Recent trends and challenges in personnel selection

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Abstract The aim of this article is to identify recent developments in personnel selection and to review existing research with regard to these recent developments. To this end, 26 human resource representatives were asked to list current or future trends in personnel selection. In addition, existing academic reviews of recent research in personnel selection were scrutinized. As a result, the following four main trends are identified: labour market shortages, technological developments, applicant perceptions of selection procedures, and construct-driven approaches. Per trend, relevant existing research is reviewed and avenues for future research are discussed.

Introduction

Recent developments within organisations and within organisational business environments have brought new challenges for personnel selection. Specifically, technological changes, globalisation, social trends, and changes in the organisation of work require that organisations reconsider the modus operandi of their employee selection procedures. Hence, the traditional selection model with its psychometric roots might no longer suffice (Herriot and Anderson, 1997; Ilies, 1999). This traditional personnel selection paradigm is based on stable jobs and therefore places high emphasis on individual job performance, job analysis, determination of performance criteria, prediction of work outcomes, and development and evaluation of assessment tools. However, nowadays jobs are often not well defined. Additionally, employees are selected to work in teams on different projects, may frequently change work roles, and may follow diverse organisational career paths. More problematically, at more senior levels of recruitment individuals are being selected into newly created jobs, where no previous job incumbent existed and where it is more challenging to conduct traditional methods of job analysis and person specification. At the same time the selection procedure is becoming more and more a negotiation process. These developments illustrate that, besides the psychometric paradigm, a social process perspective has become relevant (Ilies, 1999). This perspective regards the selection procedure as a social process and focuses upon applicant attitudes and the impact of selection procedures (Ilies and
Robertson, 1997), applicant decision making in competitive labour market conditions (Anderson et al., 2001a), and the generation of a viable psychological contract between employers and employees (Herriot, 1989).

This changing environmental context for work organisations clearly has other implications and effects upon recruitment and selection procedures and so it is timely to take stock of these trends and developments in a review such as is presented in the current article. This paper therefore has two main objectives:

1. To identify recent major trends and developments in personnel selection. These trends will be identified by surveying practitioners and by scrutinizing existing reviews on personnel selection.

2. To review existing research with regard to these recent challenges. If the available research evidence is sparse or weak, directions for future research are articulated and speculated upon.

Method
The method used in this study consisted of four phases. In the first phase, we asked 26 human resource representatives (15 women, 11 men; mean age = 34 years) to list the three (current or future) trends that they considered to be of most importance in personnel selection. These human resource management representatives were human resource officers, personnel management specialists, or human resource managers. This inquiry was done at the start of a seminar on human resource management (September 2000). The trends suggested by these practitioners were then grouped into broader categories. As shown in Table I, the most important trends were technological developments,

<table>
<thead>
<tr>
<th>Trend/challenge in personnel selection</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 E-recruitment, e-assessment, online recruitment and testing, Internet selection, the Internet, Web-based testing, technological challenges, integration of selection into human resource information systems, video-based tests</td>
<td>21 (28)</td>
</tr>
<tr>
<td>2 Competency-based selection, competency-based interviewing, competencies, competency management, competency-based assessment (and development)</td>
<td>15 (20)</td>
</tr>
<tr>
<td>3 Selection in tight labour markets, job marketing, human resource marketing, shrinking labour force, employer brand marketing, war for talent</td>
<td>9 (12)</td>
</tr>
<tr>
<td>4 Emotional intelligence</td>
<td>8 (11)</td>
</tr>
<tr>
<td>5 International selection, expatriate selection, selection in the EU, globalisation</td>
<td>6 (8)</td>
</tr>
<tr>
<td>6 Specialisation of consultancy firms, increasing competition</td>
<td>2 (3)</td>
</tr>
<tr>
<td>7 Impact of legislation</td>
<td>2 (3)</td>
</tr>
<tr>
<td>8 Outsourcing of selection</td>
<td>2 (3)</td>
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<tr>
<td>9 Team selection</td>
<td>2 (3)</td>
</tr>
<tr>
<td>10 Miscellaneous (only once mentioned)</td>
<td>9 (12)</td>
</tr>
</tbody>
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Table I. List of trends/challenges suggested by Belgian human resource officers and personnel management specialists

Notes: Each participant was asked to list three trends. However, not all participants listed three trends; n = 26; percentages are shown in parentheses.
competency-based selection, labour market shortages, internationalisation, and emotional intelligence.

Second, we scrutinized a series of recent academic reviews on personnel selection research (e.g. Hough and Oswald, 2000; Robertson and Smith, 2001; Salgado, 1999; Salgado et al., 2001; Schmitt and Chan, 1998). Note that we excluded methodological developments in selection research (e.g. differential item functioning in psychometric test construction). Inspection of the academic research on personnel selection confirmed some of the trends mentioned by the practitioners. For example, technological changes, internationalisation, and recruitment also emerged as trends. Yet, on the basis of these reviews, two additional research-based trends were added, namely applicant perceptions of selection procedures and construct-driven approaches. There was not, therefore, complete overlap between the trends noted by the personnel practitioners in our sample and those identified in the academic reviews of this field and this attests to a somewhat different agenda between the two groups.

Third, the list of trends that we assembled from both the practice and research field of personnel selection was reduced to a more manageable list of four trends by excluding primarily commercial developments (i.e. competency management or emotional intelligence) and trends that were mentioned by less than 10 per cent of the human resource officers (e.g. international selection, impact of legislation). As a result and as mentioned earlier in this paper, the following four major themes emerged:

(1) labour market shortages;
(2) technological developments;
(3) applicant perceptions of selection procedures; and
(4) construct-driven approaches.

In the fourth phase, we searched for published research studies relevant to these trends. To find relevant unpublished studies, we scrutinized programmes of recent international conferences.

**Recent trends and challenges**

**Labour market shortages**

Traditionally, the main objective of personnel selection was to identify those candidates who were expected to have the highest added value for organisations over time. Accordingly, selection procedures had higher gains, not only when the instruments used showed high validity but also when organisations could choose from a larger pool of applicants (Cascio, 1999). This is because a large applicant pool enabled organisations to be more selective, to hire only the top choices, and therefore to reduce the risk of hiring poor-performing individuals. In other words, traditional personnel selection not only benefited from an abundant labour market, but also was grounded upon the taken-for-granted assumption that organisations could choose among applicants and that virtually all job offers would be accepted by applicants.
In recent years, shortages in different labour markets have become apparent across many countries in the European Community. Because of this "war for talent", issues regarding the attraction of prospective applicants have received increased research attention (see Barber, 1998; Breauh and Starke, 2000; Highhouse and Hoffman, 2001, for reviews). One of the central research questions has been which factors affect applicants' attraction to organisations. In a comprehensive study \( n = 361 \), Turban et al. (1998) found evidence that the organisation's image, job characteristics (especially pay), and organisational characteristics (such as organisational size) were related to organisational attractiveness. Recruiter characteristics (e.g. friendliness and competence) had an indirect effect, because they served as signals of organisational characteristics. Because it is clear that the impact of organisational and recruiter characteristics on organisational attractiveness will not be the same for all applicants, the issue of organisational attractiveness has also been framed into the broader framework of person-organisation fit. Along these lines, Schneider's (1987) "attraction-selection-attrition" model has been frequently used. According to Schneider, people are attracted to different types of organisations, depending on their interests, needs, norms and personality. Studies, which examined organisational attractiveness from this person-organisation fit perspective, generally found support for its assumptions (e.g. Judge and Cable, 1997; Lievens et al., 2001; Turban and Keon, 1993; Van Vianen, 2000).

Apart from the continued interest in person-organisation fit, we believe that a new and promising direction consists of applying marketing principles to the labour market shortage problems (Maurer et al., 1992). The science of marketing may be relevant here, because attracting and retaining employees have a lot of parallels with attracting and keeping customers to buy products or brands. Recently, Cable and Turban (2000) put the applicability of marketing principles for attracting and recruiting new employees to the test. Specifically, Cable and Turban tried to apply a "brand equity perspective" to applicants' job-search activities. They hypothesised that the image of an organisation would have effects similar to those typically associated with brands in marketing, namely people remember more information from advertisements of good brands and are willing to pay more for such brands. Consistent with these hypotheses, Cable and Turban found that applicants remembered more information from the advertisement of a company with a good image. People were also willing to earn a little less in such a prestigious company. In other words, the marketing literature may provide researchers with a good conceptual basis for future studies in the recruitment domain. This is especially true for the literature about relatively long-term and high-involvement purchase decisions.

Highhouse et al. (1999) emphasized the importance of company employment image (cf. brand image in marketing) and translated existing brand profiling techniques used in marketing to a recruitment context. In this study, students were asked to list the reasons, on the basis of which they would choose to work
for a specific fast food restaurant compared with another one. Next, a questionnaire was designed so that these factors could be linked to the general image of the restaurants as employers. Finally, discriminant analysis and benchmarking were used to determine which factors distinguished employers from one another.

Slaughter et al. (2001) used another concept from marketing, namely brand personality, to better understand organisational attractiveness. Drawing on research in marketing and advertising, these authors argued that, in the early stages of the recruitment process, prospective applicants ascribe personality traits to organisations. Slaughter et al. (2001) discovered that these trait inferences about organisations were related to broad perceptions of organisations and their attractiveness as employers. Logically, prospective applicants were also attracted to employers whose personalities were similar to their own personality. Lievens and Houghouse (2002) further found that these trait inferences about organisations accounted for incremental variance over more traditional job and organisational attributes and company familiarity in explaining the organisational attractiveness of banks. In addition, trait inferences served as points of differentiation among banks, whereas traditional job and organisational factors did not. This may indicate that these traditional attributes (e.g., salary, benefits, advancement opportunity) do not enable a bank to stand out from competitors within the same industry. Conversely, all banks had a relatively distinct employment image, serving as a point of differentiation. This is consistent with findings in the marketing literature, showing that, in a marketplace in which functional benefits between products are negligible, consumers primarily choose products for their meaning and self-expressive value (Plummer, 2000).

In short, labour market shortages across several European countries have resulted in a greater concern for organisational image, the treatment of applicants during selection processes, and using marketing principles to attract top potential applicants to choose an organisation’s offer of employment above that of a competitor. Until now, only a limited number of studies have been conducted that have used such a marketing perspective to recruitment. Therefore, future studies are needed to test and validate further the marketing logic in recruitment. It is especially important that these studies borrow well-researched theoretical concepts from the field of marketing. Examples of such concepts are “brand image”, “brand equity”, “brand awareness”, or “brand personality” (Aaker, 1996).

Technological developments
In the past decade, information technology has made rapid inroads into organisations, and working life more generally. Information technology can be defined as the hardware and software that are used to collect, transmit, process, and disseminate data in an organisation (Laudon and Turner, 1989). The information technology revolution has also had an impact on personnel
selection, as is illustrated by the use of multimedia and the Internet for selection applications.

Use of multimedia. Increasingly, psychological tests and inventories are administered via computers. Since its first application in the 1960s (Bartram, 1994; Burke, 1992), the computer has established itself as an efficient device for designing, administering, scoring, and interpreting tests. In past applications computerised testing did not change the test itself (with adaptive and dynamic testing as important exceptions). The research on the equivalence of paper-and-pencil versions and computerised versions of the same tests (see Mead and Drasgow, 1993; Richman-Hirsch et al., 1999, for meta-analyses) attests to this research tradition.

Recently, however, there have been efforts to create an enhanced value through computerised testing (McBride, 1998). In other words, the aim is no longer to create the same test in a computerised format. Multimedia tests (Chan and Schmitt, 1997; McHenry and Schmitt, 1994; Weekley and Jones, 1997), which add audio and video to the test through CD or DVD technology, are typical examples of this so-called computerised “enhanced” testing (McBride, 1998). In multimedia tests, short videotaped work-related situations, which usually involve interactions with other people (e.g. customers, colleagues, and supervisor), are presented to candidates. The situation usually “freezes” at an important moment, and candidates are asked to indicate how they would act, if this were a real situation. Besides the insertion of audio and video, another important advantage of multimedia tests is that branching is possible. This means that the scene presented is contingent upon a candidate’s previous response. Undoubtedly, the use of both multimedia and branching increases the realism of the test and the scenes depicted (Olson-Buchanan et al., 1998). There have even been recent experiments using the extremely expensive technology of virtual reality (Pierce and Aguinis, 1997). At the present time, it appears that we are only starting to explore the potential of this type of testing in practice.

To the best of our knowledge, there has been relatively little research on multimedia tests. Most of these studies have focused on predictive validity. As a recent meta-analysis (Salgado and Lado, 2000) has shown, the predictive validity of video-based tests is promising, with an average (corrected) correlation of 0.49 (on the basis of 12 validity coefficients). In addition, research indicates that candidate reactions to multimedia tests are positive (Chan and Schmitt, 1997) and signal to the applicants the company’s technological savvy (Richman-Hirsch et al., 2000).

Future research should address the following issues. First, we need to know whether the predictive validity of multimedia tests results from the realism of the stimuli (i.e. the work situations presented) or from the realism of the response modes (i.e. written vs behavioural). Although previous studies have mainly addressed the realism of the stimuli (Chan and Schmitt, 1997; Richman-Hirsch et al., 2000), it is clear that response fidelity might also be important (Funke and Schuler, 1998). For instance, when candidates are asked to simply choose a response alternative, the test might mainly capture candidates’ insight.
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or tacit knowledge. This is not the case when candidates are asked to actually enact their response. Future research might take this distinction into account. Another issue relates to the high development costs (in terms of time and money) of multimedia tests. To answer this question, studies should compare the utility of multimedia tests in terms of selecting high-performing employees with other selection instruments.

Use of the Internet. A second influential technological development concerns the use of the Internet in general and the World Wide Web in particular for recruitment and selection (Bartram, 2001; Cappelli, 2001; Harris, 2000). Web-based recruitment and early stage pre-screening of applicants are now a reality across Europe with the more technologically advanced European Community countries leading the way in these developments. Larger, multinational employer organisations also lead in this respect, as they possess the resources and expertise to establish such electronic-format recruitment systems.

Several Internet-based recruitment applications have been developed. Older applications are company Web pages (with an adjacent job site) or job boards (e.g. monster.com). These Internet-based recruitment applications usually provide applicants with the opportunity to apply online for a specific job. This can be either unstructured or structured. Unstructured systems ask applicants to send their résumés through e-mail. Here, organisations typically receive large numbers of résumés (in different formats), causing inevitable pre-screening problems. More structured approaches require applicants to complete an online standardised biographical information blank, enabling organisations to exert more control over the information-gathering and storage process. A more recent application of Internet-based recruitment is relationship recruiting (Boehle, 2000), in which a long-term relationship with "passive" candidates is developed through the Internet. The underlying assumption is that, when these candidates decide to enter the job market, they will turn to the companies and organisations with which they have developed a long-term relationship.

Research on various approaches to Internet-based recruitment is very scarce. In addition, all the studies that we retrieved focused on applicant reactions. For example, Zusman and Landis (2002) compared undergraduate students' preferences for Web-based versus traditional job postings. Although the students preferred jobs on traditional paper-and-ink materials to Web-based job postings, they also preferred high-quality Web pages (e.g. with fancy colours, pictures, and different fonts) to low-quality Web pages (e.g. with few colours, no pictures, and simple fonts). Rozelle and Landis (in press) studied university attractiveness and gathered the reactions of 223 undergraduate students to the Internet as a recruitment source versus more traditional sources (i.e. personal referral, college visit, brochure about university, video about university, magazine advertisement). The Internet was seen as being more realistic than the other sources. In addition, the use of Web pages as a source of recruitment information regarding the university did not produce negative reactions, once the students were studying at the university. Probably, this
indicates that the students felt that the university Web page represented accurate and realistic information. According to Rozelle and Landis (in press), Internet recruitment pages are seen as less formal recruitment sources than, for example, a brochure because of their interactivity and flexibility. Future studies should examine applicant perceptions of other aspects of Internet-based recruitment (e.g. the possibility to apply day and night, the lack of personal contact, the security problems, the use of audio and video in an Internet-based realistic job preview).

Similar to Lievens and Harris (forthcoming), we believe that future research on Internet-based recruitment should also go beyond examining applicant perceptions. Specifically, applicant decision processes in Internet recruitment should be scrutinized. In fact, we know very little about which information from Internet-based job sites applicants use and how they use that information to apply or to advance in the job search process. In addition, it is crucial that different Internet-based recruitment approaches are linked to key measures such as number and quality of applicants generated and the number of job offers accepted. Adverse impact is another key dependent variable. Because Internet access is still demographically skewed (the so-called “digital divide”), the effectiveness of Internet recruitment might differ across demographic groups, jobs, and/or job levels.

Apart from recruitment, organisations and consultancy firms are also using the Internet as a platform for delivering tests and inventories to candidates or for conducting employment interviews – through videoconferencing. Usually, a distinction is made between two types of Internet-based testing applications. In some organisations, testing through the Internet is done in proctored (supervised) conditions (e.g. Greenberg, 1999). Here applicants are not allowed to log on where and when they want. Instead, applicants are required to log on to a Web site from a standardized and controlled setting (e.g. a company’s test centre). A test administrator supervises the applicants. So, this type of testing has many similarities with traditional computerised testing even though tests are administered through the Internet. Other organisations engage in unproctored (unsupervised) Internet-based testing. In this type of Internet testing, applicants can log on to a test site wherever and whenever they want. There is no test administrator to supervise applicants. In other words, there is no guarantee that the applicant completes the test without external help. Baron and Austin (2000) developed such a system of Web-based ability testing. Using a password, applicants could log on and complete a numerical reasoning task containing 20 items (with a stringent time limit). Baron and Austin (2000) developed their test on the basis of latent trait theory principles. In addition, various item modalities (e.g. a graphical vs a tabular display) were prepared for the same item. Finally, candidates were asked to complete an honesty contract. These precautions were taken to reduce the impact of possible breaches to test security.

Research on Internet-based testing applications is also relatively limited. Two streams of research can be distinguished (Lievens and Harris, forthcoming). A
first group of studies investigated applicant perceptions of Internet-based testing, with most studies leading to positive reactions. Mead (2001), for example, reported that 81 per cent of existing users were satisfied or quite satisfied with an online version of the 16PF Questionnaire. The most frequently cited advantage was the remote administration, followed by the quick reporting of results. The reported rate of technical difficulties was the only variable that separated satisfied from dissatisfied users. Another study by Reynolds et al. (2000) confirmed these results. They found more positive perceptions of applicants towards Internet-based testing than towards traditional testing. Reynolds et al. (2000) also noted a heightened attention of applicants to technological and time-related factors (e.g., speed).

Straus et al. (2001) examined the effects of videoconferencing on both reactions (from interviewers and applicants) and judgements in (mock) job interviews. Although interviewers reported more difficulty regulating and understanding discussions by videoconference versus face-to-face, they did not evaluate applicants less favourably by videoconference. Another important conclusion was that applicants (59 MBA students) did have less favourable reactions in videoconference versus face-to-face interviews.

A second group of studies investigated the equivalence of Internet-based tests to tests administered in more traditional formats. Mead and Coussons-Read (2002) used a within-subjects design to assess the equivalence of the 16PF Questionnaire. A total of 64 students were recruited from classes for extra credit and completed first the paper-and-pencil version and about two weeks later the Internet version. Cross-mode correlations ranged between 0.74 to 0.93 with a mean of 0.85, indicating relatively strong support for equivalence. Although this result is promising, a limitation is that the study was conducted with university students. Two other studies examined similar issues with actual applicants. Reynolds et al. (2000) examined the equivalence of a biodata-type instrument among 10,000 actual candidates, who applied for an entry-level sales position. Congruence coefficients among the various groups were very high. However, another study (Ployhart et al., 2002) reported somewhat less positive results with a large group of actual applicants for a teleservice job. Ployhart et al. (2002) used a more powerful procedure, such as multiple group confirmatory factor analysis, to compare whether an Internet-based administration of a big five-type personality inventory made a difference. Results showed that the means on the Web-based personality inventory were lower than the means on the paper-and-pencil version. Although the factor structures took the same form in each administration condition, the factor structures were partially invariant, indicating that factor loadings were not equal across administration formats.

Recently, Lievens and Harris (forthcoming) criticized existing research on Internet-based testing. They argued that researchers should learn lessons from the literature on computerized testing. One of the conclusions of the computerized testing literature is that it does not suffice to examine measurement equivalence per se. Instead, it is crucial to examine under which
conditions measurement equivalence is reduced or increased (Richman-Hirsch et al., 1999). It is also important to examine the effects of Internet-based administration of tests on criterion-related validity and adverse impact in actual field settings. Finally, Lievens and Harris (forthcoming) called for more theory-driven research. As an example, they suggested that organisational privacy theory (Stone and Stone, 1990) might substantially advance our understanding of the dynamics of Internet-based testing.

Applicant perceptions
As mentioned in the introduction, selection processes are essentially a social process between two parties, namely the applicant and the organisation. Both parties collect information about each other prior to deciding whether or not to pursue their “relationship” (Barber, 1998; Gilliland, 1993; Herriot, 1989; Iles, 1999; Schuler, 1993). Iles and Robertson (1997) argued that selection procedures are likely to have an effect on a blend of psychological processes, including organisational and career attitudes, self-efficacy, and self-esteem, which in turn can lead to job and organisational turnover. Since the end of the 1980s, researchers have begun to study selection within this socio-psychological perspective.

This third trend should be distinguished from the earlier trend of labour market shortages, even though they are related. Under the trend of applicant perceptions we will review more micro-analytical issues emerging from recent research (including applicant reactions to selection methods, applicant decision making in selection procedures, and pre-entry socialisation of applicants as a result of exposure to selection techniques), whereas we considered more macro-analytical issues under labour market shortages (including applicant attraction strategies, person-organisation fit, and company image).

Recently, Ryan and Ployhart (2000) presented an overview of the results of such studies, conducted between 1985 and 1999. These authors sought to answer which variables determined applicant perceptions. Results of their extensive literature review showed that applicant perceptions were affected by the type of procedure used (e.g. assessment centres vs cognitive ability measures), the method of assessment (e.g. video vs paper-and-pencil), the self-assessed performance, the type of job, and the information provided about the procedure. Other important results from this review included the finding that applicant perceptions of selection instruments had important practical consequences. For instance, negative perceptions lead to lower test-taking motivation and test performance. Furthermore, reactions to selection procedures were related to applicants’ attraction to the organisation. A possible explanation for these “spill-over effects” is that applicants in this stage of the selection process have very little information regarding the organisation and therefore use selection procedure characteristics as signals of organisational characteristics.

Although substantial progress has been made to understand the antecedents and consequences of applicant reactions, future studies are indeed needed to go
even further. First of all, more theory-driven research is needed. An example of such a study was conducted by Ployhart and Ryan (1997), who examined whether organisational justice theory or attribution theory served as a theoretical framework to explain applicant reactions to selection procedures. Their conclusion was that both frameworks were useful for shedding light on the psychological processes that affected applicants' intentions and self-perceptions. Future studies might apply other theories (e.g. cognitive dissonance theory) as a conceptual basis for research on applicant perceptions (Ryan and Ployhart, 2000). Another example concerns the development of models of applicant decision making in selection. Along these lines, Anderson et al. (2001a) developed a general model of applicant decision making. They present an empirically testable model of the likely types of variables impacting upon candidate decision making, including applicant characteristics, reactions to treatment by the organisation, person-job, person-team, and person-organisation fit, labour market conditions, and organisational and job attractiveness. It is surprising that, in the face of such a volume of research over many decades into organisational decision making in selection, there have been so few studies into candidate decision making, but this is almost certain to change, we believe.

Second, prior research until now has focused on the perceptions of only one “stakeholder” of the selection process, namely the applicant (Ryan and Ployhart, 2000). Therefore, a second avenue for future research consists of extending the existing line of research to other customers of selection such as line managers and co-workers (Gilliland and Cherry, 2000).

Third, from a methodological point of view, future studies might use different research designs. According to Ryan and Ployhart (2000), most previous studies measured perceptions after applicants had participated in the selection procedure (so-called post-test reactions) and only 10 per cent of the studies measured pre-test reactions. However, pre-test and post-test reactions were found to be not interchangeable (Chan et al., 1998). In their study, Chan et al. (1998) revealed that pre-test reactions were based on applicants' general beliefs of selection procedures, whereas post-test reactions were related to the perceived test performance. These differences between the determinants of pre-test and post-test reactions illustrate the need for more longitudinal studies, which examine applicant reactions at different phases of the whole selection process (e.g. prior to taking the test, after taking the test, and after feedback; see Bauer et al. (1998) for an example).

The last and biggest challenge is related to the practicality of applicant reactions. Although applicant reactions have emerged as important criteria, many people still consider them to be inferior to “hard” criteria such as reliability, validity and utility. Hence, it is a key priority on the research agenda to take important questions of candidate reactions one stage further and to examine the practical ramifications of applicant reactions. In particular, an important extension of the outcome variables under scrutiny consists of going beyond basic candidate reactions and preferences to more long-term and
influential outcomes, including applicant decisions over whether to accept an offer of employment, their wider perceptions of the organisation as a potential employer, their expectations of likely future treatment in the organisation, formulation of their "psychological contract", and the affective impact of selection devices as a means to begin the socialisation of newcomers into the organisation (Anderson, 2001). Especially, the fact that selection methods can act as pre-entry socialisation devices holds out considerable promise to shed light upon selection processes and outcomes from the applicant’s perspective (Anderson and Ostroff, 1997).

Construct-driven approaches
Personnel selection has generally been regarded as an applied area with a heavy emphasis on predictive efficiency. Traditionally, the primary goal was to develop selection instruments that would be useful for predicting candidates' future work performance. Questions, such as why selection instruments worked and what they exactly measured, were of only secondary importance. Wherry (1957, p. 1) characterised this strong empirical and pragmatic focus in the field of personnel selection as follows:

We don't know what we're doing, but we are doing it very carefully and hope that you are pleased with our unintelligent diligence (cited in Cook, 1998).

Besides its pragmatic perspective, personnel selection has also been criticised for its intuitive character. Along these lines Guion (1998) noted that too many people use specific selection instruments, simply because they prefer them, or always have used them, and not because of any empirical evidence of their utility. Guion further argued that for similar reasons other selection instruments are never used, despite evidence of their predictive value.

Over the last decade this pragmatic and empirical approach seems to have been supplanted by a more construct-driven approach. Specifically, researchers in personnel selection not only have begun to investigate whether selection instruments work, but also have tried to understand why they work and which constructs they measure (Binning and Barrett, 1989; Klimoski, 1993; Schmitt and Chan, 1998). This search for the underlying constructs of frequently used selection instruments should shed light on these techniques and their value for predicting future work behaviour. Additionally, it should enable one to justify better the use of selection procedures and their outcomes to the candidates and the organisation. A final benefit of this construct-driven approach is that it is generally easier to work with a limited number of underlying predictor constructs than with a myriad predictor instruments.

The research into the underlying constructs of personality inventories, which eventually resulted in the five-factor model of personality (Costa and McCrae, 1992; Goldberg, 1993), is a good example of this construct-driven approach. However, it is intriguing that personality researchers working almost exclusively outside the context of selection and applicant personality assessment derived the five-factor model. Only very recently have selection
researchers begun to explore the full range of implications of the five-factor model framework for work-related personality assessment during selection (e.g. Hough, 2001; Hogan and Roberts, 2001). Indeed, only a minority of proprietary, commercially published personality inventories are based upon the five-factor model, leaving open to some doubt pertinent concerns over construct validity and psychometric structure (Anderson and Ones, n.d.).

Yet, recent studies of other selection instruments (e.g. assessment centres, situational judgement tests, and interviews) also exemplify this construct-driven approach. Regarding assessment centres, early studies (e.g. Sackett and Dreher, 1982) revealed that assessor ratings on different dimensions (i.e. constructs) within a single exercise showed higher intercorrelations than the ratings on the same dimensions (i.e. constructs) given in different exercises. In other words, ratings clustered on to exercise rather than dimension factors (e.g. Bycio et al., 1987). The finding that the assessment centre exercises emerged as important factors is per se not really troublesome, because these multiple simulation exercises contribute to the content and predictive validity of assessment centres. However, it is more troublesome that the originally intended constructs, namely the dimensions, accounted for less variance. Accordingly, the question emerged as to what assessment centre ratings exactly measured. A recent large-scale review of 34 assessment centre studies (Lievens and Conway, 2001), however, revealed a more positive picture. Arguing that no two assessment centres are alike, Lievens and Conway found more dimension variance for more carefully designed assessment centres. Several important design recommendations for increasing the construct validity of assessment centres were identified. Examples are the use of a limited number of dimensions, the careful training of assessors, and the use of psychologists as assessors. Use of behavioural check-lists also increased dimension variance, although the difference was not significant. Other recent studies demonstrated that ratings of the same dimensions correlated highly across exercises, only when those exercises had the same trait activation potential (Morlan and Christiansen, in press; Tett and Guterman, 2000). In other words, only when behaviours elicited in different exercises conceptually relate to the same underlying trait, might convergent validity of dimension ratings be expected.

As already noted, construct validity issues are also important for situational judgement tests. A situational judgement test consists of a series of hypothetical albeit job-related situations. Applicants are required to indicate the answer that best represents their reaction to the short situation (Motowidlo et al., 1990; Weekley and Jones, 1999). Whereas meta-analytical research (McDaniel et al., 2001) has shown situational judgement tests to have good predictive validity (corrected $r = 0.34$; $n = 10,640$), it is still unclear which constructs are exactly measured. To date, the general assumption has been that situational judgement tests measure general cognitive ability, because substantial correlations ($r = 0.46$) with cognitive ability tests have been reported (McDaniel et al., 2001). However, a recent meta-analysis of McDaniel...
and Nguyen (2001) showed that situational judgement test performance was also related to personality factors such as emotional stability, conscientiousness, and agreeableness. Still another possibility is that situational judgement tests capture tacit knowledge, job knowledge, and job experience. Along these lines, Clevenger et al. (2001) examined the incremental validity of situational judgement tests in three samples, relative to cognitive ability, job experience, job knowledge, and conscientiousness for predicting job performance. The situational judgement test was a valid predictor in all three samples and incrementally so in two samples. More studies of this nature are definitely needed. In addition, it is crucial to link the constructs that are purported to be measured by situational judgement tests to different (criterion) performance domains. Until now, researchers have treated situational judgement tests as interchangeable, ignoring the specific part of the criterion domain that these tests are trying to sample and predict.

In a similar vein, recent discussions of the employment interview show increased attention to the underlying constructs measured. Using the five-factor model of personality, Van Dam (2002) investigated how interviewers perceive applicant personality by collecting trait descriptions that interviewers had written down spontaneously during unstructured employment interviews of 720 Dutch applicants. Results showed that interviewers most frequently used adjectives that referred to extroversion and agreeableness. This study focused on unstructured interviews. However, it should be clear that structured interviews tap different constructs. With respect to this, Harris (1999) assumed that structured interviews might measure four constructs, namely cognitive ability, person-organisation fit, behavioural skills, and tacit knowledge. Recently, Huffcutt et al. (2001) put these assumptions to the test. They analysed 338 ratings from 47 actual interview studies and demonstrated that high-structure and low-structure interviews focused upon different constructs. In high-structure interviews, constructs such as job knowledge, interpersonal skills, organisational fit, and applied mental skills (e.g. problem solving) were rated more often. Conversely, in low-structure interviews, constructs such as interests, education/training and experience were more often rated. In their comprehensive meta-analytic study, Salgado and Moscoso (2002) found that behavioural structured interviews measured different constructs compared with conventional interviews. Whereas behavioural structured interviews were most strongly related to job experience, job knowledge, and social skills, conventional structured interviews were highly related to personality and cognitive ability.

We expect that this construct-driven approach will gain in importance and momentum over the coming years, and that its focus will broaden from the selection instruments heretofore mentioned (i.e. personality inventories, assessment centres, situational judgement tests, and employment interviews) to other selection instruments such as biodata and references. It should be noted that this construct-driven approach has also significantly advanced our understanding of the criterion (the performance domain) that these instruments
aim to predict. Whereas previously job performance was considered to be a one-dimensional concept, recent studies reveal that job performance is undoubtedly multidimensional. Campbell et al. (1993) described how they analysed 275 entry-level skilled jobs in the light of the long-term selection and classification project (Project A) sponsored by the US Army. This resulted in a taxonomy of eight dimensions underlying job performance (i.e. job-specific task proficiency, non-job-specific task proficiency, written and oral communication, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision/leadership, and management/administration), which were similar across jobs but differed in importance within different jobs. Borman and Motowidlo (1993) made a distinction between task performance (a cluster of behaviours that were closely connected with the job and the role of the employee) and contextual performance (a cluster of behaviours that were not part of the employee’s job and role description). Although the predictive validity of various selection instruments has been well documented, there is less evidence as to how these selection instruments predict contextual performance. This is an intriguing avenue for future research.

Finally, we should emphasise that our expectation of construct-driven approaches becoming more and more prevalent does not mean that predictive validity is no longer important. This can be illustrated by recent large-scale meta-analyses (total n studies = 304; total n = 75,800), which examined the predictive validity of tests of cognitive ability or general mental ability (GMA) across European countries (Salgado and Anderson, 2001a, b). One of the most important conclusions was that operational validities (corrected) were at least equivalent to, and in certain cases somewhat higher than, operational validities for GMA tests reported in earlier meta-analyses carried out in the USA. Moreover, operational validity was not moderated by country culture (i.e. individualistic vs collectivistic: Salgado and Anderson, 2001a), suggesting that GMA tests are strong predictors of job performance, regardless of national cultural differences across the European Community. Job complexity, conversely, did moderate operational validity. That is, for more complex job families and occupations, GMA tests were found to demonstrate substantially higher operational validity (Salgado and Anderson, 2001b), a finding which was subsequently replicated in the context of GMA test validity in the UK in a single-country meta-analysis (Bertua et al., 2002). Salgado and Anderson (2001a, b) concluded that GMA tests are likely to be the best “stand-alone” method for candidate pre-screening, regardless of country culture or job content.

**Conclusion**

In this study, four main personnel selection trends were identified. These trends were derived from suggestions of selection practitioners and academic reviews of selection research. Existing research relevant to the four trends was summarised and avenues for future research were specified.
Although the four trends were discussed separately, it is clear that they are related. For example, the use of technology in personnel selection and the constructs measured affect applicants’ perceptions of the selection procedure. Another example is the relationship between labour market shortages and applicant perceptions. On the one hand, it is clear that applicants’ perceptions of their treatment in selection procedures will impact on the image of companies as employers and their attractiveness for prospective applicants on the labour market. On the other hand, labour market shortages may also impinge upon applicant perceptions in the selection process. After all, in a labour market which favours the applicant, people’s perceptions of apparently poor treatment by a recruiting organisation will likely be more negative than under more neutral labour market conditions. Moreover, higher-performing applicants may well be knowledgeable of their market value and have possible opportunities for employment with other competitor employers.

Across the trends, some general conclusions become evident. First, the superordinate theme which combines these four trends is that research in selection has begun to explore a wider and more eclectic set of challenges and research questions than under the historically-dominant predictivist paradigm (Herriot and Anderson, 1997). In this traditional paradigm, selection methods were seen as unimpactful measurement devices, to which applicants were subjected in a scientific attempt to predict future job performance (Ryan and Ployhart, 2000). Changes in labour market conditions and increasing demands for technologically-literate applicants, however, generate challenges for this historically dominant predictivist paradigm (e.g. Anderson et al., 2001a; Robertson and Smith, 2001; Salgado et al., 2001). These emergent challenges are clearly very recent developments in the field of selection and assessment, all caused by the shifting nature of work and work organisation, but to which selection researchers and practitioners have only relatively recently begun to attend.

A second thread running through the four personnel selection trends is the need for more theory-driven research. This was most strikingly emphasised when we described the shift from purely criterion-related validation studies to more construct-driven validation approaches. Yet, we also made a plea for more theory-driven research in the domains of applicant perceptions and Internet-based testing. Similarly, we showed how the theory of person-organisation fit and the science of marketing could underpin research endeavours in the recruitment field.

Third, it should be noted that the available academic research evidence was not evenly divided across the four trends. Logically, trends that emerged from the academic literature (e.g. applicant perceptions and construct-driven approaches) yielded more research studies than trends that were suggested by practitioners (e.g. technological changes). In addition, some trends suggested by practitioners (e.g. competency modelling) generated virtually no academic research. This exemplifies that the research-practice gap still exists in personnel selection. More critically, our study provides some support to the
notion that selection research is still lagging behind fundamental changes in the business environment and is held back by its historic paradigm, epistemological assumptions, and dominant research strategies and questions (Anderson et al., 2001b).

Although the emphasis in this paper was on research, organisations can also profit from the insights presented in this overview. For instance, the use of marketing principles and the Internet may help organisations to attract more and better applicants. Furthermore, the adoption of a social-process approach may help one to understand better how different aspects of the selection process and its participants interact. In similar vein, a shift from a mainly pragmatic approach to a more theory-driven construct-oriented approach not only may help one to understand the underlying structure of personnel selection instruments, but also may help organisations to improve the prediction of work performance. Therefore, we hope that organisations will pick up on some of the issues that have been presented and will begin to respond to these challenges. Only when researchers and practitioners work together on these issues, can these new developments in the field of selection result in outcomes that do better justice to applicants and organisations alike.

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