

The dual-pathway mechanism of the relative performance gap on knowledge hiding from the perspective of stress cognitive appraisal

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Abstract

Purpose – Relative performance gaps (RPGs) between employees and higher-performing coworkers are common in organizations, yet prior research has reported mixed findings regarding their consequences. Drawing on stress cognitive appraisal theory, this study aims to examine the relationship between RPG and knowledge hiding (KH) through two proposed appraisal pathways, hindrance appraisal and challenge appraisal and whether perceived procedural justice (PPJ) moderates these relationships.

Design/methodology/approach – Data were collected through an online survey of 400 employees. Established scales were adapted to the performance-comparison context. Confirmatory factor analysis was used to assess construct distinctiveness, and bootstrapping procedures were used to test the direct, mediating and moderated mediation effects.

Findings – RPG was positively related to KH. More importantly, RPG showed opposing indirect associations with KH through hindrance and challenge appraisal. Hindrance appraisal was positively related to KH, whereas challenge appraisal was negatively related to KH. In addition, PPJ conditioned these indirect associations by weakening the positive indirect association through hindrance appraisal and strengthening the negative indirect association through challenge appraisal.

Originality/value – This study contributes to the literature by explaining why RPG may produce divergent knowledge behaviors rather than uniformly positive or negative consequences. It advances an appraisal-based understanding of RPG by clarifying how challenge and hindrance appraisals are associated with divergent knowledge-hiding responses and identifies PPJ as an important contextual condition shaping whether RPG is interpreted as a threat or as an opportunity for growth.

Keywords Relative performance gap, Knowledge hiding, Stress cognitive appraisal theory, Challenge appraisal, Hindrance appraisal, Perceived procedural justice

Paper type Research paper

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1. Introduction

In contemporary organizations, performance differences among coworkers are increasingly salient and consequential. In settings where rewards, recognition and advancement are closely tied to performance, employees are not only evaluated on their absolute performance, but are also acutely aware of how their performance compares with that of higher-performing colleagues (Brown *et al.*, 2007; Campbell *et al.*, 2017; Hendricks *et al.*, 2023). Such relative performance gaps (RPGs) matter because they signal more than current standing. They also imply future access to valued resources, including status, rewards and career opportunities (Call *et al.*, 2015; Downes *et al.*, 2021). Yet prior research has not reached a consistent conclusion regarding how employees respond to these gaps.

RPGs may motivate employees to improve and learn from superior peers, but they may also evoke defensiveness, resentment and harmful interpersonal behavior (Brown *et al.*, 2007; Pan *et al.*, 2021; Sung *et al.*, 2024). These divergent findings suggest that relative performance disadvantage does not carry a fixed behavioral meaning, raising an important question:

Q. How can the same performance disadvantage be associated with both defensive and developmental responses?

Existing research offers only a partial answer. Studies of upward comparison and higher-performing coworkers have documented two contrasting patterns of employee response. One line emphasizes the potentially threatening consequences of upward performance comparison. Comparing oneself with a higher-performing coworker can threaten self-evaluation and evoke negative emotions such as envy, anxiety and inferiority, thereby increasing the likelihood of interpersonal undermining and other dysfunctional responses (Brown *et al.*, 2007; Geng *et al.*, 2026; Pan *et al.*, 2021; Quade *et al.*, 2019; Tse *et al.*, 2018). A second line highlights the developmental potential of upward comparison. Higher-performing coworkers can serve as role models or aspirational referents, providing information and standards that stimulate learning, self-improvement and constructive interpersonal behavior (Collins, 1996; Downes *et al.*, 2021; Sung *et al.*, 2024). Taken together, this literature suggests that unfavorable performance comparison can generate either defensive or developmental responses.

These contrasting findings have been explained through several complementary theoretical lenses. Social comparison theory helps explain why higher-performing coworkers become salient referents for self-evaluation and how employees assess their relative standing (Brown *et al.*, 2007; Collins, 1996). Conservation of resources theory, in turn, helps explain why employees may protect valued resources when an unfavorable comparison is experienced as threatening (Halbesleben *et al.*, 2014). Social-cognitive theory further explains how higher-performing coworkers can function as role models whose observable behaviors and performance standards provide opportunities for observational learning and self-improvement (Downes *et al.*, 2021). These perspectives illuminate different aspects of performance disadvantage, but they are less explicit about the cognitive process through which employees determine whether a relative performance disadvantage represents an obstruction to valued goals or an opportunity for improvement. Stress cognitive appraisal theory addresses this interpretive question by focusing on how individuals evaluate potentially stressful conditions in terms of goal attainment, potential gains and losses and coping possibilities (Folkman *et al.*, 1986; Gomes *et al.*, 2013). This perspective is particularly relevant to RPG because the same relative disadvantage may be construed either as a hindrance that obstructs valued goals or as a challenge that offers opportunities for learning and improvement. Consistent with this logic, Rinker *et al.* (2025) conceptualized upward social comparison as a work-related stressor and demonstrated that its appraisal has consequences for employees' knowledge-exchange behavior. Thus, cognitive appraisal complements social comparison and resource-based explanations by specifying how employees interpret the meaning of relative performance disadvantage and how these interpretations can orient them toward different knowledge-related responses.

This issue is especially important when considering knowledge hiding (KH). KH refers to an intentional attempt to withhold or conceal requested knowledge from a coworker (Connelly *et al.*, 2012). As a covert and strategically deniable behavior, KH is particularly relevant in competitive work contexts because it allows employees to protect knowledge resources without engaging in overt confrontation (Anand *et al.*, 2022; Connelly *et al.*, 2012; Serenko and Bontis, 2016). Recent research further indicates that KH is sensitive to the relational and organizational context in which knowledge exchange occurs (Bashir *et al.*, 2023, 2025; Islam *et al.*, 2024, 2025). When employees perceive themselves to be lagging behind

higher-performing colleagues, withholding knowledge may serve as a low-visibility response to perceived vulnerability, resource threat and competitive disadvantage (Li *et al.*, 2026). At the same time, employees do not always react to performance gaps defensively. If they interpret such gaps as opportunities for growth, learning or future gain, they may become less inclined to hide knowledge and more willing to engage constructively with coworkers. KH is therefore a theoretically revealing outcome because it captures whether employees respond to RPGs through defensive resource protection or more developmental forms of engagement.

To explain this divergence, this study draws on stress cognitive appraisal theory (Folkman *et al.*, 1986; Gomes *et al.*, 2013; Tomaka *et al.*, 1993). This perspective suggests that potentially stressful situations do not produce fixed responses. Rather, individuals evaluate such situations in terms of their likely losses, potential gains and perceived ability to cope (Edwards, 1992; Lazarus and Folkman, 1984). From this standpoint, a RPG is not inherently harmful or beneficial. Instead, it can function as a socially embedded work stressor when employees perceive it as consequential for valued goals, and its consequences depend on how employees appraise it. When employees interpret the gap as an obstacle that threatens valued outcomes and exceeds their coping resources, they are more likely to form a hindrance appraisal, which should increase KH as a defensive coping response (Folkman *et al.*, 1986; Gomes *et al.*, 2013; Ma *et al.*, 2021). By contrast, when employees interpret the gap as a manageable opportunity for growth, they are more likely to form a challenge appraisal, which should reduce KH by encouraging more constructive and future-oriented responses (LePine *et al.*, 2016; Ma *et al.*, 2021; Rinker *et al.*, 2025). In this way, stress cognitive appraisal theory provides a more integrative explanation for why RPGs may lead to divergent knowledge behaviors.

This study further argues that whether employees interpret a RPG as a hindrance or a challenge depends in part on the justice context in which that gap is embedded. In particular, perceived procedural justice (PPJ) should be pivotal because it shapes whether employees view superior performance as the outcome of legitimate, transparent and replicable processes (Konovsky, 2000; Korsgaard *et al.*, 1995; Taylor *et al.*, 1995). When PPJ is high, employees are more likely to believe that high performance reflects fair rules and credible standards, making the gap appear understandable and potentially bridgeable through effort. Under such conditions, a RPG is more likely to be appraised as a challenge. When PPJ is low, however, employees may infer that performance differences reflect favoritism, bias or opaque evaluation procedures, making the gap appear less controllable and more threatening (Tyler, 1989; Zhang *et al.*, 2014). Under those conditions, the same gap is more likely to be appraised as a hindrance. PPJ therefore does not merely shape employees' general attitudes toward the organization. More fundamentally, it shapes how employees interpret the meaning of RPGs.

Building on this reasoning, this study develops and tests a moderated dual-pathway model linking RPG to KH. Specifically, this study proposes that RPG influences KH through two competing appraisal pathways including hindrance appraisal, which increases KH and challenge appraisal, which decreases it. This study further proposes that PPJ influences the mediating role of challenge and hindrance stress appraisal. By doing so, this study seeks to explain not simply whether RPGs matter, but why they influence KH through dual pathways and under what organizational conditions those behaviors are more likely to emerge.

This study makes three contributions. First, it advances research on RPGs by showing that the same performance disadvantage can be associated with opposing tendencies toward the same focal knowledge behavior, extending prior research that has documented divergent consequences across different behavioral outcomes (Brown *et al.*, 2007; Pan *et al.*, 2021; Sung *et al.*, 2024). Second, it advances an appraisal-based understanding of RPG by clarifying how employees' cognitive interpretations of performance disadvantage help explain these opposing knowledge-hiding tendencies (Folkman *et al.*, 1986;

Gomes *et al.*, 2013; Ma *et al.*, 2021). Third, it identifies PPJ as an important contextual condition shaping whether RPGs are construed as threats or opportunities, thereby linking justice perceptions to employees' knowledge-related coping responses in competitive workplace settings (Konovsky, 2000; Korsgaard *et al.*, 1995; Zhang *et al.*, 2014).

2. Theory and hypotheses

2.1 Cognitive appraisal theory of stress

The cognitive appraisal theory of stress (Folkman and Lazarus, 1986) explains how individuals respond to stressors based on their cognitive evaluations of these stressors. According to this theory, cognitive appraisal is a crucial determinant of behavior, as it influences how individuals interpret and react to stressful situations. Appraisal and coping are central processes in this framework, where an individual's assessment of a situation shapes their emotional and behavioral responses. Cognitive appraisals lead to different coping strategies, which guide how individuals manage stress. Coping refers to the cognitive and behavioral efforts made to manage external and internal demands that are perceived as stressful (Florian *et al.*, 1995; Lazarus and Folkman, 1984; Parkes, 1984). These strategies are typically classified into two types including emotion-focused coping and problem-focused coping. Emotion-focused coping involves adjusting to the environment through avoidance or withdrawal, often used when individuals perceive they cannot change the situation. On the other hand, problem-focused coping involves altering the situation, such as reinterpreting the problem or generating solutions and is more likely to be used when individuals believe they can influence external conditions (Lazarus and Folkman, 1984). Both coping strategies are context-dependent and serve to mitigate stress in different ways. Individuals may reassess their coping outcomes in light of evolving circumstances and adjust their approach accordingly. This dynamic process underscores the importance of cognitive appraisal in shaping responses to stress, emphasizing its central role in understanding how people cope with challenging situations (Folkman and Lazarus, 1986).

This appraisal perspective is particularly relevant to RPGs, which are a common feature of performance-oriented workplaces and can constitute a potential interpersonal work stressor. When employees recognize that a coworker is performing better, the resulting disadvantage may place valued outcomes such as recognition, rewards, status and career opportunities at stake (Call *et al.*, 2015; Downes *et al.*, 2021). Rinker *et al.* (2025) provide direct support for treating unfavorable performance comparison in this way. Importantly, this does not imply that every RPG is necessarily experienced as stressful or harmful. In stress cognitive appraisal theory, the behavioral significance of a potentially stressful condition depends on how employees evaluate its implications for goal attainment, potential gains and losses and coping possibilities (Folkman *et al.*, 1986). Accordingly, this study treats RPG as a potential work stressor whose meaning is determined through challenge and hindrance appraisal.

For RPG to become appraisal-relevant, the performance domain must be sufficiently important to the employee's goals and the higher-performing coworker must serve as a meaningful comparison referent. Stress appraisal theory holds that an encounter becomes consequential when it bears on personal goals and well-being (Lazarus and Folkman, 1984; Folkman *et al.*, 1986), while workplace social-comparison research emphasizes that higher-performing peers become consequential when they provide self-relevant information about one's standing and prospects (Downes *et al.*, 2021). Accordingly, when employees do not pursue performance goals in the focal domain, perceive little competition with the referent or regard the gap as inconsequential for valued outcomes, the comparison may be appraised as relatively irrelevant or benign and may activate neither hindrance nor challenge appraisal.

2.2 The influence of relative performance gap on knowledge hiding

RPG refers to an employee's perceived performance shortfall relative to a higher-performing coworker (Ettlie, 1983; Song *et al.*, 2018). In organizational settings, such gaps are rarely neutral because performance gaps are often tied to the allocation of valued outcomes, including recognition, rewards, status and future opportunities (Call *et al.*, 2015; Downes *et al.*, 2021). As a result, perceiving oneself as lagging behind a superior-performing colleague can heighten a sense of vulnerability and competitive disadvantage.

This perceived disadvantage may increase KH for two related reasons. First, knowledge is a valuable personal resource in organizations, especially when employees face evaluation pressure and potential status loss. When employees perceive themselves to be behind a high-performing coworker, they may become more protective of their existing knowledge resources and less willing to share them, particularly when sharing could further strengthen the position of an already superior peer (Anand *et al.*, 2022; Connelly *et al.*, 2012; Serenko and Bontis, 2016). Second, KH may also function as a covert competitive response. Because high performance is often associated with greater access to organizational resources, employees may view coworkers' continued success as intensifying their own disadvantage (Brown *et al.*, 2007; Campbell *et al.*, 2017). Under such conditions, withholding requested knowledge may serve as a low-visibility means of limiting others' further advantage while avoiding the social and reputational risks associated with overt interpersonal aggression (Anand *et al.*, 2022; Connelly *et al.*, 2012).

Taken together, RPG may make employees more defensive toward coworkers' knowledge requests because such requests occur in a context where employees already feel disadvantaged, resource-sensitive and competitively exposed (Rinker *et al.*, 2025). Thus, when employees perceive a larger performance gap between themselves and a higher-performing colleague, they should be more likely to engage in KH. Based on this analysis, the following hypothesis is proposed:

H1. The relative performance gap is positively related to knowledge hiding.

2.3 The mediating role of hindrance appraisal in the relationship between relative performance gap and knowledge hiding

Stress cognitive appraisal theory defines hindrance appraisal as an evaluation that a demanding situation obstructs valued goals and carries substantial potential for loss (Folkman *et al.*, 1986; Gomes *et al.*, 2013; Ma *et al.*, 2021). RPG contains precisely such loss-relevant information. Falling behind a higher-performing coworker signals a disadvantage in a performance domain that often determines rewards, recognition, status and advancement (Brown *et al.*, 2007; Downes *et al.*, 2021; Tse *et al.*, 2018). As the performance gap increases, the amount of ground that must be recovered also becomes more salient, implying greater demands on employees' effort and resources to restore their relative standing. RPG therefore heightens both the stakes associated with unfavorable comparison and the potential difficulty of goal attainment, increasing the likelihood that RPG is appraised as an obstruction to valued work goals. Based on the above analysis, this study proposes:

H2a. The relative performance gap is positively related to hindrance appraisal.

Hindrance appraisal should, in turn, be positively related to KH because it directs employees' coping orientation toward protecting threatened resources and preventing further loss. When employees interpret their performance disadvantage as obstructive, retaining control over valuable knowledge provides a means of preserving an important personal resource (Rinker *et al.*, 2025). In the present comparison context, withholding requested knowledge may also prevent an already higher-performing coworker from further

strengthening his or her advantage, while allowing the focal employee to avoid the costs of more overt forms of retaliation (Anand *et al.*, 2022; Connelly *et al.*, 2012). This reasoning is consistent with recent evidence that hindrance appraisal is positively associated with KH under organizational change and technological pressure (Xu *et al.*, 2026). Thus, hindrance appraisal should make KH a more attractive coping response. Based on this reasoning, this study proposes:

H2b. Hindrance appraisal is positively related to knowledge hiding.

Taken together, these arguments specify a hindrance pathway linking RPG to KH. RPG should be positively related to hindrance appraisal because it makes potential losses and goal obstruction more salient. Hindrance appraisal, in turn, should be positively related to KH because it favors defensive resource protection. Based on this reasoning, this study proposes:

H2. Hindrance appraisal positively mediates the relationship between relative performance gap and knowledge hiding.

2.4 The mediating role of challenge appraisal in the relationship between relative performance gap and knowledge hiding

Stress cognitive appraisal theory also recognizes that demanding situations may carry potential gains and therefore be appraised as challenges (Folkman *et al.*, 1986; Gomes *et al.*, 2013; Ma *et al.*, 2021). RPG contains such gain-relevant information because a higher-performing coworker provides a concrete internal standard of superior performance. Observing this discrepancy can clarify what improved performance looks like and make the need for self-improvement more salient (Collins, 1996; Downes *et al.*, 2021; Wu and Liang, 2026). Importantly, reducing the discrepancy also carries valued potential gains, including improved competence, relative standing, recognition and future career opportunities. Thus, although RPG signals current disadvantage, it simultaneously highlights a meaningful performance demand whose successful resolution offers developmental benefits. From an appraisal perspective, these potential gains provide a basis for construing RPG as a challenge. Based on this analysis, this study proposes:

H3a. Relative performance gap is positively related to challenge appraisal.

Challenge appraisal should be negatively related to KH because it makes constructive engagement with the higher-performing coworker instrumentally valuable. When employees interpret their performance disadvantage as an opportunity for improvement, interaction with the superior-performing coworker can provide access to knowledge, feedback and learning opportunities that may help them improve their own performance (Collins, 1996; Downes *et al.*, 2021; Sung *et al.*, 2024). Maintaining reciprocal knowledge exchange therefore becomes more useful than protecting knowledge defensively (Naqshbandi *et al.*, 2024). Therefore, challenge appraisal may inhibit individuals from engaging in KH that risks undermining reciprocity and restricting future access to the knowledge and support needed for improvement. Based on this analysis, this study proposes:

H3b. Challenge appraisal is negatively related to knowledge hiding.

Together, these arguments specify a challenge pathway linking RPG to lower KH. RPG should be positively related to challenge appraisal because it makes both a superior performance standard and the potential gains from improvement salient. Challenge appraisal, in turn, should be negatively related to KH because KH undermines the exchange relationships that can support such improvement. Based on this analysis, this study proposes:

H3. Challenge appraisal negatively mediates the relationship between relative performance gap and knowledge hiding.

2.5 The moderating role of perceived procedural justice in the relationship between relative performance gap and appraisal responses

Employees' appraisals of RPG should also depend on the procedural context in which performance differences are evaluated. PPJ reflects employees' perceptions that organizational decision procedures are fair, consistent and based on credible information (Konovsky, 2000; Korsgaard *et al.*, 1995; Niehoff and Moorman, 1993). This procedural focus is particularly relevant to RPG because the focal issue is how employees interpret a performance disadvantage generated and evaluated within the organization's performance system. Although distributive justice concerns the fairness of resulting outcome allocations and interactional justice concerns the quality of interpersonal treatment and communication surrounding organizational decisions, procedural justice concerns the fairness and reliability of the processes through which performance is assessed and differentiated (Colquitt *et al.*, 2001; Thurston and McNall, 2010). It therefore provides more direct information about whether the observed performance gap reflects a legitimate and predictable evaluation process and whether employees' future actions can meaningfully improve their standing. Accordingly, the present study focuses on procedural justice because it is most directly aligned with the evaluative process central to the proposed appraisal mechanism.

Against this background, low PPJ should strengthen the positive relationship between RPG and hindrance appraisal. When performance procedures are perceived as biased, inconsistent or opaque, employees have less confidence that their own effort and behavior will produce predictable changes in future performance outcomes (Konovsky, 2000; Tyler, 1989). Under these conditions, a larger RPG is more likely to signal an enduring obstacle because employees have fewer credible cues about how the disadvantage can be corrected. The gap therefore carries stronger implications of uncontrollability and blocked goal attainment. Conversely, fair and credible procedures provide greater predictability about how performance outcomes are determined, weakening the tendency to interpret RPG as an obstruction. Accordingly, this study proposes the following hypothesis:

H4a. Perceived procedural justice negatively moderates the relationship between relative performance gap and hindrance appraisal, such that the positive relationship is stronger when perceived procedural justice is low.

High PPJ should strengthen the positive relationship between RPG and challenge appraisal through a different appraisal process. Fair, consistent and transparent procedures provide employees with clearer information about how superior performance is recognized and how future performance can be improved (Korsgaard *et al.*, 1995; Taylor *et al.*, 1995). Such procedural cues strengthen the perceived connection between employees' own effort and future outcomes, making the performance gap more informative and the prospect of improvement more attainable. Consequently, as RPG becomes more salient, employees operating under high PPJ should be more likely to interpret the discrepancy in terms of potential mastery and future gain. Under low PPJ, these developmental cues are weaker because the basis for performance differences is less predictable. Accordingly, this study proposes the following hypothesis:

H4b. Perceived procedural justice positively moderates the relationship between relative performance gap and challenge appraisal, such that the positive relationship is stronger when perceived procedural justice is high.

2.6 Moderated mediation model

If PPJ moderates whether employees interpret RPG primarily as a hindrance or as a challenge, then it should also influence the indirect effects of RPG on KH through these two appraisal pathways. Specifically, when PPJ is low, employees should be more likely to

interpret RPG as threatening and obstructive, thereby strengthening the indirect effect of RPG on KH through hindrance appraisal. Conversely, when PPJ is high, employees should be more likely to interpret RPG as manageable and growth-promoting, thereby strengthening the negative indirect effect of RPG on KH through challenge appraisal. Accordingly, this study proposes the following hypothesis:

- H5a.* Perceived procedural justice negatively moderates the indirect effect of relative performance gap on knowledge hiding via hindrance appraisal, such that the indirect effect is stronger when perceived procedural justice is low.
- H5b.* Perceived procedural justice positively moderates the indirect effect of relative performance gap on knowledge hiding via challenge appraisal, such that the indirect effect is stronger when perceived procedural justice is high.

Figure 1 presents the theoretical model.

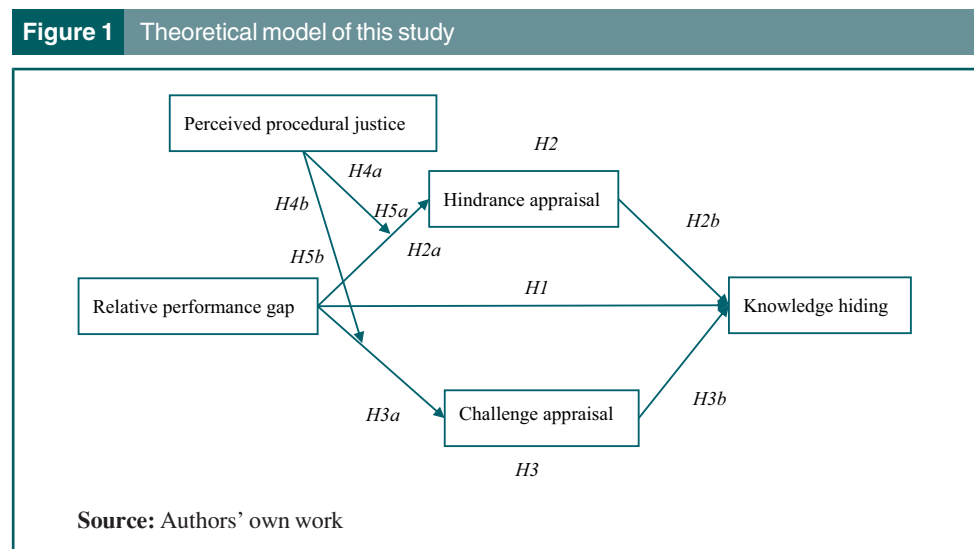
3. Method

3.1 Sample and procedure

The target population consisted of employees currently working in business organizations in China. Data were collected between October and December 2025 through Sojump, a widely used online survey platform in China. The survey link was distributed through social media channels to reach employee respondents. The introductory page explained the academic purpose of the study, emphasized voluntary participation and assured respondents that their responses would remain anonymous and confidential.

Because the study focuses on employees' performance disadvantage relative to a higher-performing coworker, respondents were asked to recall one coworker in their team whom they perceived as having a higher level of job performance than themselves. They were instructed to keep this same coworker in mind when answering the subsequent questions concerning RPG and their responses toward the comparison coworker. Respondents also reported the length of time they had worked with this coworker and the tenure of the focal team.

A total of 473 questionnaires were returned. To ensure data quality, responses were screened using an instructed-response attention check and additional quality criteria. Questionnaires were excluded when they were completed in less than 60s, failed the instructed-response attention check or showed inconsistent responses to the consistency



check involving reverse-worded items. 73 questionnaires failed at least one criterion, leaving 400 usable responses for analysis (84.57% of the returned questionnaires). Following [Armstrong and Overton \(1977\)](#), we used a time-trend extrapolation approach to assess potential non-response bias. The first 100 usable respondents and the last 100 usable respondents, based on questionnaire submission order, were treated as proxies for early and late respondents, respectively. Independent-samples t-tests were conducted for RPG, hindrance appraisal, challenge appraisal, KH and PPJ. No significant differences were observed between the two groups (all $p > 0.05$; t -values ranged from -1.24 to 1.51). These results provide no evidence of systematic differences between early and late respondents, suggesting that non-response bias is unlikely to materially affect the findings.

The final sample included 202 men (50.5%) and 198 women (49.5%). Of the respondents, 23.75% were aged 25 years or younger, 29.25% were aged 26–35, 26.25% were aged 36–45, 11.5% were aged 46–55 and 9.25% were aged 55 years or older. Half of the respondents held a bachelor's degree (50.5%). Participants were used primarily in private enterprises (45.75%), state-owned enterprises (25.75%) and joint ventures (16.0%). Geographically, 78 respondents (19.5%) were from Northeast China, 85 (21.25%) from North China, 120 (30.0%) from the Yangtze River Delta, 45 (11.25%) from Central China and 72 (18.0%) from the Pearl River Delta. Regarding the focal comparison relationship, 45.0% had worked with the higher-performing coworker for less than one year and 35.25% for one to three years.

3.2 Measurement

All focal measures were drawn from established scales. Because the original instruments were developed in different substantive contexts, adaptations were limited to aligning the item referents and wording with the focal performance-comparison setting without altering the conceptual content of the constructs. Measures originally developed in English were translated into Chinese and subsequently back-translated into English ([Brislin, 1970](#)). Differences between the translated and original versions were checked and reconciled to preserve semantic equivalence while ensuring that the Chinese wording was natural and comprehensible to respondents. Except for RPG, the focal constructs were measured using five-point Likert-type response scales.

RPG was measured using a seven-item scale adapted from [Peng et al. \(2024\)](#). [Peng et al. \(2024\)](#) adapted the seven-item in-role performance scale originally developed by [Williams and Anderson \(1991\)](#) to an upward performance comparison context by asking employees to evaluate a higher-performing coworker relative to themselves. Following this approach, respondents in the present study were instructed to evaluate a previously identified higher-performing coworker relative to their own performance across seven in-role performance dimensions. Sample items include “In adequately completing assigned duties, this coworker performs better than I do” and “In fulfilling responsibilities specified in the job description, this coworker performs better than I do.” To capture the perceived magnitude of the performance gap, each item was rated using five ordered percentage-range categories: 1 = within 10%, 2 = 10%–40%, 3 = 40%–60%, 4 = 60%–90% and 5 = above 90%. Higher scores indicate a larger perceived performance gap. The complete set of items is provided in [Appendix 1](#).

KH was measured using the 12-item scale developed by [Connelly et al. \(2012\)](#), comprising three four-item dimensions including evasive hiding, playing dumb and rationalized hiding. Evasive hiding involves providing misleading or incomplete information or promising to provide the requested knowledge without intending to do so. Playing dumb involves pretending not to possess the requested knowledge. Rationalized hiding involves withholding requested knowledge while providing an explanation or justification. In the present sample, Cronbach's alpha was 0.882 for evasive hiding, 0.863 for playing dumb and 0.882 for rationalized hiding. The aggregate 12-item score was used in the main

analyses, while the three dimensions were examined separately in supplementary mediation analyses reported in [Appendix 2](#).

Hindrance appraisal and challenge appraisal Hindrance appraisal and challenge appraisal were measured using [Searle and Auton's \(2015\)](#) scales. Following the logic of this study, item wording was adapted to the context of performance comparison with the focal coworker. Sample items included “I believe the performance gap with this colleague will limit how well I can perform” for hindrance appraisal and “I believe the performance gap with this colleague will teach me a lot” for challenge appraisal.

PPJ. PPJ was measured using the scale developed by [Niehoff and Moorman \(1993\)](#). Items were adapted to reflect employees' perceptions of the fairness, consistency and objectivity of performance-related procedures in the organization such as “The performance evaluation process within the organization is based on objective, accurate information”, with six items.

Control variables This study statistically controlled for demographic characteristics that may be associated with workplace interpersonal behavior, including gender, age, education, organizational type, work tenure, tenure with the focal coworker and team establishment duration.

4. Data analysis and results

4.1 Analytical strategy

This study conducted the analyses in four steps. First, confirmatory factor analyses were used to assess the distinctiveness of the study variables. Second, internal consistency, convergent validity and discriminant validity were examined using Cronbach's alpha, composite reliability, average variance extracted (AVE) and inter-construct correlations. Third, hierarchical regression analyses were conducted to test the direct effects and first-stage moderation effects. Finally, the hypothesized indirect and moderated indirect effects were tested using bootstrapping procedures with 5,000 resamples.

4.2 Reliability, validity and descriptive statistics

This study used SPSS 26.0 to conduct reliability tests on the collected questionnaires. As shown in [Table 1](#), the Cronbach's α values for RPG, KH, HA, CA and PPJ are 0.921, 0.899, 0.874, 0.867 and 0.925, respectively, all of which are above 0.8, indicating that the scales used in this study have good reliability. Test of construct validity was conducted using Mplus 8.3 software and four alternative models were designed to examine six fit indices. The specific fit indices for the measurement model are shown in [Table 2](#). As shown in the table, the absolute fit indices for the hypothesized model ($\chi^2/df = 1.131 < 3$, RMSEA = 0.018 < 0.08, SRMR = 0.030 < 0.05, CFI = 0.994 > 0.95, TLI = 0.993 > 0.95 and

Table 1 Cronbach's α , AVE and CR of the variables

Variable	No. of items	Smallest factor loadings	Cronbach's α	AVE	CR
RPG	7	0.779	0.921	0.654	0.930
KH	12	0.765	0.899	0.637	0.955
HA	4	0.812	0.874	0.697	0.902
CA	4	0.808	0.867	0.667	0.889
PPJ	6	0.826	0.925	0.723	0.940

Note(s): $n = 400$; RPG = relative performance gap; KH = knowledge hiding; HA = hindrance appraisal; CA = challenge appraisal;

PPJ = perceived procedural justice

Source(s): Authors' own work

Table 2 Fit indices of the structural validity test

Model	Factors	χ^2/df	RMSEA	SRMR	CFI	TLI	GFI
Five-factor model	RPG, CA, HA, KH, PPJ	1.131	0.018	0.030	0.994	0.993	0.944
Four-factor model	RPG + CA, HA, KH, PPJ	4.307	0.091	0.108	0.848	0.829	0.777
Three-factor model	RPG + CA, HA + KH, PPJ	5.215	0.103	0.121	0.804	0.783	0.744
Two-factor model	RPG + CA + HA + KH, PPJ	8.099	0.133	0.145	0.667	0.634	0.581
One-factor model	RPG + CA + HA + KH + PPJ	15.495	0.191	0.234	0.317	0.252	0.279

Note(s): $n = 400$; RPG = relative performance gap; KH = knowledge hiding; HA = hindrance appraisal; CA = challenge appraisal; PPJ = perceived procedural justice

Source(s): Authors' own work

GFI = 0.944 > 0.90) show the best fit, while the fit indices for the four-factor, three-factor, two-factor and single-factor models are relatively poor. This suggests that the hypothesized model fits well and has good construct validity.

This study assessed the factor loadings and AVE to test convergent validity. Factor loadings were obtained using SPSS 26.0 and AVE and CR were calculated. The results, as shown in Table 1, indicate that the factor loadings for all items exceed 0.6, providing support for convergent validity. In addition, the AVE values are all greater than 0.5 and the CR values are all greater than 0.8, indicating good convergent validity for the scales used in this study. Discriminant validity is essential for ensuring that the scales for different variables are distinct from each other, meaning that there should not be high correlations between different scales. The analysis results, shown in Table 3, reveal that the square root of the AVE for each scale exceeds the correlation coefficients between the variables, confirming that the scales in this study have good discriminant validity.

The means, standard deviations and correlation coefficients of each variable are shown in Table 3. RPG was positively correlated with KH ($r = 0.275$, $p < 0.01$), HA ($r = 0.205$, $p < 0.01$) and CA ($r = 0.242$, $p < 0.01$). HA was positively correlated with KH ($r = 0.257$, $p < 0.01$), while CA was negatively correlated with KH ($r = -0.217$, $p < 0.01$). Moreover, the correlation analysis results indicate that all correlation coefficients between the main

Table 3 The mean, standard deviation and correlation coefficients of the variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1 Gender												
2 Age	0.023											
3 Education level	0.067	-0.306**										
4 Organization type	-0.021	0.076	-0.033									
5 Tenure	0.024	0.778**	-0.196**	0.099*								
6 Tenure with the focal coworker	0.055	0.279**	-0.155**	0.019	0.405**							
7 Team establishment duration	0.038	0.182**	-0.039	0.072	0.324**	0.596**						
8 RPG	-0.047	0.009	-0.005	-0.088	0.018	-0.041	-0.034	<i>0.809</i>				
9 HA	-0.01	0.013	-0.006	-0.051	0.014	0.015	0.008	0.205**	<i>0.835</i>			
10 CA	-0.094	0.027	-0.042	0.018	0.001	-0.007	-0.073	0.242**	-0.142**	<i>0.817</i>		
11 KH	0.029	-0.024	-0.078	-0.044	-0.043	-0.068	-0.013	0.275**	0.257**	-0.217**	<i>0.798</i>	
12 PPJ	0.035	-0.019	0.020	-0.024	-0.034	-0.016	0.013	-0.025	-0.058	-0.186**	0.010	<i>0.850</i>
M	1.495	2.533	2.803	2.293	3.258	1.813	2.603	2.645	2.745	3.069	2.557	2.984
SD	0.501	1.230	0.973	1.166	1.451	0.913	1.028	1.000	1.052	1.041	0.861	1.141

Note(s): $n = 400$. * $p < 0.05$, ** $p < 0.01$ (two-tailed test). The square root of AVE is italic in the diagonal

Source(s): Authors' own work

variables are below 0.7, as expected, providing foundational support for testing the hypotheses in subsequent analyses.

4.3 Common method bias

Because all focal variables were collected from the same respondents using questionnaire measures, common method variance was a potential concern. To assess this concern, Harman's single-factor test and a single-factor CFA comparison were conducted. All focal measurement items were included in the factor analysis. The results show that the first factor explains 21.756% of the variance, which is below the 40% threshold. In addition, as shown in Table 2, the fit indices for the single-factor model ($\chi^2/df = 15.495$, RMSEA = 0.191, SRMR = 0.234, CFI = 0.317, TLI = 0.252, GFI = 0.279) are much worse than those for the five-factor model ($\chi^2/df = 1.131 < 3$, RMSEA = 0.018 < 0.08, SRMR = 0.030 < 0.05, CFI = 0.994 > 0.95, TLI = 0.993 > 0.95, GFI = 0.944 > 0.90). Taken together, these results suggest that a single-factor representation does not adequately account for the covariance structure of the focal measures. However, these diagnostics do not rule out common method variance (Podsakoff et al., 2003).

4.4 Hypothesis testing

4.4.1 Mediating effect test. In this study, hierarchical regression analysis was conducted using SPSS 26.0, with gender, age, education level, organization type, tenure, tenure with the focal coworker and team establishment duration as control variables. RPG was used as the independent variable and KH as the dependent variable. HA and CA were tested as mediating variables. The specific results are shown in Table 4. As shown in Table 4, models M1, M3 and M5 indicate the impact of control variables on the results. The R^2 values for HA (M1) were 0.003, for CA (M3) 0.018 and for KH (M5) 0.019, reflecting the baseline explanatory power of the control variables on each variable. After controlling for gender,

Table 4 Test of the mediation effect

	HA		CA		KH			
Variable	M1	M2	M3	M4	M5	M6	M7	M8
Control variable								
Gender	−0.024	0.004	−0.190	−0.167	0.069	0.091	0.074	0.035
Age	0.004	0.007	0.038	0.043	−0.012	−0.008	−0.013	−0.005
Education level	−0.003	−0.001	−0.024	−0.022	−0.094*	−0.092	−0.093*	−0.098*
Organization type	−0.048	−0.031	0.019	0.039	−0.033	−0.015	−0.023	−0.03
Tenure	0.009	−0.002	−0.019	−0.031	−0.013	−0.025	−0.015	−0.017
Tenure with the focal coworker	0.01	0.022	0.062	0.077	−0.1	−0.087	−0.102	−0.089
Team establishment duration	0.003	0.005	−0.106	−0.102	0.049	0.052	0.048	0.03
IV								
RPG		0.214***		0.251***		0.236***		
Mediator								
HA							0.210***	
CA								−0.180***
R ²	0.003	0.044	0.018	0.076	0.019	0.093	0.085	0.066
ΔR ²	0.003	0.041	0.018	0.058	0.019	0.074	0.066	0.047
F	0.182	2.244**	1.045	4.007***	1.1	5.039***	4.532***	3.432***
Mediation								
	Efficient		Boot SE		Boot LLCI		Boot ULCI	
HA	0.037***		0.012		0.016		0.064	
CA	−0.063***		0.016		−0.097		−0.035	
Note(s): <i>n</i> = 400. * <i>p</i> < 0.05, ** <i>p</i> < 0.01, *** <i>p</i> < 0.001								
Source(s): Authors' own work								

age, education level, organization type, tenure, tenure with the focal coworker and team establishment duration, model M6 shows that RPG is positively associated with KH ($\beta = 0.236$, $p < 0.001$), supporting *H1*.

After controlling for the same variables, as shown in models M1 and M2, RPG is positively associated with HA ($\beta = 0.214$, $p < 0.001$). As shown in models M5 and M7, HA is positively associated with KH ($\beta = 0.210$, $p < 0.001$), supporting *H2a* and *H2b*. Similarly, after controlling for the same variables, as shown in models M3 and M4, RPG is positively associated with CA ($\beta = 0.251$, $p < 0.001$). As shown in models M5 and M8, CA is negatively associated with KH ($\beta = -0.180$, $p < 0.001$), supporting *H3a* and *H3b*.

To test the proposed mediation pathways, the PROCESS macro was used with 5000 bootstrap resamples to generate 95% confidence intervals. The results, shown in Table 4, indicate a significant positive indirect association between RPG and KH through HA ($B = 0.037$, 95% CI [0.016, 0.064]), as the confidence interval did not include zero. Thus, *H2* was supported. Similarly, a significant negative indirect association between RPG and KH through CA was observed ($B = -0.063$, 95% CI [-0.097, -0.035]), supporting *H3*.

4.4.2 Moderating effect test. To test the moderating role of PPJ, the data were centered and interaction terms were calculated before analysis in SPSS 26.0. As shown in Table 5, the $\text{RPG} \times \text{PPJ}$ interaction is negatively associated with HA ($\beta = -0.277$, $p < 0.001$), supporting *H4a*. The $\text{RPG} \times \text{PPJ}$ interaction is positively associated with CA ($\beta = 0.289$, $p < 0.001$), supporting *H4b*.

To visually display the moderating effect of PPJ between RPG and HA, this study conducted simple-slope analysis, as shown in Figure 2. When PPJ is low, the positive relationship between RPG and HA is stronger. When PPJ is high, the positive relationship between RPG and HA weakens. The moderating effect of PPJ on the relationship between RPG and CA is shown in Figure 3. When PPJ is high, the positive relationship between RPG and CA is stronger. When PPJ is low, the positive relationship between RPG and CA weakens.

Table 5 Test of the moderating effect of perceived procedural justice

Variable	HA M9	CA M10
<i>Control variable</i>		
Gender	-0.023	-0.132
Age	0.015	0.041
Education level	-0.017	-0.003
Organization type	-0.026	0.028
Tenure	-0.007	-0.034
Tenure with the focal coworker	0.008	0.085
Team establishment duration	-0.001	-0.086
<i>IV</i>		
RPG	0.217***	0.242***
<i>Moderator</i>		
PPJ	-0.109*	-0.097*
<i>Interaction</i>		
$\text{RPG} \times \text{PPJ}$	-0.277***	0.289***
R^2	0.129	0.197
ΔR^2	0.113	0.177
F	5.769***	9.562***

Note(s): $n = 400$. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source(s): Authors' own work

Figure 2 Moderating effect of perceived procedural justice on the relationship between relative performance gap and hindrance appraisal

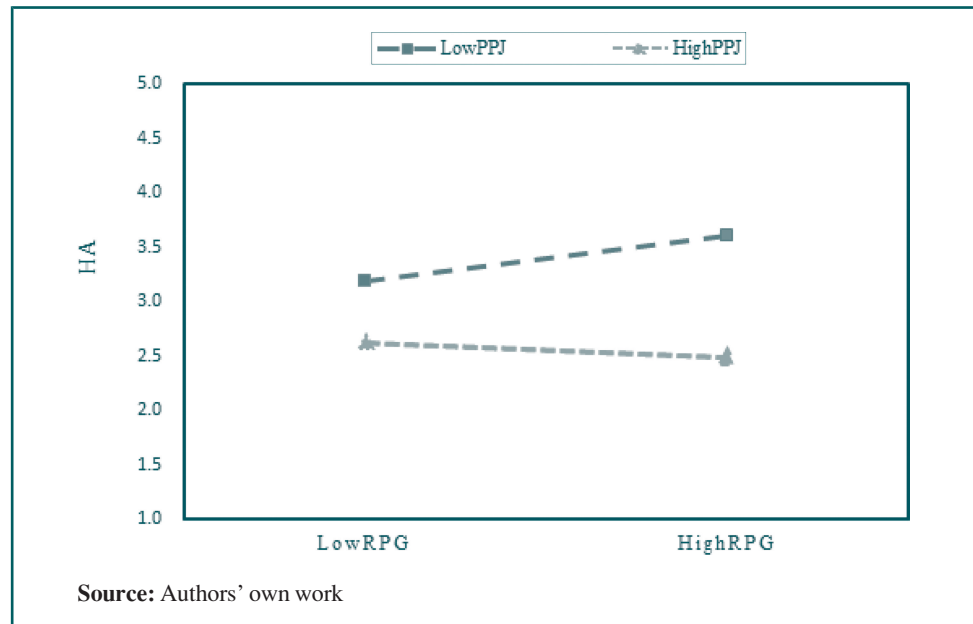
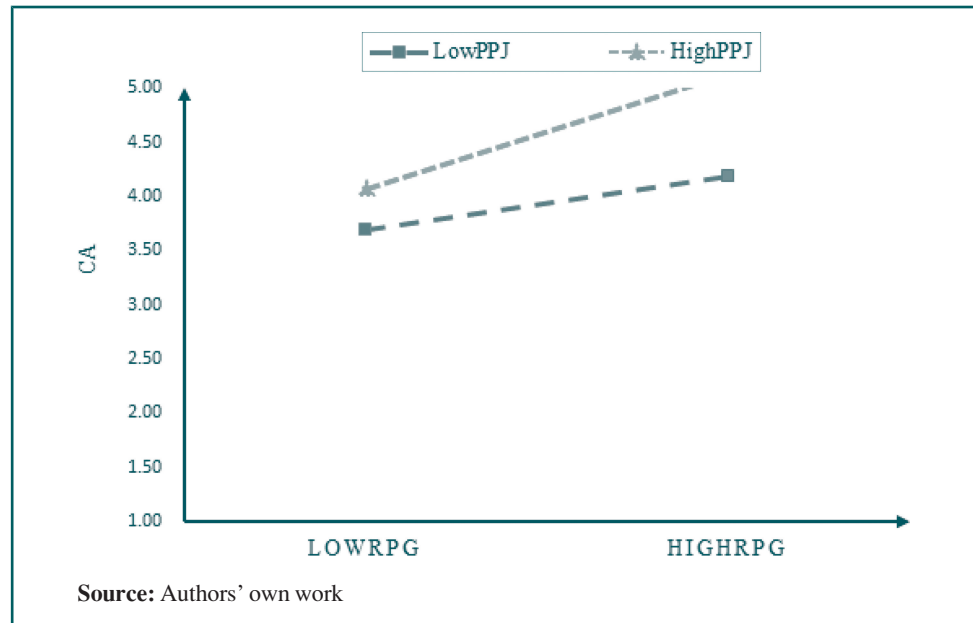


Figure 3 Moderating effect of perceived procedural justice on the relationship between relative performance gap and challenge appraisal



4.4.3 Moderated mediation effect test. To examine the conditional indirect associations, the PROCESS macro in SPSS 26.0 was used with 5,000 bootstrap resamples and Model 7. As shown in Table 6, when PPJ is high, the indirect association of RPG with KH through HA is not significant (indirect effect = -0.017 , 95% CI = $[-0.045, 0.008]$), whereas when PPJ is low it is significant (indirect effect = 0.092 , 95% CI = $[0.046, 0.144]$). The reported

Table 6 Test of the moderated mediation					
Pathway	PPJ	Effect	Boot SE	Boot LLCI	Boot ULCI
RPG→HA→KH	High ($M+1SD$)	−0.017	0.013	−0.045	0.008
	Low ($M-1SD$)	0.092	0.025	0.046	0.144
	Difference	0.037	0.012	0.015	0.063
RPG→CA→KH	High ($M+1SD$)	−0.143	0.027	−0.201	−0.093
	Low ($M-1SD$)	0.022	0.020	−0.017	0.061
	Difference	−0.064	0.016	−0.095	−0.033
Source(s): Authors' own work					

conditional indirect-effect difference is significant (0.037, 95% CI = [0.015, 0.063]), indicating that the HA pathway is stronger when PPJ is low, supporting *H5a*.

Similarly, as shown in Table 6, when PPJ is high, the indirect association of RPG with KH through CA is significant (indirect effect = −0.143, 95% CI = [−0.201, −0.093]), whereas when PPJ is low it is not significant (indirect effect = 0.022, 95% CI = [−0.017, 0.061]). The reported conditional indirect-effect difference is significant (−0.064, 95% CI = [−0.095, −0.033]), indicating that the CA pathway is stronger when PPJ is high, supporting *H5b*.

4.5 Supplementary analyses

To examine whether the mediation findings were robust across the three forms of KH identified by Connelly *et al.* (2012), the original PROCESS Model 4 analyses were repeated separately with evasive hiding, playing dumb and rationalized hiding as the outcome variables, using the same controls and 5,000 bootstrap resamples. The indirect association through HA was positive for evasive hiding ($B=0.031$, 95% CI [0.008, 0.061]), playing dumb ($B=0.037$, 95% CI [0.013, 0.067]) and rationalized hiding ($B=0.042$, 95% CI [0.016, 0.075]). The indirect association through CA was negative for evasive hiding ($B=−0.061$, 95% CI [−0.095, −0.032]), playing dumb ($B=−0.069$, 95% CI [−0.107, −0.037]) and rationalized hiding ($B=−0.058$, 95% CI [−0.093, −0.029]). Thus, the direction of the two mediation pathways was reproduced across all three subtypes. Full estimates are reported in Appendix 2.

5. Discussion

5.1 Main findings

This study examined the relationship between RPG and KH through dual cognitive appraisal pathways and how PPJ conditions these relationships. RPG was positively associated with KH. More importantly, RPG was positively associated with both hindrance appraisal and challenge appraisal, which in turn showed opposite associations with KH. Hindrance appraisal was positively associated with KH, whereas challenge appraisal was negatively associated with KH. PPJ moderated the first-stage RPG–appraisal relationships and the corresponding conditional indirect associations. Specifically, the positive indirect association between RPG and KH through hindrance appraisal was stronger when procedural justice was low, whereas the negative indirect association through challenge appraisal was more pronounced when procedural justice was high. These findings are consistent with the proposed dual-pathway moderated mediation model.

The hindrance pathway is consistent with prior research portraying unfavorable workplace comparisons and demanding work conditions as triggers of defensive knowledge responses. Rinker *et al.* (2025) showed experimentally that upward social comparison can foster KH through hindrance appraisal. The present findings converge with this evidence by showing that employees who perceive a larger performance shortfall relative to a higher-

performing coworker also report stronger hindrance appraisal, which is in turn positively related to KH. This pattern is also consistent with recent appraisal-based evidence linking hindrance appraisal to KH under organizational change and technological pressure (Xu *et al.*, 2026). Together, these findings suggest that KH is particularly likely when employees interpret a salient workplace disadvantage as obstructing valued goals rather than as providing a viable route to improvement.

The challenge pathway, however, suggests that unfavorable performance comparison cannot be fully understood through a purely defensive lens. Prior research has shown that superior-performing coworkers can sometimes serve as informative standards for learning and self-improvement rather than solely as sources of threat (Collins, 1996; Downes *et al.*, 2021; Sung *et al.*, 2024). The present findings are consistent with this developmental view through interpretive appraisal and extend it to KH. Challenge appraisal was negatively related to KH, suggesting that when employees interpret the performance gap as a meaningful opportunity for improvement, KH becomes less attractive because it may undermine reciprocity, constructive interaction and continued access to the higher-performing coworker's expertise. This interpretation is consistent with knowledge-management research emphasizing the importance of reciprocal knowledge exchange for learning and development (Naqshbandi *et al.*, 2024). Thus, the findings suggest that relative performance disadvantage can be related to less KH when it is appraised as a challenge.

Viewed alongside Rinker *et al.* (2025), the findings therefore both converge with and extend recent appraisal-based research on workplace comparison. The convergence lies in the hindrance route where unfavorable comparison is positively related to KH when it is appraised as obstructive. The extension lies in showing that challenge appraisal is negatively related to the same focal behavior, KH, within the context of RPGs. This dual-pathway account provides a more differentiated explanation of why relative performance disadvantage does not necessarily correspond to uniformly knowledge-hiding responses.

The supplementary analyses further clarify how the present findings relate to prior research on the multidimensional nature of KH. Previous studies have shown that evasive hiding, playing dumb and rationalized hiding can exhibit different antecedent and outcome patterns, reflecting meaningful differences among these forms of hiding (Burmeister *et al.*, 2019; Venz and Nesher Shoshan, 2022; Usman *et al.*, 2024). Against this background, the present results show that the two appraisal pathways were directionally consistent across all three forms. This pattern suggests that, although the three forms of KH are not behaviorally equivalent, the dual appraisal mechanism linking RPG to KH appears to generalize across different hiding forms.

The moderating role of PPJ further indicates that employees do not interpret performance disadvantage independently of the surrounding organizational context. Prior research on upward comparison and higher-performing coworkers has largely emphasized characteristics of the focal employee, the comparison target and their interpersonal relationship in shaping employees' reactions to relative disadvantage (Brown *et al.*, 2007; Hendricks *et al.*, 2023; Rinker *et al.*, 2025). The present findings extend this literature by showing that the procedures through which performance is evaluated and differentiated also matter for how employees interpret RPG. When performance-evaluation procedures are perceived as fair, consistent and credible, the positive association between RPG and challenge appraisal is stronger. By contrast, when such procedures are perceived as less fair or less credible, the positive association between RPG and hindrance appraisal is stronger. These findings suggest that PPJ functions as an interpretive context that shapes whether relative performance disadvantage is more likely to be construed as an attainable opportunity for improvement or as an obstruction to valued goals.

5.2 Theoretical contributions

This study makes three main theoretical contributions. First, this study advances research on RPGs by showing that the same performance disadvantage can be associated with opposing tendencies toward the same focal knowledge behavior. Prior research has shown that higher-performing coworkers may elicit both destructive and developmental responses, including interpersonal undermining, learning and performance improvement (Brown *et al.*, 2007; Downes *et al.*, 2021; Pan *et al.*, 2021; Sung *et al.*, 2024; Wang and Cheng, 2026). These findings indicate that unfavorable performance comparison does not carry a uniform behavioral implication. However, less is known about whether these divergent implications can emerge within the same focal knowledge behavior. The present study addresses this issue by showing that RPG is associated with two appraisal pathways that have opposite indirect associations with KH. Hindrance appraisal is positively associated with KH, whereas challenge appraisal is negatively associated with the same behavior. By demonstrating that RPG can be linked to opposing knowledge-hiding tendencies through distinct appraisal pathways, this study provides a more differentiated account of employees' responses to relative performance disadvantage.

Second, this study advances an appraisal-based understanding of RPGs by clarifying the cognitive interpretive process through which employees make sense of performance disadvantage. Prior research has documented both defensive and developmental responses to unfavorable performance comparison. Social comparison theory helps explain why higher-performing coworkers become salient referents for self-evaluation and how employees assess their relative standing, whereas conservation of resources theory helps explain why employees may protect valued resources when relative disadvantage is experienced as threatening (Brown *et al.*, 2007; Halbesleben *et al.*, 2014). These perspectives therefore provide important explanations for why upward performance comparison matters and why it may elicit defensive responses. At the same time, research on higher-performing coworkers also shows that superior peers can provide informative standards and developmental cues that encourage learning and self-improvement (Collins, 1996; Downes *et al.*, 2021; Sung *et al.*, 2024). What remains less explicit in these perspectives is the cognitive process through which employees determine whether the same relative performance disadvantage represents an obstruction to valued goals or an opportunity for development. Cognitive appraisal theory addresses this interpretive question by focusing on how individuals evaluate the implications of potentially stressful conditions for goal attainment, potential gains and losses and coping possibilities (Folkman *et al.*, 1986; Gomes *et al.*, 2013). Consistent with recent appraisal-based research on upward social comparison, the present findings show that hindrance appraisal is positively associated with KH (Rinker *et al.*, 2025). The present study extends this line of research by showing that challenge appraisal is negatively associated with KH. By demonstrating that relative performance disadvantage can be associated with opposing knowledge-hiding tendencies depending on how employees appraise its meaning, this study provides a cognitive interpretive account of the divergent consequences of RPG and extends appraisal-based explanations of workplace comparison into the knowledge-management domain.

Third, this study identifies PPJ as an important contextual condition shaping how employees interpret RPGs. Research on higher-performing coworkers and upward comparison has largely emphasized characteristics of the focal employee, the comparison target or their interpersonal relationship (Brown *et al.*, 2007; Hendricks *et al.*, 2023; Rinker *et al.*, 2025). The present study extends this literature by bringing the performance-management context more explicitly into the appraisal process. Specifically, higher PPJ weakens the positive association between RPG and HA while strengthening the positive association between RPG and CA. These findings suggest that employees' interpretations of performance disadvantage are embedded in their perceptions of how performance is evaluated and differentiated. By showing that PPJ shapes whether RPGs are more strongly associated

with HA or CA, this study extends the role of justice perceptions from general reactions to organizational decisions to the interpretation of coworker performance differences. More broadly, it connects performance management with knowledge management by showing that the fairness of performance-evaluation procedures is associated with whether relative disadvantage is interpreted in ways that favor or reduce KH.

5.3 Managerial implications

This study also offers several practical implications for managers. First, managers should avoid assuming that making performance gaps salient will uniformly motivate employees experiencing a relative performance disadvantage. The dual-pathway findings suggest that the same relative disadvantage can be associated with either greater or lower tendencies toward KH, depending on how employees appraise the gap. Performance feedback should therefore do more than communicate who performs better. It should help employees understand why the gap exists and what concrete actions could reduce it.

Second, when procedural justice is low, organizations should prioritize procedural repair before intensifying performance comparison. If employees doubt the consistency or credibility of performance evaluation, emphasizing high performers may reinforce hindrance appraisal and defensive knowledge protection. Managers should therefore clarify performance criteria in advance, document how performance evidence is weighted, apply evaluation rules consistently, provide specific feedback and establish credible review or appeal channels. Under these conditions, simply encouraging employees to “learn from the best” is unlikely to be sufficient because the underlying problem concerns whether improvement appears attainable and fairly recognized.

Third, when procedural justice is high, organizations can more actively convert performance differences into learning opportunities. Structured peer learning, mentoring, after-action reviews and experience-sharing mechanisms can help employees translate a higher-performing coworker’s advantage into observable and attainable practices (Naqshbandi *et al.*, 2023; Islam *et al.*, 2024). Reward systems should also recognize contributions to collective learning so that sharing knowledge with a high-performing coworker does not appear to deepen a zero-sum competitive disadvantage.

5.4 Limitations and directions for future research

This study has several limitations that point to directions for future research. First, this study relied on cross-sectional, single-source data, which do not establish temporal precedence and cannot rule out common method bias or reverse causality. For example, knowledge-hiding behavior may also shape employees’ subsequent perceptions of their RPG. Future research could use longitudinal, multi-source or experimental designs to provide stronger evidence regarding the direction of these relationships. Second, the data were collected in the Chinese context, where interpersonal sensitivity, hierarchy and relational concerns may influence how employees respond to coworker performance differences. Future research should examine whether the present model generalizes across cultural settings that differ in social comparison norms, competitive climate and justice expectations. Industry affiliation was not collected in the present survey, which limits our ability to assess whether the observed relationships vary across industry contexts. Third, although respondents evaluated the same higher-performing coworker across the focal measures and tenure with that coworker was controlled, relationship quality was not directly assessed. Future research should consider dyadic factors such as interpersonal trust and prior interaction patterns, preferably using multi-source or dyadic designs, to examine the robustness of the proposed relationships. Fourth, the measurement of RPG relied on respondents’ subjective estimations of percentage-based performance differences. Although this operationalization follows prior research, employees may not always perceive performance differences with high

quantitative precision, especially in settings where objective performance metrics are not fully transparent. Future research could develop alternative measures that better capture the psychological experience of relative disadvantage while reducing the demand for fine-grained quantitative estimation. Fifth, this study focused on PPJ as the contextual condition shaping appraisal processes. Although this choice was theoretically grounded in the legitimacy and controllability of performance differences, distributive justice and interactional justice may also influence how employees interpret RPGs. Future research could compare these justice dimensions directly or examine how they jointly shape employees' reactions to upward performance comparison. Sixth, the study focuses on challenge and hindrance appraisals rather than the complete transactional stress-and-coping process. Secondary appraisal of coping resources, options and control was not separately measured, although such assessments may influence how employees interpret RPG. Future research could incorporate secondary appraisal to provide a more complete account of the appraisal process. In addition, although the supplementary analyses examined evasive hiding, playing dumb and rationalized hiding separately, future research could further examine whether these forms of KH have distinct antecedents and consequences across contexts. Finally, two theoretical boundary conditions warrant attention. The proposed relationships may be stronger when relative-performance information is salient and credible and when work involves meaningful opportunities for knowledge requests and exchange. These conditions were not directly tested and should be examined in future research. Relatedly, future research could examine whether the proposed appraisal process depends on the goal relevance of the focal performance domain and the significance and competitive relevance of the comparison referent. Future research could also consider potential team-level boundary conditions of these relationships.

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Appendix 1. Relative performance gap items

Respondents were instructed to rate how much better the focal higher-performing coworker performed than themselves on each dimension using the following five ordered percentage categories:

1 = within 10%, 2 = 10%–40%, 3 = 40%–60%, 4 = 60%–90% and 5 = above 90%.

- In adequately completing assigned duties, this coworker performs better than I do.
- In fulfilling responsibilities specified in the job description, this coworker performs better than I do.
- In performing the tasks expected of him/her, this coworker performs better than I do.
- In meeting the formal performance requirements of the job, this coworker performs better than I do.
- In engaging in activities that directly affect performance evaluation, this coworker performs better than I do.
- (R)In neglecting aspects of the job that he/she is obligated to perform, this coworker performs better than I do.
- (R)In failing to perform essential duties, this coworker performs better than I do.

Note: (R) denotes a reverse-worded item. Items 6 and 7 were reverse-coded before computing the composite RPG score.

Appendix 2. Supplementary mediation analyses

Table A1 reports the subtype-specific mediation analyses.

Table A1 Subtype-specific indirect associations				
Outcome	Mediator	Indirect effect	95% LLCI	95% ULCI
Evasive hiding	HA	0.031	0.008	0.061
	CA	−0.061	−0.095	−0.032
Playing dumb	HA	0.037	0.013	0.067
	CA	−0.069	−0.107	−0.037
Rationalized hiding	HA	0.042	0.016	0.075
	CA	−0.058	−0.093	−0.029
Note(s): $n = 400$. HA = hindrance appraisal; CA = challenge appraisal. HA and CA were tested using 5,000 bootstrap resamples				
Source(s): Authors' own work				

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