New Zealand Journal of Psychology, 1993, 22, 19-31

Personnel Selection Methods Used by New Zealand Organisations and Personnel Consulting Firms

Paul Taylor, Aaron Mills, and Michael O'Driscoll

University of Waikato

Two surveys were conducted to determine which personnel selection methods are used in New Zealand organisations, and why. Questionnaires were administered to senior human resource executives of 100 organisations employing more than 300 personnel, and consultants from 30 management consulting firms were interviewed. Selection methods adopted in New Zealand organisations appear to be similar to those reported overseas, with interviews, personal history and references being the most commonly used approaches. Published research suggests that personality tests possess very low predictive validity and that structured interviews are considerably more effective than traditional interviews. However, organisations and consulting firms in our studies used personality tests quite frequently, while the use of structured interviews was rare. Other selection methods with at least moderate predictive validity, such as assessment centres, work samples and cognitive ability tests were also not used often. Many respondents estimated the validity of the methods they used to be higher than validities reported in published research. Most reported a lack of familiarity with published research on selection procedures, suggesting that improved dissemination of research results may lead to increased adoption of more valid selection methods.

Personnel Selection Methods Used in New Zealand Organisations

Significant advances in personnel selection research have been made in recent years by industrial and organisational psychologists. For example, assessment centre and work sampling techniques have been developed which provide reasonably high levels of predictive validity (Gaugler, Rosenthal, Thornton & Bentson, 1987; Robertson & Downs, 1989; Thornton & Byham, 1982). Meta-analysis and validity generalization techniques have been employed over the past decade to summarize test validation studies and to determine more accurate assessments of various selection techniques (Hunter & Hunter, 1984; Schmitt, Gooding, Noe, & Kirsch, 1984). Also within this past decade, improvements have been made in the employment interview, enhancing its psychometric properties considerably (Campion, Pursell, & Brown, 1988; Harris, 1989; Janz, 1982; Wiesner & Cronshaw, 1988; Wright, Lichtenfels, & Pursell, 1989).

However, research findings can result in improved personnel selection only to the extent that organisations apply them. At present and over the coming years in New Zealand, personnel selection is, and will continue to be, a critical component of improved productivity. Small improvements in the validity of personnel selection methods can have a substantial impact on productivity because they lead to the placement of higher performing individuals, and this improved job performance is sustained throughout the tenure of each employee. The application of advances made in personnel selection research should be a high priority for organisations, management consulting firms and psychologists who provide selection services.

Despite extant research evidence supporting advances in personnel selection and demonstrating how important valid selection is to

Correspondence should be addressed to Paul Taylor at the Department of Psychology, The University of Waikato, Private Bag 3105, Hamilton, New Zealand. We wish to thank the New Zealand Association of Training & Development Education Trust and the University of Waikato Research Committee for funding this project, and Anne Fulton, Glenn Hansson, and Leanne Luxford for their assistance with the data collection and coding. The helpful comments of two anonymous reviewers are appreciated.

organisational effectiveness, there is evidence of a research-practice gap in this field. With the exception of a recent study in Britain (Shackleton & Newell, 1991), which provides some evidence of a trend toward more valid methods being used, previous surveys conducted in the United States (McEvoy, 1983; Ryan & Sackett, 1987), Great Britain (Gill, 1980; Robertson & Makin, 1986) and Australia (Patrickson & Haydon, 1988; Vaughan & McLean, 1989) have indicated that many, if not most, organisations continue to use personnel selection methods which have comparatively low validity, such as unstructured interviews and references.

While little is known about the selection methods employed in New Zealand organisations, findings similar to most of the overseas studies have been reported from two small surveys conducted in New Zealand: one of 40 organisations conducted by Henderson in the Canterbury area (George, 1989) and one of 21 personnel consultants attending a conference (Dakin & Armstrong, 1989). In both these surveys, interviews and reference checking were reported to be used very frequently, whereas the use of cognitive ability tests, assessment centres and work samples was rare.

Even less is known about *why* organisations use the methods they do, both in New Zealand and elsewhere. All of the previous studies have surveyed the methods used by organisations to select employees, but have not asked why they use particular methods. Consequently, when research-practice gaps have been identified, the reasons and solutions for these gaps remain largely unknown.

Three previous surveys suggest that practitioners may not be employing more valid selection methods because they lack knowledge of the predictive validity of various methods. Gill (1980), Dakin and Armstrong (1989), and Harris (1991) all asked practitioners not only for the selection methods they used, but also to rank order common selection methods in terms of their predictive validity. In these studies, the validity of adopted methods was overestimated, compared with that suggested by research. For example, interviews were ranked first in one survey (Gill, 1980) and second in the other (Dakin & Armstrong, 1989) in terms of their estimated predictive validity, and were also listed as the most frequently used selection method in both surveys. However, the predictive validity of unstructured interviews estimated through meta-analysis is substantially lower than other selection methods, such as cognitive ability tests, assessment centres, and work samples. This finding suggests that one reason many practitioners fail to use the most valid selection methods available to them is that they lack knowledge of validation research, and that the first step toward resolving the research-practice gap in personnel selection may be for I/O psychologists to disseminate research information more effectively to practitioners.

The Present Studies

This paper reports two studies which were conducted to determine (1) what personnel selection methods are utilized by large organisations and by personnel consulting firms in New Zealand and (2) why practitioners use various methods. We chose to study two separate samples, large organisations and personnel consulting firms, because these two groups have a wide range of selection method alternatives available to them. Economies of scale typically prevent small organisations from investigating and developing various selection methods, and encourage them to rely heavily on interviews, biographical information and references. Large organisations and personnel consulting firms, on the other hand, can invest resources into developing effective selection systems because of the quantity of positions they fill. Our first aim, identifying what selection methods practitioners use, is important because no systematic, comprehensive survey has previously been conducted on personnel selection methods utilized in New Zealand (George, 1989). While the Henderson (George, 1989) and Dakin and Armstrong (1989) studies provide some insight into personnel selection practices in New Zealand, both involved small, non-representative samples, thereby limiting generalization of their findings.

In relation to the employment interview, we wanted to determine the extent to which respondents used structured, rather than unstructured interviewing procedures, because this information is critical to estimating the validity of practitioners' selection systems. Recent research on employment interviews has indicated that their predictive validity is moderated by the degree of interview structure, with structured interviews having considerably greater predictive validity than unstructured

ones (Weisner & Cronshaw, 1988). We were able to identify only one previous survey which examined the extent to which organisations used structured employment interviews. Vaughan and McLean (1989) found the use of highly structured interviews to be rare in Australian firms.

Determining *why* practitioners use the methods they do, which was our second aim, is critical to identifying what actions I/O psychologists in New Zealand can take to encourage organisations to use more valid selection procedures. Existing evidence suggests that one reason is a potential lack of knowledge on the part of practitioners (Dakin & Armstrong, 1989; Gill, 1980). However, a greater understanding is needed on what practitioners know about both the selection methods they employ and alternatives that they have chosen not to use.

In addition to lacking knowledge of research on predictive validity, other plausible explanations for why organisations in New Zealand may not employ more valid selection methods include high development costs, as in the case of assessment centres, or potential adverse impact on racial minorities, as in the case of cognitive ability tests[1]. If other factors have influenced practitioners to use less valid selection methods, such as the time required to develop complex and tailored methods (e.g., biographical data instruments and assessment centres) for small numbers of openings, generalizable methods could be developed for similar positions in many different organisations (cf. Rothstein, Schmidt, Erwin, Owens, & Sparks, 1990). In sum, understanding what, how, and why selection methods are used is essential for directing future practice and research in the application of personnel selection research in New Zealand organisations.

[1] While there is presently no data available on the impact on Maori and Pacific Islanders of using cognitive ability tests for selection, evidence from the United States suggests that the use of cognitive ability tests can result in adverse impact on Blacks (Hunter & Hunter, 1984). Blacks, on average, score lower than Whites on such tests, and if individuals are selected based on cognitive ability test scores without taking into account their race, a smaller proportion of Blacks than Whites may be hired. Because of similarities between the socio-economic positions of Maroi and Pacific Islanders in New Zealand and Blacks in the United States, it is reasonable to assume that the use of cognitive ability tests in New Zealand may have a similar effect.

Method

Samples

Organisational sample. We obtained a list of all (370) public and private organisations in New Zealand with 300 or more employees from the New Zealand Department of Statistics. Organisations were contacted in a randomized order, within geographic regions, with the intention of obtaining a final sample of approximately 100. Twenty-eight of the 153 organisations originally contacted declined to participate, and an additional 11 failed to meet our selection criteria[2]. Fifteen of the remaining 114 organisations failed to complete the survey, leaving 99 usable responses, a 70% response rate from eligible organisations. These organisations represented a range of industries and services, with a median of 680 employees.

Consulting firm sample. Personnel consulting firms were randomly selected from the yellow pages section of the Auckland and Hamilton area telephone directories and contacted with the intention of obtaining a final sample of 30[3]. Sixty-three firms were contacted, of which 39 provided managerial selection services. Thirty of these agreed to participate, yielding a response rate of 77%. Annual managerial placements ranged from 12 to 1,500 per firm, with a median of 55.

Procedure

Organisations. The director of human resources, or equivalent, was contacted to determine if the organisation was eligible and would agree to participate. Data were collected through a mailed questionnaire, with a follow-up interview to obtain missing or incomplete information.

Consulting firms. For each firm, a consultant who engaged in personnel selection was contacted to determine if the firm provided a managerial selection service and if he or she would agree to participate in the study. Data on personnel consulting firms were collected through in-person interviews.

Survey Items

Questions asked of organisations and consulting firms were similar, except that organisations were asked about selection procedures for both managerial and non-managerial positions, while questions of consulting firms were restricted to managerial selection. In our survey of large

[2] Because this survey was part of a larger study including two other personnel functions, organisations had to have a performance appraisal system in place and must have provided management training recently to be included in the study.

[3] Data on consulting firms were gathered by the second author, for his M.Soc.Sc. thesis. Practical constraints precluded collection of information from a national sample of consulting firms.

organisations, we focused on both managerial and non-managerial selection, assuming that different methods were likely to be employed for each of these groups of employees. In contrast, personnel consulting firms tend to concentrate predominantly on selection of managerial personnel. Our survey of these firms therefore focused exclusively on managerial selection.

Because virtually all selection methods with at least moderate validity involve conducting job analyses, we asked a series of initial questions on how person specifications were derived. Organisations were asked to indicate how frequently formal job analyses were conducted for non-management and management positions using 5-point scales with the following scale anchors: 1 never, 2 infrequently, 3 occasionally, 4 frequently, and 5 always.

Selection methods used. Respondents from both organisations and consulting firms were asked what selection methods they used and what weight each carried in selection decisions. Knowing the weight each source of information carries in the selection decision is critical to drawing inferences about the predictive validity of a selection system that includes more than one source. For example, previous surveys have found that the use of references is commonplace. Because references are presumed to have low predictive validity (Hunter & Hunter, 1984), a selection system that weights reference information heavily in the overall selection decision is likely to have low predictive validity. Conversely, if references play a relatively minor role in the selection decision compared with other more valid methods, the impact of references in the selection process is minimal.

In the case of employment interviews, we asked questions to determine the degree to which interviews were structured, such as whether predetermined job dimensions were derived before interviews and whether job applicants were rated on specific dimensions. Additionally, we asked organisational respondents what selection methods they were not using at present, but were considering using in the future.

Reasons for using methods. For each selection method used, respondents were asked open-ended questions concerning why their organisation/consulting firm first used it and continued with it. In order to determine how much knowledge respondents had about the predictive validity of each of the selection methods they used, an open-ended question probed their knowledge of the research literature. Organisational respondents ranked seven commonly used selection methods in order of their validity and consulting firm respondents indicated the validity of selection methods they used. In cases where non-utilized methods were ranked as high on validity, organisational respondents were asked why their organisation did not use the method.

Results

Job Analyses

Organisations. Virtually all organisations used person specifications in selecting personnel. Eighty-one percent of the organisations reported using job specifications for non-management positions, and 87% for management positions.

While job specifications were quite prevalent in organisations, formal job analysis was rare for both management and non-management positions. Job analyses and person specifications were developed primarily by position managers, with some help from personnel staff. Job incumbents were involved only marginally in determining person specifications. Mean ratings of how involved relevant people were in developing the person specification for non-management positions were centred between "somewhat involved" and "very involved" for position managers, on "somewhat involved" for personnel staff, and on "involved marginally" for position incumbents. For management positions, position managers were, on average, "very involved"; personnel staff were "somewhat involved"; and position incumbents were "involved marginally".

We also asked organisational respondents whether they reviewed written job requirements for similar positions in other organisations, such as handbooks of job descriptions (e.g., *Dictionary of Occupational Titles*, U.S. Department of Labor, Employment and Training Administration, 1977) or computer services (e.g., Position Analysis Questionnaire). Eighty-three said that they did not, and the predominant source listed by the 16 that did was salary surveys conducted by consulting firms.

Consulting firms. Consulting firm practices in collecting job-related information prior to selecting applicants were very similar to those reported by organisations. Virtually all consulting firms gathered job information from the position manager, but collected information from job incumbents only 20% of the time. Job-related information was collected by consulting firms exclusively through interviews.

Selection Methods Used

Table 1 illustrates the percentages of organisations and consulting firms that used each of eight common personnel selection methods. By

Table 1: *Percentage of Organisations and Consulting Firms Using Various Selection Methods*

Selection method	Percentage of organisations		Percentage of consulting firms
	Non-mgmt	Mgmt	
Employment interviews	100	97	100
References	99	99	100
Personal histories	99	97	40
Cognitive ability tests	15	20*	63*
Personality tests	5	31*	67*
Mechanical aptitude and reasoning tests	2	0	0
Clerical tests	15	0	0
Other tests**	11	4	7
Assessment centres	11	14	10
Work samples (excluding clerical tests	5	0	0

* The use of cognitive ability and personality tests for management selection is actually more prevalent than these numbers indicate because 8 additional organisational respondents and 7 consulting firm respondents said that they used tests but did not indicate the test type.

** Other tests included English, communication, basic maths, motor skills, writing, geography, and colour.

far the most frequently used methods in both the organisational and consulting firm samples were the employment interview, references, and personal history information. Many organisational respondents indicated that other methods used, such as tests and assessment centres, were not used with all applicants, or with all positions, whereas this comment was never made about interviews, references and personal history information.

Several respondents indicated specific test names that their organisations used. Tests most frequently used by organisations were those published by Saville & Holdsworth Ltd, which accounted for 11 of the organisations which used personality tests, two that used cognitive ability tests, and four others that did not indicate which specific Saville & Holdsworth tests they used. Other personality tests indicated by more than one organisation included the 16-PF personality inventory used by 5 organisations, and the Meyers-Briggs Type Indicator used by 3 organisations.

The *personality tests* most frequently used by consulting firms were the 16-PF, by 16 (53%) of the firms; Saville & Holdsworth, by 4 (13%); the California Psychological Inventory (CPI), by 4 (13%); and the Motivation Analysis Test (MAT), by 3 (10%). The cognitive ability tests most frequently used by consulting firms were the Wonderlic Personnel Test, by 6 (20%); the Ravens Progressive Matrices, by 4 (13%); the Employee Aptitude Survey, by 4 (13%); and Saville & Holdsworth, by 3 (10%).

Because the way *personal history* information is gathered can affect its predictive validity, organisational respondents were asked whether standardized forms (e.g., application blanks) were typically used, and if so, whether items were numerically weighted (as in a weighted application blank). Most organisational respondents (71%) reported that standardized application forms were typically used. Twenty-three percent did not use standardized forms and six percent used numerically weighted application blanks.

Respondents from organisations were asked to indicate the contribution made by each of their selection methods to short-listing and final selection decisions. (Consulting firms only short-list candidates, and clients make final selection decisions.) Median percentage contributions of the most commonly used selection methods are presented in Table 2. Not surprisingly, personal history information was a major contributor to short-listing decisions, while the interview played a significant role in organisations' final decisions. Consulting firms' (short-listing) decisions were based largely on interviews.

Table 2: *Median Percentage Contributions of Most Commonly Used Selection Methods for Short-Listing and Final Selection Decisions*

Selection method	Organisations				Consulting firms
	Short-listing decisions		Final decisions		Short-listing decisions
	Non-mgmt.	Mgmt.	Non-mgmt.	Mgmt.	
Interviews	0	0	40	40	60
References	10	15	18	20	15
Personal history	60	70	30	30	15
Tests	8	0	10	15	10

Interviews. Organisational respondents' reports of interview structure varied slightly on different questions. On a 3-point scale indicating the extent to which interview questions and procedures were structured for non-management positions, 38% said "very structured", 51% said "somewhat structured", and 11% said "very unstructured". For management positions, respondents reported slightly less structure: 20% "very structured", 64% "somewhat structured", and 15% "very unstructured". When asked whether job dimensions were used to formulate interview questions (an aspect of all structured interview procedures), 83% responded "yes" for non-management positions and 68% "yes" for management positions. However, when asked if rating scales were typically used so that each candidate was rated on each dimension (another aspect of all structured interview procedures), only 32% said "yes" for non-management positions and 40% "yes" for management positions.

Another means of determining the extent to which organisations use structured interview approaches is to assess their training of interviewers. Organisations were asked whether they provided training for those who conduct employment interviews, and if so, the length of training and skills taught. Approximately half of the organisations (53) said that they did not provide training. For the 46 who said that they did, training session length ranged from 1 hour to five days, with a median of 1 day. The most frequently mentioned content areas of the training were questioning skills (11), listening (5), preparing questions (5), structuring interviews (5), body language (4), EEO (4), communication skills (4), and role-playing (4).

A similar pattern emerged from consulting firm respondents. In response to open-ended questions concerning how they prepared for, conducted, and evaluated interviews with candidates, the majority of consulting firm respondents described methods inconsistent with structured interview approaches. Most said that they used the same interview questions, regardless of the specific management position being filled, and evaluated candidates during the interview on "intuition", "feelings", "experience" or "body language". Only 10 (33%) of the consulting firm respondents mentioned evaluating candidates through a comparison of their profiles to clients' selection criteria.

Multiple interviewers were typically used in the organisational sample. Averages of 2.2 and 2.9 people in each organisation interviewed candidates for non-management and management positions, respectively. The most frequently cited person involved in these interviews was the position manager. In only 16% of these organisations were position peers typically involved in interviews, and only one organisation typically included position subordinates. Most organisations reported "occasionally" using panel interviews (in which two or more interviewers are present in the same interview), slightly less for non-management positions, slightly more for management positions. No consulting firm reported more than one interviewer (from the consulting firm) typically being involved in the selection process.

Methods under consideration for the future. Organisational respondents were asked if they were considering using any methods in the future that they did not employ at present.

Thirteen respondents reported that they were considering using tests, administered either internally or by consultants. Five of these thirteen did not specify the type of test, three identified aptitude/ability tests, three personality tests, and two clerical/keyboard tests. In addition to the 13 respondents who identified tests, three mentioned assessment centre exercises and one suggested structured interviews.

Why Selection Methods Are Used

Organisational and consulting firm respondents were asked through open-ended questions why they first used, and continued to use particular selection methods. Reasons given for using references and tests (the more commonly used methods) are presented below.

Reasons given for using references. The most prevalent reason given by organisational respondents for obtaining references was to verify/confirm personal history or interview information (volunteered by 46% of respondents). Other frequently made comments from this sample included: to identify potential problems/weaknesses (24%), to provide a second, independent opinion/source of information (20%), to check past performance (13%), to check employment history (12%), and to check the applicant's character/personality (10%).

Consulting firms' explanations for why they checked references were similar to those provided by organisational respondents. Fifty-three percent reported that they used references to verify/confirm information, 27% said to review applicants' strengths and weaknesses, 23% to gather additional information, 20% to obtain first-hand observations of performance, and 10% to gather any negative information about the applicant.

Reasons given for using tests. When asked why they used a test, 27% of the organisational respondents said because it measured a particular trait/aptitude/ability and another 27% reported that the trait/aptitude/ability the test measured was related to job success. Nineteen percent said that the test provided additional, unique information not obtained through other selection methods used by the organisation, and 14% said that using the test improved the validity of their selection system.

When asked what evidence had convinced them to continue using the test(s), the most frequent response (from 41% of the organisational representatives) was subjective criterion-related evidence (i.e., that the organisation was satisfied with personnel hired). The next highest response, given by 24% of test-using organisational respondents, was that they had no evidence. Only one respondent reported having quantitative evidence, and one other said that quantitative evidence was in the process of being collected. Most of the consulting firm respondents said they used tests because clients requested them (70% for personality tests and 68% for cognitive ability tests). Other frequently given explanations by consulting firm representatives concerned the tests' abilities to gather data on traits/aptitudes/abilities that were not available through other sources.

Knowledge of research literature and the predictive validities of selection methods. Human resource executives from organisations were asked whether they were aware of any research literature concerning the predictive validity of each selection method they reported using, along with an open-ended follow-up question asking those who said that they were aware of research literature to explain their understanding of each method's researched validity. Many reported that they were unaware of any research literature on the methods they used: 52% of those using interviews; references, 80%; personal history, 74%; the *specific* tests they used, 53%; and the *category* of tests they used, 69%. Substantial proportions of respondents said that they were aware of research literature, but failed to explain their understanding in the follow-up questions: 12% of those using interviews; references 2%; personnel history, 8%; the *specific* tests they used, 11%; and the *category* of tests they used, 10%. Explanations provided by the remaining respondents are presented in Table 3.

Additional insight into practitioners' understanding of validation research findings was gained by asking organisational respondents to rank order seven selection methods in terms of their predictive validity. Respondents ranked interviews and personal history as most valid (with mean ranks of 2.3 and 2.4, respectively), followed by references (3.7), cognitive ability tests (4.0), assessment centres (4.3), personality tests (5.0), and vocational interest inventories (5.6).

In cases where organisational respondents

Table 3: *Organisational Respondents' Understanding of Any Research Literature Concerning Most Commonly Used Selection Methods**

Method	Percent who said they were aware of any research literature and explained understanding	Explanations given by two or more respondents
Interviews	37	(19) low validity/reliability (7) structured interviews are more valid/reliable (3) should be used in conjunction w/ other methods
References	18	(4) low validity (3) written low validity, oral/structured better (2) tendency to avoid negative comments (2) high validity
Personal history	18	(8) low validity (3) weighted application blank has high validity (2) no local research
Tests used:		
Specific test	31	(7) the test is valid/reliable (2) local norms exist (2) local norms do not exist
Category of test	21	(6) this category of test is valid

*Only organisational respondents who used each method were asked about their understanding of the research literature. NOTE: numbers in parenthesis indicate the number of respondents.

ranked a selection method which their organisations did not use within the top four of seven, they were asked why the method was not used. Assessment centres, cognitive ability tests, personality tests and vocational interest inventories were all ranked at or above the middle rank by at least one organisation that did not use those methods. The reasons respondents gave for not using these methods, along with the frequencies of responses for each of the four methods, are presented in Table 4. Costs and limited resources/personnel to administer those methods were the most frequently given reasons.

Similarly, consulting firm representatives were asked whether they were aware of any research literature on the validity of the selection methods they used, and what they believed the validity of these methods to be. These data are presented in Table 5, and suggest that most consulting firm representatives believed their methods to be quite valid.

Discussion

Selection Methods in Use

The results of these two surveys clearly show that the predominant personnel selection methods used by most large organisations in New Zealand are the interview, personal history and references. These findings are consistent with those of similar surveys conducted in Australia (Patrickson & Haydon, 1988; Vaughan & McLean, 1989), Britain (Robertson & Makin, 1986; Shackleton & Newell, 1991), and the USA (McEvoy, 1983).

While interviews and references were employed by all personnel consulting firms, a smaller proportion of firms reported using personal history information than did consultants in Dakin and Armstrong's (1989) survey. A plausible explanation for this difference is differences in terms used: We used "personal history, such as weighted application blanks, resumes or application forms" while Dakin and Armstrong used the term "experience". While respondents in both studies may have based selection decisions on applicants' work experience, some respondents in our study may have assumed that, if they did not use application blanks or resumes, they did not use what we referred to as "personal history".

The results of the present surveys suggest that the gap between the selection methods employed by practitioners in New Zealand and the methods most supported by validation research still appears quite wide, although somewhat narrower than that suggested by the Dakin and Armstrong (1989) survey. For instance, empirical evidence derived from a

Table 4: *Reasons Organisational Respondents Gave For Their Organisation Not Using a Selection Method They Ranked as One of the Four Most Valid Selection Methods.*

Reason	Assessment centres	Personality tests	Cognitive ability tests	Vocational Interest inventories
1. Cost too high for potential value.	7	3	3	
2. Limited resources/qualified personnel.	5	6	2	1
3. Method not relevant to industry, organisation or positions.	5	1	4	1
4. Developing use of method not a priority.	4	1	2	
5. Insufficient numbers of qualified applicants.	3	2	1	1
6. Method not readily available.	4	1	2	
7. Method not requested/supported by managers.	1	1	4	
8. Respondent disagrees with empirical data.	1	3	1	
9. Other methods give same information.		3	1	
10. Respondent not familiar enough with method.	1			1
11. Method has yet to become established.	1			
12. Lack of NZ data on norms and potential gender/cultural biases.			1	

Table 5: *Percentage of Consultants Aware of Any Research Literature on Selection Method Validity*

Selection Method	Percentage aware of any research literature	Percent reporting validity of method as:				
		High	Medium	Low	Zero	Don't Know
Employment interviews	68	36	14	14	7	29
References	40	40	27	7	10	13
Personal history	54	19	27	19	12	23
Cognitive ability tests	69**	50	50	0	0	0
Personality tests	69**	67	33	0	0	0

* Unlike organisational respondents, representatives of consulting firms were not asked to explain their understanding of the research literature on the validity of the selection methods they employed.
NOTE: Only respondents from consulting firms that use these particular methods were asked whether they were aware of any research literature on, and to estimate, their validity.

recent meta-analysis of the validity of the selection interview (Weisner & Cronshaw, 1989) suggests that the interview, both structured *and unstructured*, probably has greater validity than was previously estimated by Hunter and Hunter (1984), which was the basis of the Dakin and Armstrong conclusions. Nevertheless, a minority of organisations in the present study reported using structured interview formats, which have relatively high levels of predictive validity.

Although many organisations reported that their interviews were "partially structured" the lack of dimension ratings and structured interview training suggests that very few organisations were using fully structured interviews. Similarly, descriptions of interviewing procedures offered by consulting firms matched the unstructured interview format.

While personal history information was reported to be used by virtually all organisations and many consulting firms, very few organisations used item weighting, as in weighted application blanks, an inexpensive means of improving the predictive validity of collecting personal history information. Mechanical aptitude and reasoning tests, clerical tests, assessment centres and work samples, all with relatively strong predictive validity for particular types of jobs, were reported as being used by few organisations and consulting firms.

Even though strong research evidence suggests that general personality tests are poor predictors of job performance (Schmitt et al., 1984), their use in New Zealand appears quite prevalent, particularly among consulting firms. Recent evidence suggests that personality tests

focused on key, occupationally-relevant traits (Barrick & Mount, 1991) and used only when indicated by thorough job analyses (Tett, Jackson, & Rothstein, 1991) may have a role in selection, provided that point-to-point relationships between personality constructs and performance criteria are established (Smith & George, 1992). Of particular concern is the widespread use of the Saville & Holdsworth, 16-PF and Meyers-Briggs Type Indicator personality tests, which do not require psychologists or persons with tertiary training in testing to obtain and administer them. Week-long seminars are provided by organisations that sell the Saville & Holdsworth and Meyers-Briggs tests that include how to administer and interpret their tests. However, without independent training in how to evaluate test validity and reliability, as is provided in psychometric courses offered by universities, users are unlikely to be aware of the poor track record of personality tests in general, and how to adequately evaluate the usefulness of those tests in their own organisations. Similarly, practitioner-oriented articles that make claims about the validity of specific tests need to be empirically based, rather than anecdotal or unwarranted speculation (e.g., Sisley, 1990). These concerns are particularly important given that some organisations which do not presently use personality tests are considering doing so.

Reasons Why Practitioners Use Particular Methods

Most organisational and consulting firm respondents reported a lack of knowledge about research on the validity of their methods and, as found by Dakin and Armstrong (1989) and Gill (1980), practitioners overestimated the validity of the selection methods they used and underestimated many they did not use. On a more encouraging note, a small proportion of practitioners showed a consistently accurate understanding of the empirical literature and the relative validity of the methods they used. In particular, a sizable proportion of organisational respondents were aware of the higher validity of structured employment interviews, possibly as a result of recent articles appearing in the practitioner journals (e.g., Boxall, 1990; George, 1989). Furthermore, some of the reasons practitioners gave for not using methods they believed to be valid are quite understandable. For example, the high costs of and lack of availability of assessment centres in New Zealand make them a low-utility alternative, even though they may have at least moderate predictive validity.

Improving Selection Practices in New Zealand

In this study, the average number of applicants for each opening in organisations centred around 10 for non-management positions and 5 for management positions. Given this favourable average selection ratio, improvements in the validity of selection methods are likely to have substantial benefits for these organisations. Based upon the selection methods reportedly used in organisations and consulting firms and the body of empirical knowledge that has been accumulated in the field of personnel selection, some obvious recommendations emerge. As mentioned earlier, empirical support for the use of personality tests in personnel selection is, at best, very weak and the continued use of such tests by organisations and consulting firms is of questionable value. Recommendations concerning job analysis, structured interview, biodata, cognitive ability tests and references are described below.

Job analysis. Virtually all valid selection methods start with a comprehensive understanding of the job, developed through a job analysis. Most organisational and consulting firm respondents described unsystematic ways of gathering this job information, often relying solely on the position supervisor as the single informational source. Practitioners could make greater use of formal job analysis methods (see Schneider & Schmitt, 1986, for an overview of various methods), particularly those based on synthetic validity (Guion, 1965; Mossholder & Arvey, 1984). Synthetic validation approach is particularly well-suited to organisations too small for criterion-related validation studies, which is the case for most New Zealand organisations. Practitioners could also use a wider range of sources for job analysis information in order to obtain a more complete and accurate understanding of the knowledge, skills and ability requirements for jobs. Additional sources include job incumbents, position peers, written materials developed on similar jobs at different organisations, such as through the *Dictionary of Occupational Titles* (U.S. Department of Labor, Employment and

Training, 1977), and databases that may be used for synthetic validation, such as for the Position Analysis Questionnaire.

Structured interviews. Even though it appears that a growing number of practitioners are aware of structured employment interviews, few appear to be using fully structured interviews. Favourable research results have accumulated from a variety of studies on structured interviews over the past 10 years, and written materials guiding practitioners in how to use these approaches have become readily available (see Gatewood & Feild, 1990, for a review). Of the two most common types of structured interview approaches, situational interviews and behavioral description interviews, the latter are likely to have greatest applicability in New Zealand organisations because they do not require the development of predetermined answers and scoring keys as in the situational type. Organisations that do not hire a large number of employees for the same position, as is the case in the smaller organisations of New Zealand, usually cannot afford the development costs associated with situational interviews.

Biodata. While virtually all organisational respondents reported using personal history information, few said that they used item weighting, such as in the weighted application blank. Because of the favourable results reported in numerous studies of this technique, both in predicting job performance and turnover, and because of the low development and administration cost, many organisations could improve the validity of their means of collecting and interpreting personal history information through this procedure. Until recently, it was believed that biodata instruments were not transportable, i.e., had to be developed specifically for each organisation. Rothstein et al. (1990) have demonstrated that the development of a generalizable instrument is possible, which is encouraging for organisations too small to develop their own biodata instruments. Unfortunately, virtually all biodata instruments developed in the past have become proprietary and unavailable to other organisations. The development of generalizable and publicly available biodata instruments would be of considerable value to organisations in New Zealand and could be an issue for useful future research.

Cognitive ability tests. The predictive validity of cognitive ability tests, particularly for complex jobs, has been demonstrated to be at least moderate (Hunter & Hunter, 1984; Schmidt et al., 1984), and so it may seem appropriate for organisations in New Zealand to make greater use of this inexpensive selection method, particularly for managerial positions. However, the use of cognitive ability tests has been found to have adverse impact on Blacks in the United States (Hunter & Hunter, 1984) unless scores are adjusted for different racial groups or a quota system is adopted. There is likely to be a similar effect of using cognitive ability tests in New Zealand and, without hiring quotas or test score adjustments, the use of cognitive ability tests is likely to result in smaller selection ratios for ethnic minorities such as Maori and Pacific Islanders.

Implications for I/O Psychologists' Practice and Research

Because the present surveys have demonstrated a clear gap between practice and empirical research in the personnel selection field and that most practitioners lack knowledge of most personnel selection research, the first and most important step to narrowing the gap is dissemination of information on valid selection practices to practitioners. Articles by Boxall (1990) and George (1989) in practitioner-oriented periodicals represent efforts to increase practitioners' awareness of selection validity.

A second role for I/O psychologists in New Zealand is to interpret research and modify techniques from overseas to fit the unique needs of New Zealand organisations. For example, because organisations in New Zealand are typically much smaller than the organisations in which research and advances have been developed overseas, I/O psychologists need to determine which techniques are likely to be applied successfully, and how they might have to be adapted.

At present, meta-analyses have only provided estimates of the individual validities of various methods, but there are few data on the incremental validity of using multiple methods with at least moderate validity, such as a cognitive ability test used in conjunction with a structured interview. The extent to which various selection methods share common variance is yet undetermined, and therefore it is also unknown whether particular combina-

tions of valid methods provide predictive validity which is appreciably higher than a single method. If, for example, the situational interview taps applicants' cognitive ability, as some have argued (Hunter & Hirsch, 1987; Robertson, Grafton, & Rout, 1990), the use of both a situational interview and a cognitive ability test is likely to be redundant; neither accounting for additional criterion variance over the other. Behavioral description interviews, on the other hand, primarily assess past job-related experience, which should not be highly related to cognitive ability. Therefore such an interview approach used in combination with a cognitive abilities test may well prove more valid than either one alone. Determining the incremental validity and utility of selection methods used in combination will be an important area of future research for organisations in New Zealand and abroad, as the use of valid methods continues to increase. Industrial and organisational psychologists are able to play a key role in helping organisations determine the value of expanding selection practices.

New Zealand organisations now face the need to become more productive, service oriented, and globally competitive, and the role of I/O psychologists in helping them achieve these goals through improved employee selection is more important than ever. The development of selection procedures and research on their validity, taking into account the specific cultural and economic context of New Zealand, is an important priority for I/O psychologists in this country.

References

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1-26.

Boxall, P. (1990, September). Interviews: The steps to success. *Management* (New Zealand), pp.50-65.

Campion, M. A., Pursell, E. D., & Brown, B. K. (1988). Structured interviewing: Raising the psychometric properties of the employment interview. *Personnel Psychology, 41,* 25-42.

Dakin, S., & Armstrong, J. S. (1989). Predicting job performance: A comparison of expert opinion and research findings. *International Journal of Forecasting, 5,* 187-194.

Gatewood, R. D., & Feild, H. S. (1990). *Human resource selection* (2nd ed.). London: Dryden Press.

Gaugler, B. B., Rosenthal, D. B., Thornton, G. C., III, & Bentson, C. (1987). Meta-analysis of assessment center validity. *Journal of Applied Psychology, 72,* 493-511.

George, D. (1989). Personnel selection in New Zealand: The cost of current practices. *Accountants' Journal, 68*(6), 14-19.

Gill, D. (1980). How British industry selects its managers. *Personnel Management* (UK), *12*(9), 49-52.

Guion, R. M. (1965). Synthetic validity in a small company: A demonstration. *Personnel Psychology, 18,* 49-63.

Harris, M. M. (1989). Reconsidering the employment interview: A review of recent literature and suggestions for future research. *Personnel Psychology, 42,* 691-726.

Harris, N. T. (1991). The perceived validity and reported use of management selection methods in New Zealand organisations. Unpublished Master of Business Studies research report, Massey University.

Hunter, J. E., & Hirsch, H. R. (1987). Applications of meta-analysis. In C. L. Cooper & I. T. Robertson (Eds.). *International review of industrial and organizational psychology.* Chichester: Wiley.

Hunter, J. E., & Hunter, R. F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin, 96,* 72-98.

Janz, T. (1982). Initial comparisons of patterned behavior description interviews versus unstructured interviews. *Journal of Applied Psychology, 5,* 577-580.

McEvoy, G. M. (1983). Personnel practices in smaller firms: A survey and recommendations. *American Journal of Small Business, 8*(2), 32-39.

Mossholder, K. W., & Arvey, R. D. (1984). Synthetic validity: A conceptual and comparative review. *Journal of Applied Psychology, 69,* 322-333.

Patrickson, M., & Haydon, D. (1988). Management selection practices in South Australia. *Human Resource Management (Australia), 26*(4), 96-104.

Robertson, I. T., Grafton, L., & Rout, U. (1990). The validity of situational interviews for administrative jobs. *Journal of Organizational Behavior, 11,* 69-76.

Robertson, I. T., & Downs, S. (1989). Work-sample tests of trainability: A meta-analysis. *Journal of Applied Psychology, 74,* 402-410.

Robertson, I. T., & Makin, P. J. (1986). Management selection in Britain: A survey and critique. *Journal of Occupational Psychology, 59,* 45-57.

Rothstein, H. R., Schmidt, F. L., Erwin, F. W., Owens, W. A., & Sparks, C. P. (1990). Biographical data in employment selection: Can validities be made generalizable? *Journal of Applied Psychology, 75*(2), 175-184.

Ryan, A. M., & Sackett, P. R. (1987). A survey of individual assessment practices by I/O psychologists. *Personnel Psychology, 40,* 455-488.

Schmitt, N., Gooding, R. Z., Noe, R. A., & Kirsch, M. (1984). Metaanalysis of validity studies published between 1964 and 1982 and the investigation of study characteristics. *Personnel Psychology, 37,* 407-422.

Schneider, B., & Schmitt, N. (1986). *Staffing Organizations* (2nd ed.). London: Scott, Foresman.

Shackleton, V., & Newell, S. (1991). Management selection: A comparative survey of methods used in top British and French companies. *Journal of Occupational Psychology, 64*(1), 23-36.

Sisley, D. (1990, September). Psychological tests: A headstart when recruiting. *Management* (New Zealand), pp. 46-48.

Smith, M., & George, D. (1992). Selection methods.

International Review of *Industrial and Organizational Psychology, 7,* 55-97.

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology, 44,* 703-742.

Thornton, G. C. III, & Byham, W. C. (1982). *Assessment centers and managerial performance.* NY: Academic Press.

U. S. Department of Labor, Employment and Training. (1977). *Dictionary of occupational titles* (4th ed.). Washington, D. C.: U. S. Government Printing Office.

Vaughan, E., & McLean, J. (1989). A survey and critique of management selection practices in Australian business firms. *Asia Pacific Human Resource Management, 27*(4), 20-33.

Wiesner, W. H., & Cronshaw, S. T. (1988). A meta-analytic investigation of the impact of interview format and degree of structure on the validity of the employment interview. *Journal of Occupational Psychology, 61,* 275-290.

Wright, P. M., Lichtenfels, P. A., & Pursell, E. D. (1989). The structured interview: Additional studies and a meta-analysis. *Journal of Occupational Psychology, 62,* 191-199.