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Abstract

Effective selection tools are important for identifying high caliber employees in SMEs, yet few SMEs use tools created using 'best practice' methodology. Selection literature tends to focus on large organizations and is conceptual rather than empirical; which may make it difficult for SMEs to use a best practice approach. This article addresses this by providing an empirical account of the design and validation of two selection tools in a medium-sized recruitment consultancy using a best practice selection methodology. Two work sample tests were developed using critical incident technique interviews, and validated using a concurrent design with existing recruitment consultants who were 'high' or 'low' performers according to sales output. Results indicated that the tools significantly differentiated between high and low performers, and there was a significant correlation between test performance and individual sales output. Findings are discussed in relation to implications for research and practice in SMEs and selection.

Keywords

best practice methodology, selection, SMEs, work sample tests

Changes in today's workplace have fundamentally altered the nature of work, with one major transformation being the number of small to medium-sized enterprises (SMEs: classified as having less than 250 employees) that have emerged over the last two decades (Anderson et al., 2004). Despite the prominence of SMEs, their importance to the UK economy is often underestimated (Curran and Blackburn, 2001). Currently, of the 4.7m private sector enterprises in the UK, 99.9 per cent

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are small or medium (BERR, 2008). Numerically, SMEs are far from marginal to the UK economy (Cassell et al., 2002; Curran and Blackburn, 2001), accounting for 59.2 per cent of private sector employment and 51.5 per cent of private sector turnover in the UK (BERR, 2008). This highlights the substantial value that SMEs hold for social and economic growth (Cassell et al., 2002; Curran and Blackburn, 2001).

Despite the importance of SMEs, there remains a large-organization 'bias' in some of the selection literature (Carroll et al., 1999; Cassell et al., 2002). Major psychology journals such as the *Journal of Applied Psychology* and *Personnel Psychology* generally tend to focus on large organizations (Williamson, 2000) where current personnel selection theories were developed. Other disciplines, such as sociology, management and human resources management focus on SMEs and several articles from these disciplines have presented research on selection within such organizations (e.g. Heneman et al., 2000; Kotey and Sheridan, 2004; Nadin and Cassell, 2007). However, much of the literature that is dedicated to SMEs is conceptual rather than empirical (Deshpande and Golhar, 1994). Therefore, relatively little is known about how best practice methodology can be applied to smaller organizations. Furthermore, even if SMEs do try to adopt a best practice approach to their selection practices, they may find it difficult as they do not have any 'experience-based' prescriptive literature on which to base their selection techniques. Selection is an important concern for SMEs because each employee constitutes a greater percent of the workforce than in large organizations, and so making mistakes may be costly (Atkinson and Meager, 1994; Solomon, 1984). Thus the current research sets out to use 'best practice' methodology to design and validate two selection tools in an SME and to also provide experience-based, prescriptive literature on how this may be carried out.

Best practice methodology in selection

Research suggests that using best practice methodology to design, implement and validate selection processes greatly improves an organization's productivity (Bartram et al., 1995). Current thinking (Gatewood and Field, 1997; Hough and Oswald, 2000; Robertson and Smith, 2001) suggests that 'best practice' methodology in selection is based on three stages: (1) a thorough job analysis to identify selection criteria; (2) selection tool design; and (3) validation. However, research spanning the last two decades (e.g. Bartram et al., 1995) has highlighted that SMEs generally do not use selection methods based on these three steps.

In relation to this first stage of best practice selection methodology, there has been scant evidence of SMEs conducting job analyzes (Carroll et al., 1999; McEvoy, 1984). The purpose of a job analysis is to gather information about a role, such as the content, purpose and output required, but also the preferred knowledge, skills and attributes of the job holder (Brannick and Levine, 2002). Unlike large organizations, SMEs have fewer resources to conduct job analyzes (Barber et al., 1999) and are less likely to have a human resources department to facilitate this (Bartram et al., 1995; Choragwicka and Janta, 2008). This is supported by findings in the recent Workplace Employee Relations Survey (Forth et al., 2006) that SMEs were more likely to use a structured recruitment method when they had an employment relations specialist. Staff in SMEs are often multi-functioning and therefore do not have the time or resources to adopt a best practice methodology for recruitment and selection practices (Bartram et al., 1995). Carroll et al. (1999) found that across several industries SMEs failed to conduct formal job analyzes and moreover that respondents were unsure what the process entailed, further highlighting the need for prescriptive literature. Job analyzes allow organizations to increase the legal defensibility of selection procedures because they provide clear reasons for why an unsuccessful applicant was not selected (McEvoy, 1984).

In relation to the second stage, research has indicated that larger firms may use structured selection tools, whereas SMEs use informal, untested methods which may lack reliability and validity evidence (Bartram et al, 1995; Golhar and Deshpande, 1997; Kaman et al., 2001). Despite research suggesting that organizations are more likely to use formal selection processes as they increase in size (e.g. Kotey and Sheridan, 2004), it should not be assumed that *all* large organizations adopt such tools and processes (Kilibarda and Fonda, 1997; Zibarras and Woods, in press). Furthermore, where they do, there is no guarantee that these tools will inform selection decisions (Highhouse, 2008). Nevertheless, a number of studies have found that SMEs primarily use unstructured interviews as a selection tool (Bartram et al., 1995; Deshpande and Golhar, 1994; Mathis and Jackson, 1991; McEvoy, 1984; Solomon, 1984). Indeed, unstructured interviews are often preferred by interviewers because they can convey the organization's values, may preserve control over decision-making and be used to assess candidates' fit (Dipboye, 1994). However, research has found that unstructured interviews have low predictive validity (0.38; Schmidt and Hunter, 1998). Bartram et al. (1995: 356) note that, 'it is worrying that employers place so much faith in the use of informal unstructured interviews'.

In terms of the third stage of best practice selection methodology, McEvoy (1984) discovered that only 10 per cent of SMEs in his sample of US organizations validated their selection methods. Although many SMEs often do not select enough employees to conduct predictive validation studies, it may be possible to conduct concurrent validation studies because this requires predictor data to be taken from existing employees on whom criterion data are already available (Herriot, 1989). Even so, some SMEs are unlikely to have enough current employees to establish criterion-related validity. As such, the US Equal Employment Opportunity Commission's uniform guidelines on employee selection (EEOC, 1978) suggest that cooperative studies can be used in organizations with small numbers of employees to pool validity information. This concept is similar to synthetic validity, where performance findings from organizations with similar work requirements or competencies can be grouped together (Balma, 1959; Scherbaum, 2005). However, synthetic validation has not been adopted extensively in organizations due to the obscurity of related literature (Scherbaum, 2005). SMEs may also compare, or benchmark, their selection systems against leading organizations in their field; this can highlight any procedures that are below standard (Robertson and Smith, 2001). However, this method assumes that organizations are willing to disclose the relevant information which may not always be realistic (Ifill and Moreland, 1999). Nevertheless, recent literature supports this method, as it has placed an emphasis on the benefits of SMEs sharing information in the form of knowledge transfer (Lockett et al., 2008), and inter-firm cooperation (Hanna and Walsh, 2008). The sharing of information between organizations has been identified as essential for 'innovation, driving competitive advantage in increasingly knowledge-driven economies' (Lockett et al., 2008: 661) and is particularly beneficial to SMEs as it can make them more resilient to the pressures associated with their size (Szarka, 1990). This further supports the need for evidence-based prescriptive literature in employee selection.

Where neither criterion-related nor synthetic validity studies are possible, Gatewood and Field (1987) suggest that ensuring good content validity may be acceptable for SMEs. High content validity in selection techniques is linked to positive candidate perceptions of the methods and of the selecting organization itself (e.g. Arvey and Sackett, 1993; Gilliland, 1993). This is beneficial to an SME because first it minimizes the potential loss of good candidates, and secondly, it avoids costly litigation battles, meaning that selection methods become economically efficient over time (Cook, 1996; Gilliland, 1993).

Work samples as realistic job previews

One way to ensure that candidates have positive perceptions of SME selection procedures is to provide a realistic job preview (RJP). RJP provides information about the relevant requirements of the job and the organization; they lower expectations and result in a better match between the individual and the job (Wanous, 1992). Unsuitable candidates may be more likely to self-select out of the process, which in turn may reduce turnover (Reilly et al., 1981) and consequently reduce the costs of selecting and training new employees. These effects can also be seen when using Expectation Lowering Procedures (ELP) which, rather than influencing beliefs with job-specific information, target the candidate's general expectations (e.g. Buckley et al., 1998, 2002). RJP and ELPs can both provide relatively inexpensive ways for SMEs to reduce turnover. However, RJP not only act to reduce expectations, but they are also an effective measure of performance and can therefore be used to select candidates; for example through the use of a work sample test. Work sample tests provide a realistic job preview because they are closely related to the job in question; they are 'hands on' simulations of all or part of the job (Schmidt and Hunter, 1998) based on the behavior consistency notion (Werimont and Campbell, 1968) that past behavior on a task is the best predictor of future performance. One strong aspect of work samples is their high validity (Schmidt and Hunter, 1998). Work samples have high face validity because they provide a realistic preview of the job and this may be why they have a relatively low incidence of legal challenges (Terpstra et al., 1999). Furthermore, because their design involves correspondence between predictors and criterion measures, content and criterion-related validity often surpasses other selection methods (Schmitt and Mills, 2001). Work samples were found to have higher validity ($r = .54$) than 18 other selection methods in a meta-analysis covering 85 years of research (Schmidt and Hunter, 1998).

Work samples can either be classified as 'high fidelity' or 'low fidelity' simulations. High fidelity tests (such as role plays) are simulations that use realistic materials and require applicants to act as they would in the job. Low fidelity tests (such as situational judgement tests) are less realistic and are often based on hypothetical situations; they are relatively inexpensive to develop and implement and are therefore cost effective for SMEs. Conversely, high-fidelity work samples resemble work conditions more closely than low-fidelity work samples, and may therefore be better predictors of future job performance and give candidates a more realistic preview of the job. However, since high fidelity work samples use very realistic materials, they can be more expensive to develop. Nevertheless, high or low fidelity work samples may be beneficial to SMEs, depending on the organization's requirements.

In summary, the review of the literature has established that best practice selection methodology can be beneficial for organizations; however, there is scant evidence of this approach being used in SMEs (Barber et al., 1999; Bartram et al., 1995; Carroll et al., 1999; Cassell et al., 2002; Golhar and Deshpande, 1997; Hausdorf and Duncan, 2004; Heneman and Berkley, 1999; McEvoy, 1984). One possible reason for this is the lack of specific SME-related literature, with few studies to establish whether selection research is applicable to SMEs. Therefore this study explores how 'best practice' selection methodology can be effectively applied within an SME. This study aims to (1) address the gap in literature by designing and validating selection tools for an SME using rigorous 'best practice' methodology, and (2) provide empirical research into the validity of the selection tools.

The present study

The current research takes place in a medium-sized recruitment consultancy, employing 60 recruitment consultants, that has expressed the need for valid selection tools. Work sample tests were chosen

for the host organization because they have desirable qualities for SMEs (Hedge and Teachout, 1992). Specifically, a Situational Judgment Test (SJT) and a Role Play (RP) were developed using best practice methodology as outlined earlier.

SJTs present candidates with job-related hypothetical situations, and ask candidates to state what they would do in each situation. Evidence has shown SJTs have high criterion-related validity (McDaniel et al., 1997, 2001) and predictive validity comparable to assessment centres and structured interviews (McDaniel et al., 2001). RPs require candidates to simulate hypothetical work situations. They are useful tools for sales-based jobs (Bowers and Summey, 1983) and have shown good criterion-related validity for such jobs in a large organization (Squires et al., 1991). Since RPs have been shown to be appropriate in assessing interpersonal skills in roles that require sales ability (e.g. Squires et al., 1991), such as the role of a recruitment consultant, they were deemed appropriate for the host organization.

Both tools were constructed using a previously designed competency framework that was based on a job analysis with 20 recruitment consultants. Job analysis data had previously been gathered using interviews with job incumbents and this information was used to develop a competency model framework (see Table 1). In order to validate the selection tools a concurrent validation design was used, where data on the predictor (selection tool performance) and the criterion (work performance) is collected at the same time: this method was chosen because the host organization did not recruit a sufficient number of people in a year to carry out a predictive validation study. Thus, selection tools were administered to two groups of recruitment consultants: a group of 'high' performers and a group of 'low' performers, as defined by the participants' organizational performance based on sales in the previous financial quarter. Therefore the predictor data was participants' performance on the selection tools and the criterion was their work performance based on their sales output. Hence, the first two hypotheses are as follows:

Hypothesis one: The high performer group will score significantly higher than the low performer group on each competency for both the RP and SJT.

Hypothesis two: The high performer group will score significantly higher than the low performer group on the overall mean score for both the RP and SJT.

Each participant also has an overall organizational ranking based on sales performance (where lower numbers indicate a high performance ranking). Therefore the third hypothesis is as follows:

Hypothesis three: The overall mean scores on the RP and SJT will have a significant negative correlation with organizational ranking.

Method

The study consisted of three main stages: (1) developing the selection tools using qualitative interviews, (2) piloting the selection tools, and (3) validating the selection tools using a concurrent validation design. The following section outlines these three stages.

1. Developing the selection tools

Participants. The participants were eight recruitment consultants from the host organization, three were male and five were female. The mean tenure in the organization for these participants was 34 months.

Procedure. Both selection tools were developed using semi-structured interviews employing a Critical Incident Technique (CIT; Flanagan, 1954). The CIT method was used to obtain information about jobs by focusing on specific incidents; it involves collecting retrospective accounts from job holders to identify effective and ineffective performance and the behaviors associated with them. Questions focused on the circumstances leading up to the incident, the behaviors itself and the consequences of that behavior. In this context, CIT was useful because role plays and situational judgement tests both use job-specific incidents or situations to assess candidates.

Developing the situational judgement test. A critical incident question was developed for each of the competencies outlined in Table 1 in order to elicit specific situations in which those competencies were exhibited. From these incidents, situational questions reflecting typical work situations were developed, and these formed the basis of the SJT tool. To illustrate this, when asked a question that focused on the 'Team Work' competency, one of the recruitment consultants talked about an incident when she was just about to go on holiday but had been unable to complete the paperwork for a senior candidate who was in the process of resigning. She described how members of her team did all they could to ensure that the candidate was supported. On the basis of this incident, the following SJT question was developed to tap into the Team Work competency:

Your colleague is due to go on holiday in two days. You are aware that a candidate of hers is still in the process of resigning, and the paperwork has not been completed. Your colleague is very worried that while she is away, her candidate will not be supported. However, she has not yet asked anyone to take over the procedure for her while she is away. Please explain what you would do in this situation and the rationale behind your actions.

Developing the role play. Interviews were firstly used to establish the day-to-day tasks and activities essential to the role of recruitment consultant in the organization. An example question included: 'What exactly does your job involve on a day to day basis?'. CIT questions were then used to establish effective and ineffective ways of doing these tasks with questions structured around the existing competencies. An example CIT question for the competency 'Persuading and Influencing' was 'Tell me about a time when you have effectively persuaded a client to hire a candidate'. As a result of these interviews, it emerged that the main responsibilities of a recruitment consultant were matching potential job candidates to available roles and negotiating with clients. As such, this became the focus of the role play and the role play was split into three separate tasks: (1) obtaining information from a 'client' about a job role ('client' role played by the assessor); (2) choosing an appropriate candidate from several curriculum vitae, and (3) persuading the 'client' (assessor) to accept that candidate for interview.

The scoring criteria for both the SJT and the RP were positive and negative behavioral indicators, which are descriptions of observable behaviors specific to each competency described in the existing competency framework. For instance two example positive and negative behavioral indicators for the competency 'Commercial Awareness' were as follows: positive indicators – 'Proactively seeks new opportunities, successfully identifying new leads' and 'Has an understanding of the relevant markets and competitor activity'; negative indicators: 'Fails to identify new opportunities' and 'Shows little understanding of the industry, market or competitive activity'. Behavioral indicators were used because behaviorally based rating scales help to identify and measure the critical components that constitute effective performance in an occupation (Campbell et al., 1973).

During the RP and SJT, the assessor was required to record evidence and then classify it based on the behavioral indicators that were observed. Following this, the assessor rated the candidate according to how many positive and negative indicators were displayed. It is this data that was subject to further analyzes in the validation stage.

Table 1. Existing Competency Framework and Descriptors

Competency	Description
Adapting & coping	Adapts and responds well to a fast-paced environment; manages pressure effectively and copes well with setbacks
Commercial awareness	Demonstrates a knowledge of the industry adopting a proactive approach to seeking new opportunities
Customer relationship management	Refers to the successful development of ongoing relationships with customers demonstrating proactive behavior.
Effective communication & interpersonal style	Communicates effectively with a range of people. Adopts a consultative approach and positive interpersonal style.
Energy & persistence	Refers to a person's energy, enthusiasm and persistence with obstacles & challenges
Persuading & influencing	Successfully persuades and influences others, without being pushy or aggressive
Planning & organizing	Plans ahead and works in an organized way
Team work	Works co-operatively and productively with the team to achieve outstanding results.

2. Piloting the selection tools

Participants. A convenience sample of 15 participants was used for the piloting stage. Six participants were male and nine were female. The mean age for these participants was 23.8 years and participants had at least one year of work experience.

Procedure. All participants took part in both the SJT and RP and were scored by assessors (the first and second author). The piloting was used to ensure that participants' responses elicited the behavioral indicators, to confirm exercise timings and to check clarity of instructions. As a result of the piloting stage, the number of competencies measured by each selection tool was refined. The SJT measured: Customer Relationship Management, Team Work, Energy & Persistence, Commercial Awareness, Planning & Organizing and Persuading & Influencing. The RP measured: Customer Relationship Management, Effective Communication & Interpersonal Style, Energy & Persistence, Commercial Awareness, Adapting & Coping and Persuading & Influencing.

3. Validating the selection tools

Participants. Participants were 20 recruitment consultants from the host organization, 10 were male and 10 were female. Ten of the participants were classified as 'high performers' and 10 participants were classified as 'low performers', based on their sales performance (sales output based on the previous quarter). Each consultant within the organization was also ranked from highest to lowest on sales performance. Within the sample this ranking ranged from 5 (best sales performance) to 59 (worst sales performance).

Procedure. The study used a double blind concurrent validation method in order to eliminate any bias that may have occurred if the assessor knew which group participants were in. Participants took part in both the SJT and the RP and were then given a score for each competency (ranging from 1 = poor to 4 = excellent). This was based on the number of positive and negative behavioral indicators displayed. After this, the host organization disclosed which participants were high performers and which were low performers, and their performance ranking within the organization.

Analyzes. Due to the small sample size and because data deviated from normality (Field, 2005), a non-parametric Mann-Whitney test was used to NB analyze UK spelling whether there was a significant difference for the SJT and RP between the scores for high and low performers. For the same reasons, a non-parametric Spearman's Rank Correlation was used to analyze the relationship between participants' mean score on each selection tool and their performance ranking in the organization. Non-parametric tests have traditionally been thought of as having less statistical power than parametric tests (Zimmerman and Zumbo, 1993). However, because the data was not normally distributed the power should not have been diminished (Field, 2005). Statistical significance was examined for each test and effect sizes were also used to provide objective evaluations of observed effects, which are less reliant on sample size (Field, 2005; Ziliak and McCloskey, 2004).

Results

The following section reports the results of the study, in relation to each hypothesis. Table 2 displays the means and standard deviations for the total mean score on the RP and the SJT, and organizational ranking for high and low performer groups. Table 3 displays the Mann-Whitney results and effect sizes for the six competencies that the RP measures and the six competencies that the SJT measures. It shows the differences in the overall mean score on each test for both groups.

Table 2. SJT and RP Scores, and Performance Ranking for Low and High Performers

	SJT Total Mean Score		RP Total Mean Score		Performance Ranking	
	M	SD	M	SD	M	SD
Low ($N = 10$)	2.60	.39	2.19	.66	45.00	13.00
High ($N = 10$)	3.40	.41	3.45	.21	13.00	6.00

Table 3. Mann Whitney Results for the Six Competencies and Total Overall Mean Scores

Competency	RP					SJT				
	Median (Low)	Median (High)	U	p	r	Median (Low)	Median (High)	U	p	r
Adapting & coping	2.00	3.50	10.00	<.001	-0.72	–	–	–	–	–
Commercial awareness	2.00	4.00	14.00	<.001	-0.63	3.00	2.50	22.50	.01	-0.58
Customer relationship management	2.00	3.00	6.00	<.001	-0.78	2.50	3.50	26.50	.05	-0.42
Effective communication & interpersonal style	2.50	3.75	8.50	<.001	-0.72	–	–	–	–	–
Energy & persistence	3.00	3.00	21.50	.01	-0.53	3.00	3.50	28.00	.04	-0.39
Persuading & influencing	2.00	3.25	3.50	<.001	-0.80	3.00	4.00	17.00	.06	-0.60
Planning & organizing	–	–	–	–	–	3.00	4.00	9.00	<.001	-0.75
Team work	–	–	–	–	–	3.00	3.50	32.00	.09	-0.32
Overall mean score	2.25	3.50	3.50	<.001	-0.79	2.58	3.67	9.00	.01	-0.70

Hypothesis one

Hypothesis one states that the high performer group will score significantly higher than the low performer group on each competency for both the RP and SJT. For the RP, examination of Table 2 shows that the scores for the high performer group are significantly higher than the low performer group on all competencies. For the SJT, four of the six competencies are significantly higher for high than low performers. With regards to the non-significant results for the SJT, Persuading & Influencing showed a marginally significant difference between high and low performers ($U = 17$, $p = 0.06$, $r = -0.60$); but there was no significant difference between the high and low performers for Team Work ($U = 32$, $p = 0.09$, $r = -0.32$). Overall, the results partially supports hypothesis one. Table 2 also displays the effect sizes for the RP and the SJT, which measures the magnitude of the observed differences and can be used as a standardized comparison across other studies. The effect sizes indicate that the observed differences between high and low performers are large for the RP; and medium to large for the SJT (Cohen, 1988).

Hypothesis two

Hypothesis two states that the high performer group will score significantly higher than the low performer group on the overall mean score for both the RP and SJT. Overall mean scores for both the RP and SJT indicate that the high performer group score significantly higher than the low performer group, RP ($U = 3.50$, $p < .001$, $r = -0.79$) and SJT ($U = 9.00$, $p = .01$, $r = -0.70$); both these differences show large effect sizes. These findings support hypothesis two.

Hypothesis three

Hypothesis three states that the overall mean scores on the RP and SJT will have a significant negative correlation with organizational ranking. In order to assess the relationship between mean overall competency score and the objective performance ranking, Spearman's Rho was used. As hypothesized, there was a significant negative correlation between overall mean scores on the RP and organization performance ranking ($\rho = -0.81$, $p < .001$, $N = 20$), and the SJT and organizational performance ranking ($\rho = -0.63$, $p < 0.01$, $N = 20$). Note that the correlation is negative because the highest ranking employee in this study is ranked as 5, while the lowest ranking employee is ranked as 59. This finding supports hypothesis three: those who rank higher in the organization score higher overall on the RP and SJT.

Discussion

This article has presented the design and validation of two selection tools for an SME using a best practice methodology process, and has also provided empirical research into the validity of these selection tools. Findings indicated that the RP significantly differentiated between high and low performers for each of the competencies and for the overall mean score, showing a large effect size for these differences. The SJT distinguished between high and low performers for four of the six competencies and also the overall mean competency score, showing medium to large effect sizes for these differences. For the SJT, the difference between high and low performers for Persuading & Influencing was not statistically significant ($p = 0.06$), yet the effect size was large, which may suggest that a larger sample size might yield a significant difference (Field, 2005). Overall, findings suggest that the RP and SJT can distinguish low from high performers on most competencies,

and importantly for the overall scores. This is consistent with other research that has reported strong criterion-related validity for work sample tests (Hunter and Hunter, 1984; Schmidt and Hunter, 1998; Schmitt et al., 1984).

The fact that the RP showed a significant result for Team Work, but the SJT did not, could imply that this competency is better assessed through high fidelity work samples (cf. Weekley and Jones, 1997) such as the RP. However, a higher fidelity SJT may also be an effective way to assess this competency; for example a video-based SJT, where hypothetical work situations are presented in video clips allowing the candidate to see and hear people interact (Olson-Buchanan and Drasgow, 2006).

The results indicate that the RP significantly differentiated between the high and low performers on more competencies than the SJT and therefore we may infer that the RP is more effective at distinguishing between high and low performing groups on these competencies. This may have been because high-fidelity work samples resemble work conditions more closely than low-fidelity work samples, and are therefore seen to be better predictors of job performance (Motowildo et al., 1990). This supports findings in Robertson and Kandola's (1982) meta-analysis of 690 work sample validity studies, where psychomotor tests (such as the RP) had higher predictive validities than situational decision-making tasks (such as the SJT).

Hypothesis three examined the overall mean scores on the RP and SJT and their relation to the organizational performance ranking (the criterion measure). Results show significant negative correlations between each predictor (the RP and SJT) and the criterion. That is to say, low scores on the RP/SJT were related to low organizational performance ranking. These findings go some way towards indicating that the RP and SJT show good criterion-related validity (Bowers and Summey, 1983; Chan and Schmitt, 2002; Latham and Saari, 1984). The criterion-related validity of the tests may also be attributed to the fact that the scoring criteria were derived from the behavioral indicators in the competency framework, and therefore lends support to the idea that behaviorally based rating scales measure critical components of work performance (Campbell et al., 1973), and are direct measures of what people will do in the future (Armstrong and Baron, 2000). The criterion measure (performance ranking of participants) was an objective measure of participants' sales output during the previous financial quarter. This criterion eliminates bias that may have occurred if a subjective measure was used such as supervisory ratings (Arvey and Murphy, 1998).

Implications of the present study

The present study has a number of important implications for both research and practice in SMEs.

Research implications

In relation to research, the findings in this study have implications for both SME and work sample research. In the past it may have been difficult for SMEs to use best practice methodology in the design of their selection processes, because literature relating to selection practices in SMEs is sparse, and prescriptive literature regarding the design of a valid selection procedure is even rarer. However, this study has demonstrated that the stages of job analysis, selection tool design and validation may be employed in an SME and has shown how this can be achieved. In doing so, this article provides evidence-based prescriptive literature that may encourage knowledge transfer among SMEs. Sharing information between organizations is beneficial (Hanna and Walsh, 2008; Lockett et al., 2008) and may allow SMEs to broaden the selection methods they employ, therefore gaining a competitive advantage through the recruitment of high-performing employees

(Lockett et al, 2008; Szarka, 1990). Engaging in knowledge transfer between organizations could also provide SMEs with the opportunity to share costs relating to selection tool development and validity testing (EEOC, 1978; Scherbaum, 2005).

In terms of work sample research, the present study has shown that the steps prescribed by Gatewood and Field (1987) for the development of work sample tests are useful for SMEs. Our study shows that tools such as RPs and SJTs can be good predictors of job performance in smaller organizations. Moreover, it contributes to work sample literature by providing further support that SJT interviews and RPs produce acceptable criterion-related validity coefficients as reported in previous research (Latham and Saari, 1984; Latham et al., 1980) and meta-analytic studies (Hunter and Hunter, 1984; Schmidt and Hunter, 1998; Schmitt et al., 1984). This suggests that not only are these types of selection tools relevant for SMEs, but also that the previously reported validities may be transferable to this context.

Practical implications

The study has demonstrated that it is possible to implement selection tools in SMEs that are designed using a 'best practice' methodology. The process of conducting job analyzes, determining appropriate criterion measures and designing and validating suitable selection tools may have implications for recruitment and selection policy within SMEs. Adopting these steps will help organizations comply with recruitment guidelines such as the EEOC (1978) and CIPD (2008) guidelines for employee selection. This will enable SMEs to ensure that their selection processes are operating fairly. In our study, the job-relatedness of the selection tools and the fact that the tools have established a degree of criterion-related validity may suggest that the methods utilized in the present study are legally defensible, as all these factors have been found to increase the legal defensibility of a selection tool (Maurer and Fay, 1986; Morris and Lobsenz, 2003).

When considering the use of RPs, development and administration cost may be a concern for some SMEs because high fidelity tests tend to be fairly expensive due to costly equipment. However, we demonstrated in this study that RPs do not necessarily have to be resource intensive; the RP we designed only required printed score sheets plus the assessor's time, which was no longer than the unstructured interview the host organization was already using. Additionally, it was not necessary to produce multiple versions of the RP for experienced/inexperienced recruitment consultants, because the scoring was based on behaviors rather than being task oriented. This also reduced the costs commonly associated with high-fidelity selection methods.

Limitations and recommendations for future research

There are a number of limitations that should be noted in relation to the study on which this article is based. First, is the sample size, where a larger sample may have led to more accurate and reliable results. This is, therefore, an issue that SMEs should be aware of when interpreting validation results. It is somewhat paradoxical because by definition SMEs have fewer employees; nevertheless future research may aim for larger samples in order to aid the generalizability of the results.

A second potential limitation is the use of the concurrent validation technique. Concurrent validation allows predictor data to be collected from existing employees with no time delay between collecting the predictor and criterion data, meaning that selection tools become economically efficient in a shorter time period. Therefore, concurrent validity, as utilized in the current research, seems appropriate for determining the value of selection tools in SMEs. However, concurrent validation has been criticized for having more restriction of range than predictive

validation on both predictors and criteria, leading to a poor validity estimate (Schmidt and Hunter, 1998). This is because concurrent validation does not account for applicants who were hired and then discharged due to poor performance, or highly successful applicants who have been promoted to another position (Dunnette, 1966; Scherbaum, 2005). Furthermore, employees may have already acquired the knowledge, skills and abilities necessary to perform the role, through working in the organization. Although predictive validity is an alternative to concurrent validation, it also suffers from range restriction because only the highest scoring candidates are selected and so SMEs would have to wait for an adequate number of candidates to enter their company in order to have enough data to run a predictive validation study. As such, future research may use a pool of applicants from jobs that comprise of similar job components in order to determine the synthetic validity of such work sample tools (Scherbaum, 2005).

A final limitation relates to measures of reliability, which were not established in this study. The criterion measure (organizational ranking) was objective as it was based on participants' sales targets. However, because the reliability of the scoring methods was not examined, the validation could have been exposed to unsystematic error, affecting the relevance of the results. It is suggested that this would result in the reduction in size of the observed effect (Arnold et al., 2005). However, the present study had large effect sizes and significant correlations, thus the lack of reliability evidence should not have affected overall findings. Nonetheless, it would be valuable for future research to determine how reliable the selection tools are.

Conclusion

The present study has made an important contribution by presenting evidence-based literature demonstrating the design and validation of selection tools in an SME using a best practice methodology. The results show that such a methodology can successfully be applied in SMEs, resulting in selection methods that are able to distinguish between low and high performers. Furthermore, the study has provided prescriptive literature on best practice methodology in selection and therefore may make this approach accessible to SMEs. As McEvoy (1984: 8) aptly states, 'organizations need not be large to benefit from the most recent knowledge in human resource management'.

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