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Applicant Perceptions of Selection Procedures: The Role of Selection Information, Belief in Tests, and Comparative Anxiety

Filip Lievens*, Wilfried De Corte and Katrien Brysse

This study addresses the effects of the provision of information on the reliability and validity of selection procedures and the effects of test-taker attitudes (i.e., belief in tests and comparative anxiety) on fairness perceptions. Prior to an actual selection process, applicants ($N = 118$) were given either information about the reliability and validity of various selection procedures or no information. Next, they evaluated the fairness of eight selection procedures. No significant effect of selection information was found. Belief in tests had significant effects, with applicants high on test belief giving higher fairness ratings than applicants low on test belief. In addition, an interaction effect between test belief and selection procedure was found. For example, test belief had larger effects on fairness for structured interviews, personality inventories, and cognitive ability tests. No significant effect of comparative anxiety on fairness was found.

Introduction

In the past decade, applicant perceptions of selection procedures have become an important theme in personnel selection research. One of the reasons for this increasing research attention is that applicant perceptions are related to various individual and organizational outcomes such as job acceptance intentions, recommendation intentions, and perceptions of organizational attractiveness (e.g., Bauer, Maertz, Dolen and Campion 1998; Gilliland 1994; Macan, Avedon, Paese and Smith 1994; Ployhart, Ryan and Bennett 1999).

In a recent review article, Ryan and Ployhart (2000) divided applicant perception research into two streams of research (see also Schmitt and Chan 1998). The first group of studies focused on the fairness perceptions of selection procedures and potentially influencing dimensions. Examples of these dimensions, which are often referred to as procedural justice rules, are job-relatedness, opportunity to perform, propriety of questions, etc. In many of these studies, parts of Gilliland's (1993) justice model of applicant reactions to selection systems served as theoretical underpinnings.

In the second stream of studies, test-taker attitudes and how they affect applicants' performance in the selection process were of central importance. Examples of test-taker attitudes include test motivation, belief in tests, comparative anxiety, etc. In general, these studies built upon initial research of Arvey, Strickland, Drauden and Martin (1990) on the motivational components of test-taking.

In their review article, Ryan and Ployhart (2000) also signaled various gaps in the applicant perception literature. Two gaps seem most important. First, some exceptions notwithstanding (e.g., Ployhart *et al.* 1999), most previous studies have simply correlated procedural justice rules with applicant fairness perceptions. Yet, at a practical level, results from studies, which manipulate justice rules to determine whether applicant perceptions can be influenced, might be much more interesting. This kind of studies should be informative as to which variables promote positive applicant reactions and reduce negative applicant reactions. Along these lines, a particularly interesting albeit unexplored manipulation is the provision of information about selection procedures to applicants. According to Ryan and Ployhart (2000), a second gap in the applicant perception literature was that only a couple of studies (e.g., Chan, Schmitt, DeShon, Clause and Delbridge 1997) have tried to link the two aforementioned streams of research (i.e., research on fairness perceptions and research on test-taker attitudes).

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Hence, they argued that our understanding of applicant perceptions would greatly benefit from more integrative studies, which aim to relate test-taking attitudes to fairness perceptions (see also Schmitt and Chan 1998).

The present study begins to fill these two important gaps in the applicant perception literature. The objectives are twofold. As a first objective we manipulate the provision of information about the reliability/validity of various selection procedures in an actual selection context and examine the effects on fairness perceptions. Our second objective is to examine how particular test-taker attitudes might affect applicant perceptions. To this end, we investigate the role of two test-taker attitudes, namely general belief in tests and comparative anxiety in determining fairness perceptions.

The Role of Selection Information in Fairness Perceptions

In his justice model of applicant reactions to general selection systems, Gilliland (1993) identified various procedural rules that might affect the perceived overall fairness of the selection process. One of the procedural justice rules referred to the provision of selection information to applicants. In particular, Gilliland (1993) distinguished two forms of selection information. First, information might be provided to applicants *prior* to the selection process. For example, applicants might be informed in advance about the job-relatedness of the selection procedures, about the scoring system, and about the purposes for which the scores will be used. Arvey and Sackett (1993) referred to such pre-test information as informing candidates about the content and purpose of the selection process. Sitkin and Bies (1993) called this kind of information anticipatory explanations. Second, the selection information rule also applies to the provision of information *after* the selection process. This form of selection information refers to the provision of an explanation or a justification for specific selection decisions, which have already been taken (Bies and Shapiro 1988; Gilliland 1993; Greenberg 1990).

Recently, several studies have focused on this second form of selection information and have examined the effects of providing candidates with explanations for decisions in a selection context. In general, empirical support has been found that the provision of explanations to applicants is a relatively cost-efficient human resource tool for promoting fairness perceptions. For instance, Ployhart *et al.* (1999) manipulated informational and sensitivity features of explanations in a sample of psychology students and found that an explanation with personal or procedural information generally enhanced fairness. Yet, this was not the case for rejected participants, who had lower

self-perceptions under these conditions. Ployhart *et al.* further reported that the provision of the explanation in a sensitive manner mitigated these lower self-perceptions of rejected candidates. In another study, Horvath, Ryan and Stierwalt (2000) varied the type of explanation. They demonstrated that psychology students receiving a causal explanation had significantly more positive perceptions than students receiving either an ideological or no explanation. However, the results were more complex than anticipated as both outcome favorability and participants' self-efficacy interacted with participants' perceptions of the type of explanation given.

Contrary to the growing research on the effects of providing *a posteriori* explanations, we are not aware of published studies, which have investigated the first form of selection information, namely the provision of pre-test information to applicants. This is surprising because the provision of information to applicants prior to the selection process might also be a simple and inexpensive vehicle for enhancing positive fairness perceptions and mitigating negative perceptions. In fact, provision of selection-related information prior to the selection process might reduce applicants' uncertainty (Arvey and Sackett 1993) and might provide them with a better understanding of selection procedures. This might be especially true for selection procedures, which applicants typically view as relatively unattractive (e.g., cognitive ability tests) or invasive (e.g., personality inventories) (Gilliland 1993).

Given these advantages and the lack of research, the present study manipulates the provision of selection information prior to the start of the selection process. Specifically, this study examines the effects of providing applicants with information about the predictive validity and reliability of selection procedures in an easy-to-understand language. We provided applicants with information on the predictive validity of the selection procedures because various studies (e.g., Gilliland 1994; Smither, Reilly, Millsap, Pearlman and Stoffey 1993) revealed that perceived predictive validity was a major determinant of procedural fairness. Apart from easy-to-understand information about predictive validity, information about the reliability of the respective selection procedures was given because reliability informs applicants about the consistency and standardization in scoring selection procedures. Consistency in scoring has also been identified as a major determinant of overall procedural fairness (see Arvey and Sackett 1993; Gilliland 1993). Besides these effects on overall fairness, we also expect that the provision of information about the predictive validity and reliability of selection procedures will enhance specific fairness facets such as perceived scientific value (Steiner and Gilliland 1996) and job relatedness. All of this leads to the following hypotheses:

Hypothesis 1a: The provision of information about the reliability and validity of selection procedures will significantly affect applicants' perceptions of the overall fairness of these selection procedures.

Hypothesis 1b: The provision of information about the reliability and validity of selection procedures will significantly affect applicants' perceptions of the scientific value of these selection procedures.

Hypothesis 1c: The provision of information about the reliability and validity of selection procedures will significantly affect applicants' perceptions of the job relatedness of these selection procedures.

The Role of Test-Taker Attitudes in Fairness Perceptions

As already mentioned, in their recent review article, Ryan and Ployhart (2000) divided previous applicant perception research into two strands of research: one on test-takers' fairness perceptions and another on test-takers' motivational and attitudinal tendencies. At the same time, Ryan and Ployhart (2000) posited that this division hampers a more complete understanding of applicant perceptions because test-takers' attitudes and test-takers' perceptions should be related. Specifically, they stated that 'test-taking attitude measures are *perceptions* of oneself in the selection situation (i.e., are you motivated, anxious) whereas justice related *perceptions* are typically about the procedure or process (i.e., is this test a fair method of hiring)' [italics added]. (p. 585).

To date, only a couple of studies have linked test-takers' fairness perceptions and test-takers' attitudes. An example is the study by Chan *et al.* (1997), who provided empirical support that job relatedness (a fairness perception) influenced test motivation, which in turn affected test performance. Specifically, they found that the effects of job relatedness on test performance were fully mediated by motivation. In another integrative study, Chan, Schmitt, Sacco and DeShon (1998) reported that, in the case of cognitive ability tests, belief in tests predicted pre-test fairness reactions such as job relatedness, which in turn influenced test performance. This link was less clear for personality inventories.

This study aims to contribute to this line of integrative studies by examining how two test-taker attitudes (i.e., belief in tests and comparative anxiety) relate to procedural fairness perceptions. As asserted by Arvey *et al.* (1990), belief in test refers to a test-taker's beliefs that tests are a good way of selecting people in jobs, that tests are valid, or that tests should be used. Therefore, it seems likely that belief in tests is related to fairness perceptions

of selection procedures and to perceptions of specific fairness facets (i.e., job relatedness and scientific validity) (see Chan *et al.* 1998). Thus, we expect that applicants, who strongly believe in tests, will have higher overall fairness and job relatedness perceptions of selection procedures than applicants, who do not have faith in tests. Comparative anxiety deals with the cognitive (e.g., thinking of the consequences of failing) and emotional (e.g., getting nervous) components of test anxiety (Arvey *et al.* 1990). Along these lines, Ryan and Ployhart (2000) proposed to examine whether people, who are more anxious, view selection procedures as more unfair. Indeed, more anxious applicants might be more wary about violation of justice rules in selection and therefore have lower overall fairness perceptions as compared to applicants low on test anxiety. In short, the following hypotheses are formulated:

Hypothesis 2a: Belief in tests will significantly affect (i.e., enhance) applicants' perceptions of the overall fairness of selection procedures.

Hypothesis 2b: Belief in tests will significantly affect (i.e., enhance) applicants' perceptions of the scientific value of selection procedures.

Hypothesis 2c: Belief in tests will significantly affect (i.e., enhance) applicants' perceptions of the job relatedness of selection procedures.

Hypothesis 3: Comparative anxiety will significantly affect (i.e., reduce) applicants' perceptions of the overall fairness of selection procedures.

Method

Procedure and Participants

Data were collected with the help of one Belgian consultancy firm. This consultancy firm was interested in knowing applicants' prior perceptions regarding various selection procedures and whether the provision of information about the reliability/validity of selection procedures could influence these perceptions. All individuals who participated in the selection process of this consultancy firm during the first three months of 2000 were asked to participate in the study. In particular, these individuals were asked if, prior to the selection process, they wanted to complete a questionnaire designed to measure their perceptions regarding various selection procedures. Study participation was voluntary and anonymous. It was also emphasized that participation in the study would neither influence the results on the selection procedures nor the final employment decision. If an applicant agreed to participate, a randomly chosen version of the

questionnaire (see below) was given to him/her. Applicants were instructed to return the questionnaire in an envelope to the test administrator.

Some 118 people were asked to participate in the study. Eighteen people refused to participate. This reduced the sample size to 100 applicants. Forty-seven applicants received the questionnaire with the information about the reliability and validity of the selection procedures. Fifty-three applicants received the questionnaire without this information. The average age of the applicant sample was 27.4 years ($SD = 6.8$ years). Forty-eight of them were females and 52 were males. Thirty-four applicants had a university degree. The full-time working experience of the applicants ranged from 3 months to 40 years, with an average of 5.5 years ($SD = 6.9$ years). In general, they applied for a variety of administrative jobs in different organizations. All applicants indicated that they had already gone through a selection process in the past. Applicants' experience with the specific selection procedures examined (see below) varied from 10% (graphology analysis) to 88% (biographical information blank), with a mean of 55% across all selection procedures. In general, these percentages were similar to the results obtained through large-scale surveys of selection practices in Belgium (Ryan, McFarland, Baron and Page 1999), implying that the type of selection experience of this study's applicants was representative of typical Belgian applicants.

Measures

The questionnaire consisted of three sections. The first section contained instructions and demographic questions. The second section was composed of the scales 'belief in tests' and 'comparative anxiety', which were adapted from the Test Attitude Survey (Arvey *et al.* 1990). An example item of the scale measuring belief in tests was 'tests are a good way of selecting people into jobs'. An example item of the scale comparative anxiety was 'I usually get very anxious about taking tests'. Applicants responded to these questions using a 7-point Likert-type scale that ranged from 1 = *strongly disagree* to 7 = *strongly agree*. The internal consistencies of these scales were .70 and .77, respectively. These values are similar to the values obtained by Arvey *et al.* (1990). Belief in tests and comparative anxiety correlated .36 ($p < .01$). The third section of the questionnaire measured perceptions of eight different selection procedures, namely cognitive ability tests, personality inventories, structured interviews, unstructured interviews, personal references, biographical information blanks, graphology analyses, and work sample tests. These selection procedures were chosen because they were commonly used by either the specific consultancy firm (e.g., cognitive ability tests, personality inventories, work

samples) or by other Belgian consultancy firms (e.g., graphology analyses). Each of the eight pages in this section presented information regarding one of the selection procedures and then asked the applicants to rate the procedure on several dimensions.

The information provided about the selection procedures differed across conditions. In the *uninformed* condition each selection procedure was only briefly described. These descriptions were taken from previous studies (e.g., Harris, Dworkin and Park 1990; Steiner and Gilliland 1996) and from personnel selection textbooks (e.g., Gatewood and Feild 1998). For example, cognitive ability tests were described as 'paper-and-pencil tests that evaluate your intelligence on reasoning, verbal and mathematical skill'. Example items or questions were also given. In the *informed* condition, this brief description and examples were supplemented by information regarding the reliability and predictive validity of each selection procedure. This reliability and validity information was taken from meta-analyses (e.g., Schmidt and Hunter 1998) and was 'translated' into easy-to-understand language (see Elsbach and Eloffson 2000). Regarding cognitive ability tests, for instance, the following information was added to the aforementioned description: 'Scientific research shows that results based on cognitive ability tests are very reliable and that this type of tests is able to predict applicants' job performance very well'. In order to attract applicants' attention, the information provided (in both conditions) was put in bold and in a box.

As already mentioned, each description of a selection procedure was followed by several rating scales. Applicants were told that they should answer these questions considering the administrative jobs they were applying for. First, applicants indicated whether they had been evaluated by this specific procedure in the past (yes/no). Next, there were two questions regarding overall process fairness. These two items were taken from Steiner and Gilliland (1996). These questions were 'How would you rate the effectiveness of this selection procedure for identifying qualified people for the job that you are applying for' and 'If you did not get the job based on this selection procedure, what would you think of the fairness of this procedure?' The response scale of these questions was a 7-point Likert-type scale ranging from 1 = *least favorable* to 7 = *most favorable*. Coefficient alpha for the process fairness items was .72 across all applicants and selection procedures, which is similar to the value obtained by Steiner and Gilliland (1996). Finally, there were two¹ questions dealing with specific procedural justice dimensions. These items were the same as the ones used by Steiner and Gilliland (1996). The two dimensions rated were (a) the selection procedure is based on solid scientific research (also labeled as perceived predictive validity by Steiner and Gilliland 1996), (b) the selection procedure is a logical

one for identifying qualified candidates (i.e., job relatedness). Applicants responded to these questions using a 7-point Likert-type scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. All items were scored so that higher numbers indicated more positive perceptions of the selection procedures.

To control for order effects, we developed two versions of each questionnaire, which presented the selection procedures in different orders. The different questionnaires were randomly given to the applicants.

Results

Effect of Information about Reliability and Validity

Means, standard deviations, and correlations of this study's variables are presented in Table 1. The first set of hypotheses stated that the provision of information about the reliability and validity of selection procedures would significantly affect applicants' perceptions of the overall fairness of these procedures (Hypothesis 1a), their perceptions of the scientific value of these procedures (Hypothesis 1b), and their job relatedness perceptions of these procedures (Hypothesis 1c). To test Hypotheses 1a, 1b, and 1c, we used the General Linear Model procedure of SPSS 9.0 to conduct a repeated measures MANOVA with selection procedure as the within-subjects effect, information as the between-subjects effect, and the three fairness perceptions (overall fairness, scientific value, and job relatedness) as the set of dependent variables.

No significant multivariate main effect for the provision of information was found, $F(3,94) < 1$, $\eta^2 = .02$, indicating that there was no significant difference across the set of fairness perceptions between applicants, who were provided with information about the reliability and validity of selection procedures and uninformed applicants. Univariate analyses further showed that, for none of the three fairness perceptions, the main effect of provision of information was significant. This means that Hypotheses 1a, 1b, and 1c were not supported. Means and standard deviations of these three scales by provision of information and selection procedure are shown in Table 2. The only significant difference was that when applicants were informed that unstructured interviews scored at best moderate in terms of reliability and predictive validity, evaluations of unstructured interviews decreased from 3.83 to 3.18 ($p < .05$) for scientific value. This is also illustrated by the significant correlation between provision of pre-test information and perceptions of the scientific value of unstructured interviews ($r = -.20$, $p < .05$, see Table 1).

The repeated measures MANOVA further showed a significant multivariate main effect for selection procedure, $F(21, 76) = 17.33$, $\eta^2 = .83$ and an insignificant interaction

effect between provision of information and selection procedure. Follow-up univariate analyses revealed that the main effect of selection procedure was significant for overall fairness perceptions ($\eta^2 = .35$), scientific value perceptions ($\eta^2 = .23$), and job relatedness perceptions ($\eta^2 = .38$). *Post-hoc* comparisons using Tukey's honestly significant difference test indicated that, in terms of overall fairness, work samples and unstructured interviews obtained the highest ratings, followed by biodata and structured interviews. Cognitive ability tests and personality inventories were in the middle of the group. The least favorable ratings were for personal references and finally graphology analyses. Similar results were obtained for job relatedness perceptions. For perceptions of scientific value, however, cognitive ability tests received the highest ratings, followed by work samples, personality inventories, and structured interviews. Unstructured interviews and biodata were in the middle of the group. Again, personal references and graphology analyses received the most negative evaluations.

Because we did not find an effect of selection information, we conducted additional analyses that examined possible explanations for this finding. For example, we conducted an additional analysis with order of presentation as a covariate. The results were identical to the findings heretofore presented. We also examined whether applicants' prior experience with selection procedures might play a role (see Kravitz, Stinson and Chavez 1996). Applicants' previous selection procedure experience might serve as a moderator in the sense that the information manipulation might promote fairness perceptions of a specific selection procedure only among applicants who lack experience with that specific selection procedure. To test the impact of previous selection experience, we conducted an additional MANOVA with selection experience as a covariate. We conducted this MANOVA per selection procedure because the questionnaire asked applicants about their previous experience for each selection procedure (see Method section). Results showed that the effect of information remained insignificant for all selection procedures, even when we controlled for the effects of prior experience with selection procedures.

Effect of Belief in Tests and Comparative Anxiety

The second set of hypotheses dealt with the effects of belief in tests on fairness perceptions. Specifically, we hypothesized that applicants, who strongly believed in tests, would have significantly higher perceptions of the overall fairness (Hypothesis 2a), the scientific value (Hypothesis 2b), and the job relatedness (Hypothesis 2c) of these selection procedures than applicants, who did not strongly believe in tests. To test these hypotheses, we used the General Linear Model procedure of SPSS 9.0 to

Table 1: Means, standard deviations, and intercorrelations of study variables (n=100)

| Variable | M | SD | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. | 24. | 25. | 26. |
|--|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-----|-----|
| 1. Selection information | – | – | – | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Belief in tests | 4.46 | 1.24 | .18 | – | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Comparative anxiety | 4.33 | 1.25 | -.01 | .36 | – | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Overall fairness perceptions</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Personality inventory | 3.80 | 1.15 | -.02 | .21 | .23 | – | | | | | | | | | | | | | | | | | | | | | | |
| 5. Cognitive ability test | 4.19 | 1.41 | .05 | .33 | .23 | .09 | – | | | | | | | | | | | | | | | | | | | | | |
| 6. Personal references | 3.65 | 1.42 | -.09 | .13 | .03 | .18 | .04 | – | | | | | | | | | | | | | | | | | | | | |
| 7. Biographical information blank | 4.33 | 1.21 | .03 | .11 | .00 | .29 | .15 | .24 | – | | | | | | | | | | | | | | | | | | | |
| 8. Graphology | 2.16 | 1.26 | -.18 | -.02 | -.05 | .26 | .13 | .39 | .17 | – | | | | | | | | | | | | | | | | | | |
| 9. Unstructured interview | 4.37 | 1.23 | -.12 | .20 | .13 | .33 | -.02 | .14 | .15 | .17 | – | | | | | | | | | | | | | | | | | |
| 10. Structured interview | 4.60 | 1.19 | .18 | .39 | .08 | .14 | .17 | .06 | .16 | .05 | .35 | – | | | | | | | | | | | | | | | | |
| 11. Work sample test | 4.96 | 1.23 | -.01 | .12 | .11 | .21 | .24 | -.09 | -.06 | .08 | .12 | .35 | – | | | | | | | | | | | | | | | |
| <i>Scientific validity perceptions</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. Personality inventory | 4.34 | 1.62 | .06 | .19 | .14 | .45 | -.01 | .21 | .13 | .05 | .13 | .05 | .03 | – | | | | | | | | | | | | | | |
| 13. Cognitive ability test | 4.77 | 1.39 | .00 | .25 | .14 | .02 | .45 | .10 | .08 | .00 | -.04 | .14 | .22 | .24 | – | | | | | | | | | | | | | |
| 14. Personal references | 2.86 | 1.60 | .01 | .09 | -.14 | .20 | -.04 | .42 | .22 | .40 | -.03 | -.09 | -.14 | .16 | -.08 | – | | | | | | | | | | | | |
| 15. Biographical information blank | 3.63 | 1.43 | .02 | .00 | -.06 | .27 | .05 | .25 | .55 | .28 | .06 | .04 | -.10 | .10 | .07 | .41 | – | | | | | | | | | | | |
| 16. Graphology | 2.86 | 1.51 | -.15 | -.07 | .01 | .14 | .05 | .31 | .15 | .62 | .17 | .07 | .02 | .07 | .14 | .28 | .28 | – | | | | | | | | | | |
| 17. Unstructured interview | 3.50 | 1.55 | -.20 | .09 | -.06 | .27 | .13 | .42 | .19 | .42 | .14 | .12 | -.10 | .12 | .04 | .45 | .39 | .33 | – | | | | | | | | | |
| 18. Structured interview | 4.13 | 1.38 | .02 | .25 | .16 | .09 | .20 | .25 | .21 | .14 | -.07 | .33 | .11 | .23 | .33 | .28 | .26 | .20 | .37 | – | | | | | | | | |
| 19. Work sample test | 4.38 | 1.39 | .04 | .12 | .14 | .08 | .20 | .10 | .00 | .14 | -.05 | .14 | .34 | .13 | .46 | .14 | .19 | .23 | .20 | .46 | – | | | | | | | |
| <i>Job relatedness perceptions</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. Personality inventory | 4.16 | 1.49 | .02 | .36 | .19 | .64 | .25 | .22 | .15 | .23 | .19 | .12 | .20 | .36 | .10 | .23 | .21 | .10 | .20 | -.04 | .11 | – | | | | | | |
| 21. Cognitive ability test | 4.36 | 1.56 | .12 | .30 | .07 | .11 | .80 | .07 | .17 | .18 | .10 | .17 | .12 | .04 | .41 | -.02 | .12 | .06 | .18 | .11 | .19 | .25 | – | | | | | |
| 22. Personal references | 3.48 | 1.78 | -.08 | .05 | -.12 | .10 | -.12 | .57 | .20 | .37 | .04 | -.01 | -.19 | .10 | -.02 | .58 | .24 | .18 | .27 | .21 | .06 | .21 | -.04 | – | | | | |
| 23. Biographical information blank | 4.97 | 1.42 | .08 | .00 | -.08 | .13 | .02 | .16 | .68 | .10 | .12 | .11 | -.24 | .06 | -.02 | .17 | .55 | .13 | .16 | .08 | -.07 | .25 | .10 | .30 | – | | | |
| 24. Graphology | 2.11 | 1.34 | -.19 | -.04 | -.11 | .12 | .03 | .31 | .11 | .79 | .08 | -.01 | -.04 | -.09 | -.06 | .39 | .17 | .53 | .36 | .03 | .03 | .16 | .10 | .35 | .05 | – | | |
| 25. Unstructured interview | 4.75 | 1.38 | .00 | .21 | .16 | .24 | .23 | -.04 | .26 | .05 | .58 | .43 | .10 | .12 | .10 | -.02 | .06 | .10 | .26 | .08 | .00 | .28 | .25 | -.05 | .28 | .02 | – | |
| 26. Structured interview | 4.91 | 1.25 | .13 | .33 | .13 | .33 | .23 | .08 | .31 | .09 | .36 | .62 | .27 | .23 | .18 | .16 | .26 | .01 | .24 | .35 | .21 | .21 | .22 | .12 | .24 | -.06 | .51 | – |
| 27. Work sample test | 5.37 | 1.22 | .11 | .29 | .27 | .23 | .24 | -.16 | -.16 | -.03 | .13 | .34 | .73 | .12 | .28 | -.18 | -.08 | -.04 | -.08 | .10 | .33 | .26 | .17 | -.18 | -.17 | -.17 | .14 | .33 |

Note: Correlations above .20 are significant at $p < .05$ and above .26 at $p < .01$

Table 2: Means and standard deviations of perceptions of overall fairness, scientific value, and job relatedness broken down by provision of selection information

| | Overall fairness | | Scientific value | | | | | |
|--|---------------------|---------------------|-------------------------|---------------------|-------------------|---------------------|----------|----------|
| | Job relatedness | | No info | Info | No info | Info | No info | Info |
| | (n = 47) | (n = 53) | (n = 47) | (n = 53) | (n = 47) | (n = 53) | (n = 47) | (n = 53) |
| Work samples | | | | | | | | |
| M | 4.97 ^a | 4.92 ^a | 4.32 ^b | 4.33 ^b | 5.23 ^a | 5.46 ^a | | |
| SD | 1.14 | 1.30 | 1.30 | 1.41 | 1.05 | 1.35 | | |
| Biographical information blanks | | | | | | | | |
| M | 4.29 ^b | 4.37 ^b | 3.60 ^{c,d} | 3.61 ^c | 4.85 ^a | 5.08 ^{a,b} | | |
| SD | 1.13 | 1.30 | 1.48 | 1.37 | 1.29 | 1.54 | | |
| Structured interviews | | | | | | | | |
| M | 4.37 ^b | 4.80 ^a | 4.11 ^b | 4.10 ^b | 4.74 ^a | 5.04 ^b | | |
| SD | 1.24 | 1.13 | 1.18 | 1.54 | 1.26 | 1.24 | | |
| Unstructured interviews | | | | | | | | |
| M | 4.52 ^{a,b} | 4.23 ^{b,c} | 3.83 ^{b,c>} | 3.18 ^{c,d} | 4.74 ^a | 4.77 ^{b,c} | | |
| SD | 1.27 | 1.21 | 1.45 | 1.56 | 1.48 | 1.31 | | |
| Personality inventories | | | | | | | | |
| M | 3.82 ^c | 3.77 ^{c,d} | 4.23 ^b | 4.39 ^{a,b} | 4.13 ^b | 4.15 ^d | | |
| SD | 1.15 | 1.18 | 1.67 | 1.56 | 1.45 | 1.53 | | |
| Cognitive ability tests | | | | | | | | |
| M | 4.12 ^{b,c} | 4.23 ^{b,c} | 4.77 ^a | 4.75 ^a | 4.17 ^b | 4.52 ^{c,d} | | |
| SD | 1.31 | 1.51 | 1.39 | 1.43 | 1.52 | 1.60 | | |
| Personal references | | | | | | | | |
| M | 3.79 ^c | 3.49 ^d | 2.85 ^e | 2.82 ^{d,e} | 3.64 ^b | 3.33 ^e | | |
| SD | 1.52 | 1.31 | 1.67 | 1.51 | 1.70 | 1.87 | | |
| Graphology analyses | | | | | | | | |
| M | 2.39 ^d | 1.97 ^e | 3.1 ^{d,e} | 2.63 ^e | 2.38 ^c | 1.88 ^f | | |
| SD | 1.26 | 1.24 | 1.64 | 1.33 | 1.31 | 1.34 | | |

Note: Applicants responded using a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All items were scored so that higher numbers indicated more positive perceptions of the selection procedures. Within columns, means with the same subscript do not differ significantly from each other at $p < .05$. These comparisons were made using Tukey's honestly significant difference test. Across columns, less than or greater than signs indicate that means differ significantly between informed and uninformed applicants at $p < .05$.

conduct a repeated measures MANOVA with test belief as the continuous independent variable (specified as a covariate in the SPSS General Linear Model window) and the three fairness perceptions (overall fairness, scientific value, and job relatedness) as the set of dependent variables. Besides the significant multivariate main effect for selection procedure (already discussed above), a significant multivariate main effect for belief in tests was

also found, $F(3,94) = 6.45$, $\eta^2 = .17$. Univariate analyses further showed that the main effect of belief in tests was significant for overall fairness perceptions ($F(1,96) = 16.75$, $\eta^2 = .15$), job relatedness perceptions ($F(1,96) = 16.66$, $\eta^2 = .15$), and for scientific value perceptions ($F(1,96) = 5.53$, $\eta^2 = .05$).

There was also a significant interaction between test belief and selection procedure, $F(21,76) = 2.22$, $\eta^2 = .38$.

In other words, the effect of test belief on the set of fairness perceptions was not the same across all selection procedures. As can be seen in Table 1, test belief had significant correlations with overall fairness perceptions only for structured interviews ($r = .39, p < .01$), cognitive ability tests ($r = .33, p < .01$), and personality inventories ($r = .21, p < .05$). All of these correlations have a positive sign, illustrating that people who have stronger test beliefs also have higher perceptions. No significant correlations were found for the other selection procedures. Test belief had significant correlations with scientific value perceptions only for cognitive ability tests ($r = .25, p < .05$) and structured interviews ($r = .25, p < .05$). Finally, belief in tests had significant correlations with job relatedness perceptions only for personality inventories ($r = .36, p < .01$), structured interviews ($r = .33, p < .01$), cognitive ability tests ($r = .30, p < .01$), work samples ($r = .29, p < .01$), and unstructured interviews ($r = .21, p < .05$).

The third hypothesis dealt with the effects of comparative anxiety on applicants' overall fairness perceptions. Again, we used the General Linear Model procedure of SPSS 9.0 to conduct a repeated measures MANOVA that was identical to the previous one with the exception that this time comparative anxiety was used as the continuous independent variable (specified as a covariate in the SPSS General Linear Model window). Results did not show a significant multivariate main effect for comparative anxiety, $F(3,94) = 1.40, \eta^2 = .04$. This does not support Hypothesis 3.

Discussion

Main Conclusions

One objective of this study was to examine whether the provision of information about the reliability and validity of selection procedures affects applicants' fairness perceptions. At a practical level, we expected that the provision of information about the reliability and validity of selection procedures prior to the start of the selection process would be a relatively straightforward and inexpensive technique for influencing applicant perceptions. From a conceptual point of view, this expectation was grounded in the broader organizational justice literature (Bies and Shapiro 1988; Greenberg 1990) and in Gilliland's (1993) justice model of selection systems. However, the empirical results of this study show that there was no significant difference between applicants receiving information about the reliability and validity of selection procedures and applicants receiving no such information. The only significant difference found was that applicants rated unstructured interviews significantly less favorably, when they were informed about the moderate reliabilities and validities of unstructured interviews.

There are several explanations for the insignificant effect of pre-test information. First, lack of statistical power may serve as an explanation. However, even with a more liberal significance level, the F statistic was far from statistically significant. In addition, our sample size ($N = 100$) resulted in a statistical power of .70 for detecting main effects, assuming a medium effect size at an alpha level of .05 (Cohen 1988). Hence, we do not think power was a problem here.

A second explanation may be that participants had simply not read the information about reliability and validity. In fact, we did not check whether applicants had read the information. Yet, this explanation does also not seem very likely because the pre-test information was presented in bold and in a box. In addition, although the effects of information were not significant, they were all in the expected direction.

A third and more plausible explanation is that our manipulation was not strong enough. In particular, the information about the 'scientific evidence' (i.e., reliability and validity) may not have been really meaningful to applicants in the sense that they did not really understand what was meant by tests being 'very reliable' and 'able to predict performance'. This explanation echoes findings in the literature about communicating utility information regarding selection procedures to managers. Contrary to earlier studies (Latham and Whyte 1994; Whyte and Latham 1997) that demonstrated that managers had less support for a valid selection procedure when they were given utility analysis information, Carson, Becker and Henderson (2000) discovered that managers had more support for utility analysis information only when it was presented in a less complex and more comprehensible manner. Similar positive results for less complex and more comprehensible information have been found in the broader literature on organizational decision making (Dutton and Ashford 1993; O'Reilly 1983) and persuasion (Petty and Cacioppo 1981).

It is also possible that our manipulation was not strong enough because the information provided was too general. Applicants may have believed the pre-test information to be true in general, but not for the specific job they were applying to. Related to this, one could state that the effectiveness of the pre-test information may have diluted because we provided information for every selection procedure. If applicants had received a more strongly worded positive message regarding a specific selection procedure that set it apart from other selection procedures, perhaps it would have been more likely to catch an applicant's attention and influence his/her perceptions. Along these lines, it should be noted that applicants' general test beliefs and applicants' perceptions about the selection procedures were moderately favorable coming into the selection context. Hence, it is possible that providing relatively 'good' reliability and validity information might have only

confirmed applicants' prior views. Indeed, we found an effect of information only when negative information (e.g., about unstructured interviews) was presented. This would mean that the provision of positive selection information may show stronger effects and gain in importance for organizations as test beliefs become more negative (e.g., for minority candidates, see Ryan 2001).

Another objective of this study was to examine the effects of test-takers' attitudes on fairness perceptions. One of the limitations of prior applicant perception research is that test-takers' attitudes and fairness perceptions have typically been studied independently from each other (Ryan and Ployhart 2000; Schmitt and Chan 1998). Yet, this study indicates that test-taker's attitudes and fairness perceptions should be studied together in future research because they are related. Specifically, in this study, belief in tests positively affects perceptions of overall fairness and job relatedness. Similar to Chan *et al.* (1998), these results indicate that fairness perceptions are a function of applicants' general belief in tests and their initial attitude towards testing. Across fairness perceptions, this is especially the case for structured interviews, personality inventories, and cognitive ability tests. Future research is needed to explore why general belief in tests exerts strong effects on perceptions of these specific selection procedures.

Consistent with previous comparative studies of applicant perceptions (Kravitz *et al.* 1996; Rynes and Connerley 1993; Smither *et al.* 1993; Steiner and Gilliland 1996), this study also reveals that selection procedures differ in terms of overall fairness. Work samples and unstructured interviews receive the most positive ratings, followed by biodata and structured interviews. Cognitive ability tests and personality inventories are in the middle of the group and personal references and graphology analyses obtain negative ratings. The high ratings for work samples and interviews are consistent with previous comparative research (Kravitz *et al.* 1996; Rynes and Connerley 1993; Steiner and Gilliland 1996). Usually, the high ratings for work samples are associated with the perceived job-relatedness of these selection procedures, whereas the high ratings for interviews are typically linked to the interpersonal contact inherent in interviews. The fact that graphology analyses received negative ratings is also consistent with earlier comparative studies (Kravitz *et al.* 1996; Steiner and Gilliland 1996). Other findings are less consistent with prior research. For example, personal references receive lower ratings than in other studies (Kravitz *et al.* 1996; Rynes and Connerley 1993; Steiner and Gilliland 1996). In addition, in this study structured interviews receive generally somewhat higher ratings than unstructured interviews. This is not in line with the majority of prior studies on applicant perceptions of interviews (see Moscoso 2000, for a recent review).

Limitations

The first limitation is related to the fact that this study was conducted in an actual selection context. Because this study involved real applicants, we could only measure reactions to selection procedures prior to the start of the selection process. Researchers have recommended that, besides these so-called pre-test reactions, post-test reactions are also measured (Chan *et al.* 1998; Ryan and Ployhart 2000). In this study, we could only measure pre-test perceptions because the consultancy firm wanted to know applicants' general perceptions regarding various selection procedures, regardless of test performance. The fact that the consultancy firm wanted to keep this study's experimental manipulation (the provision of information about reliability and validity) independent from the actual selection procedure is also understandable in light of possible legal challenges of candidates.

Second, the nature of the pre-test information provided in this study also differed by procedure. As mentioned, the pre-test information was derived from meta-analytic findings and therefore it was more positive for some procedures than for others. Therefore, we were not able to disentangle the effects of information provision (no pre-test information versus pre-test information) from the effects of the kind of information provided (positive versus negative). As already mentioned, it might have been better to provide only positive pre-test information for some procedures. This is also more realistic because it seems unlikely that a company would attempt to influence applicant perceptions by providing anything less than positive information about procedures (e.g., informing applicants that unstructured interviews only have moderate validity and reliability).

Third, we did not control for prior perceptions about the consultancy firm. Therefore, it is possible that applicants' perceptions of the various selection procedures were also influenced by general perceptions of the consultancy firm. Similarly, we did not have information about the kind of administrative jobs that people were applying for. Because Elkins and Phillips (2000) showed that job relatedness perceptions changed as a function of job context, future studies should explore whether the job context moderates the possible effects of the provision of selection information on job relatedness perceptions.

Fourth, the procedural justice dimensions were each measured with a single item. Hence, no information with regard to their reliability is available. We used single item measures for these procedural justice dimensions to keep the task of the respondents feasible. In the current version of the questionnaire, applicants were already asked to fill in several items per selection procedure. For the same reason, earlier comparative studies of applicant

perceptions also used single item measures for the procedural justice dimensions (Kravitz *et al.* 1996; Steiner and Gilliland 1996).

Implications for Practice and Future Research

As far as practical implications, this study demonstrates that the provision of *specific* information (e.g., about the reliability and predictive validity of selection procedures) prior to the selection process does not improve fairness reactions. This does not mean that practitioners should not include positive information about the reliability and predictive validity of selection procedures because it also does not reduce these perceptions.

Because general belief in tests exerted significant effects, it may be an easy and cost-effective strategy for practitioners to positively influence applicants' general attitude towards testing and selection. To this end, more *general* information about the fairness of the whole selection process may be given to applicants. Besides promoting overall fairness perceptions, the provision of such general pre-test information may also reduce applicants' uncertainty, improve their faith in the employer's ability to accurately interpret results, and increase the transparency of the whole selection process. A last advantage of providing general information may be that applicants would be less tempted to engage in legal action. However, it is also possible that the provision of information prior to the selection process intensifies the negative reactions of rejected candidates. Along these lines, Brockner and Wiesenfeld (1996) posited that in case people are confronted with negative outcomes, they will give greater scrutiny to the whole process. In other words, if applicants are rejected, they may use the information against the organization in a legal case. This might be especially the case when the pre-test information provided to applicants is not truthful (e.g., a selection procedure is portrayed as being highly predictive, even though empirical evidence shows the opposite to be true). Future research is needed to provide empirical proof for these possible advantages and disadvantages of the provision of pre-test information to applicants. To this end, research might benefit from relatively recent theoretical insights about how people make sense of procedural fairness (Brockner 2002) and use their fairness impression as a cognitive short cut to determine their future personal and interpersonal decisions (e.g., legal actions) (see fairness heuristic theory, Lind 2001).

Future studies should also examine how the type of pre-test information (e.g., information on the job-relatedness, the scoring procedure, etc.) and the method of information provision (e.g., text, test administrator, video, etc.) affect fairness perceptions. To this end, future studies should continue to use the justice literature as

underlying framework for examining the effects of pre-test information on applicant perceptions. For example, in justice research a distinction is often made between the specificity of information and the sensitivity of information provision (Greenberg 1993; Ployhart *et al.* 1999; Shapiro, Buttner and Barry 1994). These features should be manipulated to determine their effects on applicant perceptions.

Another fruitful direction for future research consists in framing the provision of pre-test information into broader models of social persuasion, belief change, and attitude change (e.g., Carson *et al.* 1998; Highhouse 1996; Morley 1987; Petty and Cacioppo 1981). This social psychology literature on persuasion might be useful to construct ideal methods of presenting pre-test information to applicants. For example, this literature suggests the importance of emphasizing the credibility of the information source when presenting the pre-test information. In addition, the pre-test information provided should be straightforward, short, 'vivid' (e.g., anecdotes, case studies), and comprehensible. Future studies are needed to test the effects of these presentation formats in the context of the provision of pre-test information to candidates. In general, we believe that paying attention to general models of social persuasion and particularly these presentation formats may help to better understand how selection information impacts on applicants' general test beliefs and perceptions.

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Note

1. Although our hypotheses only dealt with the first two procedural fairness dimensions, all seven dimensions measured by Steiner and Gilliland (1996) were included in the questionnaire so that applicants were able to use them as bases for making their overall fairness ratings.

References

- Arvey, R.D. and Sackett, P.R. (1993) Fairness in selection: Current developments and perspectives. In N. Schmitt and W.C. Borman (eds), *Personnel Selection in Organizations*, pp. 171-202. San Francisco: Jossey-Bass.
- Arvey, R.D., Strickland, W., Drauden, G. and Martin, C. (1990)

- Motivational components of test-taking. *Personnel Psychology*, **43**, 695–716.
- Bauer, T.N., Maertz, C.P., Dolen, M.R. and Campion, M.A. (1998) Longitudinal assessment of applicant reactions to employment testing and test outcome feedback. *Journal of Applied Psychology*, **83**, 892–903.
- Bies, R.J. and Shapiro, D.L. (1988) Voice and justification: Their influence on procedural fairness judgments. *Academy of Management Journal*, **31**, 676–685.
- Brockner, J. (2002) Making sense of procedural fairness: How high procedural fairness can reduce or heighten the influence of outcome favorability. *Academy of Management Review*, **27**, 58–76.
- Brockner, J. and Wiesenfeld, B.M. (1996) An integrative framework for explaining reactions to decisions: Interactive effects of outcomes and procedures. *Psychological Bulletin*, **120**, 189–208.
- Carson, K.P., Becker, J.S. and Henderson, J.A. (1998) Is utility really futile? A failure to replicate and an extension. *Journal of Applied Psychology*, **83**, 84–96.
- Chan, D., Schmitt, N., DeShon, R.P., Clause, C.S. and Delbridge, K. (1997) Reactions to cognitive ability tests: The relationships between race, test performance, face validity perceptions, and test-taking motivation. *Journal of Applied Psychology*, **82**, 300–310.
- Chan, D., Schmitt, N., Sacco, J.M. and DeShon, R.P. (1998) Understanding pre-test and posttest reactions to cognitive ability and personality tests. *Journal of Applied Psychology*, **83**, 471–485.
- Cohen, J. (1988) *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Erlbaum.
- Dutton, J.E. and Ashford, S.J. (1993) Selling issues to top management. *Academy of Management Review*, **18**, 397–428.
- Elkins, T.J. and Philips, J.S. (2000) Job context, selection decision outcome, and the perceived fairness of selection tests: Biodata as an illustrative case. *Journal of Applied Psychology*, **85**, 479–484.
- Elsbach, K.D. and Elofson, G. (2000) How the packaging of decision explanations affects perceptions of trustworthiness. *Academy of Management Journal*, **43**, 80–89.
- Gatewood, R.D. and Feild, H.S. (1998) *Human Resource Selection*, 4th edn. Orlando, FL: Dryden Press.
- Gilliland, S.W. (1993) The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, **18**, 694–734.
- Gilliland, S.W. (1994) Effects of procedural and distributive justice on reactions to a selection system. *Journal of Applied Psychology*, **79**, 691–701.
- Greenberg, J. (1990) Organizational justice: Yesterday, today, and tomorrow. *Journal of Management*, **16**, 399–342.
- Greenberg, J. (1993) The social side of fairness: Interpersonal and informational classes of organizational justice. In R. Cropanzano (ed.), *Justice in the Workplace*, pp. 79–103. Hillsdale, NJ: Erlbaum.
- Harris, M.M., Dworkin, J.B. and Park, J. (1990) Preemployment screening procedures: How human resource managers perceive them. *Journal of Business and Psychology*, **4**, 279–292.
- Highhouse, S. (1996) The utility estimate as a communication device: Practical questions and research directions. *Journal of Business and Psychology*, **11**, 152–175.
- Horvath, M., Ryan, A.M. and Stierwalt, S.L. (2000) The influence of explanations for selection test use, outcome favorability, and self-efficacy on test-taker perceptions. *Organizational Behavior and Human Decision Processes*, **83**, 310–330.
- Kravitz, D.A., Stinson, V. and Chavez, T.L. (1996) Evaluations of tests used for making selection and promotion decisions. *International Journal of Selection and Assessment*, **4**, 24–34.
- Latham, G. and Whyte, G. (1994) The futility of utility analysis. *Personnel Psychology*, **47**, 31–46.
- Lind, E.A. (2001) Fairness heuristic theory: Justice judgments as pivotal cognitions in organizational relations. In J. Greenberg and R. Cropanzano (eds), *Advances in Organizational Justice*, pp. 56–88. Stanford, CA: Stanford University Press.
- Macan, T.H., Avedon, M.J., Paese, M. and Smith, D.E. (1994) The effects of applicants' reactions to cognitive ability tests and an assessment center. *Personnel Psychology*, **47**, 715–738.
- Morley, D.D. (1987) Subjective message constructs: A theory of persuasion. *Communication Monographs*, **54**, 183–203.
- Moscoso, S. (2000) Selection interview: A review of validity evidence, adverse impact and applicant reactions. *International Journal of Selection and Assessment*, **8**, 237–247.
- O'Reilly, C.A. (1983) The use of information in organizational decision making. *Research in Organizational Behavior*, **5**, 103–109.
- Petty, R.E. and Cacioppo, J.T. (1981) *Attitudes and Persuasion: Classic and Contemporary Approaches*. Dubuque, IA: William C. Brown Co.
- Ployhart, R.E., Ryan, A.M. and Bennett, M. (1999) Explanations for selection decisions: Applicants' reactions to informational and sensitivity features of explanations. *Journal of Applied Psychology*, **84**, 87–106.
- Ryan, A.M. (2001) Explaining the Black/White test score gap: The role of test perceptions. *Human Performance*, **14**, 45–75.
- Ryan, A.M., McFarland, L., Baron, H. and Page, R. (1999) An international look at selection practices: Nation and culture as explanations for variability in practice. *Personnel Psychology*, **52**, 359–391.
- Ryan, A.M. and Ployhart, R.E. (2000) Applicants' perceptions of selection procedures and decisions: A critical review and agenda for the future. *Journal of Management*, **26**, 565–606.
- Rynes, S.L. and Connerley, M.L. (1993) Applicant reactions to alternative selection procedures. *Journal of Business and Psychology*, **7**, 261–277.
- Schmidt, F.L. and Hunter, J.E. (1998) The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, **124**, 262–274.
- Schmitt, N. and Chan, D. (1998) *Personnel Selection: A Theoretical Approach*. Thousand Oaks, CA: Sage.
- Shapiro, D.L., Buttner, E.H. and Barry, B. (1994) Explanations: What factors enhance their perceived adequacy? *Organizational Behavior and Human Decision Processes*, **58**, 346–368.
- Sitkin, S.B. and Bies, R.J. (1993) Social accounts in conflict situations: Using explanations to manage conflict. *Human Relations*, **46**, 349–370.
- Smither, J.W., Reilly, R.R., Millsap, R.E., Pearlman, K. and Stoffey, R.W. (1993) Applicant reactions to selection procedures. *Personnel Psychology*, **46**, 49–76.
- Steiner, D. and Gilliland, S.W. (1996) Fairness reactions to personnel selection techniques in France and the United States. *Journal of Applied Psychology*, **81**, 134–141.
- Whyte, G. and Latham, G. (1997) The futility of utility analysis revisited: When even an expert fails. *Personnel Psychology*, **50**, 601–610.