

## Using pre-test explanations to improve test-taker reactions: Testing a set of “wise” interventions



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### ABSTRACT

The present research tested a set of “wise” interventions (Walton, 2014) designed to improve employee reactions to assessment tests. Drawing upon theories of test-taking reactions, fairness, and social exchange, we generated and pilot-tested pre-test explanations to facilitate positive reactions to the assessments. Across two experimental studies of working adults, we tested a control condition and four experimental groups: (1) an informational fairness condition, (2) a social fairness condition, (3) an uncertainty reduction condition, and (4) a combined condition. In the first study, 256 retail employees were randomly assigned to one of the pre-test explanation conditions before completing a work sample test. Findings indicated higher perceptions of fairness for test-takers in the combined explanation group. In addition, the effects of the test explanations depended upon two contextual variables: test-takers' level of perceived organizational support and the quality of leader-member exchange relationships with their supervisors. In the second study, the mechanisms underlying pre-test explanations were examined using an online sample of 269 working adults. Consistent with our conceptual framework, findings demonstrated that pre-test explanations had direct effects on transparency, respect, and reassurance. Taken together, these findings have implications for understanding the effects of pre-test explanations in organizational settings as well as the boundary conditions for their use.

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Organizations use assessments for a variety of purposes, including applicant selection, employee development, internal promotions, and the evaluation of training outcomes (Guion, 2011). Although the use of job-related assessments offers a number of potential benefits to organizations, research suggests that the applicants and employees who complete assessments do not always see their benefits and can react negatively to assessments or assessment processes. For example, negative test-taker reactions, which include lower levels of perceived fairness, lower levels of test-motivation, and higher levels of test-anxiety, have been found to have meaningful effects on attitudes, intention, and behaviors (McCarthy et al., 2017). Specifically, meta-analytic findings reveal that test-taker reactions are related to organizational attractiveness, intentions to accept the job, and intentions to rec-

ommend the job to others (Chapman, Uggerslev, Carroll, Piasentin, & Jones, 2005; Hausknecht, Day, & Thomas, 2004; Uggerslev, Fassina, & Kraichy, 2012). Going further, evidence demonstrates that test-taker reactions can affect actual behaviors, including test performance (see Hausknecht et al., 2004; McCarthy et al., 2013; Oostrom, Bos-Broekema, Serlie, Born, & van der Molen, 2012), job offer acceptances (Harold, Holtz, Griepentrog, Brewer, & Marsh, 2016; Konradt, Garbers, Weber, Erdogan, & Bauer, 2017), and even job performance (e.g., Konradt et al., 2017; McCarthy et al., 2013). When benchmarked against other research in the field of OBHR, most of the aforementioned findings are medium to large in magnitude (Bosco, Aguinis, Singh, Field, & Pierce, 2015), which suggests that they have significant implications for test design and administration.

Such findings have led researchers to call for studies that explore techniques for improving how applicants and employees react to assessments (e.g., Ford, Truxillo, & Bauer 2009; Ryan & Huth, 2008; Truxillo, Bauer, Campion, & Paronto, 2002). For

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example, Ryan and Huth (2008) noted that test-taker reactions research has not been specific enough to be of practical value for organizations. They emphasized the importance of research that focuses on realistic ways that organizations can enhance test-taker reactions. Despite these calls, there remains a dearth of research on practical, actionable techniques for improving reactions. Indeed, most research on test-taker reactions has focused on why or how test perceptions manifest, or on their downstream consequences (Hausknecht et al., 2004; Ryan & Huth, 2008; Saks, 2005), rather than on strategies for how to elicit positive reactions.

One way to begin to address this gap is to develop interventions that attempt to improve applicant and employee reactions to assessments. The term 'organizational intervention' often conjures images of extensive, time-consuming, and costly procedures, such as major corporate restructuring (e.g., Datta, Guthrie, Basuil, & Pandey, 2010), large-scale cultural changes (e.g., Cameron & Quinn, 2011), and job redesign (e.g., Campion & McClelland, 1991). However, recent findings suggest that smaller, more targeted interventions can also yield substantial benefits. Conversely, the concept of *wise interventions* (Walton, 2014) focuses on modifications that are relatively ordinary, brief, and precise. Further, they are grounded in psychological theories and are designed to alter the way that people think or feel. This is accomplished by developing techniques that influence attitudes and behaviors. The resulting wise interventions are used to modify psychological processes in real-world settings. According to this perspective, the efficacy of an intervention should first be tested in a controlled laboratory setting, and then in the field (Walton, 2014). According to Walton, if these tests are successful, the interventions should then be put into practice.

Examples of wise interventions include a study by Bryan, Walton, Rogers, and Dweck (2011) in which the researchers modified the grammatical structure of survey items given to voters prior to an election. Results indicated that subtle changes in linguistic cues resulted in an 11% increase in voter turnout. In another example, Harackiewicz, Rozek, Hulleman, and Hyde (2012) examined course enrollment levels among high-school students and found that a simple intervention highlighting the value of specific courses to parents significantly increased student enrollment.

Given that there are well-developed models of test-taker reactions that are based on robust psychological theories (e.g., Arvey & Sackett, 1993; Gilliland, 1993; Schuler, 1993), and given that many of the predictions based on models of test-taker reactions have been tested in laboratory environments (for examples see Hausknecht et al., 2004), wise interventions would seem to be a viable approach to improving the reactions of test-takers. Thus, in the present study, we draw upon relevant theories and empirical findings to develop pre-test explanations to improve test-taker reactions to assessment tests. Consistent with Walton's (2014) conceptualization of wise interventions, the pre-test explanations we developed are ordinary (i.e., they were not unconventional techniques), brief (i.e., they were relatively short in duration), and precise (i.e., they were targeted at a specific change).

We start by developing a conceptual framework that delineates how our set of interventions can influence test-taker reactions. We then test our interventions across two samples of working adults. The purpose of Study 1 was to assess whether pre-test interventions affect test-taker reactions to a work sample test they took as part of a concurrent validation process. In line with Walton's model, we also considered the context in which our interventions were applied by examining whether reactions to the testing process depend on test-takers existing relationships with the organization. More specifically, we explored the potential role of perceived organizational support (POS) and leader-member exchange (LMX) as boundary conditions that may be associated with employee reactions to assessments. Study 2 was designed

to test the potential mechanisms that underlie the effects of our pre-test explanations.

Our research contributes to the test-taker reactions literature in several ways. First, we draw attention to how interventions can be used to affect test-taker reactions. This is important, as the bulk of past research has focused on how test-taker reactions relate to organizational attitudes and intentions (Hausknecht et al., 2004), or on post-test explanations (Truxillo, Bodner, Bertolino, Bauer, & Yonce, 2009). We focus on how to prevent negative reactions from occurring in the first place through the use of strategic pre-test explanations. Second, we contribute to applicant reactions theory by integrating prior work on test-taker reactions with fairness heuristic theory (Lind, 2001; Van den Bos, 2001), which provides a conceptual basis for understanding how employee judgments of the testing process are formed. We further contribute to theory by showing how the concept of wise interventions applies to research in the realm of fairness. Third, we extend the applicant reactions literature by considering the importance of pre-test explanations from the perspective of current employees, as opposed to job applicants. This extension is important, as organizations regularly use assessments to evaluate current employees for training, development, and promotion processes. Finally, we examine mechanisms (transparency, respect, reassurance) that may underlie the effects of pre-test explanations, as well as potential boundary conditions (POS, LMX) of relations between explanations and test-taking reactions.

## 1. A conceptual framework for understanding test-taker reactions

Our conceptual framework is summarized in Table 1 and draws on fairness heuristic theory (Lind, 2001; Lind & Van den Bos, 2002), which asserts that people use impressions of fairness as a heuristic to determine how to approach uncertain situations, including test-taking scenarios (Truxillo, Steiner, & Gilliland, 2004). According to the theory, people judge procedures as more fair when they are derived from authority figures within a group because such procedures communicate whether they are valued and respected group members (Lind, 2001). This highlights the importance of ensuring that any assessments given to current employees are perceived as fair. The theory also holds that perceptions of fairness are most strongly influenced by information that is available early in an event, as opposed to information provided later in an event. Empirical findings strongly support this primacy effect (Lind, Kray, & Thompson, 2001; Van den bos, Vermunt, & Wilke, 1997). Thus, pre-test explanations are well positioned to influence how employees react to testing.

Our framework also draws from theory and research indicating that the formation of heuristics is dependent on the information that is currently available to employees (Van den Bos, Lind, Vermunt, & Wilke, 1997). As such, internal test-takers are likely to interpret testing procedures in light of their own context within the organization. Thus, we also examined the social context in which assessments are completed. Although social context has been firmly situated in theoretical models of test-taker reactions (e.g., Ford et al., 2009; Hausknecht et al., 2004; Truxillo et al., 2004), only a limited number of empirical studies have focused on context (for exceptions see Macan, Avedon, Paese, & Smith, 1994; Thorsteinson & Ryan, 1997). Context is particularly important when organizations administer assessments to existing employees for promotion, development, or validation purposes. This is because, in contrast to external job applicants, internal test-takers are already embedded within the organizational context (Ford et al., 2009). Thus, social context is a core component of our framework, and we suggest that the social exchange that

**Table 1**  
Conceptual framework for the use of wise pre-test interventions in testing contexts: a fairness heuristic perspective.

Specific Purposes of Explanations	Type of Explanation		
	Informational Fairness (focus on transparency)	Social Fairness (focus on respect)	Uncertainty Reduction (focus on reassurance)
Description of Organizational intent	Ensuring that test-takers are provided with relevant information about the test and the test process	Ensuring that test-takers are treated with appreciation during the test process	Reducing the uncertainty surrounding the test and the test process
Intervention Instructions <sup>a</sup>	The assessment that you are about to take has been designed to assess the skills required for your job. It was developed based on extensive research, and will provide information that will be used to improve the way [x] hires employees. Previous research in the company has shown that the assessment substantially reduces errors. Thus, your participation will help to improve organizational effectiveness	Thank you for agreeing to take part in this assessment process. We know that your time is valuable, and we really appreciate your help. The continued success of this organization is a result of employees like you, and we appreciate the time and effort you are putting into this. Thank you sincerely for your help	Rest assured that the assessment you are about to take requires you to complete tasks that are familiar to you. It is called a job simulation because it simulates the actual work you do. As such, the assessment merely asks you to perform a task that you do every day. Do not worry about the assessment
Relevant Theories Core Proposition(s)	Theories of Informational Justice <ul style="list-style-type: none"> <li>The provision of information increases the clarity, or transparency, of the test process which increases fairness perceptions and test-taker motivation (Gilliland, 1993; Leventhal, 1980; Ployhart et al., 2003), and decreases test-taker anxiety (Arvey &amp; Sackett, 1993; Schuler, 1993)</li> </ul>	Theories of Interpersonal Justice <ul style="list-style-type: none"> <li>Treating test-takers with warmth and appreciation increases feelings of respect and leads to higher perceptions of fairness and motivation (Bies &amp; Moag, 1986; Chapman et al., 2005; Colquitt, Conlon, Wesson, Porter, &amp; Ng, 2001); and decreases test-taker anxiety (Carless and Imber, 2007; De Cremer and van Hiel, 2006)</li> </ul>	Theories of Anxiety and Stress <ul style="list-style-type: none"> <li>Reducing test uncertainty provides reassurance and decreases test-taker anxiety (Grenier and Ladouceur, 2004; Ladouceur et al., 2000).</li> <li>Reducing test uncertainty enhances test-transparency, which increases fairness perceptions and enhances test-taker motivation (Schuler, 1993; Truxillo et al., 2009)</li> </ul>
Predictions	Positively related to test fairness and test-taker motivation; negatively related to test-taker anxiety. These predictions will hold while controlling for test and job performance	Positively related to test fairness and test-taker motivation; negatively related to test-taker anxiety. These predictions will hold while controlling for test and job performance	Negatively related to test-taker anxiety; positively related to test fairness and test-taker motivation. These predictions will hold while controlling for test and job performance
Boundary Conditions	This possibility is more likely when: <ul style="list-style-type: none"> <li>(a) Test-takers have high perceived organizational support</li> <li>(b) Test-takers have high leader-member exchange</li> </ul>	This possibility is more likely when: <ul style="list-style-type: none"> <li>(a) Test-takers have high perceived organizational support</li> <li>(b) Test-takers have high leader-member exchange</li> </ul>	This possibility is more likely when: <ul style="list-style-type: none"> <li>(a) Test-takers have high perceived organizational support</li> <li>(b) Test-takers have high leader-member exchange</li> </ul>

<sup>a</sup> Note. The combined condition included the exact text from each of the three individual conditions.

occurs between employees and their leaders (e.g., LMX), and between employees and other organizational members (e.g., POS) may influence the test reactions of existing employees.

Finally, the model acknowledges the role of performance when considering test-taker reactions. On one hand, test performance tends to be a key driver of candidate reactions (Bauer, Maertz, Dolen, & Campion, 1998; Chan, Schmitt, Jennings, Clause, & Delbridge, 1998). At the same time, several studies have found that applicant reactions influence subsequent test performance (Chan, 1997; McCarthy, Hrabluik, & Jelley, 2009), as well as performance on the job (e.g., Konradt et al., 2017; McCarthy et al., 2013). For this reason, our conceptual framework positions test performance and job performance as control variables.

## 2. Types of test explanations

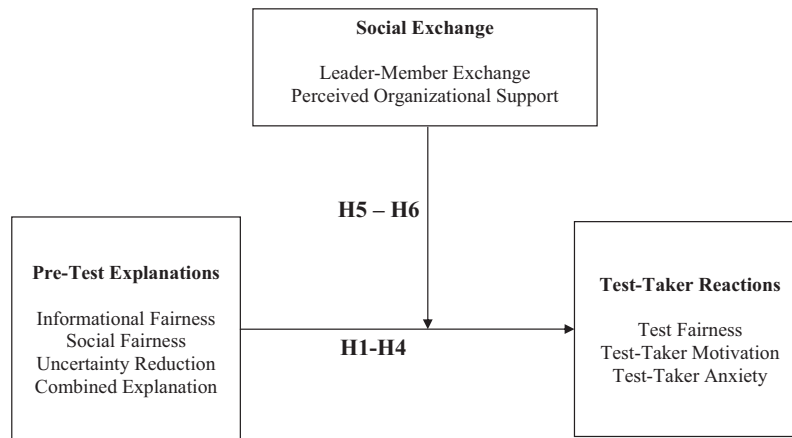
A central technique for facilitating perceptions of fairness is the provision of explanations (Greenberg, 1990). In the realm of test-taker reactions, such explanations can occur either before or after the test outcome has been determined (Gilliland, 1993). The predominant focus in the existing literature has been on the effects of *post-test* explanations. Such explanations are based on fairness theory (Folger & Cropanzano, 1998) and provide test-takers with information on why they were rejected. Organizations can decide to explain the outcome in the form of a justification (e.g., “the procedure was job related”) or an excuse (e.g., “the candidate pool was extremely strong”) (Shaw, Wild, & Colquitt, 2003; Truxillo et al., 2009). Meta-analytic findings indicate that both justifications and excuses have a significant positive effect on applicant perceptions, and that this effect holds regardless of the selection outcome (Truxillo et al., 2009).

In contrast, the present study focuses on *pre-test* explanations. Further, our research focused on attitudes and behaviors of exist-

ing employees who, for example, complete assessments used to facilitate both hiring and promotion decisions. We delineate three critical types of explanations derived from organizational justice theory: (1) informational fairness explanations, which focus on providing information about the test and the test process; (2) social fairness explanations, which focus on treating test-takers with appreciation and respect; and (3) uncertainty reduction explanations, which focus on providing support and reassurance to test-takers. The first two categories are in line with work by Bauer et al. (2001), who found that Gilliland's (1993) justice rules cluster into two higher-order dimensions – structure fairness and social fairness. The third category is derived from work by Arvey and Sackett (1993) and Lievens, De Corte, and Brysse (2003), who proposed that reducing test-taker uncertainty may help improve test reactions. Drawing from our conceptual framework (see Table 1 and Fig. 1), we propose that each of the three types of explanations will have significant effects on perceptions of test fairness, test motivation, and test anxiety.

### 2.1. Informational fairness explanations

Within the selection context, informational fairness involves providing test-takers with information about the test and the testing process. It includes whether the organization clearly communicates that legitimate and high-quality practices are being used (Sanders & Boivie, 2004). The underlying premise is that the provision of information serves to increase the transparency of the test process, which, in turn, enhances perceptions of test-taker fairness and motivation (Gilliland, 1993; Leventhal, 1980; Ployhart, Ziegert, & McFarland, 2003). Increasing test transparency also serves to heighten feelings of certainty and reduces test-taker anxiety (Arvey & Sackett, 1993; Schuler, 1993).



**Fig. 1.** Conceptual model of the relations between pre-test explanations and test-taker reactions, and the moderating role of social exchange.

Several studies have examined the effects of informational fairness explanations. Although some have failed to find effects (Gilliland, 1994; Harland, Rauzi, & Biasotto, 1995; Lievens et al., 2003), others indicate that the provision of pre-test information has a significant influence on perceptions of test fairness. For example, Horvath, Ryan, and Stierwalt (2000) manipulated the information that test-takers received and found that informing participants that the test was job-related resulted in higher levels of perceived fairness. Importantly, this effect held both before and after participants were informed of their actual test outcome. Holtz, Ployhart, and Dominguez (2005) also conducted a lab experiment and found that participants who were informed about the job relevance of the test exhibited higher levels of perceived fairness than participants who were not provided with pre-test information. Truxillo et al. (2002) were among the first to examine the effects of pre-test explanations in a field experiment. Their findings indicated that providing explanations about (a) the job-relevance of the test, (b) the opportunity to perform, and (c) the scoring procedure resulted in higher perceptions of structure fairness.

By increasing perceptions of fairness, pre-test explanations also serve to motivate test-takers because they will feel that the test will be a good reflection of their abilities. In support of this proposition, empirical findings suggest a positive relation between test fairness and test-taker motivation (e.g., Bauer et al., 2006; McCarthy & Goffin, 2004; Sanchez, Truxillo, & Bauer, 2000). Finally, informational fairness is also expected to heighten feelings of certainty, and in doing so reduce levels of test-taker anxiety. In support of this proposition, Walker et al. (2013) found that informational fairness was related to uncertainty reduction. This leads to our first hypothesis:

**Hypothesis 1.** An informational fairness explanation will be positively related to (a) perceived test fairness and (b) test-taker motivation, but negatively related to (c) test-taker anxiety.

## 2.2. Social fairness explanations

Social fairness focuses on the manner in which test-takers are treated and can influence judgments about cooperative organizational behavior. It is directly aligned with fairness heuristic theory (Lind, 2001), which considers how individuals make fairness judgments in situations characterized by insufficient information, such as personnel selection scenarios. Further, fairness heuristic theory asserts that 'relational' fairness, or treating individuals with warmth and appreciation, is a critical component of fairness that

serves as a direct sign of respect (Lind, 2001; Van den bos, Lind, & Wilke, 2001). In line with this theory, research has found that treating test-takers with warmth serves to heighten levels of organizational trust (Klotz, Da, Buckley, & Gavin, 2013). Evidence also indicates that individuals are quick to perceive information pertaining to interpersonal respect and warmth (Uhlmann, Pizarro, & Diermeier, 2015). This is particularly true in selection and promotional contexts where two parties (i.e., the candidate and the organization) with partly divergent interests interact (Bangerter, Roulin, & König, 2012). Thus, treating test-takers with warmth and appreciation signals respect and informs them about the cooperative behavior of the organization (Turban, 2001; Turban, Forret, & Hendrickson, 1998).

Although research has yet to examine a social fairness explanation as a test-taker intervention, studies have found that social fairness and related constructs can affect test-taker perceptions. For example, Gilliland et al. (2001) examined applicant reactions to rejection letters and found that applicant perceptions of interpersonal treatment were higher when explanations for the rejection were provided. Further, meta-analytic reviews indicate that recruiter personableness, informativeness, and trustworthiness are positively related to organizational attractiveness and job acceptance intentions (Chapman et al., 2005; Uggerslev et al., 2012). This finding has been extended to recruitment websites, such that personable messages have been shown to have a positive relation with job application intentions (Thoms, Chinn, Goodrich, & Howard, 2004). We anticipate similar findings when employees, as opposed to applicants, are considered. In fact, the reactions of internal candidates may be even more pronounced than those of job applicants because employees are already part of the organization and may have higher expectations for fair treatment (Ford et al., 2009).

There is also reason to believe that social fairness will increase test-taker motivation and decrease test-taker anxiety. Indeed, prior research on rudeness suggests that displays of incivility often induce negative affectivity (e.g., De Cremer & van Hiel, 2006; Porath & Erez, 2009). Thus, it may be the case that displays of civility from the organization (i.e., appreciation and respect) induce positive affective states. Similarly, in the context of employment tests, displays of warmth may elicit a positive reaction from the test-taker, resulting in higher levels of motivation and lower levels of anxiety. In support of this possibility, Carless and Imber (2007) found that recruiter warmth was negatively related to applicant anxiety and positively related to organizational attractiveness. Along a similar line, several studies have found that displays of positive affect can decrease anxiety levels (e.g., Gekopf & Kreitler, 1996; Newman & Stone, 1996). Again, these relations

are expected to hold, or even increase, when employees, as opposed to applicants, are considered.

**Hypothesis 2.** A social fairness explanation will be positively related to (a) perceived test fairness and (b) test-taker motivation, but negatively related to (c) test-taker anxiety.

### 2.3. Uncertainty reduction explanations

This type of explanation emphasizes the reduction of test-taker worry prior to testing (Grenier & Ladouceur, 2004; Ladouceur, Gosselin, & Dugas, 2000). This is important, as in line with fairness heuristic theory, people are driven by a need to reduce uncertainty when little information is available to them, such as when applying for a job (Lind & Van den Bos, 2002). The underlying premise is that reassuring candidates that there is no need to be concerned about the test process will increase feelings of control and help prevent worrisome thoughts. This kind of reassurance sends a message about the organization's commitment to the well-being of test-takers. This is particularly relevant for internal job candidates, as they often remain in the firm regardless of the promotional outcome. Indeed, the provision of reassurance has been found to be important in reducing anxiety (Barlow, 2014) and increasing feelings of control (Ford et al., 2009). As mentioned earlier, uncertainty reduction has also been related to organizational attraction (Walker et al., 2013).

In the current context, uncertainty reduction can be achieved through pre-test explanations that offer reassuring information to increase test-taker feelings of certainty and control. Previous studies have examined a variety of interventions to reduce test-taker anxiety, which fall into four broad categories: (a) behavioral approaches, such as relaxation training; (b) cognitive approaches, such as rational emotive therapy; (c) cognitive-behavioral approaches, such as cognitive-behavioral modification; and (d) skill deficit approaches, such as skills training (Ergene, 2003). Findings indicate that these treatments are promising, particularly when cognitive or behavioral approaches are combined with skills-based training. What is lacking, however, is a focus on pre-test interventions that are brief and concise. One exception is a study by Ramirez and Beilock (2011) that found that a simple expressive writing task prior to taking a test lowered test-taker anxiety. However, this has not been tested in an employment context, nor have explanation interventions been examined.

The reduction of uncertainty is also likely to have an effect on test-taker fairness perceptions and motivation. Uncertainty reduction is likely to lead to higher perceptions of fairness because test-takers will have additional information about the test. In turn, higher perceptions of fairness are likely to lead to higher levels of test-taker motivation (Hausknecht et al., 2004; Truxillo et al., 2009).

**Hypothesis 3.** An uncertainty reduction explanation will be positively related to (a) perceived test fairness and (b) test-taker motivation, but negatively related to (c) test-taker anxiety.

### 2.4. Combined explanations

The fourth type of pre-test explanation is a combination of informational fairness, social fairness, and uncertainty reduction techniques. Although all of these interventions are broadly based on theoretical models of justice, each is also conceptually and empirically distinct. Conceptually, informational fairness targets the content of the message and helps to increase the transparency of the test process, social fairness targets interpersonal treatment

and helps to increase feelings of respect, and uncertainty reduction targets test-taker anxiety and helps to increase test-taker reassurance. Empirically, test-taker perceptions of structural fairness (which incorporates informational fairness) and social fairness have been found to be distinct factors that map onto the justice dimensions described by Greenberg (1993) and Cropanzano and Wright (2003) (see also Bauer et al., 2001). Further, weak to moderate inter-correlations among social fairness, structural fairness, and test anxiety support the distinctiveness of these constructs (Bauer et al., 2001; Lazar, Zinger, & Lachterman, 2007; Lievens et al., 2003). Taken together, this suggests that the three interventions are likely to tap unique variance in test-taker reactions, such that when used in combination, the three will produce stronger effects than when administered alone.

**Hypothesis 4a.** A combination of explanations will be positively related to (a) perceived test fairness and (b) test-taker motivation, but negatively related to (c) test-taker anxiety.

**Hypothesis 4b.** A combination of explanations will be more positively related to (a) perceived test fairness and (b) test-taker motivation, and more negatively related to (c) test-taker anxiety, than the individual explanations alone.

## 3. Social context as moderator

Fairness heuristic theory holds that people assess the information that is available to them when developing fairness heuristics (Van den bos et al., 1997). Given our focus on existing employees, this means that employees' past and current treatment by the organization and supervisors may create expectations about the levels of fairness that they will encounter in various situations. In assessment contexts, pre-test explanations may therefore strengthen the positive expectations of individuals who are positively predisposed to their organization or supervisor, and to buffer the negative expectations of individuals who are negatively predisposed to their organization/supervisor.

For this reason, we examined the social context in which the assessment was completed. Our focus was on two types of social exchange commonly examined in organizational contexts: POS, which reflects employees' beliefs about whether the organization values their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986), and LMX, which reflects the quality of the relationship between an employee and their supervisor (Cropanzano & Mitchell, 2005; Wayne, Shore, & Liden, 1997). These exchange relationships focus on the mutual benefits of both parties, as opposed to self-interest (Liden, Sparrowe, & Wayne, 1997). For this reason, high-quality POS and LMX are positively associated with trust, honesty, and encouragement (e.g., Dirks & Ferrin, 2002; Sherony & Green, 2002). As a result, high levels of POS and LMX present ideal conditions for social exchange and reciprocity, and are likely to influence employee reactions to organizational and leader behaviors (Bezuijen, van Dam, van den berg, & Thierry, 2010; Maurer, Pierce, & Shore, 2002), such as the provision of standardized assessment tests.

Drawing from social exchange theories (Blau, 1964; Gouldner, 1960; Homans, 1974), we identify two reasons why pre-test explanation interventions are more likely to have a positive effect on test-taker fairness, motivation, and anxiety when social exchange is high than when it is low. First, high levels of social exchange have been found to be accompanied by a perceived expectation or obligation of fair treatment by both parties (Uhl-Bien & Maslyn, 2003). Thus, test-takers who report high levels of social exchange are expected to hold higher expected standards of con-

duct than test-takers with low levels of social exchange. These expected standards, in turn, are likely to influence test attributions and reactions such that employees with high levels of POS and LMX will respond better to a test process that is perceived to be unfair. In contrast, individuals with low levels of social exchange are less likely to hold high expectations, and therefore less likely to be responsive to a test process that is perceived as unfair.

Second, the social exchange model of emotions and attributions (Dasborough & Ashkanasy, 2002) suggests that employees' attributions about their leaders' and/or organizations' intentions determine how events are interpreted. These attributions are based, in part, on prior social interactions and ultimately determine whether employees interpret the actions of a leader or company as sincere, such that the primary goal is to help employees, or as manipulative, such that the primary goal is to benefit the leader or organization. In line with this theory, Sue-Chan, Chen, and Lam (2011) found that social exchange quality between leaders and their subordinates was related to the attributions that employees made regarding supervisor behavior. When LMX was high, employees attributed supervisor behavior to beneficial employee goals, and when LMX was low, employees attributed supervisor behavior to self-motivated supervisory goals. In a similar way, we predict that employees with strong social exchange relationships (high LMX/POS) are more likely to be receptive to pre-test explanations, increasing the probability that the explanations will be successful. In contrast, employees with weak social exchange relationships are more likely to question the legitimacy or purpose of any pre-test explanations that may be offered, reducing the probability that the explanations will be successful. In support of this proposition, individuals with negative reciprocal relationships have been found to be resistant to leader influences (Bezuijen et al., 2010; Tepper, Duffy, & Shaw, 2001).

Thus, the social exchange between employees and their leaders and organization is likely to impact how test-takers perceive the tests and the testing process.

**Hypothesis 5.** POS and LMX will moderate the relations between the pre-test explanations and perceived test fairness and test-taker motivation, such that these positive relations will be stronger when POS and LMX are high and weaker when POS and LMX are low.

**Hypothesis 6.** POS and LMX will moderate the relations between the pre-test explanations and test anxiety, such that these negative relations will be stronger when POS and LMX are high and weaker when POS and LMX are low.

## 4. Pilot testing and scale development

### 4.1. Pilot testing

The pre-test explanations we developed are in presented in Table 1. The goal was to match the written explanations to each a priori condition. We then pilot tested our pre-test explanations in a sample of 209 participants recruited through Mechanical Turk (MTurk). A total of 27 participants were eliminated due to inattentive responding, resulting in 182 employees with valid responses. Of these, 80% were employed on a full-time basis and 20% on a part-time basis. Participants were 61% male and worked in a variety of jobs across several sectors, such as retail and sales, finance, education, and manufacturing. On average, they had worked 4.58 years for their organizations ( $SD = 4.56$  years).

Participants were told that the use of selection tests is common in organizations, and that the nature and type of pre-test explana-

tions organizations provide to candidates can vary widely. Each participant was then presented with the following descriptions of each of the pre-test explanations: (1) informational fairness explanation, which focuses on providing information about the test to applicants; (2) social fairness explanation, which focuses on treating test-takers with appreciation and respect; and (3) uncertainty reduction explanation, which focuses on providing support and reassurance to test-takers. Next, participants were given the specific pre-test explanations and asked to classify each explanation into the relevant category.

Results indicated that participants classified the explanations into the proper category 90% of time. More specifically, 90% ( $N = 164$ ) of participants placed the informational fairness explanation into the correct category (14 participants incorrectly placed it into the uncertainty reduction condition and 4 participants into the social fairness condition). Similarly, 92% ( $N = 168$ ) of participants placed the social fairness explanation into the correct category (9 participants incorrectly placed this into the uncertainty reduction condition and 5 participants into the informational fairness condition). Finally, 88% ( $N = 160$ ) of participants placed the uncertainty reduction explanation into the correct category (13 participants incorrectly placed this into the informational fairness condition and 9 participants into the social fairness condition). These findings provide support for the validity of the pre-test explanations to be manipulated in the main study.

### 4.2. Scale development

Due to organizational constraints of the field experiment we conducted in Study 1 (see below), it was not possible to use the full scales for all of the measures described above. However, to assess the correspondence of these shortened scales to their longer counterparts, we tested them on a separate sample of 304 employed adults recruited through MTurk. Participants were asked to think back to the selection test(s) they were given when hired, and to indicate the extent to which they experienced test fairness, motivation, and anxiety using the shortened scales from the current study, as well as the original versions of each scale. Participants also completed the short and long versions of the POS and LMX measures.

A total of 147 participants were removed from the data because they either failed to answer at least one of three attention checks correctly ( $N = 4$ ) or they had not received a selection test when they were hired ( $N = 143$ ). Thus, our final sample included 157 employees, 54% of whom were male, and 78% worked on a full-time basis. Participants worked in a variety of jobs across several sectors, such as retail and sales, finance, education, and manufacturing. On average, they had worked 4.80 years for their organization ( $SD = 4.20$  years).

Findings supported the validity and reliability of the shortened scales.<sup>1</sup> First, consistent with our larger dataset, internal consistency reliabilities (alpha for the shortened scales were high, ranging from 0.87 for test anxiety to 0.95 for test motivation. Second, correlations between the short and long versions of the scales were strong and ranged from 0.76 for test anxiety to 0.94 for test motivation. Third, a confirmatory factor analysis supported the distinctiveness of the five scales. Specifically, a five-factor structure provided a good fit to the data ( $\chi^2_{(94)} = 250.59, p < 0.01$ ; CFI = 0.93; RMSEA = 0.10) and fit significantly better than a one-factor model ( $\chi^2_{(104)} = 1334.27, p < 0.01$ ; CFI = 0.45; RMSEA = 0.27). This structure was also supported with the dataset used in Study 1, whereby the five-factor model provided a good fit to the data ( $\chi^2_{(94)} = 200.81, p < 0.01$ ;

<sup>1</sup> This pattern of findings remains the same when organizational tenure is controlled.

CFI = 0.96; RMSEA = 0.06), whereas a one-factor model did not ( $\chi^2_{(1104)} = 1719.95$ ,  $p < 0.01$ ; CFI = 0.44; RMSEA = 0.24).

## 5. Study 1: The effects of pre-test explanations on test-taker reactions

### 5.1. Method

#### 5.1.1. Participants and procedure

This study included 256 full-time employees working for a large North American retail organization. Participants' main responsibilities were to develop and produce products, maintain proper storage and security of products, and manage product inventory. Eighty-four percent of participants were male, and the average tenure in the organization was 2.73 years ( $SD = 3.72$ ).

Employees were asked to complete a work sample test as part of a concurrent validation study. The work sample was developed on the basis of a comprehensive job analysis and simulated core tasks of the job (e.g., inputting and checking data). Test-takers were asked to answer questions and provide information about 50 digital images. The test was completed during the employees' work-shifts on company computers and took approximately 30 min. Employees were also asked to complete a set of measures that assessed their reactions after the testing was finished. Concurrently, job performance ratings were obtained by having the immediate supervisors of each participant complete a performance evaluation that was developed as part of the validation study. As a condition of the study, the organization did not want to overburden any single supervisor. Thus, each employee was rated by different supervisors.

Employees were randomly assigned to one of the five pre-test explanation conditions, including the control condition, three single intervention conditions, and one combination condition (see Table 1). Employees in the informational fairness condition were provided with information on the test and the testing process, highlighting its accuracy and why it was important. This information provides transparency and shows that legitimate and high-quality practices are being used. Employees in the social fairness condition were thanked for their help and told how appreciated and important they were. This information communicates respect, as it shows that the organization is cooperative and considerate. Employees in the uncertainty reduction condition were informed about the content of the test and assured that it would be based on familiar tasks. This information provides reassurance, as it shows that the organization cares about employees. Employees in the combined condition were provided with all of the information in the prior three conditions. This communicates transparency, respect, and reassurance. Employees in the control condition were only presented with the standard pre-test instructions that were included in all conditions.

#### 5.1.2. Measures

All measures were based on a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Test fairness was assessed with four content/predictive validity items adapted from the Selection Procedural Justice Scale (SPJS; Bauer et al., 2001;  $\alpha = 0.83$ ; e.g., "The content of this assessment is related to the job"). Test-taker motivation was assessed with three items adapted from the motivation scale of the Test Attitude Survey (TAS; Arvey, Strickland, Drauden, & Martin, 1990;  $\alpha = 0.85$ ; e.g., "I put a lot of effort into this assessment"). Test-taker anxiety was assessed with three items adapted from the TAS (Arvey et al., 1990;  $\alpha = 0.84$ ; e.g., "I felt worried about my performance when taking this assessment"). LMX was assessed with three items adapted from Graen and Uhl-Bien's (1995) scale ( $\alpha = 0.91$ ; e.g., "My supervisor under-

stands my problems and needs"). POS was assessed with three items adapted from the Survey of Perceived Organizational Support (Eisenberger et al., 1986;  $\alpha = 0.96$ ; e.g., "This organization really cares about the well-being of employees").

Test performance and job performance were controlled in all analyses due to the potential influence that performance may have on test-taker reactions (e.g., self-serving bias) (Chan & Schmitt, 2004; Ryan & Ployhart, 2000). Performance on the work sample test was based on the number of items correct ( $\alpha = 0.98$ ) and the amount of time required to complete the test. Job performance was measured using a standardized score that was based on independent ratings of employee accuracy (3 items) and productivity (3 items) by two supervisors ( $\alpha = 0.84$ ; ICC(2) = 0.68).

### 5.2. Results

Descriptive statistics and correlations among study variables are presented in Table 2. Table 3 provides descriptive statistics for each experimental condition. We tested our hypotheses using general linear modeling multivariate analyses of variance, Type III. Findings are presented in Table 4.<sup>2</sup> The average level of statistical power to detect medium effects ( $f^2 = 0.15$ – $0.35$ ) was 99% (Faul, Erdfelder, Lang, & Buchner, 2007), and the power to detect small effects ( $f^2 = 0.02$ – $0.15$ ) was 95%. Given that the pre-test explanation interventions were somewhat subtle, we anticipated that some effects might be modest (yet still important).

Our first set of analyses assessed whether participants who received the explanations would demonstrate higher levels of test fairness and test-taker motivation and lower levels of test-taking anxiety than participants in the control condition (see Table 4). As for H1 and H3, the informational fairness and uncertainty reduction explanations did not exhibit direct effects on (a) test fairness ( $t = 0.93$ ,  $p = 0.35$  and  $t = 0.56$ ,  $p = 0.57$ , respectively), (b) test-taker motivation ( $t = 0.45$ ,  $p = 0.65$  and  $t = 0.98$ ,  $p = 0.33$ , respectively), or (c) test-taker anxiety ( $t = 0.34$ ,  $p = 0.73$  and  $t = 0.51$ ,  $p = 0.61$ , respectively). However, consistent with H2a and H4a, participants in the social fairness condition had marginally higher perceptions of fairness ( $t = 1.74$ ,  $p = 0.08$ ;  $R^2 = 0.02$ ), and participants in the combined explanation had higher perceptions of fairness ( $t = 2.11$ ,  $p = 0.04$ ;  $R^2 = 0.02$ ). The magnitude of these effects was moderate according to recent research. Specifically, Bosco et al. (2015) suggested that relations between tasks (e.g., taking tests) and attitudes (e.g., fairness, anxiety) that have an  $R^2 = 0.02$  are moderate in magnitude.

Hypothesis 4b predicted that the combined explanation would lead to stronger test reactions than each individual explanation. Separate multivariate analyses were conducted to compare the combined explanation against each individual explanation. Findings indicated a significant difference between the combined condition and the uncertainty reduction condition on test fairness, such that individuals in the combined condition reported significantly higher perceptions of test fairness than those in the uncertainty reduction condition ( $t = 2.11$ ,  $p = 0.04$ ;  $R^2 = 0.05$ ). No other differences between the combined explanation condition and individual explanation conditions were found. Thus, there was minimal support for H4b.

Our second set of hypotheses predicted that POS and LMX would moderate the relations between the explanations and test reactions. The results are shown in the second portion of Table 4. H5 proposed that POS and LMX would moderate relations between the interventions and perceived test fairness and motivation. Consistent with this hypothesis, POS moderated relations between

<sup>2</sup> A direct comparison of the correlations in Table 2 to MANOVA findings in Table 4 is not possible as Table 1 simultaneously compares each condition to all other conditions, while the MANOVA procedure analyzes each condition independently.

**Table 2**  
Descriptive statistics and correlations for variables in Study 1.

	M (SD)	1	2	3	4	5	6	7	8	9	10	11
Control Variables												
1. Test Performance	93.15 (5.24)											
2. Job Performance	7.71 (1.39)	0.29**										
Experimental Conditions												
3. Control	–	0.00	0.05									
4. Informational Fairness	–	0.01	–0.08	–0.24**								
5. Social Fairness	–	–0.06	–0.09	–0.24**	–0.23**							
6. Uncertainty Reduction	–	0.01	0.01	–0.26**	–0.25**	–0.25**						
7. Combined	–	0.04	0.11	–0.25**	–0.25**	–0.25**	–0.27**					
Moderator Variables												
8. LMX	6.33 (1.00)	0.05	0.15*	–0.03	–0.01	0.00	0.05	–0.01				
9. POS	5.48 (1.40)	–0.08	–0.05	0.08	–0.02	–0.01	–0.07	0.02	0.45**			
Outcome Variables												
10. Test Fairness	5.65 (1.12)	0.06	–0.07	–0.04	–0.03	0.08	–0.05	0.04	0.29**	0.41**		
11. Test-Taker Anxiety	3.68 (1.39)	–0.18**	–0.16*	–0.07	–0.02	–0.01	–0.02	0.08	–0.05	–0.04	–0.05	
12. Test-Taker Motivation	6.44 (0.74)	0.10	0.00	–0.05	–0.03	0.06	0.02	–0.01	0.22**	0.21**	0.41**	–0.09

Note.  $N = 256$ . LMX = leader-member exchange; POS = perceived organizational support.

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

**Table 3**  
Descriptive statistics for Study 1 variables by condition.

	Control Condition	Informational Fairness Explanation	Social Fairness Explanation	Uncertainty Reduction Explanation	Combined Explanation
Variables	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Test Performance	93.02 (5.47)	92.76 (5.98)	93.17 (4.93)	93.33 (4.80)	93.15 (5.24)
Job Performance	7.85 (1.49)	7.50 (1.52)	7.43 (1.45)	7.73 (1.19)	8.00 (1.26)
LMX	6.27 (1.06)	6.30 (1.16)	6.32 (1.05)	6.42 (0.75)	6.31 (0.95)
POS	5.71 (1.22)	5.41 (1.40)	5.46 (1.57)	5.30 (1.41)	5.52 (1.41)
Test Fairness	5.57 (1.17)	5.58 (1.35)	5.83 (0.97)	5.55 (1.04)	5.73 (1.08)
Test-Taker Anxiety	3.43 (1.93)	3.76 (1.71)	3.65 (1.77)	3.61 (1.79)	3.95 (1.61)
Test-Taker Motivation	6.36 (0.91)	6.40 (0.74)	6.53 (0.64)	6.47 (0.68)	6.44 (0.74)

Note. Control condition  $N = 50$ ; informational fairness explanation condition  $N = 48$ ; social fairness explanation condition  $N = 49$ ; uncertainty reduction explanation condition  $N = 56$ ; combined explanation condition  $N = 53$ . LMX = leader-member exchange; POS = perceived organizational support.

three of the explanations (social fairness:  $t = -2.64$ ,  $p < 0.01$ ,  $R^2 = 0.04$ ; uncertainty reduction:  $t = -2.12$ ,  $p = 0.04$ ,  $R^2 = 0.02$ ; and combined:  $t = -2.91$ ,  $p < 0.01$ ,  $R^2 = 0.04$ ) and perceptions of fairness. However, the nature of these interactions was inconsistent with expectations (see Figs. 2–4). Specifically, there was a positive relation between pre-test explanations and fairness when POS was low. In contrast, when POS was high, the interventions had little influence on fairness. Nevertheless, the figures reveal that when POS was high or an explanation was provided, perceptions of test fairness were high.

H6 proposed that POS and LMX would moderate relations between the interventions and test anxiety. Results indicated that LMX was a significant moderator of relations between the social fairness explanation and test anxiety ( $t = -2.57$ ,  $p = 0.01$ ,  $R^2 = 0.04$ ), as well as between the uncertainty reduction explanation and test anxiety ( $t = -2.78$ ,  $p = 0.01$ ,  $R^2 = 0.04$ ). Consistent with H6, the explanations reduced anxiety among participants who reported high levels of LMX, but increased anxiety among participants who indicated low levels of LMX (see Figs. 5 and 6). Importantly, none of the confidence intervals for the interaction effects included zero, nor did the confidence bands for the interaction slopes (Preacher, Curran, & Bauer, 2006). Further, the effect size of the interactions was moderate in magnitude ( $R^2 = 0.04$ ; Bosco et al., 2015).

### 5.2.1. Additional data and analyses: explanation length

We also sought to examine, and potentially rule out, an alternative explanation for our findings, namely that participants per-

ceived the combined manipulation to be the most fair because the instructions for this condition were longer than the instructions for each individual explanation.<sup>3</sup> To do so, we used MTurk to collect data from another sample of working adults ( $N = 251$ ).<sup>4</sup> Participants were asked to imagine themselves as being an employee asked to complete an assessment. They were randomly presented with one of the four same-length explanations. To create pre-test explanations of similar length, we modified each explanation to preserve content while also ensuring that each explanation was the same length (i.e., 174 words). This required adding neutral “filler” information to the shorter individual explanations that was unrelated to explanations. We then asked participants to rate the fairness of the assessment using the same items adapted from the SPJS ( $\alpha = 0.83$ ).

Findings indicated significant differences in perceived fairness across groups ( $F_{(3, 219)} = 14.48$ ,  $p < 0.01$ ). Post hoc comparisons (using the Fisher LSD test) revealed that individuals in the combined explanation group had significantly higher perceptions of fairness than those in any of the other three groups. These findings suggest that any observed effects for the combined condition are likely due to content, as opposed to length.

<sup>3</sup> We thank an anonymous reviewer for raising this possibility.

<sup>4</sup> A total of 28 participants failed the attention check and were removed from the data, resulting in 223 participants with valid responses. Participants had worked an average of 4.35 years ( $SD = 4.00$ ) and 56% were male. Participants worked a variety of jobs across several sectors such as sales, education, and manufacturing.

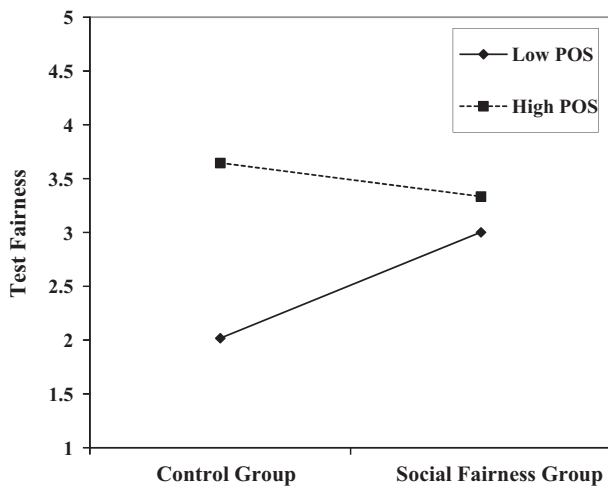


**Table 4**  
MANOVA results for the effects of pre-test explanations in Study 1.

Predictors	F(3,181)	DV = Test Fairness			DV = Test Anxiety			DV = Test Motivation		
		B	SE	t	B	SE	t	B	SE	t
<i>Control Variables</i>										
Test Performance	3.40*	0.18	0.10	1.79	-0.37	0.17	-2.18*	0.17	0.07	2.28*
Job Performance	1.50	-0.01	0.08	-1.16	-0.22	0.14	-1.59	-0.06	0.06	-1.54
<i>Experimental Conditions</i>										
Informational Explanation	0.33	0.22	0.24	0.93	0.14	0.40	0.34	0.08	0.17	0.45
Social Explanation	1.11	0.43	0.24	1.74	0.12	0.40	0.30	0.18	0.17	1.07
Uncertainty Explanation	0.45	0.13	0.23	0.57	0.20	0.39	0.51	0.16	0.17	0.98
Combined Explanation	1.87	0.51	0.24	2.11*	0.41	0.40	1.02	0.18	0.17	1.09
<i>Interaction Effects</i>										
LMX	2.80*	-0.25	0.19	-1.32	0.34	0.31	1.10	0.21	0.13	1.58
POS	6.20**	0.72	0.17	4.30**	-0.05	0.28	-0.17	0.13	0.12	1.08
LMX * Informational	0.30	0.15	0.29	0.51	0.21	0.47	0.44	-0.10	0.20	-0.48
LMX * Social	2.53	0.24	0.29	0.83	-1.24	0.48	-2.57*	0.01	0.20	0.02
LMX * Uncertainty	4.14**	0.28	0.31	0.91	-1.41	0.51	-2.78**	-0.26	0.21	-1.22
LMX * Combined	2.07	0.40	0.27	1.45	0.25	0.45	0.56	-0.26	0.19	-1.35
POS * Informational	0.45	-0.20	0.22	-0.89	-0.25	0.37	-0.68	0.01	0.16	0.07
POS * Social	3.53*	-0.59	0.22	-2.64*	0.68	0.37	1.86	-0.24	0.16	-1.53
POS * Uncertainty	1.67	-0.43	0.20	-2.12*	0.12	0.34	0.34	-0.03	0.14	-0.21
POS * Combined	3.15*	-0.62	0.21	-2.91**	-0.28	0.35	-0.79	-0.05	0.15	-0.30

Note. N = 256. LMX \* information = LMX x informational fairness explanation; LMX \* social = LMX x social fairness explanation; LMX \* uncertainty = LMX x uncertainty reduction explanation; LMX \* combined = LMX x combined explanation; POS \* information = POS x informational fairness explanation; POS \* social = POS x social fairness explanation; POS \* uncertainty = POS x uncertainty. Reduction explanation; POS \* combined = POS x combined explanation. Scores for test performance and job performance were standardized. All coefficients are unstandardized.

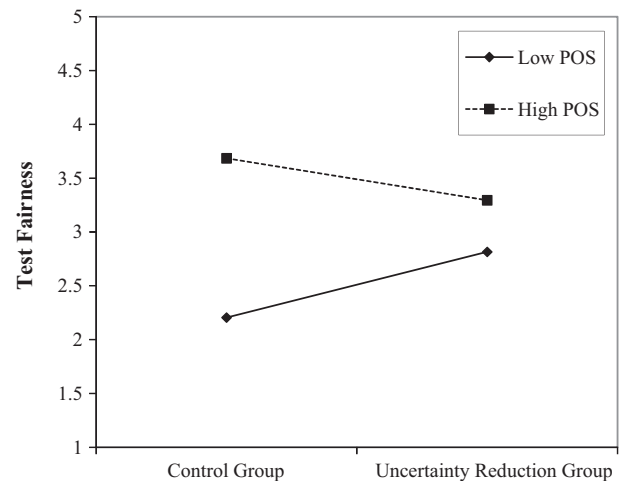
\* p < 0.05.  
\*\* p < 0.01.



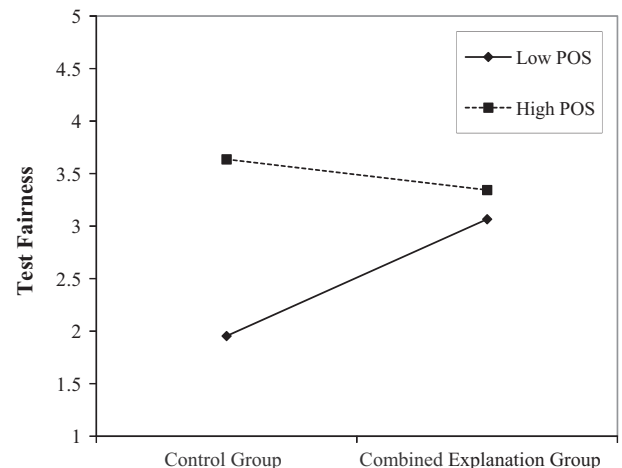
**Fig. 2.** Perceived organizational support (POS) as a moderator of the relationship between the social fairness explanation and test fairness.

**6. Study 2: Underlying mechanisms of pre-test explanation effects**

Study 2 was designed to examine the mechanisms for the pre-test explanations proposed by our conceptual framework (see Table 1).<sup>5</sup> As previously noted, informational fairness involves providing test-takers with information about the test and the testing process to ensure test-takers perceive that legitimate and high-quality practices are being used. In this way, the provision of information serves to increase the transparency of the test process. In contrast, social fairness focuses on the manner in which test-takers are treated and how social fairness serves to increase test-taker feelings of respect. Finally, uncertainty reduction focuses on reducing test-taker worry by decreasing uncertainty in the test-taking environment. In this way, uncertainty reduction serves to increase



**Fig. 3.** Perceived organizational support (POS) as a moderator of the relationship between the uncertainty reduction explanation and test fairness.



**Fig. 4.** Perceived organizational support (POS) as a moderator of the relationship between the combined explanation and test fairness.

<sup>5</sup> We thank an anonymous reviewer for this suggestion.

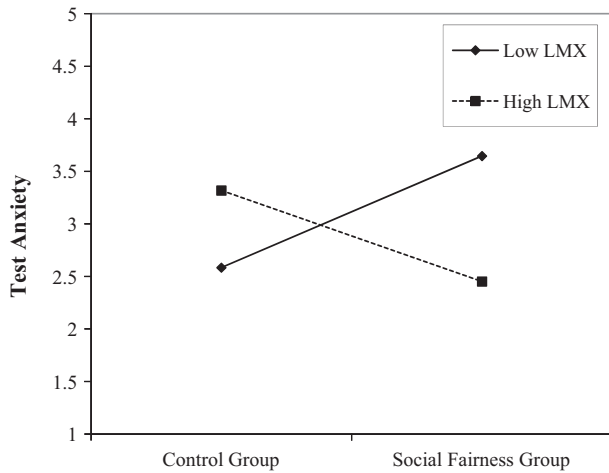


Fig. 5. Leader-member exchange (LMX) as a moderator of the relationship between the social fairness explanation and test anxiety.

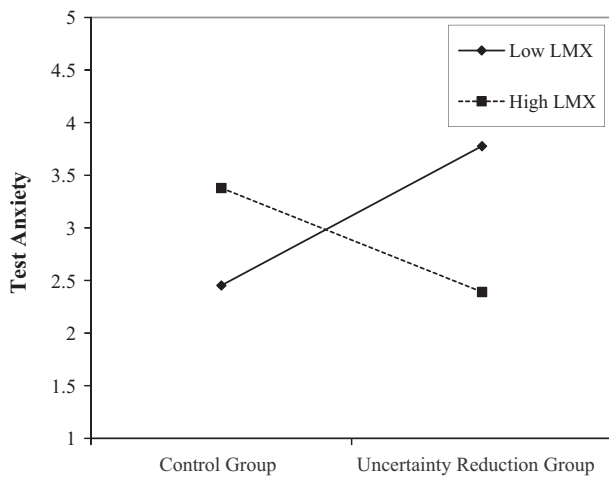


Fig. 6. Leader-member exchange (LMX) as a moderator of the relationship between the uncertainty reduction explanation and test anxiety.

test-taker feelings of reassurance. Thus, consistent with our conceptual framework presented in Table 1, we predict the following:

**Hypothesis 7.** An informational fairness explanation will be positively related to feelings of transparency.

**Hypothesis 8.** A social fairness explanation will be positively related to feelings of respect.

**Hypothesis 9.** An uncertainty reduction explanation will be positively related to feelings of reassurance.

**Hypothesis 10.** A combination of explanations will be positively related to perceived (a) feelings of transparency, (b) feelings of respect, and (c) feelings of reassurance.

### 6.1. Method

Four hundred and ninety working adults were recruited through MTurk. Of these participants, 221 failed to correctly answer at least one of five attention checks and were removed

from the data. This resulted in 269 participants with valid responses. On average, participants had worked 4.84 years at their organization ( $SD = 5.28$ ), and 52% were male. Participants held variety of jobs across several sectors such as sales, health, and manufacturing.

Participants were asked to complete an online work sample as part of a test validation project. Consistent with our field study, they were randomly assigned to one of the five pre-test explanation conditions, including the control condition, three single intervention conditions, and one combination condition. Following the pre-test explanation, participants were asked to complete three questions from the work sample test used in Study 1 as if they were a job candidate. Upon completion, participants were asked to indicate how job candidates would feel about this assessment in terms of transparency, respect, and reassurance. Scales were drawn from the SPJS and used a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Test transparency was assessed with the 3-item Information Known scale ( $\alpha = 0.91$ ; e.g., “Candidates are given sufficient information about the test”); feelings of respect were measured with the 4-item Treatment scale ( $\alpha = 0.93$ ; e.g., “Candidates are treated with respect during the assessment”), and reassurance was assessed with 4-items adapted from the Openness scale ( $\alpha = 0.91$ ; e.g., “The organization will do its best to ensure that candidates are at ease during the assessment.”).<sup>6</sup>

### 6.2. Results

Consistent with Study 1, we tested these hypotheses using GLM multivariate analyses of variance, and included test performance as a control. Descriptive statistics by experimental condition are presented in Table 5, and findings from the multivariate analyses are presented in Table 6. As illustrated in Table 6, our first three hypotheses were supported such that the informational fairness explanation positively affected transparency (H7;  $t = 1.97$ ,  $p < 0.05$ ;  $R^2 = 0.02$ ); the social fairness explanation positively affected respect (H8;  $t = 3.54$ ,  $p < 0.01$ ;  $R^2 = 0.05$ ); and the uncertainty reduction explanation positively affected reassurance (H9,  $t = 2.65$ ,  $p < 0.01$ ;  $R^2 = 0.03$ ).

Four additional effects were observed: The uncertainty fairness explanation exhibited a direct effect on transparency that was of the same magnitude as the predicted informational fairness explanation ( $t = 2.08$ ,  $p < 0.01$ ;  $R^2 = 0.02$ ); the informational fairness explanation exhibited a direct effect on respect that was lower in magnitude than the predicted social explanation condition ( $t = 2.60$ ,  $p < 0.05$ ;  $R^2 = 0.03$ ); the uncertainty reduction explanation exhibited a direct effect on respect that was of the same magnitude as the predicted social explanation condition ( $t = 3.42$ ,  $p < 0.01$ ;  $R^2 = 0.05$ ); and the social fairness explanation exhibited a direct effect on reassurance that was higher in magnitude than the predicted uncertainty reduction explanation ( $t = 3.17$ ,  $p < 0.01$ ;  $R^2 = 0.04$ ).

Although the individual explanations were related to the proposed mechanisms, contrary to H10, the combined condition did not exhibit any significant effects. The reason for this finding is unclear. One possible contributing factor may be the online sample used to collect these data. Specifically, there is evidence that online samples may be limited with respect to the amount of information that can be reliably processed (Fleischer, Mead, & Huang, 2015). Although we followed best practices by incorporating attention questions as checks and screening out inattentive participants, the amount of information presented in the combined condition

<sup>6</sup> Note that ‘the organization’ referred to the company administering the assessment test.

**Table 5**  
Descriptive statistics for Study 2 variables by condition.

	Control Condition	Informational Fairness Explanation	Social Fairness Explanation	Uncertainty Reduction Explanation	Combined Explanation
Variables	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Transparency	4.85 (1.33) <sup>a,c</sup>	5.31 (0.88) <sup>e</sup>	5.18 (1.21)	5.33 (1.07) <sup>e</sup>	5.07 (1.25)
Respect	4.95 (0.98) <sup>a,b,c</sup>	5.46 (0.81) <sup>e</sup>	5.66 (1.03) <sup>d,e</sup>	5.61 (0.96) <sup>d,e</sup>	5.25 (1.04) <sup>b,c</sup>
Reassurance	4.80 (1.11) <sup>b,c</sup>	5.09 (0.96) <sup>d,e</sup>	5.44 (0.89)	5.32 (0.97) <sup>e</sup>	5.06 (1.02) <sup>b</sup>

Note. Control condition  $N = 47$ ; informational fairness explanation condition  $N = 52$ ; social fairness explanation condition  $N = 50$ ; uncertainty reduction explanation condition  $N = 55$ ; combined explanation condition  $N = 65$ .

<sup>a</sup> Significantly different from the informational fairness explanation.

<sup>b</sup> Significantly different from the social fairness explanation.

<sup>c</sup> Significantly different from the uncertainty reduction explanation.

<sup>d</sup> Significantly different from the combined explanation.

<sup>e</sup> Significantly different from the control condition.

**Table 6**  
MANOVA results for the effects of pre-test explanations in Study 2.

Predictors	MANOVA F(3,261)	DV = Transparency			DV = Respect			DV = Reassurance		
		<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>
<i>Control Variable</i>										
Test Performance	0.34	0.01	0.05	1.79	0.03	0.04	0.65	0.00	0.04	0.05
<i>Experimental Conditions</i>										
Informational Explanation	2.93 <sup>*</sup>	0.46	0.23	1.97 <sup>*</sup>	0.51	0.20	2.60 <sup>*</sup>	0.29	0.20	1.46
Social Explanation	4.28 <sup>**</sup>	0.33	0.24	1.38	0.70	0.20	3.54 <sup>**</sup>	0.64	0.20	3.17 <sup>**</sup>
Uncertainty Explanation	4.02 <sup>**</sup>	0.48	0.23	2.08 <sup>*</sup>	0.66	0.19	3.42 <sup>**</sup>	0.52	0.19	2.65 <sup>**</sup>
Combined Explanation	0.88	0.21	0.22	0.96	0.30	0.19	1.59	0.27	0.19	1.39

Note.  $N = 269$ . All coefficients are unstandardized.

<sup>\*</sup>  $p < 0.05$ .

<sup>\*\*</sup>  $p < 0.01$ .

was substantially longer than in the other conditions and may have been too much information for this particular sample to process. Despite this, the overall findings provide additional support for our conceptual model by demonstrating that pre-test explanations positively affect perceptions of transparency, respect, and reassurance.

## 7. General discussion

This research applies the concept of wise interventions (Walton, 2014) to the use of pre-test explanations to enhance applicant and employee reactions to tests. Results suggested that none of the individual pre-test explanations (i.e., informational fairness, social fairness, and uncertainty reduction) affected test-taker reactions. However, test-takers who were provided a combination of the different explanations reported higher perceptions of fairness than test-takers who were not given an explanation. Furthermore, results provide initial evidence that pre-test explanations enhance reactions by influencing perceptions of transparency, respect and reassurance.

It is interesting that the informational fairness intervention in Study 1 did not influence test-taker reactions, as informational fairness is thought to be one of the more important justice rules (e.g., Chapman et al., 2005; Hausknecht et al., 2004; Truxillo et al., 2009). Nevertheless, it is important to note that information fairness was related to transparency in Study 2. Thus, it may be the case that the provision of informational fairness through a wise intervention was not salient enough to affect test-taker reactions. Finally, none of the explanations appeared to influence test-taker motivation. These results may be due to the fact that the mean level of test-taker motivation was quite high in our sample ( $M = 6.44$  on a 7-point scale, see Table 2). Another possibility is that individual differences have a stronger effect on test-taker motivation than contextual factors such as test explanations (McCarthy et al., 2013).

The present research also tested some potential boundary conditions of the effects of pre-test explanations. Although the pattern of moderation effects for POS was not consistent with expectations, findings revealed that if POS was high, if an explanation was provided, or both, then perceptions of test fairness were higher. This suggests that POS may buffer the potentially harmful effects of no explanation. Leader-member exchange (LMX) was also found to moderate relations between some of the explanations and test anxiety. Consistent with expectations, the explanations tended to reduce test anxiety when test-takers reported high levels of LMX. In contrast, the explanations seemed to “backfire” by increasing test anxiety when employees reported low levels of LMX. A potential explanation for this unexpected pattern of results is that individuals with low levels of LMX may be suspicious about the motives underlying test explanations. As such, telling test-takers with low LMX not to worry about a test may make them worry even more. By providing reassurance, one may be conveying a message that there is, in fact, something to worry about (Linton, McCracken, & Vlaeyen, 2008). Future research is needed to explore this possibility further.

### 7.1. Implications for theory and practice

Our study advances scholarship on test-taker reactions in several important ways. First, we draw from fairness heuristic theory to advance a conceptual framework that serves as a foundation for the development of pre-test interventions. In doing so, we draw attention to how different types of interventions can affect test-taker reactions, which represents a new direction in the test-taker reactions literature. By examining antecedents that can be altered in testing contexts, our focus was “upstream”, which represents a new direction in the test-taker reactions. We also proposed, and found initial support for, mechanisms (e.g., transparency) that may underlie relations between pre-test interventions and test-taker reactions. We encourage future research to incorporate addi-

tional tests of these mechanisms when examining pre-test interventions.

Second, recent research has lamented the lack of attention to context within the selection literature (Ryan & Ployhart, 2014). The present study responds to this call by introducing and testing social context as a factor that should be considered when attempting to understand test-taker reactions. Indeed, applicants and job incumbents often form exchange relationships with organizations (or members within them) before or during selection or promotion processes. This may occur through interaction with recruiters (Campion, 2014), referrals by organizational members (Yakubovich & Lup, 2006), or by virtue of being an existing (in the case of job promotions), or past, job incumbent (Tsui, Pearce, Porter, & Tripoli, 1997). Thus, it is important for future research to continue untangling the influence of exchange relationships on test-taker reactions and the outcomes that follow.

The interventions we developed also illustrate how research in the area of test-taking reactions can inform practice. By focusing on specific pre-test explanations, our study provides explanations organizations can incorporate when designing assessments. Relatedly, the present study directs attention to proactive approaches to manage the harmful effects of negative applicant reactions. We propose that organizations should not attempt to “manage” post-test reactions; rather, they should prevent negative reactions from occurring in the first place. Indeed, three of the wise interventions explored in this study (social fairness, uncertainty reduction, and combined explanations) can be used in a strategic manner to avoid negative test reactions before they begin to develop. Moreover, these interventions are simple and cost-effective, making them practical for implementation.

## 7.2. Study strengths, potential limitations, and future directions

This research is characterized by several notable strengths, as well as certain potential limitations. One strength of our research was that we engaged in triangulation by approaching our research questions from several angles (Mathison, 1988). The results and conclusions are based on a variety of samples, research designs, and measures, including a field experiment that combined the internal validity of inferences associated with experiments with the external validity of inferences afforded by field research.

Second, it is important to note that with the exception of the combined pre-test explanation, most of the explanations did not appear to affect test-taker reactions. In addition, the statistically significant effects that we did observe tended to be modest in magnitude. The lack of significant findings may be due, in part, to the fact that we examined existing employees in relatively low-stakes testing environments. It is also possible that our “wise” intervention was too brief, and as a result our manipulations were too subtle. Thus, the smaller effect sizes we observed are encouraging given the simplicity of the interventions (Cortina & Landis, 2009; Prentice & Miller, 1992). Moving forward, we anticipate that stronger effects may be obtained using longer and more comprehensive pre-test explanations. We also encourage future work on alternative types of pre-test interventions designed to improve applicant reactions, including recruiter training programs like those used by Virgin Mobile (Steiner, 2017).

Third, although the findings from Study 2 revealed that the pre-test explanations were related to the mechanisms we proposed, the explanations also appeared to affect mechanisms we did not hypothesize. For example, the social fairness explanation was more strongly related to reassurance than was the hypothesized uncertainty reduction explanation. This suggests that the mechanisms delineated in our conceptual model may be more complex than originally hypothesized. This is consistent with meta-analytic findings by Shaw et al. (2003), which demonstrated that explanations,

regardless of type, had significant effects on a variety of outcome variables. In addition, we were not able to directly test whether the proposed mechanisms explain (e.g., mediate) why pre-test explanations may affect test-taker reactions. We encourage additional research on these and other mechanisms that may underlie pre-test explanations.

Fourth, our samples comprised job incumbents who completed assessments for validation or research purposes, and several findings suggest that our use of current employees does not severely limit the generalizability of the results. First, mean levels of fairness, anxiety, and motivation in Study 1 (see Table 2) are aligned with those reported in research based on job applicant samples, particularly with respect to test-taking motivation ( $M = 6.44$  on a 7-point scale; see Studies 1–3 in McCarthy et al., 2013). Second, meta-analytic evidence suggests that the effects of candidate reactions are weaker in low-stakes testing scenarios (Hausknecht et al., 2004; Truxillo et al., 2009). This suggests that the current findings may, if anything, underestimate true effects. Nonetheless, we urge caution when generalizing the present findings to operational selection situations. We also hope future research can test these interventions with actual applicant samples, as well as with additional outcome variables, such as actual job performance.

Finally, the present results raise the question of whether recruiters could provide explanations that would accomplish similar goals. For example, pre-test explanations given verbally by a recruiter may be more effective than written instructions that applicants may only briefly skim over or even ignore. Perhaps future studies could compare the effectiveness of verbal versus written explanations. We also encourage researchers to consider other types of wise interventions in the context of test-taker reactions. As one example, organizations might create “study guides” to help applicants prepare to take selection procedures. Future research should also examine whether assessment type impacts the effectiveness of wise interventions. For example, an explanation given prior to a work sample test may differ from an explanation given prior to a job interview or situational judgment test.

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