

# Effect of rating discrepancy on turnover intention and leader-member exchange

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**Abstract** Despite the pervasiveness of rating discrepancy in organizations, there has been little research to examine how this common phenomenon occurring in performance appraisal influences an employee's work relationships with an organization and a leader. In a field study surveying 147 R&D workers who were evaluated under forced distribution rating system, the present research explored this question by focusing on how rating discrepancy would affect an employee's turnover intention and perceived leader-member exchange (LMX). With polynomial regression analysis and response surface methodology in a real-time research design, it was found that there were nonlinear relationships between rating discrepancy and turnover intention and LMX, respectively, and that these non-linear relationships were not symmetrical.

**Keywords** Rating discrepancy · Turnover intention · Leader-member exchange · Performance appraisal

*Rating discrepancy*<sup>1</sup>—a difference between an employee's expected rating in performance appraisal (PA) and the actual rating given to the employee—is a typical organizational phenomenon. Rating discrepancy has been extensively studied in terms

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<sup>1</sup>Rating discrepancy between self and a supervisor (or someone in a leader position) in the present study is in consideration of the purpose of the study to examine the effect of rating discrepancy on an employee's work relationships with an organization or a leader. We presumed that the implication of rating discrepancy between self and a peer or a subordinate on our two focal work relationships would be relatively trivial.

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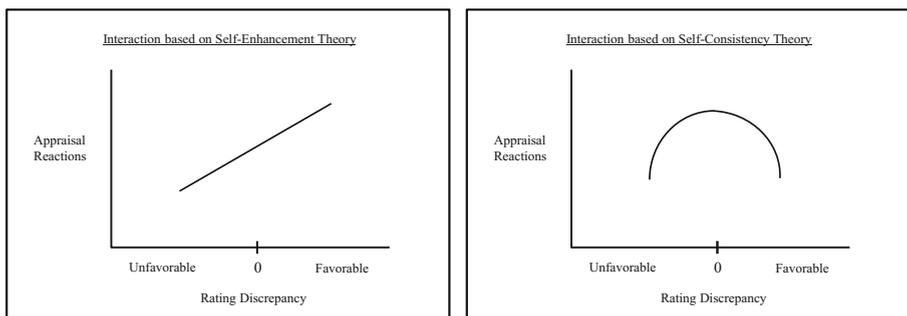
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of understanding its sources or causes (Murphy & Cleveland, 1995). However, little is known on how an employee would react to such discrepancies (Levy, Cawley, & Foti, 1998). Given that rating discrepancy has been suggested to be possibly superior to a PA rating itself for predicting an employee's appraisal reactions (Levy et al., 1998), this gap in the PA literature is not trivial. Acknowledging this, the purpose of this study is to explore the neglected relationship between rating discrepancy and an employee's appraisal reactions.

In the scant literature of the rating discrepancy-employee reaction association (Korsgaard, 1996; Levy et al., 1998), a general finding is that the favorability of rating discrepancy positively and linearly influenced employee reactions (Fig. 1). This finding has been supported by self-enhancement theory (Shrauger, 1975) such that the favorability of rating discrepancy may mainly determine an employee's subsequent appraisal reactions, because a better appraisal outcome helps the employee consider him- or herself as a better performer on the job. Although this prediction—a linear relationship between rating discrepancy and employee appraisal reaction—is intuitively appealing, prior research suggests that the logic of self-consistency also needs to be regarded to understand the effect of rating discrepancy on appraisal reactions (Shrauger, 1975). Whether or not rating discrepancy is favorable, an employee may like PA outcomes which help to feel a sense of self-consistency. It should be noted that this latter theoretical position suggests a non-linear discrepancy–reaction relationship such that either unfavorable or favorable rating discrepancy produces an employee's negative appraisal reactions (Fig. 1).

In investigating these conflicting predictions (i.e., linear and non-linear) based on different theoretical frameworks (e.g., self-enhancement and self-consistency), we focused on two relationship-based constructs—*turnover intention* and *leader-member exchange* (LMX) perception—as appraisal reactions to rating discrepancy. Turnover intention is one's estimation on the probability that he or she will be permanently leaving the organization at some point in the future (Mobley, 1982; Mobley, Horner, & Hollingsworth, 1978), which reflects the quality of an employee–organization work relationship; LMX perception refers to the perceived quality of a work relationship between a leader and a subordinate (Dansereau, Graen, & Haga, 1975; Graen & Scandura, 1987). These employee relational cognitions may be significantly affected by rating discrepancy. Rating discrepancy indicates the extent to which an employee and his or her appraiser (i.e., an organization or a supervisor) do not agree with appraisal criteria and/or employee performance level. When an employee is not certain of or even disagrees about how an organization and a supervisor evaluates him- or



**Fig. 1** Patterns of expected responses to rating discrepancy

herself, the employee, who may feel insufficient mutual understanding with each appraiser, would assess the relationship quality with the organization or the supervisor to be low (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Graen & Uhl-Bien, 1995). As a result, turnover intention and LMX perception may be cognitively formed and/or changed.

By examining the effect of rating discrepancy on an employee's turnover intention and perceived LMX, we attempted to make several contributions to the rating discrepancy literature. It should be noted that our research is conducted largely in an exploratory manner given the conflicting theories. First, this study may advance PA research by focusing on, for the first time, a non-linear relationship between rating discrepancy and appraisal reactions. According to the past research on appraisal reactions to feedback discrepancy (Shrauger, 1975), there are two overarching theories—self-enhancement and self-consistency—which help explain how an individual would respond to rating discrepancy. Self-enhancement theory (Shrauger, 1975) suggests that the favorability of rating discrepancy may determine subsequent appraisal reactions. It supports a positive linear relationship between the favorability of rating discrepancy and appraisal reactions (Fig. 1). In contrast, self-consistency theory advocates a non-linear discrepancy–reaction relationship such that the size of rating discrepancy, compared to the favorability, is more important in determining subsequent appraisal reactions. To our knowledge, the past research did not explicitly examine this latter possibility that rating discrepancy could negatively affect an employee's appraisal reactions whether or not it is favorable to the employee. The present research which sheds light on this theoretically suggested yet empirically overlooked non-linear relationship is important. Researchers have recommended exploring theoretically justified non-linear relationships, in order to more validly find effects for antecedents of employee reactions (Tangirala & Ramanujam, 2008). In line with this recommendation, our research drawing on self-consistency theory examined the non-linear effect of rating discrepancy on employees, and we believe that it was able to more validly demonstrate how rating discrepancy affected employees.

Second, this is the first study to explicitly compare how the favorability and size of rating discrepancy are different from each other in producing appraisal reactions. Different from previous rating discrepancy research (Blakely, 1993; Elicker, Levy, & Hall, 2006; Levy et al., 1998), the present research discussed and investigated the favorability and size of rating discrepancy separately. This approach would help understand and distinguish the dissimilar cognitive processes affected respectively by the favorability or the size of rating discrepancy. Note that it is not typical to propose conflicting predictions in the same study. Nevertheless, this approach would enable researchers to evaluate and integrate the current literature more comprehensively, as done in critical review studies including Shrauger's (1975) work of self-enhancement and self-consistency. Accordingly, while arguing how the favorability and size of rating discrepancy would influence employee appraisal reactions in a conflicting manner, we were able to incorporate more theories and findings and more fully present complex rating discrepancy processes in one study. This effort is critical in that as "both self-consistency and self-enhancement theories offer valuable insights into people's reactions to social feedback" (Swann, Griffin, Predmore, & Gaines, 1987: 886), knowledge of appraisal reactions to favorability and size of rating discrepancy would provide

significant insights on how to understand and manage employee responses in performance appraisal.

Third, our research investigated as appraisal reactions an employee's relationship-based cognitions—turnover intention and LMX—which have been largely neglected in rating discrepancy research. Prior studies examined only the satisfaction with and perceptions of appraisal outcomes and appraisal sources (e.g., appraisal outcome and process satisfaction, likeability and competence of supervisor, appraisal utility and accuracy, appraisal utility and accuracy, and fairness perceptions; Blakely, 1993; Elicker et al., 2006; Levy et al., 1998) to be outcomes of rating discrepancy. Importantly, turnover intention and LMX have been found to determine an employee's actual turnover and performance on the job (DeConinck, 2011; Griffeth & Hom, 1995; Kim, Liu, & Diefendorff, 2015). Given that little is known on how a common event of rating discrepancy would affect the significant organizational outcomes of employee turnover and performance, investigating the effect of rating discrepancy on these relational cognitions would be a critical initial step to understand the unknown process of how rating discrepancy would influence organizational effectiveness. It should be also noted that our investigation of the rating discrepancy-relational perception link would also extend the current literature by integrating the past study arguments and findings. The present study would elaborate how a sense of control and self-value diminished by rating discrepancy—the concepts little recognized and discussed in rating discrepancy research—may interplay with several rating discrepancy outcomes found in prior research (e.g., satisfaction with appraisal sources, fairness perceptions), in predicting an employee's turnover intention and perceived LMX.

Finally, the present investigation would advance the rating discrepancy research with respect to methodology in several ways. This methodological advancement in organizational studies has been recognized to be a valuable mean for enhancing the quality of research to examine organizational phenomenon (Edwards, 2001; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) including rating discrepancy. First, we examined rating discrepancy by conducting polynomial regression analyses in which an expected and an actual PA rating were simultaneously used to produce rating discrepancy. In the past rating discrepancy studies, rating discrepancy was operationalized less appropriately. For example, Levy et al. adopted a difference score (Elicker et al., 2006) or a direct comparison measure (Levy et al., 1998); Blakely (1993) divided his sample into sub-groups and used ANOVA for testing the study propositions. These alternative ways to calculate and test rating discrepancy were criticized for various methodological problems.

Specifically, a difference score is problematic not only because it is associated with low reliability and too conservative statistical testing, but also because it likely makes statistical tests too liberal and consequently produces false research findings (Edwards, 2001). Moreover, a direct comparison measure is often used to attempt avoiding the above difference score issue. However, it “merely shifts the onus of creating a difference score from the researcher to the respondent” (Edwards, 2001: 268); its item is double-barreled as two distinct concepts are combined to produce one score (DeVellis, 1991). Finally, ANOVA method is used by creating subgroups according to the type of rating discrepancy and comparing them (e.g., employees with no rating discrepancy and others with unfavorable or favorable rating discrepancy) in order to examine how rating discrepancy would influence appraisal outcomes. This method is

arguably flawed in that it causes loss of information and reduces explained variance (Edwards, 2001). These limitations of the current rating discrepancy research are, to some extent, resolved in our study.

Second, this research is a field study in which the actual employee reactions toward rating discrepancy were examined. The previous rating discrepancy research was conducted in artificial and hypothetical work setting and/or with student samples (Blakely, 1993; Elicker et al., 2006; Levy et al., 1998). The most salient limitation that non-field studies have in organizational research is the potential loss of generalizability to the real world (Ackerman & Kanfer, 1993), which has been recognized to be why management researchers increasingly prefer a field setting for their studies (Scandura & Williams, 2000). Indeed, it is certainly difficult to create an experimental or hypothetical setting where an individual realistically experiences “serious” rating discrepancy, which substantially impacts one’s work and daily life. It is also hard to believe that an individual not on the job is actually affected by self-consistency motives generated particularly in the PA context and that the individual is truly deliberating on his or her work relationship with his or her organization and leader. Therefore, our field research setting, despite its several limitations (Ackerman & Kanfer, 1993; Ilgen, 1986; Scandura & Williams, 2000), is believed to enhance the validity and legitimacy of our findings. Lastly, the research design of this study is also considered to be more appropriate than that in the past research. The present study conducted two surveys before and after the distribution of an employee’s performance rating, which helped overcome the previous limitations such as the cross-sectional research design (Blakely, 1993; Elicker et al., 2006; Levy et al., 1998).

## Theory and hypothesis development

The human inclination to pursue both self-enhancement and self-consistency makes it hard to predict how an employee would react to rating discrepancy. If an employee is more affected by his or her self-enhancement motive, the favorability of rating discrepancy may mainly determine the employee’s reactions; on the contrary, if an employee is more influenced by his or her self-consistency motive, the size of rating discrepancy may largely determine the employee’s reactions. Accordingly, we attempted to investigate the validity of both predictions. For this, we proposed two conflicting predictions respectively grounded on an employee’s self-enhancement or self-consistency motive, rather than advocated either of the predictions.

### Relationship between favorability of rating discrepancy and appraisal reactions

A common form of rating discrepancy occurs when there is a difference between an employee’s expected rating on a performance appraisal (PA) and the actual rating given to the employee by his or her supervisor. Rating discrepancy has been extensively studied in the PA literature in terms of understanding the sources or causes. For example, research has examined how rating discrepancies can occur due to such things as a ratee’s self-serving bias (Holzbach, 1978), a rater’s measurement errors or biases about a certain group of people (Landy & Farr, 1983), and/or a rater’s motivation to achieve specific goals with a PA (e.g., maintaining a good relationship with a ratee;

Murphy & Cleveland, 1995). However, there are only a few studies to examine the outcomes of rating discrepancy, such as employee reactions to rating discrepancy.

A general finding in those existing studies is that the favorability of rating discrepancy was positively and linearly associated with appraisal reactions (Blakely, 1993; Elicker et al., 2006; Levy et al., 1998). That is, an employee is found to more positively react to a favorable rating discrepancy (i.e., a rating discrepancy from a higher than expected PA rating) compared to no rating discrepancy or an unfavorable rating discrepancy (i.e., a rating discrepancy from a lower than expected PA rating). This employee's tendency to more positively respond to more favorable rating discrepancy is understandable. As argued in prior research, an individual is oriented to consider him- or herself as favorably as possible (Epstein, 1973). Indeed, it has been believed that "people react favorably to evaluations that enhance their feelings of personal worth" (Jussim, Yen, & Aiello, 1995: 324). This logic of self-enhancement suggests a linear, rather than non-linear, relationship between rating discrepancy and appraisal reactions, which has been also supported in the current rating discrepancy literature (Blakely, 1993; Elicker et al., 2006; Levy et al., 1998) as well as in the general psychology literature (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Olson, Roese, & Zanna, 1996).

Given the linear relationship between rating discrepancy and employee reactions identified in prior research, the favorability of rating discrepancy may also linearly influence an employee's appraisal reactions of turnover intention and perceived LMX. Traditional models of turnover (for a review see Hom & Griffeth, 1995) suggest that an employee deliberates the possibility of leaving his or her organization when job satisfaction and organizational commitment are low (Michaels & Spector, 1982; Mobley et al., 1978; Williams & Hazer, 1986). After reviewing 40 years of research on turnover, Griffeth and Hom (1995) concluded that "central to all turnover conceptualizations ... is that poor attitudes stimulate the termination process" (258) mainly with reference to job satisfaction and organizational commitment. Importantly, these two job attitudes have been found to be enhanced when favorable PA outcomes, such as favorable rating discrepancy, are obtained (Brown, Hyatt, & Benson, 2010; Dusterhoff, Cunningham, & MacGregor, 2014; Keeping & Levy, 2000).

More specifically, when an employee confronts more favorable rating discrepancy, it may help enhance his or her perceived self-value. Researchers have argued and found that an individual's beliefs of self-values increase when the individual experiences events to provide positive images of him- or herself and/or when others hold positive beliefs toward the individual in terms of capability and competence (Bandura, 1997; Brockner, 1988; Korman, 1976). With more favorable rating discrepancy, an employee, who is typically inclined to possess a need for self-esteem and to attribute positive events to him- or herself (Taylor & Brown, 1988; Weary, 1979), may evaluate and interpret it as an event to signal high self-values and/or recognitions of self-values from others. One's belief of enhanced self-values has been found to positively influence job satisfaction and organizational commitment. As suggested in research on the effect of core self-evaluation on job satisfaction (Judge, Bono, & Locke, 2000; Judge, Locke, Durham, & Kluger, 1998; Srivastava, Locke, & Judge, 2002), an employee with positive self-concepts may be more satisfied with his or her job by perceiving job characteristics to be more rewarding and by actually seeking more and intrinsically fulfilling tasks on the job. The perceived or actual job characteristics obtained due to

positive self-concepts may also elevate the employee's organizational commitment level. Prior studies have found that attractive job characteristics, such as those high in variety, autonomy, identity, and feedback, would also promote organizational commitment level (Hunt, Wood, & Chonko, 1989; Ramaswami, Agarwal, & Bhargava, 1993). Then, increased job satisfaction and organizational commitment would reduce employee turnover intention, as dissatisfaction with the presents job stimulates thoughts of quitting (Hom, Caranikas-Walker, Prussia, & Griffeth, 1992; Mobley, 1977), and a strong desire to maintain membership in an organization corresponds to turnover intention (Price & Mueller, 1981). Thus, we expect that, with more favorable rating discrepancy, an employee may develop more positive self-concepts and job attitudes and may ponder less about the possibility of breaking off an employee-organization relationship.

The above attitude-related arguments based on traditional turnover models could be extended to explain a linear relationship between rating discrepancy and LMX, provided that an employee often responds to an organization and a supervisor in a similar and homogenous manner (Eisenberger et al., 2002; Forger & Konovsky, 1989). LMX theory posits that the LMX development process would be facilitated when a supervisor provides favor and support to an employee (Chen & Tjosvold, 2007; Graen & Scandura, 1987; Ngo, Loi, Foley, Zheng, & Zhang, 2013). One way by which a supervisor provides socially valuable resources to an employee is to conduct PA generously (Duarte, Goodson, & Klich, 1993, 1994). When an employee receives a higher-than-expected PA rating and experiences favorable rating discrepancy, he or she may feel being recognized more than expected by the supervisor and may perceive higher self-values in the relationship with the supervisor (Hogg et al., 2005). It is reasonably expected that this employee would feel more satisfied with and committed to such relationship and would evaluate it to be a high-quality one. Thus, we also expect that, with more favorable rating discrepancy, an employee would perceive higher LMX.

**Hypothesis 1a** The favorability of rating discrepancy is negatively related to an employee's turnover intention.

**Hypothesis 1b** The favorability of rating discrepancy is positively related to an employee's perceived LMX.

### **Relationship between size of rating discrepancy and appraisal reactions**

Drawing on a self-enhancement motive, an employee is expected to more positively respond to more favorable rating discrepancy. However, the employee's reaction to rating discrepancy may be more complicated than the above depicted, such that the employee reaction may be affected by a self-consistency motive. With rating discrepancy, an employee may find his or her self-assessment to be inconsistent with the evaluations from an organization or a leader, and subsequently may be engaged in negative appraisal reactions regardless of the favorability of the rating discrepancy. In several studies, an individual's reactions to an expectation-outcome discrepancy has been argued and found to be non-linear rather than linear, such that an employee perceived the discrepancy to be detrimental whether or not the discrepancy was

favorable to him- or herself (Adams, 1965; Austin & Walster, 1974; Brockner, Ackerman, & Fairchild, 2001; Erdogan, 2002; Oliver, 1976; Olson & Dover, 1979; Van den Bos, Peters, Bobocel, & Ybema, 2006; Van den Bos, Wilke, Lind, & Vermunt, 1998; Walster, Walster, & Berscheid, 1978). In trying to understand this non-linear reaction to the expectation-outcome discrepancy, we turned to the literature on perceived control and fairness.

Within that literature, the instrumental model of justice (Konovsky, 2000; Thibaut & Walker, 1975; Tyler, 1987) posits that when an individual feels less control over what happens and consequently expects lower probability of positive outcomes, the individual is less likely to perceive fairness than when he or she feels a high level of control (Conlon, 1993; Lind, Kanfer, & Earley, 1990; Thibaut & Walker, 1975). It is presumed that an employee, who receives an unexpected PA rating and faces rating discrepancy, would perceive less control than others without such experiences. Alloy and Tabachnik (1984) asserted that an individual would feel less control when he or she failed to obtain expected outcomes such as an expected PA rating. This sense of less control has been recognized to be closely related to procedural fairness perceptions (Thibaut & Walker, 1975). Moreover, this sense of control may be also involved in the formation of outcome fairness perceptions, because an individual uses readily available fairness information, such as fairness perception of decision-making processes, in order to make other fairness judgments, such as fairness perception of decision-making outcomes (Lind, 2001; Van den Bos et al., 1998).

Considering the research arguments and findings on how an individual's experienced expectation-outcome discrepancy would influence his or her cognitions of control and fairness, we believe that rating discrepancy, a type of expectation-outcome discrepancy, would negatively influence an employee's turnover intention and LMX perception. Rating discrepancy, by definition, indicates the extent to which an employee is not able to accurately predict what performance rating he or she will receive. When facing either unfavorable or favorable rating discrepancy, an employee may realize his or her misjudgment and experience uncertainty about how PA is conducted and/or what is concerned in PA. Then, this employee may feel less control, and as a result, less fairness in PA processes. Once a sense of fairness is damaged by unfavorable or favorable rating discrepancy, this may facilitate an employee to think over the possibility of turnover and to devalue LMX.

The negative effects of violated fairness on turnover intention and perceived LMX have been well established in the literature. Several past studies found that an employee's perceived fairness would lead to withdrawal cognitions through job satisfaction and organizational commitment, which is closely associated with turnover intention and perceived LMX (Daniel, Lee, & Reitsperger, 2014; Forger & Konovsky, 1989; Gerstner & Day, 1997; Griffeth & Hom, 1995; McFarlin & Sweeney, 1992). Especially, justice perceptions may also be used as resources in building an employee-organization relationship. Loi, Hang-yue, and Foley (2006) argued, drawing on social exchange research (Blau, 1964; Eisenberger, Huntington, Hutchison, & Sowa, 1986), that when an employee perceives distributive and procedural justice, he or she would consider them as discretionary actions by an organization and subsequently as perceive support from the organization, which influences the employee's turnover intention. These prior findings and arguments suggest that an employee, who perceived unfairness for rating discrepancy, may feel less support from an organization and deliberate turnover while

seeking for a better alternative. This logic to regard fairness perceptions as resources for relationship-building could be also applied in the employee-supervisor relationship. When an employee, who considers a supervisor as an agent of an organization (Eisenberger et al., 1986), identifies unfairness from rating discrepancy, the employee may perceive less support from his or her supervisor and consequently conclude the quality of the relationship with the supervisor to be lower.

This proposed negative association between rating discrepancy and two focal appraisal reactions, that is, turnover intention and perceived LMX, is indirectly supported by a study conducted by Taylor, Tracy, Renard, Harrison, and Carroll (1995). They found that an organization's due-process components in PA (e.g., performance review and feedback meetings, employee inputs to PA processes, a supervisor's expressed performance expectations, evidence-based PA, etc.) significantly improved an employee's evaluation of his or her supervisor (e.g., my manager is a good manager) and enhanced an employee's intention to remain in the current organization. Presuming that successful due-processes in PA are closely associated with a decrease in either unfavorable or favorable rating discrepancy, it is likely that rating discrepancy may also deteriorate an employee's reactions to rating discrepancy.

**Hypothesis 2a** The size of rating discrepancy is positively related to an employee's turnover intention.

**Hypothesis 2b** The size of rating discrepancy is negatively related to an employee's LMX.

## Methods

### Sample

Participants in this study consisted of research and development (R&D) employees in a laboratory complex of a multinational electronics part company located in South Korea. They were dispatched from their own technology department to work in the R&D project teams. In each team, there were a project leader and average of six R&D employees. R&D employees' job performance in the project teams of this company were evaluated by their immediate project leader, not by their leader in the original technology department. The PA rating, which was given to R&D employees at the end of each year, considerably influenced their merit pay increase, individual financial incentives, and other selection decisions (e.g., promotion to become a project leader). There were five categories of a PA rating imposed for each project team (A: the upper 10 %, B: 25 %, C: 50 %, C-: 10 %, D: the bottom 5 %).

An employee's PA rating in the surveyed company was determined with the forced distribution rating system (FDRS) which required a project leader to assign certain PA ratings to the predetermined number of employees. For example, the "A" rating would be assigned to only one employee in a project team with ten members. This FDRS context was judged to be appropriate for rating discrepancy research, because it would produce rating discrepancy more frequently. Under FDRS compared to a more conventional PA system, an employee would more likely receive an unexpected PA rating because his or her performance is evaluated based on relative rather than absolute

performance criteria (Grote, 2005). Moreover, given the close association of PA outcomes with contingent incentives and penalties in the FDRS context (Grote, 2005; Guralnik, Rozmarin, & So, 2004; Hazels & Sasse, 2008), an employee under FDRS is very sensitive to rating discrepancies and consequently should have more salient reactions to it.

It should be noted that this FDRS context should not be considered to be an excessively idiosyncratic work environment. In a recent survey, 47 % of 156 HR professionals across industries reported that they use a recommended distribution for ratings (Freedman, 2006), suggesting that FDRS is a fairly typical PA context.

## Procedure

Two web-based surveys were conducted before and after the R&D employees in the surveyed company received their formal annual PA rating. At time one (2 months before an annual PA rating was distributed), the R&D employees received an email in which they were asked to participate in the first survey. The emails were sent through the intranet email system of the company. By clicking a hyperlink included in the email, they were connected to the survey webpage managed by the management information system (MIS) team, which was outsourced to an information system company. The survey raw data were only accessible by the MIS team and were not allowed to be shared with other departments of the surveyed company, including the HR department. Although employees knew that their responses would be reported to the company, an HR manager said that employees would likely provide honest answers for two reasons. First, employees were well aware that their responses would be aggregated with others' responses before reporting. Second, there was no history of adverse actions for individual responses in previous internal surveys (it was also prohibited by company regulations). Every participant in the first survey was compensated with a thermos approximately worth five dollars.

At time two (1 month after an annual PA rating was distributed), the second survey was administered in the same manner as the first survey was done. Importantly, there were several reasons why one month gap was planned between the occurrence of rating discrepancy (the moment when R&D employees was informed of an actual PA ratings) and the second survey. Above all, it was intended to reduce the effect of an employee's discrete emotions generated from rating discrepancy on appraisal reactions. Based on affective events theory (Weiss & Cropanzano, 1996), it was presumed that with a time gap in measurement, cognitive processes such as perceived control and fairness, rather than discrete emotions such as anger or happiness, would more dominantly influence an employee's turnover intention and LMX. In addition, by not waiting longer than a month, it was attempted to reduce an employee's cognitive and behavioral attempts for restoring the inequitable situation (e.g., justification and counterproductive work behaviors; Adams, 1965; Walster et al., 1978) and also wanted to minimize the plausibility of history (Shadish, Cook, & Campbell, 2002)—an event occurring between treatment (an unexpected PA rating) and the posttest (the measurement of turnover intention and LMX). Considering these factors as well as the organizational contexts, which were described by an HR manager, one month was judged to be an adequate time point for the second survey. Participants in the second survey received a \$5 gift certificate for completing the survey. In addition to the data obtained from these

two surveys, the annual PA data and the demographic information of the participating employees in the company were provided by the HR department.

In the first and the second survey, the response rates were 63.5 % (261/411) and 64.8 % (169/261), respectively. The second survey was only sent to those who replied to the first survey. After 22 responses were removed from the sample for unavailable PA ratings (e.g., no PA ratings information available for recent hires) and for missing responses, the final sample size was 147. The majority of the sample was male (83 %). The range of age was 24–50 years and most employees were in the 30–40 years old range (69 %). The ethnic background of all the employees was Korean. Various sources of non-response bias were assessed. Regarding four variables of gender, age, organizational tenure, and actual PA rating which were obtained from the surveyed company's archival data, *t*-tests were conducted. All yielded non-significant results.

## Translation

All the measures used for the surveys were translated from English to Korean through the translation-back translation procedure (Brislin, Lonner, & Thorndike, 1973).

## Measures

**Main variables: Expected PA rating** At time one, an employee's expected PA rating was asked with one question (a 5-point Likert scale: 1=D, 2=C-, 3=C, 4=B, 5=A). The question was "What is the performance appraisal rating that you expect to earn in the performance evaluation this year?"

**Actual PA rating** An employee's actual PA rating was obtained from the surveyed company's HR department (five categories: A, B, C, C-, D) and was coded corresponding to an expected PA rating (1=D, 2=C-, 3=C, 4=B, 5=A). Rating discrepancy was operationalized by comparing an expected and an actual PA rating in polynomial regression analyses, which will be further elaborated at the analysis section below.

**Turnover intention** At time two, a 4-item turnover intention scale was used to measure the intent to quit (Farh, Tsui, Xin, & Cheng, 1998; a 7-point Likert scale: 1 = strongly agree; 7 = strongly disagree;  $\alpha=.73$ ) for assessing turnover intention. Example items were "I often think of quitting my present job" and "I may not have a good future if I stay with this organization."

**Perceived LMX** At time two, LMX was measured with an 8-item scale of LMX (a 5-point Likert scale: 1 = strongly agree; 5 = strongly disagree;  $\alpha=.96$ ) which is a revision of the LMX7 scale (Bauer & Green, 1996). Sample items were "I usually feel that I know where I stand with my project leader" and "I usually know how satisfied my project leader is with what I do."

**Control variables** The basic demographic information of age, gender, and organizational tenure were controlled for the concerns that it could potentially influence an employee's responses to the surveys.

Before testing the study hypotheses, it was checked whether R&D employees' team membership needed to be controlled because the study data was nested in teams. In order to examine the existence of a possible team-level effect on individual-level variables, one-way analysis of variance (ANOVA) and intraclass correlation coefficients (ICCs) of study variables were examined in order to judge whether the effect of team membership needs to be held constant. These procedures have been suggested as a preliminary procedure for multi-level data analyses (Raudenbush & Bryk, 2002). It was found that, for all the study variables including control variables, there was no significant group-level variance explained by team membership. The results of ANOVA and ICCs are available from the first author.

## Analytical approach

For testing study hypotheses, the polynomial regression analysis along with response surface methodology (Edwards & Rothbard, 1999) was used. This set of analyses was chosen given that a difference score or a measure of direct comparison, which was previously used to operationalize rating discrepancy (Elicker et al., 2006; Levy et al., 1998), has been argued to be less adequate for examining organizational phenomenon related to fit or discrepancy (Edwards, 2001). A general expression of the study model is shown below.

$$Z = b_0 + b_1E + b_2A + b_3E^2 + b_4EA + b_5A^2$$

$E$  and  $A$  indicate an expected PA rating and an actual PA rating, respectively; and  $Z$  indicates dependent variables (i.e., turnover intention or perceived LMX). All the independent variables ( $E$ ,  $A$ ,  $E^2$ ,  $EA$ ,  $A^2$ ) were centered by subtracting the scale midpoint. This was done for reducing multicollinearity among quadratic variables and for well interpreting the surface of the three dimensional graphs in polynomial regression analyses. Turnover intention and LMX were examined respectively in two different polynomial regression equations.

Specifically, the procedures for polynomial regression analysis and response surface methodology were followed as suggested in the past organizational fit studies (Edwards & Rothbard, 1999; Kristof-Brown & Stevens, 2001). First of all,  $R^2$  was checked to see if significant variance in dependent variables was explained by independent variables and control variables. Then, three dimensional graphs were plotted and the graph surfaces were analyzed in terms of rating discrepancy. For the purposes of the present study, the analytical focus was on the surface pattern corresponding to the line of  $E = -A$ , which is here titled as a discrepancy line. The discrepancy line connects the left corner to the right corner in Figs. 2 and 3.

From the left to the right corner on the discrepancy line, the actual PA rating increases and the expected PA rating decreases. On the left side of the point (0, 0) on the discrepancy line, the actual PA rating is lower than the expected PA rating (i.e., unfavorable rating discrepancy occurs); on the right side of the point (0, 0) of the discrepancy line, the actual PA rating is higher than the expected PA rating (i.e., favorable rating discrepancy occurs). Study hypotheses were tested and interpreted based on the surface patterns corresponding to this discrepancy line. For example, in Fig. 3, perceived LMX increases approximately up to the point in which the

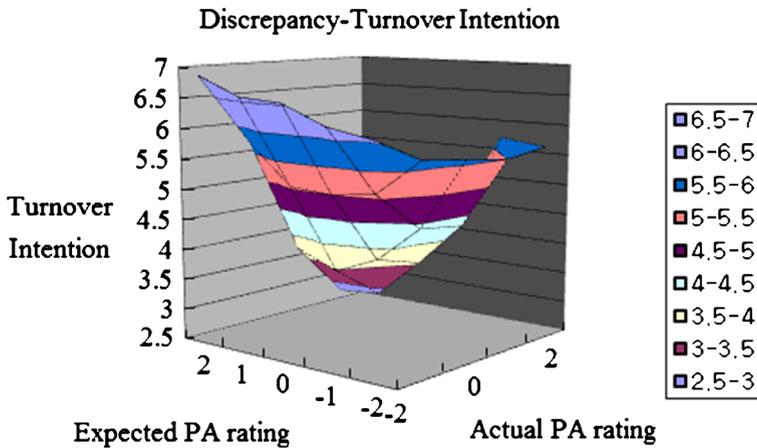


Fig. 2 Surface graph of rating discrepancy and turnover intention

discrepancy line meets the point (0, 0); after slightly passing the point (0, 0), perceived LMX decreases. If this non-linear pattern is statistically significant as expected, it would support Hypothesis 2b rather than Hypothesis 1b such that there is a non-linear, rather than linear, inverted U-shaped relationship between rating discrepancy and perceived LMX. In the same manner, if a non-linear U-shaped relationship between rating discrepancy and turnover intention is statistically significant, it would support Hypothesis 2a rather than Hypothesis 1a. Finally, in examining the statistical significance of the observed slopes and curvatures along the discrepancy line (the last two columns of Table 2), the procedures were conducted for testing linear combinations of regression coefficients (Kunter, Nachtsheim, Neter, & Li, 2005).

It should be noted, as done in the past research, that the analytical focus was less on the regression coefficients in polynomial regression, and more on the  $R^2$  and the surface patterns obtained from the three-dimensional graph plotted based on unstandardized

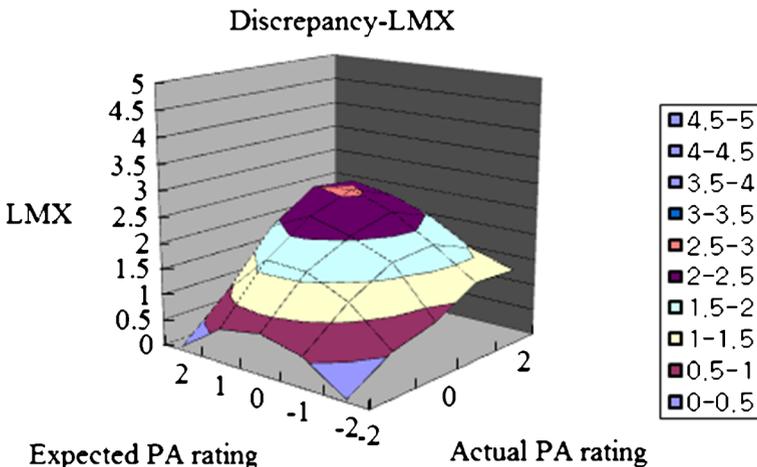


Fig. 3 Surface graph of rating discrepancy and LMX

regression coefficients of polynomial regression equations in interpreting our findings (Edwards & Rothbard, 1999).

## Results

### Preliminary analyses

Confirmatory factor analysis (CFA) was conducted with AMOS 18.0 software on the two measured variables, turnover intention and perceived LMX, for examining their discriminant validity. The two factor model demonstrated an adequate fit to the data,  $\chi^2$  (34,  $N=147$ )=197.04,  $p<.001$  ( $\chi^2 / df=11.03$ ; incremental fit index = .97; comparative fit index = .97; root-mean-square error of approximation = .064), with significant standardized factor loadings. The one factor model, which combined turnover intention and LMX as one variable, showed significantly worse data fit,  $\chi^2$  ( $\Delta df$ )=375.22 (1),  $p<.001$ , validating that turnover intention and perceived LMX were significantly distinct from each other.

Table 1 provided the means, standard deviations, and bivariate correlations among all the study variables.

### Rating discrepancy and turnover intention

Hypotheses 1a and 2a were respectively regarding a linear or a non-linear relationship between rating discrepancy and turnover intention. After checking that the amount of variance explained by independent variables and control variables was statistically significant ( $R^2=.23$ ,  $p<.001$ ), the three-dimensional graph was plotted (Fig. 3) and examined for testing Hypotheses 1a and 2a. Figure 2 includes a shovel- or spoon-shaped graph in which the bottom is located approximately around the point ( $E=2$ ,  $A=2$ ). First, the concave curve of the surface above the discrepancy line was examined

**Table 1** Means, standard deviations, reliabilities, and correlations for variables in this study

Variable	M	SD	1	2	3	4	5	6	7
1. Gender	1.85	.22	(-)						
2. Age	2.99	.46	-.11	(-)					
3. Organizational tenure	2.24	.32	-.08	.20*	(-)				
4. Expected PA rating	3.73	.67	-.14	.07	-.10	(-)			
5. Actual PA rating	3.45	.74	-.11	.10	-.13	-.26**	(-)		
6. Turnover intention	3.45	1.08	-.08	.03	-.04	-.27**	-.22**	(.73)	
7. LMX	3.60	.65	-.19*	.14	-.17*	-.20**	-.17*	-.35**	(.96)

$N=147$ . Reliabilities appear in parentheses along the diagonal

PA Performance appraisal, LMX Leader-member exchange

\*  $p<.05$ ; \*\*  $p<.01$

with the coefficients of  $E^2$ ,  $EA$ , and  $A^2$  (i.e.,  $b_3$ ,  $b_4$ ,  $b_5$ ). Note that if the sign of the sum of  $b_3$ ,  $-b_4$ , and  $b_5$  is positive ( $b_3 - b_4 + b_5 = 1.13$ ), it suggests a concave curve. This concave curve was found to be statistically significant ( $p < .001$ ) as shown in Table 2. Thus, Hypothesis 2a was supported while Hypothesis 1a was not supported. There was a non-linear relationship between rating discrepancy and employee turnover intention, such that an R&D employee was more likely to consider quitting a job as the size of his or her rating discrepancy increased.

### Rating discrepancy and LMX

In Hypotheses 1b and 2b, rating discrepancy was also expected to be in a linear or a non-linear relationship with perceived LMX. After checking if the independent variables and control variables accounted for significant variance in LMX ( $R^2 = .59$ ,  $p < .001$ ), a three-dimensional graph was plotted (Fig. 3); its surface along the discrepancy line was examined to check whether there was a linear or a non-linear relationship between rating discrepancy and LMX. Note that if the sign of the sum of  $b_3$ ,  $-b_4$ , and  $b_5$  is negative, it suggests a convex curve. Given that the convex curvature was statistically significant ( $b_3 - b_4 + b_5 = -.58$ ,  $p < .001$ ) as presented in Table 2, Hypothesis 2b was supported while Hypothesis 1b was not supported. There was a non-linear relationship between rating discrepancy and perceived LMX, such that an R&D employee's perceived LMX decreased as the size of his or her rating discrepancy increased.

### Post-hoc analysis: Asymmetrical reactions to unfavorable or favorable rating discrepancy

Although the study results supported Hypotheses 2a and 2b, which were proposed based on the logic of self-consistency, we suspected that an employee's inclination to pursue self-enhancement may also play a certain role in producing employee reactions to rating discrepancy. If an employee's self-enhancement motive is influential, the form of the non-linear relationship between rating discrepancy and employee reactions would be asymmetrical. Although an employee negatively responds to rating discrepancy, he or she still likes favorable rating discrepancy more compared to unfavorable one.

To examine whether an employee's seemingly asymmetrical reactions to unfavorable or favorable rating discrepancy (Figs. 2 and 3) were statistically significant, the slope drawn along the discrepancy line was first examined. Specifically, the slope of the surface right above the point (0, 0) on the discrepancy line was calculated with the coefficients of  $E$  and  $A$  (i.e.,  $b_1$  and  $b_2$ ) and was statistically significant ( $b_1 - b_2 = -.85$ ,  $p < .001$ ) as shown in Table 2. This suggested that Hypothesis 2a was not fully supported, the slope of the surface exactly above the (0, 0) point was negative, and the lowest level of turnover intention was not exactly above the (0, 0) point; rather, the lowest level of turnover intention was positioned slightly on the side of favorable rating discrepancy, that is, on the right side of the (0, 0) point of the discrepancy line. Then, after  $z$ -hat values of turnover intention at the two points, ( $E = .70$ ,  $A = -.70$ ;  $z_{\text{turnover}} = 4.21$ ) and ( $E = -.70$ ,  $A = .70$ ;  $z_{\text{turnover}} = 3.6$ ), on the discrepancy line were calculated, and the difference between those values was tested by constructing confidence intervals. The difference was significant ( $z_{\text{diff}} = .61$ ,  $p < .05$ ), suggesting asymmetrical rather than

**Table 2** Results from polynomial regression of turnover intention and LMX on expected and actual PA ratings

Appraisal reaction	<i>G</i>	<i>Age</i>	<i>OT</i>	<i>B</i>				<i>R</i> <sup>2</sup>	Along <i>E</i> = - <i>A</i> line		
					<i>E</i>	<i>A</i>	<i>E</i> <sup>2</sup>		<i>EA</i>	<i>A</i> <sup>2</sup>	Slope <i>b</i> <sub>1</sub> - <i>b</i> <sub>2</sub>
Turnover intention	.07	-.05	.04	-.32	.53*	.27	-.44*	.42*	.23***	-.85***	1.13***
LMX	.09	.09*	.07	.21	-.04	-.17*	.31*	-.10	.59***	.25***	-.58***

*N*=147

*G* Gender, *OT* Organizational tenure, *E* Expected PA rating, *A* Actual PA rating, *LMX* Leader-member exchange

For *E*, *A*, *E*<sup>2</sup>, *EA*, and *A*<sup>2</sup>, the unstandardized regression coefficients are reported

\* *p*<.05; \*\* *p*<.01; \*\*\* *p*<.001

symmetrical reactions to rating discrepancy. An employee was thinking more inclined to turnover as they experienced unfavorable rather than favorable rating discrepancy.

This asymmetrical employee reaction to unfavorable or favorable rating discrepancy was also tested regarding LMX in the same manner. First, we found that the slope of the surface right above the (0, 0) point of the discrepancy line was positive ( $b_1 - b_2 = .25$ ) and statistically significant ( $p < .01$ ). Accordingly, it was suggested that Hypothesis 2b was not fully supported and that the highest level of LMX was located slightly on the right side of the (0, 0) point on the discrepancy line. Then, we calculated and compared  $z$ -hat values for the levels of LMX corresponding to the two points, ( $E = .70, A = -.70; z_{LMX} = 2.03$ ) and ( $E = -.70, A = .70; z_{LMX} = 1.56$ ), located along the discrepancy line. The  $z_{diff}$  (.47,  $p < .05$ ) for LMX was found to be statistically significant, which suggested asymmetrical rather than symmetrical reactions to rating discrepancy. Unfavorable rating discrepancy, compared to favorable one, more negatively influenced an employee's perceived LMX.

## Discussion

The present study proposed that rating discrepancy would be a significant determinant of an employee's appraisal reactions in PA processes. Considering the divergent predictions grounded on two different theoretical frameworks of self-enhancement and self-consistency, we argued and tested whether rating discrepancy would linearly or non-linearly affected an employee's turnover intention and perceived LMX. Above all, we found the rating discrepancy–reaction relationships were non-linear rather than linear. An employee with increased rating discrepancy reported higher turnover intention and lower LMX, whether the discrepancy was unfavorable or favorable to him- or herself. This result suggested that an employee negatively responded to any rating discrepancy and that rating discrepancy deteriorated the quality of an employee's work relationship with his or her organization or supervisor, respectively.

Our first findings of the non-linear relationships are in line with and/or supported by the un/met expectancy literature. For example, researchers have argued and found that an individual did not like his or her unmet expectation, whether or not the unmet expectation is unfavorable or favorable to him- or herself (Irving & Meyer, 1994; Oliver, 1976; Olson et al., 1996). This may be because, after identifying unmet expectations, the individual could suffer from uncertainty regarding PA and feel a loss of control and fairness as argued earlier in this study. Given the findings from the prior studies of un/met expectancy, we would like to emphasize that our findings—the non-linear relationship of rating discrepancy with turnover intention and LMX—are not too counter-intuitive.

From the post-hoc analyses, an employee's appraisal reactions to unfavorable or favorable rating discrepancy were found to be asymmetrical. Unfavorable rating discrepancy, compared to favorable one, led to higher turnover intention and lower LMX. Importantly, it seemed that, when an employee did not find considerable violation of desired self-consistency, the employee's motive of self-enhancement rather than self-consistency was more influential on appraisal reactions. We found that the lowest level of turnover intention and the highest level of LMX were not exactly for no rating discrepancy (i.e., for the case when one's actual PA rating was exactly identical

to his or her expected PA rating), but for slightly favorable rating discrepancy (i.e., for the case when one's actual PA rating was slightly higher than his or her expected PA rating); then, as rating discrepancy was becoming more favorable (i.e., as an actual PA rating was becoming further higher than an expected PA rating), an employee appeared to evaluate his or her work relationship with an organization/a leader to become much poorer. This finding suggests that even though an employee's self-enhancement motives is a significant determinant of appraisal reactions, self-consistency motives needs to be seriously considered in predicting and explaining the effect of rating discrepancy on employee reactions.

## Limitations

There were several limitations of this research. First, the present study was conducted with R&D employees in distinctive work contexts such as FDRS and project teams. Although we believe that the FDRS context is not too unique to make study results unacceptable, the generalizability of the study findings is still not warranted. In the future, researchers need to replicate our findings across diverse work contexts. Second, a Likert-type scale, which represents an interval scale, was used to measure an expected PA rating and an actual PA rating, respectively. This was not so appropriate, because the distances between the rating levels (i.e., A, B, C, C-, D) adopted in the surveyed company's PA system were not equal. However, it was hard for us to avoid this issue. As organizational researchers, we think that our operationalization of the PA ratings was necessary because a real work organization does not use an interval scale for PA and archival PA data were used for this study. Nevertheless, researchers would need to explore how to overcome this issue in the future. Third, it is not certain whether the time gap between rating discrepancy and employee reactions to it was adequate. One month was obviously an arbitrary time interval; adopting other time intervals could have produced different findings. Nonetheless, it should be noted that the one month time gap was chosen given the surveyed company's work contexts, which the company's HR managers explained. This way to determine a time interval between surveys has been recommended by organizational researchers (Chen, 2005; Chen & Klimoski, 2003). Future research is required to replicate the findings of this study while adopting different time intervals. Finally, we did not measure turnover intention and perceived LMX at Time 1. This limitation increases a concern on causality in our proposed relationships. One may argue that an employee's rating discrepancy would result from high turnover intention and low LMX and that turnover intention and LMX actually would be maintained consistently. Future research needs to replicate our findings while controlling for turnover intention and perceived LMX measured before rating discrepancy occurs.

It is also noteworthy that, from our findings of employee reactions to rating discrepancy, employee motives of self-enhancement and self-consistency were found to be effective in the East Asian workplace. The two focal human inclinations have been consistently found to be less prevalent in East Asia than Western countries. Brown et al. (2010) reviewed the extant literature and concluded that Western individuals have stronger needs to maintain a positive self-opinion and to discount a negative one. English and Chen (2011) found that inconsistency of self-perceptions across relationships was a more significant predictor of relationship quality for European Americans

than East Asian Americans, which was congruent with previous research findings (Church et al., 2008; Suh, 2002). Although self-enhancement and self-consistency might be weaker motives for individuals in East Asian culture than those in Western culture, both were still found to significantly influence employees experiencing rating discrepancy. Therefore, researchers and practitioners may need to seriously consider the dynamics of self-enhancement and self-consistency in performance appraisal, which commonly generates rating discrepancy.

## Future research

Beyond the issues discussed above, several additional directions are suggested for future rating discrepancy studies. First, it would be promising to examine the role of affect in rating discrepancy research. Provided the significant implication of rating discrepancy on an employee's economic interests and status at work (e.g., pay and promotion), rating discrepancy could be examined as an affective event which distinctively influences appraisal reactions in future research. In addition, it may be also interesting to investigate how an employee's affective states would moderate the impact of rating discrepancy on appraisal reactions. For example, Van den Bos (2003) found that people heuristically used their affective states in evaluating an event, especially when there was lack of information to judge the nature of the event. Researchers may explore how rating discrepancy interacting with various affective states would influence an employee's perceptions, attitudes, and behaviors within the PA contexts characterized by varied uncertainty.

Second, researchers may examine how rating discrepancy affects an employee's sense-making cognitive processes and subsequent behavioral outcomes. Rating discrepancy could enhance an employee's sense of uncertainty in a work relationship with an organization and a leader. Accordingly, it may be fruitful to examine specific cognitive processes, such as justification or attribution, and subsequent behaviors, such as seeking information and interacting with others, which an employee is engaged in for reducing the unpleasant feeling of uncertainty (Falcione & Wilson, 1988) and/or for understanding the rating discrepancy (Louis, 1980).

Third, future research may examine FDRS as a fruitful PA context for investigating rating discrepancy in future studies. As briefly discussed above, an employee's appraisal reactions found in this study may have been affected by certain features of FDRS. Unfortunately, the effect of FDRS was not explicitly tested because there was only one single sample exclusively evaluated under FDRS. Hence, a control group design is necessary in future research so that an employee's appraisal reactions to rating discrepancy under FDRS and under more conventional PA systems can be validly compared. In this regard, the multi-level effect of rating discrepancy on group-level appraisal reactions also needs to be examined. Given the nature of FDRS, team members under FDRS would more likely compete rather than cooperate with each other in pursuit of the limited and valued team resources (e.g., a high PA rating), in comparison with those under more traditional PA systems. It is recommended to examine whether a group-level construct of rating discrepancy (e.g., rating discrepancy mean or dispersion) under FDRS has different implications on group dynamics from that under other PA systems.

## Conclusion

The results of our study revealed that, when an employee experienced more favorable rating discrepancy, he or she deliberated less on turnover and perceived his or her work relationship with a leader to be a higher quality one. It was also found that, when an employee had larger rating discrepancy, he or she thought more on turnover and consider the quality of his or her work relationship with a leader to be lower. These findings highlighted that an employee's appraisal reactions to rating discrepancy would be less straightforward than what was discussed and found in prior research of rating discrepancy. Based on our findings, these appraisal reactions were affected not only by the favorability of rating discrepancy but also by the size of rating discrepancy.

Aggregating and further exploring our findings, we realized that the effect of rating discrepancy on an employee's appraisal reactions might be curvilinear. That is, even when rating discrepancy was favorable, an employee with larger rating discrepancy was more deliberate about quitting a job and more negatively assessed the quality of work relationships with a leader. This suggested the necessity and importance to reduce the size of rating discrepancy. Therefore, we recommend that an organization and a leader need to understand complex reactions to rating discrepancy and should do their best to prevent a surprising PA rating to diminish rating discrepancy, by providing an employee with timely and honest performance information and feedback throughout a PA process.

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