Management Development. 4(4), 40-53.

Explores the use of ACs for management development. Discusses emerging applications in the use of AC feedback: the design of "fast-track" potential development programs; diagnostic strengths/weaknesses and preparing individual training; using managers as assessors as a development exercise; using centres for organizational development and planning.

Boehm, V.R., & Hoyle, D.F. (1977). Assessment and management development. In Moses & Byham (1977), 203-224.

Differentiates three purposes of the AC method: selection; identification; and, diagnosis. Notes that while selection has been the traditional focus, the development orientation is getting stronger. Urges use of the AC method to identify high potential individuals.

Borman, W.C. (1982). Validity of behavioural assessment for predicting military recruiter performance. Journal of Applied Psychology. 67, 1-9.

Reports the results of an experiment to determine the validity of an AC design to help select US Army recruiters. Concludes that the assessment program is "reasonably successful" in predicting recruiter training performance. Claims superior validity of AC ratings over "first impression" evaluations, ratings based on a structured interview, and scores on a test developed to predict success in military recruiting. The results also confirmed that valid assessment does not require behavioural scientists as assessors.

Borman, W.C., Eaton, N.K., Bryan, J.D., & Rosse, R.L. (1983). Validity of army recruiter behavioural assessment: does the assessor make a difference? Journal of Applied Psychology. 68, 415-419.

Explores possible between-assessor differences in the validity of AC ratings. While no significant differences were found between assessors in assessment validity, there were significant differences between assessors in mean assessment rating. Assessor training was seen as valuable in smoothing out differences in abilities related to accurate assessment. It was also considered that assessment exercises uniformly provided all assessors with good and equal opportunity to view behaviour relevant to criterion performance.

Brass, D.J., & Oldham, G.R. (1976). Validating an in-basket using an alternative set of leadership scoring dimensions. Journal of Applied Psychology. 61, 652-657.

Reports modest concurrence validity for in-basket assessment ratings on six dimensions of management functioning that Oldham had previously developed.

Bray, D.W. (1964). The management progress study. American Psychologist. 19, 419-420. (From Earle & Winn 1977)

Briefly describes the Management Progress Study, a longitudinal investigation of young businessmen selected through an AC arrangement. The exploitation of data had not yet been done; however, it was expected to contribute to the basic understanding of the nature of adult behaviour.

Bray, D.W. (1971). The assessment center: Opportunities for women. Personnel. 48(5), 30-34.

Argues that the AC can make a major contribution to resolution of the problem of management being reluctant to take the perceived risks of providing women of unknown potential the opportunity of advancement. The AC is seen not only as a way of increasing the accuracy of selection but in convincing line managers of the validity of the results.

Bray, D.W. (1977). Current trends and future possibilities. In Moses & Byham (1977), 293-302.

Examines the current trends in assessment at both the predictor and criterion end of the selection equation, as well as its application to many unique settings in the professional realm. Also raises a number of unresolved research issues and examines some possible future applications of the AC method.

Bray, D.W. (1982). The assessment center and the study of lives. American Psychologist. 37, 180-189.

Reports use of the AC method to study the progress of a group of managers over a period of time. The study included regular reassessment using an AC method. Makes recommendations to enhance the contribution of ACs to the study of lives.

Bray, D.W., & Campbell, R.J. (1968). Selection of salesmen by means of an assessment center. Journal of Applied Psychology. 52, 36-41.

Evaluated newly-hired salesmen through use of an AC consisting of paper-and-pencil tests, interview, and individual and group simulations. Compares assessment staff judgements with job performance some months later. Assessment results found to be strongly related to this criterion. Supervisor's and trainer's ratings were not significantly related to the job performance or to assessment results.

Bray, D.W., Campbell, R.J., & Grant, D.L. (1974). Formation years in business: A long-term study of managerial lives. New York: Wiley. (From Earles & Winn, 1977).

Provides the first major report drawn from the data of the Management Progress Study. (See Bray, 1964.) Concludes that while interviews and paper-and-pencil tests are of great use in selection procedures, the extra effort involved in an AC program is well worth taking.

Bray, D.W., & Grant, D.L. (1966). The assessment center in the measurement of potential for business management. Psychological Monographs. 80(17, Whole#625), 1-27.

Reports the results of an initial investigation into the AC portion of the Management Progress Study (Bray, 1964). Results suggest that all of the techniques examined made some contribution to the judgement of the assessor, with situational methods having the strongest influence, and personality questionnaires the least.

Bray, D.W., & Moses, J.L. (1972). Personnel Selection. Annual Review of Psychology. 23, 545-576.

Notes that one of the major trends during the review period was the rapid growth in the use of ACs since their original application in AT&T in identifying managerial potential. While its use was broadening, the AC was still mainly being used to identify managerial potential. The authors expected that such broad-based selection methods would continue to grow.

Bunker, K.A. (1986). Coping with stress. The Journal of Management Development. 4(4), 68-82.

Examines the use of the AC at AT&T to study stress in a large sample of managers.

Burke, M.J., & Frederick, J.T. (1986). A comparison of economic utility estimates for alternative SDy estimation procedures. Journal of Applied Psychology. 71, 334-339.

Compared the per-selectee and total utility estimates for an AC used to select mid-level sales managers when two consensus-seeking procedures were used for estimating the standard deviation of job performance in dollars (SDy). For most cases, the different SDy estimation procedures produced somewhat similar utility estimates. Findings illustrated the value of economic utility analysis for evaluating human resource programs, regardless of the type of SDy estimation procedure used.

Dyham, W.C. (1970). Assessment centers for spotting future managers. Harvard Business Review. 48(4), 150-160.

Descriptive article examining the background, uses, advantages etc. of ACs. Looks at the early experiments with ACs in the US, their current applications, validity, indirect benefits, establishment of the AC process (including selection and training of assessors, selection of exercises), costs. Concludes that ACs are not appropriate for all organisations, not just because of cost but because of the need to generate sufficient applicants to make it feasible. Acknowledges that the effectiveness of ACs has not been conclusively proven but claims that its validity is at least as good as other existing methods.

Byham, W.C. (1971). The assessment center as aid in management development. Training and Development Journal. 25(12), 10-21. (From Earles & Winn, 1977).

Reviews a number of ACs, including their methods, growth and validity. Describes a typical AC, noting its value in the early identification of managerial talent and as a development device. A number of research and operational studies are discussed. Concludes that while more research is needed on general validity and exercises, findings to date indicate that ACs work.

Byham, W.C. (1977a). Application of the assessment center method. In Moses & Byham (1977), 31-43.

Describes the growth of the AC method, including its various applications in the assessment of supervisors, management trainees, sales staff, technical and educational assessment, non-management and government assessment. Also looks briefly at applications outside the US (with a single-sentence reference to Australia, citing QANTAS, Hill Samuel and Ingham Enterprises as three operating ACs).

Byham, W.C. (1977b). Assessor selection and training. In Moses & Byham (1977), 89-126.

Identifies standards for the content and conduct of assessor training programs.

Byham, W.C. (1978). How to improve the validity of an assessment center. Training and Development Journal. 32(11), 4-6.

Discusses a number of areas of concern to ensure that the selected AC program is truly job-related, fair and legally defensible.

Byham, W.C. (1980). Starting an assessment center the correct way. Personnel Administrator. February, 27-32.

Byham, W.C. & Pentecost, R. (1970). The assessment center: Identifying tomorrow's managers. Personnel. 47(5), 17-28. (From Earles & Winn, 1977).

An overview article arguing the merits of the unbiased assessment obtained from a centre which allows equal opportunity to each assessee. The assessments have value as a counselling device as well as a selection tool. Describes a 3-day AC program plus a 2-day evaluation period. Various exercises are discussed and the role of assessors explained. Considers the role of the psychologist in setting up, guiding and evaluating the program.

Byham, W.C., & Thornton, G.C. (1970). Assessment centers: New aid in management selection. Selection in Personnel Psychology. 2, 21-35.

Byham W.C., & Wettengel, C. (1974). Assessment centers for supervisors and managers: An introduction and overview. Public Personnel Management. Sep-Oct, 352-364.

Descriptive article outlining the method and processing of ACs with a brief discussion of validity and a comparison with the panel interview and psychological testing methods. Goes on to describe use of ACs in a number of government agencies in USA and Canada.

Campbell, J.P., Dunnette, M.D., Lawler, E.E., & Weick, K.E. (1970). Managerial behaviour, performance, and effectiveness. New York: McGraw-Hill. (From Earles & Winn, 1977).

This book includes a lengthy chapter on clinical studies which examines the purposes and results of the AC concept, with descriptive emphasis on the AT&T Management Progress Study. Emphasises the necessity for ACs to be a product of thoughtful selection and a combination of methods to gather and combine information on assessees.

Campbell, R.J., & Bray, D.W. (1967). Assessment centers: An aid in management selection. Personnel Administration. 30(2), 6-13. (From Earles & Winn, 1977).

Reports the results of a validation study of AC predictions. Includes follow-up of the often over-looked lower rated groups of assessees. Concludes that the assessment program appears better at selecting above-average performances and is clearly superior in selecting men with high potential than is the operational, nonassessment centre, promotion system.

Campbell, D.T., & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin. 36, 81-105.

Carlton, F.O. (1970). Relationships between follow-up evaluations and information developed in a management assessment center. Proceedings of the 78th Annual Convention. American Psychological Society.

Cascio, W.F., & Silbey, V. (1979). Utility of the assessment center as a selection device. Journal of Applied Psychology. 64(2), 107-118.

Notes that while the AC method has shown consistently positive results when the "classical" predictive validity approach is followed, such an approach ignores external parameters such as selection ratio, cost etc that largely determine its utility. Therefore seeks to examine the "utility" of the AC in this

broader context, looking specifically at: validity and the cost of the AC; validity of the ordinary selection procedure; the selection ratio; the standard deviation of the criterion; and the number of ACs. The largest impacts on AC payoffs were exerted by the size of the criterion standard deviation, the selection ratio, the difference in validity between the AC and the ordinary selection procedure. Even ACs with validities as low as .10 showed positive gains in utility over random selection.

Cohen, B.M., & Jaffee, C.L. (1973). Assessment centers aid government agencies. Government Executive. 5(11), 19-26. (From Earle & Winn, 1977).

Briefly describes the use by government agencies of AC programs. Advantages and disadvantages of a packaged program are briefly discussed.

Cohen, B.M., Moses, J.L., & Byham, W.C. (1974). The validity of assessment centers: A literature review. Monograph 11. Pittsburgh: Development Dimensions Press.

Cohen, S.L. (1980). Pre-packaged versus tailor-made: The assessment center debate. Personnel Journal. 59, 989-991.

Cohen, S.L., Sands, L. (1978). The effects of order of exercise presentation on assessment center performance: One standardisation concern. Personnel Psychology. 31, 35-46.

Coyle, T.A. (1976). Describe, analyse and appraise the British officer selection procedure, with some comparisons to the Australian Army procedure. Canberra: Dept of Defence.

Unpublished MSc thesis describing the recruitment and selection process, examining criteria, methods etc. Concludes that while both the British and Australian systems can be improved, the process provides candidates a thorough and fair hearing. While costly by industry standards, it has reasonable validity and reliability, relying heavily on the experience and training of the Board members.

Crooks, L.A. (1977). The selection and development of assessment center techniques. In Moses & Byham (1977), 69-87.

Describes the most common exercise used in ACs and gives examples for each of the dimensions commonly observed in those exercises. Provides two illustrations of AC programs, one in a US public utility and the other in the Canadian Government.

Crosby, J.JR. (1985). Developing local nationals in a multinational. The Journal of Management Development. 4(1), 36-46.

Summarizes the management philosophy and AC procedures for selecting and appraising staff in the British-American Tobacco organisation.

Cunningham, R.B. & Olshfski, D.F. (1985). Evaluating task leadership: A problem for assessment centers. Public Personnel Management. 14(3), 293-299.

Defines two skill components of leadership: task leadership (concerned with goal setting, allocating responsibilities and ensuring timely completion) and emotive leadership (ensuring others have positive attitudes towards the task and the organisation). Compares the performance of managerial candidates at a diagnostic AC and at subsequent training sessions. Shows that ACs give advantage to emotive leaders, while task-oriented leaders with poor emotive skill fared poorly. Looks at the implication for AC management and for candidate selection.

Dirks, H. (1982). Assessment center: Konzeption, probleme, ergebnisse [Assessment center: conception, problems, effects]. (German). Psychologie und Praxis. 26(2), 49-66.

Attempts to validate an AC selection procedure for current use. (English abstract).

Dodd, W.E. (1977). Attitudes toward assessment center programs. In Moses & Byham (1977), 161-183.

Summarizes contemporary research into the attitudes of those involved with the assessment method, participants and managers. Finds that participant satisfaction is related to effective developmental action on the part of the immediate supervisor. Reports consistently positive findings.

Dulewicz, V., & Fletcher, C. (1982). The relationship between previous experience, intelligence and background characteristics of participants and their performance in an assessment center. Journal of Occupational Psychology. 55(3), 197-207.

Investigates the performance of 81 middle managers undergoing assessment for senior management potential. Findings suggest that intelligence tests are useful for screening candidates and that past experience appears to have little effect on AC performance.

Dreher, G.F., & Sackett, P.R. (1981). Some problems with applying content validity evidence to assessment center procedures. Academy of Management Review. 6, 551-560.

Dunnette, M.D. (1967). The assessment of managerial talent. In Wickert, F.R., & McFarland, D.E. Measuring executive effectiveness. New York: Appleton-Century-Crofts.

Dunnette, M.D. (1971). The assessment of managerial talent. In McReynolds, P. (Ed). Advances in Psychological Assessment (Vol Two). Palo Alto: Science & Behaviour Books.

Provides a conceptual and behavioural analysis of managerial effectiveness and discussions of its implications for measurement and prediction. Describes the major features of multiple assessment procedures and an overview of major research findings.

Dunnette, M.D., & Borman, W.C. (1979). Personnel selection & classification systems. Annual Review of Psychology. 30, 477-525.

Amongst other developments and issues in personnel selection and placement, examines the "multiple assessment method" and use of job samples. While multiple assessment has a number of clear virtues, the rapid growth in the use of this method has been accompanied by sloppy or improper application. Foresees a number of other difficulties arising unless more caution is exercised. Also suggests use of a wider variety of criteria including more behavioural-based ratings and objective measures focussed directly on performance.

Dyer, F.N., & Heligloss, R.E. (1979). Using an assessment center to predict field leadership performance of army officers and NCOs. US Army Research Institute for Behavioural & Social Sciences. (ARI-TP-372).

Reports the results of testing carried out in 1973-74 at the US Army Infantry School (USAIFS) of 408 officer and NCO leadership course students. Matched field leadership performance ratings, obtained at six months and eighteen months following graduation, with AC ratings. Results indicate only marginal utility for the USAIS AC for prediction of leadership performance.

Earles, J.A., & Winn, W.R. (1977). Assessment centers: An annotated bibliography. US Air Force Human Research Laboratory (AFHRL-TR-77-15).

A compilation of published reports dealing with ACs and AC research. Reports include general information articles, reports on the implementation of ACs, research studies to determine the best method of arriving at a single overall evaluation of managerial potential from AC data, and reports on validities of AC evaluations. Notes that the general finding in the reports is that the AC evaluations are more predictive of future management success than the traditional evaluations based on supervisor's reports, interviews, and paper-and pencil tests.

Edwards, M.R. (1983). OJQ offers alternative to assessment center. Public Personnel Management. 12(2), 146-155.

Argues that the AC is useful but expensive for exploring the nuances of executive talent. Offers the Objective Judgement Quotient (OJQ) as an alternative, suggesting several advantages, including: more cost-effective; allows more people within the organisation to participate/contribute to selection; and, provides a more accurate measure of current performance. Describes OJQ in detail and lists the benefits.

Finkle, R.B. (1976). Managerial assessment centers. In Dunnette, M.D. (Ed). Handbook of industrial and organizational psychology. Chicago: Rand McNally, 861-888.

Warns against "faddism" in adopting the AC method without forethought and preparation. Some potential difficulties are: blind acceptance of assessment data without heeding other information on assessees; lack of control of information generated during assessment; failure to evaluate the utility of the assessment program; and use of assessment procedures for purposes other than those for which they were designed.

Finkle, R.B., & Jones, W.S. (1970). Assessing corporate talent: A key to managerial manpower planning. New York: Wiley-Interscience. (From Earles & Winn, 1977).

Discusses the general application of the AC in a modern corporation (Standard Oil Co.). Describes the background, program, administration and application of an AC. Applications include the general uses of manpower forecasting, manpower placement, replacement planning, manpower inventorying and development planning. Specific uses such as feedback to the assessee, reducing forces fairly, and meeting individual needs are considered.

Fitzgerald, L.F. (1980). The incidence and utilization of assessment centers in State and local governments. Washington: Institute of Personnel Management Association.

Fitzgerald, L.F., & Quaintance, M.K. (1982). Survey of assessment center use in State and local government. Journal of Assessment Center Technology. 5, 9-21.

Fletcher, C.A., & Dulewicz, V. (1984). Assessment Centers. Journal of Management Studies. January, 83-97.

Examines the conduct of an AC operated by the Standard Telephones & Cables company. Outlines its content (situational exercises, psychometric testing), evaluates its effectiveness and compares its findings with the US experience. Questions the value of certain specialised tests but concludes that the method adopted has validity as a measure of management potential.

Francis, B.D. (1978). The assessment center process - Its applicability to the USAF. USAF Air War College (RR 340).

Reviews the nature of the assessment process and its history. Discusses some USAF personnel management problems to which the AC process could be applied. Concludes that the technique could be adopted effectively for widespread use in the USAF.

Gardner, K.E., & Williams, A.P.O. (1973). A twenty-five year follow-up of an extended interview selection procedure in the Royal Navy. Occupational Psychology. 47, 1-13 and 149-161.

Paper presented in two parts. First part describes a 25 year follow-up of the first 269 Naval officers selected by a combination of Civil Service Commission examinations and 1.5 days testing through an extended interview procedure, between 1947-49. Found that candidates who received a higher aggregate rating at selection were much more likely to succeed in naval training and were marginally more likely to be promoted 20 years later than those given low rating. Interview Board marks correlated well with "Officer Like Qualities" assessment at the end of initial training. Written examination results contributed importantly to validity of selection scores at all stages of training. Part 2 investigates data structure by means of principal components analysis, multiple regression and discriminant techniques. Attempts to compare through use of factor models the original and more recent selection situations. Discusses implications of the research for large organisations using the extended interview.

Garforth, F.I. de la P. (1945). War Office Selection Boards (OCTU). Occupational Psychology. 19, 97-108.

Provides an outline of the technique developed for initial WOSBs in the UK. Discusses procedure, aims, methods, principles. While acknowledging the (then) experimental nature of the WOSB, claims it as a significant advance upon previous methods.

Geiger, C.R. (1977). The possible use of assessment centers in the Marine Corps: A critical approach. USAF Air Command & Staff College (ACSC0855-77).

Investigates the existing USMC method for screening and selection of officer candidates against the AC method. Analyses claims of the AC method, its applicability and feasibility of administration. Notes that the AC has potential as an adjunct to existing selection methods, particularly in identifying candidates who will not successfully adapt. However does not see the AC replacing the current method.

Gibb, C.A. (1947). The principles and traits of leadership. Journal of Abnormal & Social Psychology. 42, 267-284.

Among the first to report on the validity of the WOSB. Reports a validity of .06 using wastage in training as a criterion.

Gilbert, P.J. (1981). An investigation of clinical and mechanical combination of assessment center data. Journal of Assessment Center Technology. 4(2), 1-10.

Compares the consensus process of decision-making with a mechanical formation. Concludes that there is no basis for determining which is better.

Gill, R.W.T. (1979). The in-tray (in-basket) as a measure of management potential. Journal of Occupational Psychology. 52, 185-197.

Reviews the contribution of the in-tray exercise to the identification and development of managers, administrators and executives. Reviews the major research findings in relation to the assumptions on which its utility depends. These concern face validity, content validity, concurrent and predictive validity, procedures for assessment of in-tray performance and the empirical determination of assessment criteria. The data suggest high relative face validity and adequate interrater reliability. Also provides a brief review of the extent of use of the technique by organisations, its strengths, advantages and possible further applications.

Ginsburg, L.R., & Silverman, A. (1972). The leaders of tomorrow: Their identification and development. Personnel Journal. 51, 662-666. (From Earles & Winn, 1977).

Discusses the adaptation of the AC for hospital personnel identification. Describes a 1-day program with emphasis on an in-basket exercise and a leaderless group discussion. Compares AC scores of 37 personnel with ratings by superiors on dimensions of leadership, organising, communicating, and human relations. The highest correlations are in the order of .34 to .36

Glaser, R., Schwarz, P.A., & Flanagan, J.C. (1958). The contribution of interview and situational procedures to the selection of supervisory personnel. Journal of Applied Psychology. 42, 69-73. (From Earles & Winn, 1977).

Presents the results of a study concerned with the construction and validation of interview and situational performance procedures for the selection of supervisory personnel. Eighty civilian supervisors were matched on a paper-and-pencil test of

basic ability and on a test of supervisory practices. The criterion was a single index derived from a selection of statements descriptive of job behaviour, a supervisor's rating, and a special day-to-day record form kept over a three month period. Predictor data included two interviews and three situational tests: panel interview (three interviewers), individual interview, group discussion, role playing and a small-job management test. Concludes that these tests add a contribution to the predictive value of paper-and-pencil tests. Also, the economical individual interview appears as effective as a panel interview.

Goode, P., & Griffiths, P. (1985). Assessment techniques: A review. Management Education & Development. 16(3), 247-257.

Compares three selection procedures - psychological tests, ACs and biodata - looking at their value as a predictor of job performance, the amount of information it produces about a candidate, and the ease with which it can be introduced. Concludes that: psychological tests have little relevance to real-life selection and development decisions and are difficult to implement; biodata has an exceptional track record for relevance and is certain to become a widespread technique; and, ACs have a justified reputation for relevance and quantity of information.

Grant, D.L. (1980). Issues in personnel selection. Professional Psychology. 2(3), 369-384.

Reviews a number of methods and issues in selection, including ACs, and discusses current trends and future developments. Reports strong growth of ACs but with an element of "faddism" and associated misuse of the process. This led to development of standards in 1977, revised in 1980 (see Task Force on AC Standards, 1980).

Grant, D.L., & Bray, D.W. (1969). Contribution of the interview to assessment of management potential. Journal of Applied Psychology. 53, 24-34. (From Earles & Winn, 1977).

Using data from the Bell System Management Progress Study AC, the authors investigate the consistency and interrater reliability of the unstructured interview. Interview reports on 348 subjects were rated on 18 trait variables which were used in the AC program. These ratings were correlated with the judgement of the assessment staff on 11 factors, with assessment staff predictions of advancement to middle management within 10 years and with salary progress. Interview variables correlated highly with various factors including personnel impact-forcefulness, oral communication, energy and need for advancement. Authors conclude that the assessment interview reports contribute to the assessment process.

Grant, D.L., Katkovsky, W., & Bray, D.W. (1967). Contributions of projective techniques to assessment of management potential. *Journal of Applied Psychology*. 51, 226-232. (From Earles & Winn, 1977).

Describes and evaluates the projective tests used in the AC development by the Bell System (see Bray & Grant, 1966). Scores on projective tests were compared with an overall assessment rating and with an external salary criterion. The projective variables with the highest correlations with overall staff predictions, while not correlating as highly as situational tests with staff predictions, did show about the same relationship with these predictions as mental ability measure and correlated more highly with them than did personality questionnaires.

Graves, D.E. (1950). Group methods in selection in industry. *Personnel Practice Bulletin*. 6(1), 2-12.

Traces the history of the group method from its British origins, describing application of the method for selection of production-control trainees in an Australian radio and electrical firm. Reports that while the process demanded much more time and effort, observers felt it well justified.

Greenwood, J.M., & McNamara, W.J. (1967). Interrater reliability in situational tests. *Journal of Applied Psychology*. 51(2), 101-106.

Reports the results of a study to determine the degree of interrater reliability in situational tests and to determine the relative effectiveness of professional and nonprofessional evaluations. Results indicate that the reliability of observer ratings and rankings are reasonably high in several different situational tests. Of particular significance is the finding that adequate reliability can be obtained from use of nonprofessional evaluators in business-oriented situational tests.

Griffiths, P., & Allan, B. (1987). Assessment centers: Breaking with tradition. *The Journal of Management Development*. 6(1), 18-29.

Recognizes the benefits that AC have provided but argues that today's changed circumstances call for something less threatening, namely development centers. Describes the 4-day development centre run by Hoescht UK (chemicals) for potential directors and provides guidelines for others interested.

Hakel, M.D. (1986). Personnel selection and placement. *Annual Review of Psychology*. 37, 351-380.

Notes the interest in learning more about the assessor's judgement processes in the conduct of ACs. Training and experience as an assessor is seen as a major developmental intervention.

Hall, H.L. (1979). Analysis of an executive-level assessment center: A comparison of assessment center ratings to supervisor ratings and to biodata. Washington: Office of Personnel Management (NTIS No PB-298 452 ).

Hanson, T.J., & Balestreri-Spero, J.C. (1985). An alternative to interviews. Personnel Journal. 64(6), 114-117.

Encourages the use of pre-employment ACs. Describes a selection procedure consisting of an individual interview, series of exercises (in-basket, oral presentation, essay and group discussion), and evaluations by five assessors.

Hardesty, D.L., & Jones, W.S. (1968). Characteristics of judged high potential management personnel: The operations of an industrial assessment center. Personnel Psychology. 21, 85-98. (From Earles & Winn, 1977).

Describes an industrial AC program of a major oil company, the purpose of which was to appraise personal strength, developmental needs, and probable attainment within the company of high-performing young professionals and managerial personnel. Subjects were assessed using personal history, paper-and-pencil tests, projective tests, individual and group exercises, sociometric measures, and interviews. Individuals judged by the AC to have high potential differed from the remainder of the group on most test scores and on the assessment committee ratings on motivation, communication, assertiveness, and compatibility. High potential persons were also better educated than the remainder of the group.

Harris, H. (1949). The group approach to leadership testing. London: Routledge & Kegan Paul.

Haymaker, J.C., & Grant, D.L. (1982). Development of a model for content validation of assessment centers. Journal of Assessment Center Technology. 5(2), 1-7.

Argues for the validity of ACs on the basis of content validity.

Hellervik, L.W., Hunt, A., & Silzer, R.F. (1976). An assessment center for selecting accountancy executives. Minneapolis: Personnel Decisions Inc.

Helme, W.H., Willemin, L.P., & Grafton, F.C. (1971). Dimensions of leadership in a simulated combat situation. Technical Research Report 1172 US Army Behavioural and Systems Research Laboratory. (From Earles & Winn, 1977).

A sample of 900 officers with 1-2 years duty time were sent through a 3-day AC program for measurement on group exercises. Eight performance factors were developed of which the two most important were combat leadership and technical/management

leadership. In the combat leader, the cognitive aspect of behaviour is shown in the use he makes of his tactical skills and in the technical/management leader, by use of technical skills. The heavy noncognitive element in combat leadership rests primarily on forcefulness in command of men, on team leadership or personal resourcefulness, and on persistence in accomplishing the mission. In technical/managerial leadership, the noncognitive element is evidenced in executive direction plus, as in combat leadership, persistence in mission accomplishment.

Helme, W.H., Willemin, L.P., & Grafton, F.C. (1974). Prediction of officer behaviour in a simulated combat situation. Research Report 1182, AD-779 445. US Army Research Institute for the Behavioural & Social Sciences. (From Earles & Winn, 1977).

Nine hundred Army officers received a Differential Officer Battery (DOB) consisting of paper-and-pencil measures of interest, attitudes, and knowledge of military tactics, sciences, arts, and sports shortly after commissioning. One to two years later they completed a 3-day battery of situational tests constructed to measure areas of military leadership at an Officer Evaluation Center. The report examines relationships between the DOB and OEC factors. If the OEC evaluation is accepted as a criterion, then results of the study show that it is possible to select new officers for assignment to combat or to technical/management areas according to their potential on the DOB.

Henderson, P. (1976). Assessing the assessment center: New dimensions in leadership. Air University Review. 27, 47-54.

Hinrichs, J.R. (1976). Comparisons of "real-life" assessments of management potential with situational exercises, paper and pencil ability tests, and personality inventories. Journal of Applied Psychology. 53(5), 425-432.

Reports the results of evaluation of 47 members of a large sales organisation, over a 2-day assessment program. Of the methods compared, the major component of evaluation was found to be ratings of degree of active participation in the group situational exercises, followed by ratings of administrative and decision-making ability. Paper-and-pencil tests and personality inventories were less clearly related to assessments of managerial potential. Also found that ratings of management potential developed from a careful review of company personnel records were as highly correlated with the AC data as were overall ratings from the 2-day program, except for ratings dealing with interpersonal behaviour.

Hinrichs, J.R., & Haanpera, S. (1976). Reliability of measurement in situational exercises: An assessment of the assessment center method. Personnel Psychology. 29, 31-40.

Evaluates the "internal consistency" of ratings on different

dimensions. Results show widely differing reliabilities. The results may be useful in determining the most useful dimensions to be rated for each exercise. Concludes that the reliability of measurement of many ACs leaves something to be desired. Measurement dynamics need to be improved.

Holmes, D.S. (1977). How and why assessment works. In Moses & Byham (1977), 127-142.

Describes the process used in making assessment decisions. Identifies two different kinds of decisions which assessors must make - an evaluation of specific strengths and weaknesses and a determination based on an analysis of those strengths and weaknesses. Provides an overview of how and why assessment works in ACs.

Holt, N.F. (1955). Group methods in selection. Personnel Practice Bulletin. 11(3), 53-60.

Notes the growing disenchantment at that time with traditional methods for selection of industrial leaders and increasing use of group methods. Describes application of one specific form of group method, the group discussion, which is seen as the simplest and most suitable group method for industrial and commercial use.

Howard, A. (1974). An assessment of assessment centers. Academy of Management Journal. 17, 115-134.

Howard, A. (1983). Measuring management abilities and motivation. New Directions for Testing and Measurement. 17(March), 31-44.

Describes the philosophy and workings of ACs, their evaluation of management abilities, and the use of this evaluation in promotion decisions.

Huck, J.R. (1973). Assessment centers: A review of the external and internal validities. Personnel Psychology. 26, 191-212.

Provides a general review of research on the validity of the AC approach. Concludes that: multiple assessment procedures have consistently been related to a number of performance effectiveness measures; procedures unique to the AC approach, essentially the situational exercises, contribute significantly to the prediction of managerial performance; the assessment process focuses on the behavioural demands of a manager's job; the process usually produces acceptable reliability; essentially, there are no differences between psychologists and trained managers in the role of assessors; and, future research needs to investigate the effects of the assessment process on the assessee, the observer and the organisation separately.

Huck, J.R. (1977). The research base. In Moses & Byham (1977), 261-281.

Summarizes much of the AC validation research, citing some 77 references. Notes that in general the calibre of criterion measures used and experimental designs employed by AC researchers are superior to those commonly used. Over 50 studies showed positive findings.

Huck, J.R., & Bray, D.W. (1976). Management assessment center evaluations and subsequent job performance of white and black females. Personnel Psychology, 29, 13-30.

Reports the validity of managerial AC ratings for women, showing high correlations for small samples of white and black women. Confirms existing evidence that judgements made by AC staff are good predictors of later performance.

Inada, A.S., et al. (1986). Multinational assessment centres. The Journal of Management Development, 4(4), 54-67.

Describes the state of the art in multinational AC use. Notes obstacles encountered and some cross-cultural implications.

Jaffee, C.L. (1966). Managerial assessment: Professional or managerial prerogative? Personnel Journal, 3, 162-163. (From Earles & Winn, 1977).

Provides general arguments for the use of successful management personnel over psychologists as assessors of managerial skill. Discusses the differences between the psychologists' domain and industrial assignment. Advantages of using managerial personnel include better acceptance by the assessee, the assessor training furthers the personal development of the manager, and better assignment may occur.

Jaffee, C.L., Bender, J.M., & Calvert, D. (1970). The assessment center technique: A validation study. Management of Personnel Quarterly, 3-14.

Jaffee, C.L., & Sefcik, J.T. (1980). What is an assessment center? Personnel Administration, February, 40-43.

Jeswald, T.A. (1977). Issues in establishing an assessment center. In Moses & Byham (1977), 45-6.

Describes the critical steps in implementing an AC strategy, warning against "off-the-shelf" purchase of a program. Identifies the issues which must be confronted before starting a centre, including whom to assess, purpose of the centre, who sees the results, how results are communicated, etc. Warns that the AC needs to be designed as part of the organisation, not as a "fad".

Joiner, D.A. (1984). Assessment centers in the public sector: A practical approach. Public Personnel Management.

Provides an historical perspective and overview of ACs as they are commonly used in local government settings. Presents a detailed example of a practical model for developing and administering legally defensible AC examinations. Suggests that models used extensively in the private sector differ considerably.

Jones, A. (1981). Interrater reliability in the assessment of group exercises at a UK assessment centre. Journal of Occupational Psychology. 54, 79-86.

Discusses the principles and history of the AC method. Reviews evidence on the interrater reliability of evaluations based on group exercises (noting this as a relatively neglected area of research). Reports results of four studies showing mean interrater reliability coefficients for summary evaluations between .65 and .86. Concludes that 42-53% of variance is typically common to assessors' primary evaluations before discussion of the candidate's performance on group exercise occurs. This percentage rises to 59-74% after pooling of evaluations. Since group exercises form only part of the selection procedure, this is seen to reflect a satisfactory level of agreement amongst assessors. Sees improvements in reliability possibly coming from changes in the design of assessment scales, e.g. use of Behaviourally Anchored Rating Scales. Training of observers is another option. Identifies the need for further research on repeat reliability, alternate form reliability and internal consistency reliability.

Jones, A. (1984). A study of pre-assessment centre candidate short-listing. Journal of Occupational Psychology. 57, 67-76.

In the context of Royal Navy commissions, notes that high unemployment rates can stimulate unsuitable applicants and thereby raise the (already expensive) costs of the AC. Describes a method for preliminary screening by interview to identify attitudes and achievements which would be reliable predictors of training success.

Kavanough, M.J., MacKinney, A.C., & Wolins, L. (1971). Issues in managerial performance: multitrait-multimethod analysis of ratings. Psychological Bulletin. 75, 34-49.

Kelly, E.L. (1954). The place of situation tests in evaluating clinical psychologists. Personnel Psychology. 7, 484-492.  
(From Earles & Winn, 1977).

Investigates the validity of a battery of situational tests included in the week-long Veterans Administration assessment program design to evaluate aptitude of graduate students for

careers in clinical psychology. Examines the incremental validity of the situational tests for a team of judges who had already intensively studied the subjects by way of credential files, objective tests, projective tests, an autobiography, and interviews (contaminated) and the independent validity of situational tests for a team of three judges with no knowledge of the candidates (uncontaminated). Ratings were made on 12 predictive variables by each set of judges, the contaminated and the uncontaminated. Criterion variables (including academic performance, diagnosing, researching, and supervising and test scores on clinical ability) were measured after a 4-year period. Concludes that the use of situation tests is not justified in view of their relatively low independent validity and their essentially nonexistent validity.

Kelly, N. (1987). Norm-referenced assessment centres. Training & Development. 6(2), 45-48.

Presents a cheap, quick and easy procedure for running an AC. The procedure eliminates discussions between assessors and uses computer to process the ratings awarded by the assessors for each exercise. Shows how it can be used for each exercise. Shows how it can be used for both recruitment and appraisal, and how individual results can be related to standards previously established by evaluating known top performers in the relevant field.

Kesselman, G.A., F.M., & Lopez, F.E. (1982). The development and validation of a self-report scored in-basket test in an assessment center setting. Public Personnel Management. 2(3), 228-238.

Reports the results of a study of line managers indicating that in-basket performance can yield reliable information about a prospective manager's ability to function properly in an administrative situation.

Klimoski, R.J., & Strickland, W.J. (1977). Assessment centers:

Valid or merely prescient. Personnel Psychology. 30, 353-361.

Reviews published validation studies of ACs in relation to criteria used, staff composition, and number of organisations involved. Notes impressive, consistent results but identifies a tendency to accept the method on relatively few studies conducted by fewer organisations using a limited range of criteria. Argues that perhaps the AC staff is evaluating candidates based on its familiarity with the performances of the decision-makers who will actually promote, thus merely duplicating already existing selection procedures. Sees the need for comparative predictive studies incorporating alternative predictors and criteria.

Korman, A.K. (1968). The prediction of managerial performance:

A review. Personnel Psychology. 21(3), 295-322.

Knowles, M.C. (1963). Group assessment in staff selection. Personnel Practice Bulletin. 19(2), 6-16.

Through a survey of the literature, outlines the development of the group assessment method. Describes the rationale and administration of the method and discusses its validity.

Kraut, A.I. (1972). A hard look at management assessment centers and their future. Personnel Journal. 51, 317-326. (From Earles & Winn, 1977).

Addresses some of the recurring criticisms of ACs. In relation to validity, suggests that assessment programs can validly predict those individuals most likely to advance within the organisation. Concludes also that assessment programs are more effective in selection when compared to an outside criterion such as relative salary. Other concerns include morality, initial impact of implementation, relevancy of characteristics measured, and the impact on an individual's career of a several-day observation. Concludes that the AC program need not impact unfavourably in any of these areas.

Kraut, A.I. (1973). Management assessment in international organisations. Personnel Journal. 52(3), 172-182.

Kraut, A.I. (1976). New frontiers for assessment centers. Personnel. 53(4), 30-38.

Provides a general overview or research on the AC approach. Defines and describes an AC, discusses validity, assessor training, etc.

Kraut, A.I., & Scott, G.J. (1972). Validity of an operational management assessment program. Journal of Applied Psychology. 56(2), 124-129.

Examines the validity of an assessment program by reviewing the career progress of 1086 employees in sales, service and administrative functions. Finds that assessment ratings are substantially correlated with the two major criteria, second-level promotions and demotions from first-line management.

Lorenzo, R.V. (1984). Effects of assessorship on managers' proficiency in acquiring, evaluating and communicating information about people. Personnel Psychology. 37(4), 617-634.

Investigates the developmental effects of assessorship (i.e. serving as a trained member of an AC staff) on a manager's proficiency in assessment, evaluation and communication about people. Reports the results of an experiment indicating that the experienced assessors were more proficient in interviewing to

obtain relevant information about job applicants, verbally presenting and defending information about others' managerial qualifications, and communicating this information in concise written reports.

McConnell, J.H. (1969). The assessment center in the smaller company. Personnel. 46(2), 40-46. (From Earles & Winn, 1977).

Describes the development of a 1 day AC program for use by a small company, the expense and complexity of 3 to 5 day evaluations being prohibitive for all but larger corporations. Assessee are evaluated on 16 traits (including intellectual ability, oral and written communication, leadership, creativeness, organisation and initiative). End product is a final report containing a written evaluation, a description of the interview, and a set of recommendations, the report going to the personnel department and supervisors.

McConnell, J.H. (1971). The assessment center: A flexible program for supervisors. Personnel. 48(5), 35-40. (From Earles & Winn, 1977).

Describes a standardised 1-day AC program which can be conducted by an organisation's own personnel and which is flexible enough for use by organisations of all sizes. The traits assessed and the evaluative components are given. Assessor training requiring about 24 hours is described. A comparison of program evaluations with on-the-job evaluations showed the program was a significant means of judging supervisory performance.

McConnell, J.H. & Parker, T.C. (1972). An assessment center program for multi-organisational use. Training and Development Journal. 26(3), 6-14. (From Earles & Winn, 1977).

Describes the development of a 1-day AC package intended for use in a variety of organisations to identify first-level supervisory management and to provide developmental reports on management abilities.

MacKinnon, D.W. (1958). A study to devise methods for assessing Air Force officers for command and staff leadership. Project No. 7730, Contract #AF18(600)-8. Institute of Personality Assessment and Research, University of California, Berkeley. (From Earles & Winn, 1977).

Summarises a USAF assessment project of the 1950s. Includes a description and chronology of the major phases of the work: planning and development, living-in assessment, data treatment, and reporting phases. Concludes with a summary of titles of 39 reports derived from this assessment project.

MacKinnon, D.W. (1968). The identification and development of creative personnel. *Personnel Administration*. 31(1), 8-17. (From Earles & Winn, 1977).

Illustrates an application of AC programs to the problem of identifying and developing creativity. Author feels that the AC program permits the highly varied, multidimensional observational and testing procedures necessary to study creativity. Discusses salient characteristics of the many creative groups that have been tested in the centre.

MacKinnon, D.W. (1977). From selecting spies to selecting managers - The OSS assessment program. In Moses & Byham (1977), 13-30.

An article of historical value by the director of the original OSS AC ("Station S"). Provides insights of the "original" assessment process.

MacKinnon, D.W., Crutchfield, R.S., Barron, F., Block, J., Gough, H.G., & Harris, R.E. (1958). An assessment study of Air Force officers, Part I: Design of the study and description of the variables. WADC-TR-58-91(I), AD-151 040. Personnel Laboratory, Development Center, Lackland AFB, TX. (From Earles & Winn, 1977).

First of a five-part series filed under MacKinnon's name (as principal author). Covers an extensive psychological assessment of a group of USAF officers eligible for promotion. Subjects were given 27 paper-and-pencil tests then assigned in groups of 10 to a 3-day living-in phase of the assessment. During this period, subjects entered into some 50 assessment procedures, and a staff of psychologists rated each officer on a wide variety of relevant personality variables. Effectiveness measures were obtained as criteria from Officer Effectiveness Reports, promotion board ratings and superiors' ratings. This report presents the overall design of the assessment study and defines each of the 648 variables.

Part II: Description of the assessed sample. Gough, H.G., & Krauss, I. (1958). WADC-TR-58-91(II), AD-208 700.

Presents sociological and psychological descriptions of the sample participating in the field-testing phase of the assessment.

Part III: Assessment correlates of criteria of officer effectiveness. Barron, F., Block, J., MacKinnon, D.W., & Woodworth, D.G. (1958). WADC-TR-58-91(III), AD-210 218.

Reports assessment data derived from 600 variables judged as potentially relevant to criterion prediction.

Part IV: Predictability of a composite criterion of effectiveness. Gough, H.G. (1958). WADC-TR-58-91(IV), AD-210 219.

Reduces data for 11 criteria to a practical criterion and organises data concerning 631 test and assessment variables for prediction of the composite criterion. Results identify both the group-testing instruments and individual assessment devices that hold promise for identification, early in an officer's career, of those capable of becoming outstanding commanders.

Part V: Summary and applications. MacKinnon, D.W. 1958). WADC-TR-58-91(V), AD-201 220.

Summarizes significant relationships between predictor and criterion variables. Inferences from these relationships provide a comparative evaluation of the criterion of officer effectiveness and lead to selection from the experimental devices of instruments proposed for inclusion in a program of officer assessment. Lists 20 additional published reports based on the study.

Martin, A.H. (1942). Examination of applicants for commissioned rank. In Farago, L., & Gitler, L.F. (1942). German Psychological Warfare. New York: Commission for National Morale. (From Earles & Winn, 1977).

Describes the examinations of German officer applicants from a "synthetic" approach. The psychological examination was conducted over two days. Tests included paper-and-pencil intelligence tests and similar tests of technical aptitudes. There was also a battery of military work sample tests and "action" tests of ingenuity and persistence. Each candidate was followed-up at 3, 6 and 12 months. Concluded that preliminary examination was 98% effective in selecting suitable candidates for officer training.

Miles, R.J. (1986). International comparisons of army officer selection method. (APRE-MEMO-86-M-501), Army Personnel Research Establishment, Farnborough, UK.

Reports the results of a survey of methods of officer selection in 19 countries, including Australia and New Zealand. Aim of the study was to identify possibilities for useful changes to the existing (British) Regular Commissions Board system. Identifies a number of other wider issues regarding the recruiting and training of officers. While wide variations were found there were also many similarities, suggesting shared conceptions of military leadership and agreement as to the attribute required to become an officer. Of the 19 countries surveyed, eight were using an AC based method: UK, West Germany, Australia, India, New Zealand, Denmark, Norway and Pakistan.

Mitchell, J.O. (1975). Assessment center validity: A longitudinal study. Journal of Applied Psychology. 60, 573-579.

Examines data on 254 managers attending an AC, for changes in validities over time. Peer and assessor ratings, along with linear combinations, were found significantly correlated with the criterion. Multiple correlations generalised well across time and generations. Noted a generally increasing trend in the validity coefficient over time. A comparison of overall assessor rating with multiple correlation did not indicate any marked superiority for actuarial prediction.

Morris, B.S. (1949). Officer selection in the British Army. Occupational Psychology. 23, 219-235.

Examines the underlying principles and applications of WOSBs since their introduction in 1942. Reports reliability at reasonable levels. Claims that reliability and validation is good, given the crisis situation in which the WOSB was introduced.

Moses, J.L. (1972). Assessment center performance and management progress. Studies in Personnel Psychology. 4, 7-12.

Describes the AT&T AC program, reporting a high degree of relationship between predictions made at an AC and subsequent progress in management. Results obtained are highly predictive.

Moses, J.L. (1973). The development of an assessment center for the early identification of supervisory potential. Personnel Psychology. 26, 569-580.

Describes an abbreviated Early Identification Assessment Program designed for AT&T to evaluate substantial numbers of short service employees. Results obtained are highly predictive of those obtained by AT&T's more extensive Personnel AC Program. The process is seen as a diagnostic tool which can aid in the identification of individuals within the organisation who would maximally profit from rapid acceleration and development.

Moses, J.L. (1977). The assessment center method. In Moses & Byham (1977), 3-11.

Describes the components of an AC (including the dimensions to be assessed, assessment techniques, assessment staff), and history of the AC method. Presents an overview of how data are integrated and used.

Moses, J.L., & Boehm, V.R. (1975). Relationship of assessment center performance to management progress of women. Journal of Applied Psychology. 60, 527-529.

Looks at the management performance of 4846 women assessed by AC

method between 1963-71. Found that AC performance was strongly related to subsequent promotions into management and advancement within management. Distribution of women's assessment ratings was found to be very similar to those for men assessed by the same technique. Concludes that the AC method is valid for the selection of women managers.

Moses, J.L., & Byham, W.C. (Eds). (1977). Applying the assessment center method. New York: Pergamon Press.

The book is an attempt to review the knowledge and experience developed since the introduction of the AC method. Written for those interested in AC applications. Deals separately with method, implementation and evaluation. (The contributions of the individual authors are included in this bibliography).

Neidig, R.D., & Neidig, P. (1984). Multiple assessment center exercises and job-relatedness. Journal of Applied Psychology. 69(1), 182-186.

Responds to Sackett & Dreher's (1982) argument that ACs should not rely on a content validation strategy. Neidig & Neidig argue that the purpose of multiple exercises in ACs is not to simply provide additional opportunities for behaviour observation: each exercise is carefully designed to increase the degree of job representation and each exercise confronts the participants with different demands. Suggests that such findings should not be of great concern. Although the use of multiple validation strategies may be desirable for any measurement technique, the failure of internal exercise ratings to satisfy construct validity requirements does not preclude the job-relatedness of the AC method.

Neidig, R.D., Martin, J.C., & Yates, R.E. (1979). The contribution of exercise skill ratings to final assessment center evaluations. Journal of Assessment Center Technology. 2, 21-23.

Neihoff, M.S. (1983). Assessment centers: Decision-making information from non-test based methods. Small Group Behaviour. 14(3), 353-358.

Discusses the use of the AC model. Proposes that there are six critical variables to be considered in predicting the effectiveness of any assessment and development effort: the macro-environment of the organisation, the behaviour and style of the assessor or facilitator, the nature of the feedback, the amount of training assessors have received, the group state and the techniques and methods used.

Norton, S.D. (1977). The empirical and content validity of assessment centers versus traditional methods for predicting managerial success. Academy of Management Review. 2, 442-453.

Norton, S.D. (1981). The assessment center process: A reply to Dreher & Sackett. *Academy of Management Review*. 6, 561-566.

Takes issue with Dreher & Sackett's argument that content validity concerns itself with current proficiency and is therefore not appropriate for predicting future behavioural tendencies (e.g., supervisory skills). Argues that the AC should be viewed as a process and a sample of the whole of the manager's job, that specific exercises need not be the focus.

O'Gorman, J.G. (1973). Predicting officer success. Australian Army Psychological Research Unit, Research Report No. 3/73.

Reviews evidence for two approaches to the prediction of officer success in the Australian Army, one using linear composite of psychometric, biographic and judgemental data (including WOSB ratings), the second employing the Motivation Analysis Test (MAT) of R.B.Cattell and associates. Against a criterion of graduation from training, the latter approach generally achieved higher correlations. Although both approaches promise improvements in selection, further research is required with criteria other than graduation from training.

Olmstead, J.A., Cleary, F.K., Lackey, L.A., & Salter, J.A. (1974). Development of leadership in assessment simulations. Technical Paper 257, Sciences. (From Earles & Winn, 1977).

Reports on the development of assessment exercises for use in US Army leadership ACs. Assessment procedures were developed for the assessment of three levels of personnel. Material and procedures for training staff personnel were also developed. Concluded that organizational exercises uniquely contribute to the AC program.

Olshfski, D.F. & Cunningham, R.B. (1986). Establishing assessment center validity: An examination of methodological and theoretical issues. *Public Personnel Management*. 15(1), 85-98.

Asserts that methodological and theoretical questions of validity for ACs revolve around the related issues of: concept of manager competence; assessment exercises and role of assessors. Contends that attempts to establish validity for ACs using quantitative methods may be premature and that quantification prior to resolution of theoretical and conceptual problems could lead to rejection of an important management evaluation tool. Suggests that conceptual clarification, the present major need, is more likely to be achieved by an open design.

OSS Assessment Staff. (9148). Assessment of men: Selection of personnel for the Office of Strategic Services. New York: Rinehart & Co.

Describes the first American use of the AC method as pioneered in Germany and then the UK during World War II. Based on the experience of 5391 recruits studied intensively over a "one or three" day period. Participants underwent comprehensive data gathering and measurement exercises, some traditional (e.g., measures of ability and personality) and some especially designed to tap specific behaviours (e.g., map reading). Concludes with a number of recommendations aimed at remedying some of the defects observed. Value of this "classic" book is the detail with which it reports its efforts to adapt the AC method for American use. This undoubtedly served to encourage others to consider the technique.

Povah, N. (1986). Assessment centres for self-development. Industrial and Commercial Training. 18(2), 22-26.

Advocates an adaptation of the AC technique which allows attendees to assess themselves and each other (using closed-circuit video). Results remain the personal property of the participants. Describes the 5-day "self-insight" ACs run by ICL to help participants create personal development plans and to prepare for attendance at a conventional AC.

Quinn K.E. (1986). Discussion of the dynamics of mixed sex selection boards. 1 Psychological Research Unit, Research Note 8/86.

Discusses effects of a decision in 1983 to group female ARA officer training candidates with males in the outdoor tasks comprising the officer selection procedure. Investigates issues of sex role training and expectations, and examines implications of research findings for validity and reliability of the selection board procedure.

Reeve, E.G. (1971). Validation of selection boards. London: Academic Press.

Provides a statistical appraisal of WOSBs conducted between 1942-61. Aims to provide a measurement of the effectiveness of WOSBs and to use the collected data to shed some light on the process of subjective assessment of candidates.

Reilly, R.R., & Chao, G.T. (1982). Validity and fairness of some alternative selection procedures. Personnel Psychology. 35(1), 1-62.

Examines validity and "fairness" (ie, not discriminating against minorities) of a number of selection procedures, including ACs. Notes that despite strong evidence for the criterion-related

validity of such methods, some racial and ethnic minorities do not perform as well as others. Notes pressure in the US, therefore, for alternative methods which have less impact. Examines these alternatives. Finds no clear indication that any of the alternatives meet the criterion of equal validity with less adverse impact.

Ritchie, R.J., & Moses, J.L. (1983). Assessment center correlates of womens' advancement into middle management: A 7-year longitudinal analysis. Journal of Applied Psychology. 68(20), 227-231.

AC predictions of the potential of 1097 women managers were found to be significantly related to career progress 7 years later. Compares results with similar research for men (Bray et al, 1974). Finds similarities in rating distributions and in relationships between specific dimension ratings and the progress of men and women. Concludes that differences in management potential are far more attributable to individual rather than sex differences.

Robertson, I.T., & Makin, P.J. (1986). Management selection in Britain. Journal of Occupational Psychology. 59(1), 45-47.

Presents and discusses results of a survey of techniques used for managerial selection from 108 UK businesses. Examines interviews, references, psychological tests, biodata and ACs. Finds interviews and references to be almost universally used, psychological tests to be used only by a minority, increasing interest in biodata, and greater use of ACs, especially by large organisations. Reviews research literature on the criteria, validity and prediction value of traditional techniques.

Ross, J.D. (1979). A current review of public sector assessment centers: Cause for concern. Public Personnel Management. 8, 41-46.

Sackett, P.R. (1982). A critical look at some common beliefs about assessment centers. Public Personnel Management. 11(2), 140-142.

Discusses six beliefs about ACs: the validity evidence is strong; they are more valid than conventional selection devices; as job samples, ACs can be justified on content validity grounds; research findings can be generalised from one organization to another; they do not legally discriminate; and, rating and reaching consensus regarding candidates is a straightforward and well-understood process.

Sackett, P.R. & Dreher, G.F. (1982). Constructs and assessment center dimensions: Some troubling empirical findings. Journal of Applied Psychology. 67(4), 401-410.

Examines the construct validity of the AC approach in evaluating

candidates for positions in management in three large organisations. Results contradict the theory that correlations across exercise ratings of a dimension should be moderately high since different manifestations of stable behaviour patterns are being elicited. Findings suggest that assessment ratings do not measure intended constructs. Advises caution against relying on traditional content validation in the AC context. Suggests that it would be a mistake to depend on a content-oriented validation strategy as sole justification for making inferences about AC ratings. Sees the need to reassess the constructs being measured in managerial ACs.

Sackett, P.R., & Dreher, G.F. (1984). Situation specificity of behavior and assessment center validation: A rejoinder to Neidig & Neidig. Journal of Applied Psychology. 69(1), 187-190.

A reply to Neidig & Neidig's notes in response to Sackett & Dreher (1982). While agreeing that situational differences are real and may be expected, authors contend that situational differences support the argument that the assessor judgement process is too complex to be justified on content validity grounds alone. Offers a reconceptualisation of ACs that does not rely on global dimensions but on identifying critical management roles, designing exercises to simulate these roles, and evaluating effectiveness in each exercise. Also specifies the conditions under which content validity is appropriate for showing the job-relatedness of the AC.

Sackett, P.R., & Hakel, M.D. (1979). Temporal stability and individual differences in using assessment information to form overall ratings. Organisational Behavior and Human Performance. 23, 120-137.

Examines relationships among dimension ratings, and between dimension ratings and overall judgements for 719 individuals assessed for four assessor teams. Behavioural and observational information not greatly differentiated. Illustrates the generality of some laboratory findings regarding decision-making strategies and information processing style and capacity.

Sackett, P.R., & Wilson, M.A. (1982). Factors affecting the consensus judgement in managerial assessment centers. Journal of Applied Psychology. 67(1), 10-17.

Examines the consensus judgement process in a middle management AC. Finds significant disagreement among assessors necessitating a consensus discussion, with considerable variation among dimensions in the need for a consensus discussion.

Sakoda, J.M. (1952). Factor analyses of OSS situational tests. *Journal of Abnormal and Social Psychology*. 47, 843-852. (From Earles & Winn, 1977).

Factor analysis tables of correlations of four of the 10 major traits assessed by the Office of Strategic Services AC. The traits were: effective intelligence, social relations, energy and initiative, and leadership. Factor analysis revealed at least two different kinds of situations which affect the rating of traits. These are verbal situations and active situations. Factor analysis of the 10 traits showed most of the common factor variance can be accounted for by three general traits: intelligence, social adjustment, and physical energy.

Salas, R.G. (1970). The WOSBs revisited: An experimental evaluation of the Australian Army version of the War Office Selection Board procedure. 1 Psychological Research Unit.

Investigates the Australian version of the WOSB procedures as a decision-making operation, specifically to obtain a measure of the contribution of parts of the selection procedure to the final accept-reject decision. For a sample of Royal Military College of Australia cadets, reports over 90% agreement between interim and final Board gradings. While identifying the final interview as the least effective part of the process, argues for its retention on a number of career counselling and public relations grounds.

Schler, H., & Stehle, W. (1983). Neuere entwicklungen der assessment-center-ansatzes beurteilt unter dem aspekt der soziden validitat [New uses for the assessment center approach: Opinions on the aspects of social validity]. (German). *Psychologie und Praxis*. 27(1), 33-44. (English Abstract).

The use of ACs is suggested in order to fulfil the demands of social validity.

Schmitt, N. (1977). Interrater agreement in dimensionality and combination of assessment center judgements. *Journal of Applied Psychology*. 62, 171-176.

Attempts to examine the interrater reliability of AC ratings, the consistency of that dimensionality across rater's combination of information to arrive at an overall rating. Examines before and after discussion ratings by four assessors of 101 potential middle managers on 17 judgement dimensions. Results indicate high interrater reliability along with a great degree of similarity across raters in the perceived dimensionality of ratings. Three dimensions - administrative skills, interpersonal skills and activity level - were the major determinants of overall ratings. Test scores did not greatly affect overall ratings.

Schmitt, N. & Hill, T.E. (1977). Sex and race composition of assessment center groups as a determinant of peer and assessor ratings. Journal of Applied Psychology. 62, 261-264.

Results indicate minimal effects as a results of the race-sex composition of the AC group, but some assessment ratings for black women were negatively and significantly correlated with the number of white males in the assessment group. Ratings of white males tended to be higher when the number of white males in the assessment group increased.

Schmitt, N., Noe, R.A., Meritt, R., & Fitzgerald, M.P. (1984). Validity of assessment center ratings for the prediction of performance ratings and school climate of school administrators. Journal of Applied Psychology. 69(2), 207-213.

Describes the validation of an AC used to select school administrators. The AC proved valid for a sample from widely distant geographic areas and school districts of differing sizes and levels.

Sheldon, R. (1986). Taking the assessment centre road. Education & Training. 28(5), 155-159.

Describes the implementation of ACs for supervisor selection in the Ford Motor Company (UK) over an 8-year period. Lists criteria and exercises used.

Silverman, W.H., Dalessio, A., Woods S.B., & Johnson, R.L. (1986). Influence of assessment center methods on assessor's ratings. Personnel Psychology. 39(3), 565-578.

Examines the proposition that performance ratings are influenced to a large extent by the way the rater selects, stores and recalls information. Conducted research to examine how AC methods affect the way assessors organise and process AC information and effect the rating they make. Results suggested that the two experimental methods for evaluating candidates affected the way the assessors organise the AC and affected the obtained ratings.

Slevin, D.P. (1972). The assessment center: Breakthrough in management appraisal and development. Personnel Journal. 51, 255-261. (From Earles & Winn, 1977).

A general information article discussing the value of ACs in achieving a broad, in-depth evaluation over several dimensions during a period extending over more than a day. A typical centre is described as a process through which a small number of assesseees are observed by a number of trained assessors. A 5-day example is provided and typical assessment dimensions are listed. Author claims the techniques to be at least as effective as any other technique of managerial selection currently in use.

Slivinski, L.W., & Bourgeois, R.P. (1977). Feedback of assessment center results. In Moses & Byham (1977), 143-159.

Emphasises the importance of feedback in the assessment process. Feedback strategies vary in relation to the types of reports required (for individual or management) and the nature of the information provided.

Standing, T.E. (1977). Assessment and management selection. In Moses & Byham (1977), 185-201.

Discusses two types of selection systems. In one, a specific target assignment is identified and individuals are chosen to fill those jobs as a function of successful performance in the AC. The second examines the individual in more general terms by assessing individual strengths and weaknesses. Discusses the similarities and differences of these functions. Also examines the cost-benefit nature of assessment decisions.

Stern, G.G., M.I., & Bloom, B.S. (1956). Methods in personality assessment. Glenmore, Ill.: Free Press. (From Earles & Winn, 1977).

Contains a history of ACs and their methodological development. Of four major methodologies identified - analytical, empirical, synthetic and configurational - the most basic to establishment of the AC is the analytic design. Describes the process in detail.

Stevens, C., et al. (1985). Assessment centres. Personnel Management. July, 28-31.

Addresses a number of criticisms of ACs, citing three case histories of AC use in an accountancy firm, large retailing company, and a petfood manufacturing company.

Taft, R. (1958). Multiple methods of personality assessment. Psychological Bulletin. 56(5), 33-352.

Examines the rationale behind the multiple assessment method, as pioneered in the US by the OSS, and discusses a number of multiple personality assessments. Analyses multiple assessment procedures in relation to their primary purpose and the validation strategy used. Discusses a number of problems, including clinical statistical prediction, conditional factors affecting criteria, and the value of using multiple tests and more than one assessor. Supports multiple assessors for observable performance (but not for interviews) and sees pooled predictions as more accurate than individual predictions.

Task Force on the Development of Assessment Center Standards. (1977). Standards and ethical considerations for assessment center operations. The Industrial Psychologist. 52(3), 172-179.

Task Force on Assessment Center Standards. (1980). Standards and ethical considerations for assessment center operations. The Personnel Administrator. February, 35-38.

Establishes minimum standards and ethical considerations for users of the AC method. Deals with issues such as: definition of an AC, development of an organisational policy statement, assessor training, advice to participants, validation issues and the rights of the participant.

Tenopyr, M.R. & Oeltjen, P.D. (1982). Annual Review of Psychology. 33, 581-618.

Provides a review of the literature and developments in the use of the AC method. Notes its widespread use and continuing utility but also acknowledges the emerging caution and the drift toward alternative and complementary methods.

Thomson, H.A. (1970). Comparison of predictor and criterion judgements of managerial performance using the multitrait-method approach. Journal of Applied Psychology. 54(6), 496-502.

Uses the multitrait-multimethod matrix technique to examine the predictive validity of ratings of management potential derived from an industrial AC program. Correlates psychologists' and managers' ratings on 13 assessment dimensions with supervisor ratings of current job performance on the same dimensions. Ratings obtained of on-the-job performance were lower in quality than the predictor ratings. Furthermore, supervisors failed to differentiate the various dimensions. Concludes that the convergent and discriminant validation procedure is a more powerful analytical tool than the usual validation techniques currently in use.

Thornton, G.C., & Byham, W.C. (1982). Assessment centers and managerial performance. New York: Academic Press.

Traces the historical development of the AC procedure. Critiques published and unpublished research, and integrates methodology and results into human judgement processes and theories.

Tuckerman, J.K. (1958). The WOSB selection procedure: a first validation study. 1 Psychological Research Unit, Melbourne. Research Report No. 43.

Turnage, J.J., & Muchinsky, P.M. (1982). Transitional variability in human performance within assessment centers. Organisational Behaviour and Human Performance. 30(2), 174-200.

An empirical study of the "interactionist" approach (i.e., behaviour as a function of the situation) in an AC setting.

Results reveal major sources of variance from person x situation components and high convergent validity in the ratings, but lack of discriminant validity across specialised skills and abilities. Discusses findings in the context of substantive and methodological issues relating to transitional variability in behaviour.

Turnage, J.J., & Muchinsky, P.M. (1984). A comparison of the predictive validity of assessment center evaluations versus traditional measures in forecasting supervisory job performance: Interpretative implications of criterion distortion for the assessment paradigm. Journal of Applied Psychology. 69(4), 595-602.

Collected data on 799 staff at a large manufacturing firm who were promoted to supervisory positions during a 4-year period. Results showed that both AC evaluations and traditional predictors were unrelated to job performance but that AC evaluations were predictive of promotability. Suggest that by the nature of the complex issues that ACs were designed to address, a psychometrically clean evaluation of them may be precluded.

Tziner, A., & Dolan, S. (1982). Validity of an assessment center for identifying future officers in the military. Journal of Applied Psychology. 67(6), 728-736.

Provides a comparative evaluation of traditional selection procedures with the static and dynamic assessment techniques of an AC. Reports high multiple correlation between AC predicting measures and final score in officer training. This validity was substantially higher than that attained in relation to the same subjects using traditional predictors.

Uhlaner, J.E., Zeider, J., Dusek, E.R. (1975). Research themes and technological base program in behaviour and social sciences for the US Army. Department of the Army, US Army Research Institute for the Behavioural and Social Sciences. (From Earles & Winn, 1977).

Provides guidelines for creating group situational exercises for assessment and development of leadership skills and development of a prototype instructional procedure to train evaluators to assess the situational exercises.

Ungerson, B. (1974). Assessment centers - A review of research findings. Personnel Review. 3(3), 4-13.

A selective review of the literature from 1954-1973 concerning ACs. Notes the inconsistency of results, warning of the dangers in making generalisation about ACs. However, most evidence points to its superior predictive validity and face validity. Ample evidence of satisfactory reliability. Sees ACs as costly, their use only really justified where there are sufficient numbers of candidates to be processed.

Veaudry, W.F., & Campbell, J.C. (1974). Assessment centers - A new look at leadership evaluation. Army Magazine. March issue. (From Earles & Winn, 1977).

Reports investigation of an AC program as a means of providing unbiased evaluations and individual career development. While conclusions on the effect of the AC on selection await a follow-up study, suggests that participating in the AC program will provide excellent performance-oriented leadership training.

Vernon, P.E. (1950). The validation of Civil Service Selection Board procedures. Occupation Psychology. 24, 77-95.

Reports research on the value of the work of the "country-house" selection procedure employed by the UK Civil Service Commission. Claims that the results offer indisputable evidence of the value of this approach in selection. Concludes that equally effective procedures could be devised for other groups. Results also support the continued use by the Armed Forces of the method for officer selection.

Vernon, G., & Bremond, J. (1982). Utilization of the group method in selection systems. US Army Foreign Service & Technology Center (FSTC-HT-550-82). Document Exchange Center.

Describes and discusses use of the small group method in selection of student pilots for the major French airlines, selection of officers and NCOs for French Air Force information offices, and for selection of French astronauts for the USSR. Outlines application, methodology, criteria and behaviour evaluated. Endorses the small group method as a fundamental approach to the best understanding of individuals within the selection framework.

Vosburgh, R.M. (1982). Supervisory experience, reading ability, demographic variables and assessment center performance. Journal of Assessment Center Technology. 5(3), 1-5.

Focuses on prior supervisory experience. Reports that it has been found to be predictive of success in ACs.

Warmke, D.L. (1986). Pre-selection for assessment centres. The Journal of Management Development. 4(4), 28-39.

Discusses the importance of prescreening AC candidates in order to reduce the "failures", improve morale, and meet (US) legal requirements. Outlines prescreening evaluation and looks at other options. Advises on developing prescreening systems, using a combination of subsequent tests/hurdles. Questions whether good prescreening could replace ACs but is dubious.

Wollowick, H.B., & McNamara, W.J. (1969). Relationship of the components of an assessment center to management success. *Journal of Applied Psychology*. 53(5), 348-352.

Studies the validity of the AC approach in predicting management potential and determining the relative value of the components of the program. Results indicate that the approach is valid and that situational tests add to the predictiveness of paper-and-pencil tests. Also demonstrates the greater predictiveness through statistical combination of the program variables, rather than a subjectively derived overall rating.

Worbois, G.M. (1975). Validation of externally developed assessment procedures for identification of supervisory potential. *Personnel Psychology*. 28, 77-91.

Demonstrates the portability of an AC for managers. An AC was developed as a multi-company assessment tool and its concurrent validity in one company was found to be reasonably high.

Yeager, S.J. (1986). Use of assessment centers by metropolitan fire departments in North America. *Public Personnel Management*. 15(1), 51-64.

Thirty-two of 73 US and Canadian city fire departments surveyed were found to be using ACs for employment selection, although all also used other methods such as tests and evaluations. Looked at measures used in ACs, organisation, assessor training, design of exercises, and importance of the AC in promotion decisions.

Zedeck, S., & Cascio, W.F. (1984). Psychological issues in personnel decisions. *Annual Review of Psychology*. 35, 461-518.

Reports little new in the way of refinement to the AC method except for the attempt to utilize behavioural consistency models. Recognises the need to develop new assessment tools and different uses of such tests as self-screening devices. Also needs to develop a theoretical understanding of what is being measured, and to integrate theories of intelligence, creativity, information processing, etc.

#### DISCUSSION/CONCLUSION

As noted earlier, the literature search upon which this bibliography is established has not been exhaustive. It is nevertheless comprehensive and does provide a reasonable indication of the level and nature of the interest in group selection techniques across the period surveyed.

The table below provides a summary, by year of publication, of the references cited. The 15 separate contributions comprising the book edited by Moses & Byham (1977) are excluded from this summary in the interest of a more accurate reflection of publication trends.

Books/articles/reports published in relation to group selection, WOSBs and the assessment centre method 1942-87.

| Year of Publication | No. of References |
|---------------------|-------------------|
| 1942-45             | 2                 |
| 1946-50             | 6                 |
| 1951-55             | 7                 |
| 1956-60             | 7                 |
| 1961-65             | 3                 |
| 1966-70             | 23                |
| 1971-75             | 36                |
| 1976-80             | 36                |
| 1981-85             | 45                |
| 1986-87             | 16                |

As the table indicates, the level of academic interest in group selection has only really emerged in the last 20 of the 45 years since the WOSB was introduced to the British Army. The figures would suggest that not only has the level of interest not diminished but has in fact continued to grow although, on the number of references to date, the latter half of the current decade may see some reduction in publication activity.

Over the period from 1942-87, however, there have been distinct changes in the nature and thrust of the references reviewed. In essence, the shift has been from unrestricted enthusiasm to a more healthy inclination to challenge, seek evidence and examine alternatives. As a number of the review authors had observed, there was a significant element of "faddism" in the early reports of the procedure's application, particularly in the US. From the point of view of what later, more reasoned investigation had discovered, it was unlikely that a great deal of harm was done by such unquestioned acceptance of the group selection technique. Indeed, for many organisations it would have been a significant step forward in selection procedures. Nevertheless, it was only when caution was urged about the "off-the-shelf" use of group selection and when issues such as cost-effectiveness, legality and equal employment opportunity began to arise that a more mature consideration of the approach became possible. Within the last 20 years also there has been a much closer scrutiny not only of the overall effectiveness of the technique but also of its administration and components - tasks, exercises, measurement methods, assessor training etc. Alternatives have also been discussed, particularly the use of biographical data to either complement, or as a much cheaper alternative to, the group selection process.

While its effectiveness over "traditional" selection techniques in assessing such factors as interpersonal skills and leadership in itself justifies continuation of group selection in the Australian Army, the message is that there needs to be closer consideration of the cost-effectiveness issue, including enhancement of prescreening procedures.

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