Applicant reactions to selection events: interactive effects of fairness, feedback and attributions
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CHAPTER FIVE
APPLICANT TEST-TAKING ATTITUDE AFTER REJECTION:
THE INFLUENCE OF FEEDBACK, FAIRNESS AND ATTRIBUTIONAL STYLE

Feedback and attributions are highly under-researched in the applicant reactions literature. In this paper, the influence of feedback, fairness and attributional style on post-rejection test-taking attitude was investigated in a laboratory setting. Specific feedback about low performance appeared to have a negative influence on rejected individuals’ attitude toward taking selection tests. Further, interaction effects of performance feedback and procedural fairness and three-way interaction effects of these factors with attributional style on test-taking attitude were found. That is, when specific feedback about performance was provided, procedural fairness positively affected post-rejection test-taking attitude. In contrast, when no specific feedback was given, ‘optimistic’ individuals showed higher test-taking attitude if they perceived the procedure as unfair.

Organizations increasingly use tests of aptitude, achievement and personality to evaluate and select the best possible candidates from an applicant pool (Bartram, 2005). Professional ethical standards in many western countries state that, after testing, all applicants should be provided with feedback about their test performance that is as detailed as possible, regardless of whether they are hired or rejected (Bartram, 2001). Despite the longtime existence of these standards, however, the feedback that applicants actually receive about their performance on a test considerably differs over organizations. Importantly, this performance feedback in selection messages may greatly influence reactions, especially in case of a rejection. For example, a message merely stating that one is rejected, versus a message that includes feedback about performance on a selection test may cause highly different reactions.

The sparse selection research that has investigated the effect of the provision of feedback about test performance on applicant reactions shows very variable results. For instance, performance feedback has been found to have a positive

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5 This chapter is identical to Schinkel, Van Vianen and Van Dierendonck (2010b).
influence on process fairness perceptions and on general test perceptions on one hand (e.g., Anseel & Lievens, 2006; Lounsbury, Bobrow, & Jensen, 1989), but a negative influence on rejected applicants’ self-evaluations and well-being on the other (e.g., Schinkel, Van Dierendonk, & Anderson, 2004). Possibly, feedback about test performance affects different types of applicant reactions in different ways.

One applicant reaction that deserves special attention in this regard is an applicant’s attitude toward taking a selection test. First, a favorable attitude toward test-taking has been found to be positively related to test performance (e.g., Arvey, Strickland, Drauden, & Martin, 1990; Chan, Schmitt, DeShon, Clause, & Delbridge, 1997; Sanchez, Truxillo, & Bauer, 2000; Schmit & Ryan, 1992). As such, a decrease in test-taking attitude could impede an applicant’s future test performances, thereby lowering his or her chances of getting a job. Second, differences in test-taking attitude have been demonstrated to explain differential ethnic test performance (e.g., Chan et al., 1997; Ployhart, Ziegert, & McFarland, 2003) and may affect the validity of a selection test (Ployhart & Ehrhart, 2002; Schmit & Ryan, 1992). Improving people’s attitudes toward selection testing may thus reduce adverse impact and increase selection test validity. For these purposes, more insight into factors that may influence test-taking attitude is greatly needed.

Because particularly attitudes of people who are rejected for a job may be harmed, gaining insight into (often disadvantageous) changes in post-rejection test-taking attitude may especially prove valuable. Further, especially a better understanding of factors that are largely under the control of recruitment and hiring professionals will help to reduce decreases in test-taking attitude. One such factor is the feedback applicants receive about their performance on a selection test, often included in the message about a hiring decision. Despite its obvious importance, however, no research that we know of has focused on the relationship between feedback about test performance and individuals’ test-taking attitudes after rejection.

A related question is whether the relationship between performance feedback and test-taking attitude is in turn influenced by other factors. For instance, research has shown that relationships between selection events and applicant reactions often are affected by the extent to which applicants perceive selection procedures as fair, usually termed procedural fairness (e.g., Bauer,
Maertz, Dolen, & Campion, 1998; Bauer et al., 2006; Gilliland, 1994; Ployhart & Ryan, 1997; Smither, Reilly, Millsap, Pearlman, & Stoffey, 1993). Preliminary evidence exists for an interactive effect of feedback and fairness on personal outcomes: when receiving feedback about (substandard) test performance, fairness positively influenced self-evaluations and well-being of study participants, whereas when no specific feedback was provided, participants reporting low fairness perceptions showed higher self-evaluations and well-being (Schinkel et al., 2004; Schinkel, Van Vianen, & Van Dierendonck, 2008). This may well apply to the feedback - test-taking attitude relationship: the extent to which individuals perceive a selection procedure as fair, may alter the effect of performance feedback on their attitude toward taking a subsequent selection test.

Further, Applicant Attribution Reaction Theory (Ployhart & Harold, 2004) proposes that applicants’ reactions to selection are formed by the attributions they make for the causes of all kinds of selection events. Because attributions are largely determined by people’s style of attributing (Abramson, Seligman, & Teasdale, 1978), it may be assumed that attributional style influences the feedback - applicant reactions relationship as well. One tentative study indeed found that feedback, fairness and attributional style interactively influenced rejected individuals’ well-being (Schinkel et al., 2008). To our knowledge, however, the (interactive) influence of procedural fairness perceptions and attributional styles has not been investigated in relation to test-taking attitude. In the current paper we aim to fill these voids by first examining the effect of performance feedback on individuals’ test-taking attitudes in case of rejection. Next, interactive effects of performance feedback and procedural fairness on post-rejection test-taking attitude are investigated. Finally, interactive effects of these two factors and attributional style on attitude are examined.

For several reasons, a hypothetical setting (laboratory experiment) was chosen to investigate these questions. First, given the ethical issues involved with providing rejection messages and performance feedback based on suboptimal performance in an authentic job application situation, prominent selection researchers have advised to design hypothetical settings, especially when preliminary research is conducted (Chan, Schmitt, Jennings, Clause, & Delbridge, 1998a; Ployhart & Ryan, 1998). In addition, examining interaction effects requires
optimal control over conditions, which is best achieved with an experimental design (Gilliland & Chan, 2001; Ryan & Ployhart, 2000). Furthermore, although some applicant reactions have been found to be stronger in hypothetical than in authentic settings (Hausknecht, Day, & Thomas, 2004), previous studies concerning test-taking attitude have demonstrated reasonable correspondence between findings in laboratory and field settings (e.g., Bauer et al., 1998; Bauer et al., 2006; Smither et al., 1993), rendering investigations in a hypothetical environment worthwhile. Finally, several researchers have suggested that attribution theory likewise is an area in which laboratory findings are well applicable to actual settings (Fiske & Taylor, 1991; Weiner, 1986).

In the following sections, we will briefly discuss literature on performance feedback, procedural fairness, and attributional processing in relation to applicant reactions in general, and test-taking attitude in particular.

**Performance Feedback**

Research on applicant reactions to selection feedback typically addresses the influence of the selection outcome, sometimes termed (outcome) feedback (e.g., Bauer et al., 1998; Fletcher, 1991). Further, some attention has been given to the influence of selection information: explanations about selection procedures (Horvath, Ryan, & Stierwalt, 2000), selection outcomes, and the sensitivity with which messages are provided (Ployhart, Ryan, & Bennett, 1999) have all been found to affect people’s reactions.

To our knowledge, few studies exist that have focused on effects of the provision of feedback about test performance, and these have found different results. An early field study (telephone survey) into perceptions of employment testing found that respondents who had been given information about their performance on a selection test reported more favorable test perceptions than those not receiving this information (Lounsbury et al., 1989). Additionally, a recent laboratory study focusing on the effects of provision of informative feedback after personality tests found a positive influence on participants’ process fairness perceptions, but not on organizational perceptions (Anseel & Lievens, 2006). In contrast, two tentative laboratory studies into the effects of provision of feedback after cognitive ability testing found that well-being and self-evaluations of rejected
participants decreased when specific feedback about (substandard) performance was provided (Schinkel et al., 2004; Schinkel et al., 2008).

These different study findings raise some interesting research questions. For instance, are reactions different for selected versus rejected individuals? Do reactions differ over test type, or research settings, or do they depend on the specificity of the feedback? Could feedback differentially affect personal (e.g., self-esteem, well-being, test-taking attitude) versus non-personal (e.g., fairness, organizational perceptions) outcomes? Hence, the effects of feedback that applicants receive about their performance on a test deserve more research attention. Generally, recruiters assume that providing detailed information about performance on a selection test is desirable. They believe, for instance, that feedback about suboptimal test performance enables an applicant to develop a more accurate self-image, and will lead to more realistic career objectives (Bartram, 2001). It should be noted, however, that up to today this assumption has received insufficient research attention, and that the feedback applicants receive after taking a selection test still greatly varies over organizations.

Examining the (dis)advantages of provision of performance feedback in relation to test-taking attitude is important for several reasons. First, people’s performance on a particular test may not always accurately reflect their knowledge, capacities or intelligence, and it may even vary over time and setting. Receiving a performance report including exact scores when one’s performance is lower than it would normally be might unjustly harm an applicant’s beliefs and attitude. Second, organizational research has found that feedback in general has highly variable, instead of merely positive effects (Kluger & DeNisi, 1996). This finding may also apply to (specificity of) feedback about performance on selection tests, especially when provided in rejection messages. Thus, although specific information about one’s performance on a particular test may provide a person with more self-insight, it may also have unintended and unjust (negative) effects on outcomes such as self-perceptions, well-being, and attitude toward test-taking. The (dis)advantages of providing (specific) performance feedback might thus depend on which outcomes are regarded as most important. Despite the importance of these possible effects, studies into the feedback–test-taking attitude relationship are notably lacking.
Because performance feedback may especially influence applicants’ attitudes toward selection tests in case of rejection, we think more research into the influence of feedback specificity on individuals’ test-taking attitudes after rejection is highly needed. The first goal of the present study, therefore, was to investigate whether and how specific feedback about (substandard) test performance influences rejected individuals’ test-taking attitude. Because previous research has shown a negative influence of specific negative performance feedback on several personal outcomes (Schinkel et al., 2004; Schinkel et al., 2008), and test-taking attitude is generally regarded as a personal outcome (Ryan & Ployhart, 2000), we expected this relationship to be negative. We examined the expected relationship in the context of a rejection decision based on (alleged) substandard performance on a cognitive ability test. We hypothesized as follows:

Hypothesis 1a: Performance feedback will negatively influence post-rejection test-taking attitude, such that attitude of rejected individuals receiving more specific feedback about their (substandard) performance will be lower than that of rejected individuals not receiving specific feedback.

In addition to the influence of mere feedback provision, we were interested to know whether the level of performance feedback would affect outcomes. We expected specific feedback about high (but substandard) test performance to result in higher test-taking attitudes of rejected individuals than specific feedback about lower (substandard) test performance, and thus hypothesized as follows:

Hypothesis 1b: Level of performance feedback will positively influence post-rejection test-taking attitude, such that attitude of rejected individuals receiving specific feedback about high (substandard) performance will be higher than that of rejected individuals receiving specific feedback about low (substandard) performance.
For more than a decade, most studies examining applicant reactions to selection have been built on Gilliland’s (1993) Selection Fairness Model (e.g., Bauer et al., 2001; Gilliland, 1994; Ployhart & Ryan, 1997; Ployhart et al., 1999; Schmitt & Gilliland, 1992). This comprehensive theoretical model is composed of a number of procedural and distributive rules that refer to aspects of the fairness of selection procedures and outcomes, as perceived by individuals (Gilliland, 1993). Examples of procedural rules are perceptions of the job-relatedness of selection procedures, consistency of performance administration, honesty of the recruiter and the way in which selection decisions are communicated. Fairness evaluations in general have been demonstrated to positively relate to test-taking attitude (Bauer et al., 2006; Chan et al., 1997).

In a rejection situation, however, a negative influence of fairness perceptions on other personal outcomes has also been found. For instance, a laboratory study in which participants were allegedly rejected or selected for a job demonstrated that perceived job-relatedness of a procedure had a negative impact on self-efficacy for rejected participants (Gilliland, 1994). Preliminary evidence for an interactive effect of performance feedback and procedural fairness also exists (Schinkel et al., 2004). Participants in a laboratory experiment who were allegedly rejected and received more specific (bogus) feedback about their substandard performance reported higher self-evaluations when they perceived the selection procedure as fair. In contrast, participants who were rejected without receiving specific performance feedback reported higher self-evaluations when they regarded their rejection as based on unfair procedures. Similar effects were found for performance feedback and distributive fairness on participants’ post-rejection well-being. That is, when specific performance feedback was provided, fairness positively affected post-rejection well-being, whereas when no specific feedback was provided, participants who perceived the outcome as unfair reported highest well-being (Schinkel et al., 2004; Schinkel et al., 2008).

To our knowledge, interactive effects of performance feedback and perceived procedural fairness up to today have not been investigated for applicants’ attitudes toward selection tests. The second goal of the present study, therefore, was to investigate whether performance feedback interacts with
procedural fairness to influence rejected individuals' test-taking attitude. Because test-taking attitude is generally regarded as a personal outcome (Ryan & Ployhart, 2000), we based our expectations on the previous research findings for the personal outcomes as described above. We, therefore, expected performance feedback and perceived procedural fairness to interactively influence post-rejection test-taking attitudes, with participants who receive specific feedback reporting higher attitude when they perceive the selection procedure as fair, and participants who do not receive specific feedback reporting higher attitude when they perceive the procedure as unfair. We thus hypothesized as follows:

**Hypothesis 2:** Performance feedback and procedural fairness will interactively influence post-rejection test-taking attitude. When specific feedback is received, test-taking attitude will be highest when procedural fairness perceptions are high. When no specific feedback is received, test-taking attitude will be highest when procedural fairness perceptions are low.

Interactive effects of performance feedback and perceived fairness may further depend on the attributions people make. That is, individuals who perceive their rejection as unfair may be making an external attribution, thus keeping their attitude, self-perceptions, and well-being intact. In the next section, possible relationships between individual differences in attributional processing and performance feedback and fairness perceptions will be further discussed.

**Attributions**

Attribution theory proposes that people actively search for the causes of all kinds of events they experience, to make sense of the world around them (Weiner, 1985; 1986). This sense-making in turn influences a variety of expectations, intentions and behaviors. All attributions people make can be categorized into one of three dimensions: (1) locus, concerning the extent to which a certain cause is perceived to be due to factors internal to the person, (2) stability, referring to the extent to which the cause is seen as stable in the future, and (3) controllability, which pertains to the amount of control the individual perceives to have over the particular event. Organizational research has shown that making optimistic
attributions – that is, more internal and stable attributions for positive events and external and unstable attributions for negative events - positively affects job satisfaction, performance and success at work (Proudfoot, Corr, Guest, & Gray, 2001). According to attribution researchers, the attributional process generally occurs quickly and automatically (Forsterling, 2001) and is initiated when a situation is important, negative or unexpected (Wong & Weiner, 1981). In other words, the situation triggers an attributional search, which facilitates the anticipation of future situations (Weiner, 1985). Because for most applicants selection events (e.g., selection interview, selection decision) are highly important and sometimes unexpected, these are likely to elicit attributional processing, particularly when negative.

Recently, Ployhart and Harold (2004) proposed the Applicant Attribution Reaction Theory (AART), stating that people’s affective, cognitive and behavioral reactions to selection are all caused by attributional processing. The focal principle of the theory is that between objective events and the formation of reactions, people actively make attributions for the causes of these events. Further, it has been demonstrated that people differ in their tendencies to make internal, stable and global attributions (e.g., Abramson et al., 1978; Seligman, Abramson, Semmel, & Von Baeyer, 1979). This idiosyncratic way of attributing relates to people’s attitudinal and affective reactions to all kinds of events. Hence, it may well be that individuals evaluate selection events differently, depending on the attributional style they have. In the next section, possible interactive effects of performance feedback, fairness perceptions and attributional style will be discussed.

Feedback, Fairness, and Attributions

To date, the combined effects of fairness perceptions and individual differences in attributional processing have hardly been studied in the applicant reactions area (Chan & Schmitt, 2004; Ployhart & Harold, 2004). An exception is a study conducted by Ployhart and Ryan (1997), investigating the role of attributions in the formation of various reactions to selection. They found several interactions between outcome fairness and attributional dimensions, such as on post-outcome self-efficacy, indicating that attributions may act as moderators for at least some dependent measures. One other study, investigating individuals’ reactions to
rejection, found preliminary evidence for a three-way interaction of feedback, perceived distributive fairness and attributional style on well-being after rejection (Schinkel et al., 2008). That is, when more specific feedback about substandard test performance was provided, distributive fairness positively influenced well-being, regardless of attributional style. In contrast, when no specific performance feedback was given, distributive fairness differently affected well-being of optimistically versus less optimistically attributing individuals, with ‘optimists’ reporting highest post-rejection well-being when they perceived the outcome as unfair.

This finding can plausibly be explained by the fact that optimistic people who perceive a negative selection outcome as based on unfair procedures may attribute this outcome to an external cause. In other words, delineating substandard performance as the reason for rejection may make it less easy for optimists to attribute their rejection to external causes than when no (specific) feedback about performance is provided. Furthermore, information that makes it more difficult to make external attributions may simultaneously stimulate the formation of internal attributions. Thus, specific negative feedback may decrease an optimist’s possibilities to make external attributions, and further encourage a pessimist to make internal attributions. When no (specific) feedback about substandard performance is provided, perceiving the outcome as based on unfair procedures may result in higher personal outcomes.

Because procedural rather than distributive fairness might be open to enhancement by organizations, we were interested in studying the effects of procedural fairness perceptions. Further, as it has been found that the locus dimension of people’s attributions primarily relates to personal outcomes (Weiner, 1986), this was the focal attributional dimension in the present study. The final goal of this study, therefore, was to test whether performance feedback would interact with perceived procedural fairness and attributional style to influence test-taking attitude after rejection. We based our expectations on the previous research findings for post-rejection well-being, and expected similar findings for post-rejection test-taking attitude. We thus expected that, when more specific feedback about substandard test performance is provided, procedural fairness will positively influence test-taking attitude after rejection, but when no specific
feedback is provided, fairness will positively influence attitude of ‘pessimists’ but will negatively influence attitude of ‘optimists’. Based on these expectations, we hypothesized as follows:

_Hypothesis 3:_ Performance feedback, procedural fairness and attributional style will interactively influence post-rejection test-taking attitude. When specific feedback is received, test-taking attitude will be highest when fairness perceptions are high. When no specific feedback is received, test-taking attitude of pessimistic individuals will be highest when fairness perceptions are high, whilst test-taking attitude of optimistic individuals will be highest when fairness perceptions are low.

**Method**

*Participants*

Participants were 112 undergraduate university students who received either course credit or a monetary reward for participating. The sample mainly consisted of Psychology students (70%) and women (75%); participants’ mean age was 21.5 (SD = 3.01).

*Design and Procedure*

In accordance with Gilliland (1993), performance feedback was operationalized as test score (percentile) provision in this study. In order to investigate the influence of specificity and level of performance feedback, a between-subjects design was used, for which three performance feedback conditions were created: unspecific feedback (‘you do not belong to the best 20% performers’); specific, high feedback and specific, low feedback: “Your sum score lies between the 70th and 80th (condition high)/ 50th and 70th (condition low) percentile”, respectively.

Upon entering the laboratory, confidentiality of answers was guaranteed and participants were given an informed consent form. Data were gathered during one examination period. Participants were placed at a personal computer station and were randomly assigned to one of the experimental conditions. First, before the actual experiment, participants’ attributional style (locus dimension) was
measured. Next, participants were asked to imagine being a job applicant, and to read the job vacancy provided on the computer screen. The vacancy description was designed to be attractive to student as well as non-student participants. For that purpose, it concerned a (bogus) part-time job, with opportunities of an internship and full-time employment, at a research and consulting agency.

Participants were asked to take two tests of General Mental Ability, which are commonly perceived as fairly favorable by job applicants (Rynes & Connerley, 1993). The tests were two of the six components of Guilford’s (1971) Structure of Intellect Model, which are as little language- and knowledge-related as possible. The first test, the Conclusions III, is composed of items like “A>B, C>B: what is the relationship between A and C?”. The second, Numerical Series, measures recognizing the ‘system’ in a series of numbers. Participants were told that only the top 20% performers on the GMA-tests (based on an alleged general norm) would be invited for a subsequent selection interview. Upon completing both tests, participants were asked to wait momentarily while the computer would score their responses to both tests, in order to determine if they would be selected for the next step in the selection procedure. While waiting for the test feedback and selection decision participants filled out a second questionnaire about their procedural fairness perceptions.

Next, the computer informed all participants that they would not be invited for the interview, due to their performance on the two tests. The ‘unspecific feedback’ message in this study entailed the message: “The computer has calculated and added your scores on both GMA-tests. Unfortunately, you do not belong to the 20% best performers. Therefore, you will not be invited for an application interview.” Performance of participants in the ‘specific feedback, high’ condition was allegedly rated between the 70th and 80th percentile; performance in the ‘specific feedback, low’ condition between the 50th and 70th percentile. The two respective messages were as follows: “The computer has calculated and added your scores on both GMA-tests. Your sum score lies between the 70th and 80th percentile (condition specific, high)/ 50th and 70th percentile (condition specific, low). Unfortunately, you do not belong to the 20% best performers. Therefore, you will not be invited for an application interview.” After receiving feedback about their test performance and the selection decision, participants were asked to fill out
a third questionnaire, focusing on their test-taking attitude. Finally, all participants were given an extensive debriefing by the computer, which informed them that the performance scores they had received did not reflect their true performance on the tests and was only given for research purposes.

Measures

Demographic variables collected included age, gender and education. Unless otherwise noted, all answers were given on 5-point Likert-scales, such that higher numbers indicate higher agreement/quantity of the attribute.

Attributional style (locus dimension) was measured pre-test with ten hypothetical events (five positive, five negative). Events were adapted from the FSASQ (Proudfoot et al., 2001; based on the original Attributional Style Questionnaire (ASQ), developed by Peterson et al., 1982), to describe situations applicable to students. Participants were asked to rate the extent to which they felt a certain event was attributable to them, with higher scores indicating a more optimistic attributional style (i.e., more inclined to make internal attributions for causes of positive events and external attributions for negative events). An example event is “You receive a high grade for an exam”. Cronbach’s alpha in this study was reasonable (α = .77).

Procedural fairness perceptions were measured with four items from Truxillo, Bauer and Sanchez’s (2001) Selection Procedural Fairness Scale. In most selection studies, procedural fairness is measured after participants have learned the selection outcome. Since people’s procedural fairness perceptions could be altered depending upon the selection outcome, we measured these perceptions directly after testing, but before test score provision. An example item is “These GMA-tests are clearly related to the job that is described in the vacancy”. The reliability of the scale in this study was .78.

Test-taking attitude was measured post-outcome with ten items from the Test-taking Attitude Survey (TAS), developed by Arvey et al. (1990). An example item is “Doing well on these tests is important to me”. Cronbach’s alpha of the scale in the present study was .84.
Results

Preliminary analyses

Means, standard deviations and correlations of the independent variables procedural fairness and attributional style and the dependent variable post-rejection test-taking attitude are shown in Table 5.1. (Note that the independent variables procedural fairness and attributional style are not related: \( r = .09 \ (p = ns) \)).

Means of test-taking attitude per performance feedback condition are shown in Figure 5.1. No outliers were identified on examination of the data; therefore, all participants were retained in the further analyses.

Table 5.1

<table>
<thead>
<tr>
<th>Measures</th>
<th>( M )</th>
<th>( SD )</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procedural fairness</td>
<td>2.04</td>
<td>.70</td>
<td>(.78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Attributional style</td>
<td>3.12</td>
<td>.60</td>
<td>.09</td>
<td>(.77)</td>
<td></td>
</tr>
<tr>
<td>3. Test-taking attitude</td>
<td>3.25</td>
<td>.71</td>
<td>.21*</td>
<td>-.17</td>
<td>(.84)</td>
</tr>
</tbody>
</table>

Notes. Reliability coefficients per measurement appear on the diagonal. * \( p < .05 \) (two-tailed).

Figure 5.1. Test-taking attitude after rejection across performance feedback: Unspecific feedback: \( M = 3.58, SD = .62 \); Specific feedback, high ("70-80 %"): \( M = 3.64, SD = .56 \); and Specific feedback, low ("50-70 %"): \( M = 2.84, SD = .60 \).
Hypothesis testing

Because analyses involved both categorical (performance feedback, dummy coded) as well as ordinal variables (procedural fairness and attributional style), the hypotheses were tested with regression analyses. Demographic variables did not relate to any of the variables, and were not included in the further analyses. For testing Hypotheses 1a and 1b, we performed planned contrast analyses with test-taking attitude as the dependent variable. Two dummy independent variables were created for the three feedback conditions: DUMMY 1 was created to compare the ‘unspecific feedback’ condition against the two ‘specific feedback’ conditions (SPECIFIC, HIGH = ‘1’; SPECIFIC, LOW = ‘1’; UNSPECIFIC = ‘-2’). DUMMY 2 was created to compare the two specific feedback conditions (SPECIFIC, HIGH = ‘1’; SPECIFIC, LOW = ‘-1’; UNSPECIFIC = ‘0’).

Hypothesis 1a predicted that specific performance feedback would negatively influence post-rejection test-taking attitude, such that attitude of rejected individuals receiving specific feedback about their performance would be lower than that of those not receiving specific feedback. Results revealed that specificity of performance feedback indeed had a significantly negative influence on post-rejection test-taking attitude: $F(2, 109) = 24.11, B = -.11, \beta = -.20, R^2 = .31, p < .05$. (See also Table 5.2 for results). This means that Hypothesis 1a was supported.

Hypothesis 1b predicted that post-rejection test-taking attitudes would be higher for rejected individuals who received specific feedback about high (substandard) performance as compared to rejected individuals who received specific feedback about lower (substandard) performance. Results showed that level of performance feedback indeed significantly influenced individuals’ test-taking attitude after rejection: $F(2, 109) = 24.11, B = .40, \beta = .50, R^2 = .31, p = .000$, meaning that feedback about higher (substandard) performance led to higher post-rejection test-taking attitude than feedback about lower performance. (See also Table 5.2 for results). Thus, Hypothesis 1b was likewise supported.
**Table 5.2**

Regression (planned contrast analyses) of test-taking attitude on performance feedback.

<table>
<thead>
<tr>
<th>Test-taking attitude</th>
<th>B</th>
<th>B</th>
<th>R^2</th>
<th>F</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB. CONTRAST DUMMY 1 (SPEC VS. UNSPEC)</td>
<td>-.11</td>
<td>.40</td>
<td>-.20*</td>
<td>24.11***</td>
<td>(2, 109)</td>
</tr>
<tr>
<td>FB. CONTRAST DUMMY 2 (SPEC.H VS SPEC.L)</td>
<td>.40</td>
<td>.50***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The reported statistics are standardized regression coefficients and are for the final equation, including all independent variables. *p < .05, ***p < .001 (two-tailed).

**Hypothesis 2** predicted that performance feedback and procedural fairness would interactively influence post-rejection test-taking attitude, such that when specific feedback is received, test-taking attitude would be highest when procedural fairness perceptions are high, but when no specific feedback is received, test-taking attitude would be highest when procedural fairness perceptions are low. For testing this hypothesis, we created two dummy variables instead of one, because our test of hypothesis 1b had shown that levels of feedback (high vs. low performance) influenced test-taking attitude as well. DUMMY 1 compared the specific, high feedback condition with the unspecific condition (SPECIFIC, HIGH = ‘1’; UNSPECIFIC = ‘0’; SPECIFIC, LOW = ‘0’), and DUMMY 2 compared the specific, low feedback condition with the unspecific condition (SPECIFIC, LOW = ‘1’; UNSPECIFIC = ‘0’; SPECIFIC, HIGH = ‘0’).

Moderated regression analyses with both dummy variables and procedural fairness (Step 1), and the two-way interaction variables (Step 2) as independent, and post-rejection test-taking attitude as the dependent variable were performed. The first step in the analyses showed that only the condition with specific feedback about low performance, and not the condition with specific feedback about high (but substandard) performance, differed significantly from the unspecific feedback condition: $F(3, 108) = 13.87, R^2 = .34, p < .05$; with DUMMY 1: $B = .00, \beta = .00, p = ns$; DUMMY 2: $B = -.74, \beta = -.53, p = .000$. 


Further, two significant interactions of feedback and fairness on post-rejection attitude were found in step 2: $F(5, 106) = 6.33$, $\Delta F = .58$, $R^2 = .37$, $\Delta R^2 = .03$, $p < .05$; with DUMMY 1*FAIR: $B = .51$, $\beta = .26$, $p < .05$; DUMMY 2*FAIR: $B = .54$, $\beta = .27$, $p < .05$), meaning that performance feedback and procedural fairness interactively influenced post-rejection test-taking attitude. (See Table 5.3.) Thus, Hypothesis 2 was supported.

### Table 5.3

<table>
<thead>
<tr>
<th>Test-taking attitude</th>
<th>$B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>$F$</th>
<th>$\Delta F$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
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<td></td>
<td></td>
<td></td>
<td>13.87*</td>
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<td>DUMMY 1 (SPEC.H VS. UNSPEC)</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>DUMMY 2 (SPEC.L VS. UNSPEC)</td>
<td>-0.75</td>
<td>-0.53***</td>
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<tr>
<td>FAIR</td>
<td>0.12</td>
<td>0.12</td>
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<tr>
<td>ATTR</td>
<td>-0.11</td>
<td>-0.09</td>
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<td><strong>Step 2</strong></td>
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<td>0.02</td>
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<td>0.32*</td>
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<tr>
<td>DUMMY 1 x ATTR</td>
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<tr>
<td>DUMMY 2 x FAIR</td>
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<td>0.33*</td>
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<td>DUMMY 2 x ATTR</td>
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<tr>
<td>FAIR x ATTR</td>
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<td>-0.08</td>
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<td><strong>Step 3</strong></td>
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<td></td>
<td>0.42</td>
<td>6.51</td>
<td>4.84**</td>
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<td>0.57**</td>
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<tr>
<td>DUMMY 2 x FAIR x ATTR</td>
<td>1.54</td>
<td>0.58**</td>
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**Notes.** The reported statistics are standardized regression coefficients and are for the final equation. $FB =$ performance feedback; $FAIR =$ procedural fairness; $ATTR =$ attributional style. $Df$ Step 1 $= (4, 107)$; $df$ Step 2 $= (9, 102)$; $df$ Step 3 $= (11, 100)$; total $df$ all steps $= 111$. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed).
Hypothesis 3 predicted that performance feedback, procedural fairness and attributional style would interactively influence post-rejection test-taking attitude, such that when specific feedback is received, test-taking attitude would be highest when procedural fairness perceptions are high. When no specific feedback is received, test-taking attitude of pessimistic individuals would be highest when procedural fairness perceptions are high, whilst for optimistic individuals attitude would be highest when fairness perceptions are low. For testing this hypothesis, the two dummy variables that were created to test hypothesis 2 were again used.

Moderated regression analyses with both dummy variables, procedural fairness and attributional style (Step 1), the two-way interaction variables (Step 2), and the two three-way interaction variables (Step 3) as independent, and post-rejection test-taking attitude as dependent variable were performed. The results of the first two steps were largely the same as those when testing hypothesis 2 (for the final equation see Table 5.3 for more detailed results).

Further, two significant three-way interactions of feedback, fairness and attributional style on post-rejection attitude were found: $F(11, 100) = 6.51, \Delta F = 4.84, R^2 = .42, \Delta R^2 = .06, p < .01$ (with $B = 1.32, \beta = .57, p < .01; B = 1.54, \beta = .58, p < .01$, respectively). As can be seen in Figure 5.2, procedural fairness generally had a positive or neutral effect on test-taking attitude. When no specific feedback was provided, however, fairness differently affected individuals with a pessimistic attributional style than those with an optimistic style. That is, people with an optimistic attributional style reported highest test-taking attitude when they perceived the procedure as unfair. Thus, Hypothesis 3 was also supported.
Figure 5.2. Post-rejection test-taking attitude across performance feedback (Unspecific; Specific, high: “70-80%”; and Specific, low: “50-70%”), attributional style (locus dimension, optimistic vs. pessimistic) and perceived procedural fairness (high vs. low). (Figure based on +/- 1 SD of independent variables.)
Discussion

Despite growing research attention for applicant reactions to all kinds of selection events, knowledge of the impact of performance feedback on test-taking attitude is still notably lacking (Ryan & Ployhart, 2000). Moreover, few researchers to date have investigated the combined influence of fairness and attributional processing in the formation of applicant reactions (Chan & Schmitt, 2004; Ryan, 2001). The study described in this paper sought to address these gaps by integrating findings on explanations in selection with the often investigated selection fairness theory and with attribution theory. Results largely supported the hypothesized effects.

The first goal of the experiment was to investigate the influence of performance feedback on a rejected individual’s test-taking attitude, by means of experimental manipulation. As hypothesized, a negative effect of performance feedback on test-taking attitude after rejection was found. This finding is in line with a previous finding that specific feedback about substandard performance negatively influenced self-evaluations and well-being (Schinkel et al., 2004; Schinkel et al., 2008). Additionally, results revealed that the level of performance feedback differentially affected test-taking attitude: as may be expected, individuals receiving a rejection message including feedback with high (but still substandard) performance scores reported higher test-taking attitude than those receiving feedback with low (and substandard) scores. Specifically, only attitude of participants receiving feedback with low scores significantly differed from those who did not receive specific feedback: surprisingly, participants who received specific, high performance feedback and those not receiving specific feedback showed similar post-rejection attitudes toward testing.

Second, we investigated whether the performance feedback - test-taking attitude relationship after rejection was influenced by perceived procedural fairness. An interactive effect of these two factors was indeed found: participants who received specific feedback about their (substandard) test performance reported higher attitude toward test-taking when they perceived the procedure as fair. In contrast, participants who did not receive specific performance feedback showed higher test-taking attitude when they perceived the procedure as unfair.
Finally, we expected individuals’ attributional styles to further influence the feedback – test-taking attitude relationship: a three-way interaction of performance feedback, perceived procedural fairness and attributional style on post-rejection attitude was hypothesized. It was found that, when no specific feedback was provided, procedural fairness differently affected individuals with a pessimistic versus those with an optimistic attributional style. That is, without specific feedback being given, ‘optimistic’ individuals reported highest test-taking attitude when they perceived the procedure as unfair. In contrast to earlier research findings (Bauer et al., 2006; Chan et al., 1997), the direct relationship between procedural fairness and test-taking attitude after rejection in the present study was non-significant. When taking a closer look, however, it becomes clear that procedural fairness did relate to post-rejection test-taking attitude, but only under certain conditions. As described above, the effect of fairness on post-rejection test-taking attitude was positive or neutral in most situations, and neutral in some (e.g., for pessimists who received specific, low feedback). Importantly, one exception to the generally positive influence of fairness on attitude was found. That is, optimistic individuals who did not receive specific feedback reported lowest attitude when they thought the procedure was fair, and highest attitude when they perceived the procedure as unfair.

This finding can plausibly be explained by the occurrence of a self-serving bias. Generally, people are less likely to claim responsibility for their failures than for their successes. This self-serving bias will particularly occur after individuals have received a negative selection outcome (Ployhart & Harold, 2004). It has been found, for instance, that people who are selected attribute the decision to more internal factors, whereas those who are rejected report more external causes (Ryan & Ployhart, 2000). In addition, individuals who are hired by an organization generally perceive the procedure and organization as fair, whilst those who are rejected arrive at the opposite conclusion. That is, procedures and outcomes that are perceived as fair are the ones that are favorable to the individual (Ryan & Ployhart, 2000). Thus, in keeping their self-perceptions intact, rejected individuals seem to lower their perceptions of the organization or the procedure that preceded the decision. Moreover, self-serving reasoning after rejection will more easily take place when no feedback about performance is provided, rather than when specific
scores are included in the rejection message. This may particularly be true for those individuals who generally tend to make optimistic attributions, that is, who generally attribute positive events to internal causes and negative events externally. Our results indeed show that individuals with an optimistic attributional style who had reported to perceive the procedure as unfair before learning of the outcome, may have kept their attitude high by attributing the negative feedback they received to an external cause (e.g., to the unfair procedure itself, or to some other cause). Individuals with an optimistic style who had reported to perceive the procedure as fair, in contrast, seemingly were unable to make such external attributions for its negative nature.

Note that procedural fairness perceptions in this study were measured directly after testing, but before the outcome were known. This means it is impossible that the moderating differential effects of attributional style on test-taking attitude were caused by altered procedural fairness perceptions (due to selection outcome).

Limitations

Several potential limitations of the present study should be noted. The most important one concerns the generalizability of the study findings. It is unclear whether the findings in the laboratory setting, with mainly university students tested, are true for actual job applicants. Several reasons for studying relationships with test-taking attitude in the present study in a laboratory setting existed. First, it is extremely difficult to investigate interaction effects without experimental control over conditions (Gilliland & Chan, 2001; Ryan & Ployhart, 2000). Manipulation of study variables (performance feedback, in the present study) in actual application settings is less likely to be possible and may even be unethical (Chan et al., 1998a; Ployhart & Ryan, 1998). Furthermore, although it has been found that some applicant reactions are stronger in hypothetical than in authentic settings (Hausknecht, Day, & Thomas, 2004) previous studies concerning test-taking attitude demonstrated reasonable correspondence between findings in laboratory and field settings (Bauer et al., 1998; Bauer et al., 2006; Smither et al., 1993). Finally, several researchers have suggested that attribution theory likewise is an area in which laboratory findings are well applicable to actual settings (Fiske & Taylor,
Further, studying interactive effects such as the ones in the present study requires large sample sizes. The sample size of the present study was rather small and requires caution in interpreting results. Although the effects sizes were fairly substantial, large scale replications are needed to be able to draw firmer conclusions. Finally, a limitation of the present study may be that test-taking attitude is only measured post-outcome. Hence, we were not able to control for pre-test attitude and draw causal conclusions about all variables studied. Yet, there were two reasons for using the current design. First, there are no a priori reasons to believe that participants in the three conditions would differ regarding their pre-test test-taking attitude. Second, a pre-test measurement could have influenced subsequent test performance and could have caused testing effects (see also Ployhart et al., 2003, among others). Experimental as well as longitudinal research with several months between measurements at minimum is needed to gain more insight into the longer-term effects of performance feedback on applicants’ attitudinal reactions.

**Implications**

The study in this paper provides several theoretical as well as practical implications. First, researchers and practitioners should strive to optimize the way in which people are tested for selection. Improved information about selection procedures and decisions, and perceived procedure fairness may lead to better attitudes to take subsequent tests, thus increasing future test performance and test validity, and decreasing adverse impact.

Further, future research should investigate rejected as well as selected individuals’ reactions to feedback about substandard test performance. Also, reactions to performance feedback may well vary over selection test type (e.g., GMA-tests, personality tests) and selection method (e.g., assessments, interviews). More specifically, a selection decision or explanation following ‘maximum’ performance methods (e.g., GMA-tests) could lead to different attributions than those based on ‘typical’ performance methods (e.g., personality tests). Therefore, studies in which the effects of explanations and attributional processing are integrated should be extended to other selection methods (including online versus more traditional methods). Possible differential effects on other personal outcomes,
such as well-being and self-evaluations, versus non-personal outcomes, such as employer attractiveness and people’s intentions to recommend or purchase the organization’s products or services, should also be investigated (see also Chan & Schmitt, 2004).

In addition, the other two dimensions in attribution theory, stability and controllability, deserve more research attention in the applicant reactions area. Attributing a negative selection decision to an internal but unstable cause (e.g., substandard performance on a test due to lack of preparation), for instance, might render very different results than attribution to an internal and stable cause (e.g., substandard performance due to low ability). As early as 1981, Herriot suggested more research into attributional biases made by professional selection interviewers be conducted. We think this need for research applies just as much to attributional processing by job applicants.

Finally, the finding that feedback about substandard performance influences individuals’ reactions to rejection has implications for both selection researchers and practitioners. If mere provision of substandard test scores can cause severe decreases in people’s test-taking attitude, HRM-specialists should clearly ruminate on their selection explanations policy. Furthermore, prudence should be exercised in professional standards when prescribing provision of feedback that is as detailed as possible. The choice for feedback provision should thus depend on what outcomes are most important.