

The Double-Edged Sword Effect of Employees' Relative Task Performance on Coworker Behavior: The Mediating Roles of Task Process and Meta-Process

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Abstract

Drawing on stress cognitive appraisal theory, this study conceptualizes employees' relative task performance as a work stressor perceived by coworkers and examines how it can simultaneously induce constructive and destructive coworker behaviors. Using three-wave matched survey data, we tested the relationships among employees' relative task performance, task process, meta-process, learning behavior, social undermining, and interpersonal competition on the basis of 661 valid employee-coworker dyads nested within 225 team members from 60 business teams. The results show that, first, interpersonal competition significantly moderates the effect of employees' relative task performance on coworkers' cognitive appraisal processes. Under conditions of low interpersonal competition, higher employee relative task performance is more likely to stimulate coworkers' task process; under conditions of high interpersonal competition, higher employee relative task performance is more likely to activate coworkers' meta-process. Second, task process significantly promotes coworker learning behavior. Third, meta-process significantly increases coworker social undermining behavior. These findings reveal the double-edged sword mechanism through which employees' relative task performance shapes coworker behavior and suggest that managers should adopt appropriate management practices, cultivate a healthy work climate and interpersonal relationships, and maintain a beneficial level of interpersonal competition.

Keywords

Relative Task Performance, Social Undermining, Task Process, Meta-Process, Interpersonal Competition

1. Introduction

In organizational practice, employees with outstanding performance are typically regarded as an important source of organizational growth, service quality maintenance, and sustained competitive advantage. Aguinis and O'Boyle (2014) noted that "star employees" often contribute performance outputs far above the average level, and their influence is reflected not only in individual task performance but also in changes to team functioning through modeling, diffusion, and resource allocation mechanisms [1]. Consistent with this view, studies of task performance by Borman and Motowidlo (1993) and Borman and Brush (1993) suggest that employees' relative advantages in core tasks are highly visible and therefore readily become a crucial basis for organizational evaluation, coworker observation, and managerial intervention [2] [3]. In contemporary organizations in particular, task interdependence has continued to increase, so individual performance is no longer merely a "personal outcome"; rather, it increasingly serves as an important cue through which coworkers make judgments about competence, compare status, and adjust behavior [4]-[6]. Thus, when an employee consistently outperforms surrounding coworkers in quality, efficiency, accuracy, or customer service, the influence of such performance often extends beyond the individual and enters the social interaction process where team members observe, interpret, and respond to one another.

Existing studies indicate that performance differences readily trigger upward social comparison. Festinger (1954) first proposed that individuals compare themselves with others to assess their own abilities and performance [7]. In the workplace, coworkers are the most common comparison targets because of task proximity, high information availability, and similar evaluation criteria [8]. Brown *et al.* (2007) and Buunk *et al.* (2005) further demonstrated that upward comparison does not inherently lead to negative experiences; rather, it may stimulate self-improvement motivation or evoke frustration, envy, and threat perceptions [9] [10]. In team settings, when employees perceive a clearly more capable coworker nearby, they may, on the one hand, regard that coworker as a role model worth observing, imitating, and learning from, thereby increasing knowledge seeking, experience absorption, and work improvement behaviors. On the other hand, they may perceive their own relative disadvantage more sharply, experience intensified resource competition or status threat, and consequently exhibit avoidance, exclusion, or even destructive responses [4] [5] [11] [12]. Research on workplace envy by Lee and Duffy (2019) likewise suggests that the same comparison cue may lead to different outcomes through different psychological pathways [13]. This makes the question of why high relative performance sometimes elicits learning but at other times provokes hostility an important one deserving deeper examination.

Several issues in the existing literature warrant further consideration. First, studies on the spillover effects of high performers have focused more on the negative social consequences experienced by the high performers themselves, such as

exclusion, suppression, or targeting, while providing relatively insufficient explanation for why coworkers may also react positively by learning from them [4] [5] [14]. Second, although existing research recognizes that social comparison can produce envy, threat, and stress experiences, it has seldom distinguished whether employees cognitively interpret the comparison outcome as an “opportunity for task improvement” or as a “threat to the self and relationships”. Consequently, it remains difficult to systematically explain the mechanisms underlying differentiated behavioral consequences [15]-[17]. Third, the outcomes of social comparison are highly dependent on organizational context. Garcia *et al.* (2013) and Kilduff *et al.* (2014) argued that competitive cues amplify individuals’ sensitivity to ranking, gaps, and winning versus losing [18] [19]. Matthews and Kelemen (2025), in a recent review, further emphasized that social comparison in organizations is essentially a contextualized, subjective, and dynamic meaning-construction process [6] [20] [21]. Thus, it is not enough merely to confirm the existence of comparison; more importantly, one must explain how employees interpret such comparison under a particular climate.

Although prior research frequently discusses “high performers” or “star employees,” our focal construct is narrower and more relational. We do not assume that the focal employee is universally recognized as a star performer across the organization. Instead, we focus on whether the employee is perceived as performing better than a given coworker within an ongoing team context. This dyadic comparative cue is theoretically central because coworkers respond not only to absolute excellence, but also to relative standing vis-à-vis themselves [22]-[24].

To address these gaps, this study introduces stress cognitive appraisal theory and conceptualizes employees’ relative task performance as a work stressor perceived by coworkers. In this study, employees’ relative task performance refers to an employee’s standing in core task accomplishment relative to salient coworkers in the same team, rather than the employee’s absolute performance level or general status as a “high performer”. More specifically, it captures the extent to which one focal employee is perceived as performing core job tasks—such as quality, efficiency, accuracy, and service effectiveness—better than nearby coworkers who constitute meaningful comparison targets. Thus, the construct is inherently comparative and dyadic: it reflects a coworker-relevant performance advantage rather than a global evaluation of excellence. In the present design, relative task performance is operationalized as a self-reported comparative assessment by the focal employee (A) of his or her task performance relative to coworkers in the same work unit. This distinction is important because an employee may have high absolute performance yet not be especially salient in a given dyadic comparison, whereas relative task performance directly captures the social-comparison cue that coworkers observe and interpret.

We further distinguish between two different cognitive appraisal pathways. Lazarus and Folkman (1984) argued that stress does not stem directly from objective stimuli themselves, but rather from individuals’ subjective appraisals of the

relationship between those stimuli and their own goals, resources, and well-being [17]. Subsequent research likewise shows that different appraisals significantly shape work-related motivation, emotion, and behavioral responses [15] [25] [26]. Following this logic, we propose that when coworkers confront a high relative task performer, they may form two different interpretations. First, they may view that person as a “task-related resource” that can be referenced, learned from, and used to facilitate self-improvement, thereby activating task process. Second, they may see that person as a “relational threat” that may compress their own resources, weaken their status, or damage their image, thereby activating meta-process [27]-[29]. The distinction between task process and meta-process proposed by Kim and Kim (2020) offers direct inspiration for this mechanism, while more recent studies by Zhan *et al.* (2024) and Zhu *et al.* (2024) similarly suggest that coworkers’ advantage cues often evoke both challenge appraisal and threat appraisal, which in turn lead to constructive or destructive responses [30]-[32].

On this basis, we further introduce interpersonal competition as a key boundary condition. Deutsch (1949) pointed out that cooperation and competition profoundly alter how individuals interpret others’ success [33]. Kilduff *et al.* (2014) further demonstrated that competitive relationships strengthen zero-sum perceptions, making individuals more likely to regard others’ advantages as direct threats to their own status and opportunities [19]. In other words, when facing a high-performing coworker, employees in low-competition contexts are more likely to focus on the other person’s experience, methods, and skills and to interpret the comparison as an opportunity for self-improvement. By contrast, in high-competition contexts, employees are more likely to magnify pressures associated with ranking, resource allocation, and recognition distribution, thereby adopting a defensive interpretation [10] [18] [19]. Chen *et al.* (2024) showed that comparison cues themselves possess a dual-process nature and that their eventual outcomes depend on how employees interpret the cue and the social environment in which it occurs [34]. Yan *et al.* (2025) further found that others’ positive performance is more likely to be transformed into constructive knowledge-sharing responses only when cooperative goal interdependence is high [35]. Taken together, these studies indicate that competitive climate is not a mere background variable, but rather an important condition determining whether employees’ relative task performance is understood as a “role-model resource” or a “comparison threat”.

Accordingly, this study focuses on the following questions: How does employees’ relative task performance influence coworker learning behavior and social undermining through task process and meta-process, respectively? How does interpersonal competition alter this process? To address these questions, this study seeks to make three contributions. First, from the perspective of stress cognitive appraisal, we reinterpret the coworker spillover effects of high relative performance. Second, by treating task process and meta-process as mediators, we uncover the double-edged sword mechanism through which employees’ rel-

ative task performance simultaneously induces learning behavior and social undermining, thereby supplementing the insufficient explanation of the positive pathway in research on the social consequences of high performers. Third, by incorporating interpersonal competition as a boundary condition, we respond to recent research trends concerning dual pathways, dual appraisals, and contextual dependence in social comparison, and we offer managerial implications for how organizations can make high performers into targets of learning rather than targets of attack.

2. Theory and Hypotheses

Stress cognitive appraisal theory holds that when individuals confront external stimuli, they do not react mechanically in the same way; rather, they first judge what the stimulus means for their goals, resources, status, and well-being, and these different appraisals subsequently shape emotions, motivation, and behavior [17]. Lazarus and Folkman (1984) emphasized that stress does not arise purely from the objective situation itself, but from the individual's subjective interpretation of that situation [17]. Applied to organizational settings, employees' relative task performance may appear as an observable performance difference, but the consequences it generates depend on how coworkers interpret that difference. Employees with high relative task performance may become learning referents for coworkers, but they may also become sources of threat [36] [37].

Social comparison theory provides a basic explanation for this judgment process. Festinger (1954) argued that individuals naturally tend to compare themselves with others to assess their own abilities and performance [7]. In organizations, coworkers are the most direct, frequent, and comparable targets of such comparison. Matthews and Kelemen (2025) further suggested that organizational social comparison should not be understood simply as a static judgment of who is higher or lower; rather, it should be viewed as a subjective, contextualized, and multilevel interpretive process, with particular attention to how employees construct different meanings from the same comparison cue [6].

This study classifies such cognitive appraisal into task process and meta-process. Kim and Kim (2020) proposed that task process reflects a focus on the task itself, whereby individuals think about how to improve current performance through better strategies, greater effort, and more effective methods [30]. Meta-process, by contrast, reflects a shift of attention toward self-image, others' evaluations, and relational threats, with greater concern for questions such as "How do others see me?", "Am I being outperformed?", and "Will this difference damage my status?" Although both processes are forms of response to external stimuli, their psychological functions differ substantially: task process is growth-oriented, whereas meta-process is defense-oriented. Accordingly, the double-edged sword effect of employees' relative task performance can essentially be understood as coworkers' divergent cognitive bifurcation between growth orientation and defense orientation.

2.1. Employees' Relative Task Performance, Task Process, and Learning Behavior

When coworkers interpret an employee with high relative task performance as a reference point and a resource from which they can learn, task process is more likely to be activated. High-performing coworkers often possess more efficient work methods, more mature experiential knowledge, and superior problem-solving approaches, all of which provide a realistic basis for observation, imitation, and absorption. Kim and Glomb (2014) showed that high performers often become salient social cues within teams, readily attracting the attention and imitation of surrounding employees [5]. Campbell *et al.* (2017) also noted that high performers do not merely invite hostility; they may also stimulate coworkers' self-improvement motivation [4]. In other words, if coworkers interpret the gap as one that "I can also approach or narrow", comparison is more likely to elicit constructive processing rather than self-defense. Zhu *et al.* (2024) found that when employees face advantage cues such as coworker relative overqualification, they may diverge between "knowledge seeking" and "destructive behavior", and that this divergence essentially depends on how individuals interpret the comparison outcome [32]. Yan *et al.* (2025) further indicated that a coworker's personal initiative does not automatically lead to positive responses; only when cooperative goal interdependence is high are observers more likely to make positive attributions and display constructive knowledge sharing [35]. This implies that when employees' relative task performance is endowed with meanings of learnability, referential value, and attainability, coworkers will reduce excessive concern with self-image and instead turn toward task optimization.

Task process further promotes learning behavior. Lee and Duffy (2019) suggested that employee learning behavior is mainly reflected in observing high-performing coworkers, reflecting on their practices, proactively seeking advice, and adjusting one's own behavior accordingly [13]. Task process and learning behavior are highly consistent in essence: the former is a cognitive focus on task improvement, whereas the latter is the externalization of that focus into concrete actions such as observation, inquiry, and imitation. Research by Edmondson (1999), Carmeli (2007), and Argote *et al.* (2014) all indicates that when employees focus on task improvement, experience absorption, and error correction, they are more likely to develop sustained learning behavior and capability enhancement [38]-[40]. It can therefore be inferred that when employees' relative task performance stimulates coworkers' task process, coworkers are more likely to direct their attention toward learning and subsequently display stronger learning behavior.

Based on the foregoing analysis, we propose the following hypotheses:

H1: Under conditions of low interpersonal competition, the higher an employee's relative task performance, the more likely coworkers are to activate task process.

H2: Under conditions of low interpersonal competition, the higher an em-

ployee's relative task performance, the more likely it is to promote coworker learning behavior through coworkers' task process.

2.2. Employees' Relative Task Performance, Meta-Process, and Social Undermining

Not all upward social comparison elicits growth-oriented responses. If employees interpret a coworker's high relative task performance as a threat to their own resources, status, and performance evaluation, meta-process is more likely to be activated. Unlike task process, meta-process is not concerned with how the work itself can be improved, but instead revolves around questions such as "Will I appear incompetent?", "Will managers value the other person more?", and "Will my position within the team be weakened?" Kim and Kim (2020) argued that meta-process is essentially a self- and relationship-defense mechanism triggered by threat perceptions [30]. In such cases, employees' attention shifts from the task itself to impression management, identity maintenance, and relational sensitivity, making negative emotional and behavioral tendencies more likely. Based on cognitive appraisal theory, Zhan *et al.* (2024) found that coworkers' job crafting behavior can simultaneously induce employees' challenge appraisal and threat appraisal: the former promotes proactive work behavior, whereas the latter fosters defensive behaviors such as workplace ostracism [31]. At the same time, Bai and Liu's (2024) research on the challenge-hindrance-threat appraisal framework further indicates that threat appraisal is a cognitive mechanism that has long been underestimated but is highly important, because it more readily shifts individuals' attention from task completion to self-protection and relational defense [15]. In the case of high relative task performance discussed in this study, when employees worry that they will be outperformed, marginalized, or deprived of key resources in the comparison, such threat-based interpretation will substantially increase the likelihood that meta-process is activated.

Meta-process further promotes social undermining. Social undermining refers to low-intensity, ambiguously intentional negative behaviors aimed at impeding others from establishing positive relationships, maintaining a good reputation, or achieving work goals [41] [42]. Its manifestations include cold-shouldering, exclusion, withholding information, negative evaluation, and spreading rumors. Mitchell *et al.* (2019) pointed out that when employees feel threatened by coworkers, they often adopt low-intensity but persistent negative interpersonal behaviors to weaken the target's advantage [26]. Research by Chen *et al.* (2024) on social comparison indicates that the same comparison cue can be interpreted either as motivation or as threat, thereby producing dual behavioral outcomes [34]. This suggests that as long as a coworker's characteristic is interpreted as likely to affect the distribution of scarce resources, it may trigger defensive and destructive logic. In the context of the present study, high relative task performance is precisely such a highly visible and comparable advantage cue, which may induce social undermining through meta-process.

Based on this reasoning, we propose the following hypotheses:

H3: Under conditions of high interpersonal competition, the higher an employee's relative task performance, the more likely coworkers are to activate meta-process.

H4: Under conditions of high interpersonal competition, the higher an employee's relative task performance, the more likely it is to promote coworker social undermining through coworkers' meta-process.

2.3. The Moderating Role of Interpersonal Competition

This study argues that interpersonal competition is an important boundary condition affecting how employees interpret performance differences. Kilduff *et al.* (2014) pointed out that interpersonal competition means that one party's gain is subjectively linked to the other party's loss, constituting a typical zero-sum relational perception [19]. In highly competitive contexts, employees are more inclined to focus on scarce resources, comparative status, and relative advantage, and are therefore more likely to regard high-performing coworkers as competitors. In low-competition contexts, by contrast, relationships among employees are more likely to be understood as cooperative, complementary, and oriented toward shared growth; accordingly, high-performing coworkers are more likely to be regarded as developmental referents. Chen *et al.* (2024) argued that the effect of social comparison cues on performance exhibits clear dual-process characteristics, and that this dual process is shaped by the social environment and the way the cues are interpreted [34]. Yan *et al.* (2025) likewise found that only when cooperative goal interdependence is high are individuals more likely to make positive attributions about others' positive performance and respond constructively; otherwise, when competition and zero-sum perceptions are stronger, observers are more likely to adopt defensive or even destructive strategies [35].

In summary, this study argues that employees' relative task performance, as a stressor perceived by coworkers, triggers two distinct cognitive appraisal pathways under different interpersonal competition contexts. In low-competition contexts, it is more likely to promote learning behavior through task process; in high-competition contexts, it is more likely to promote social undermining through meta-process [43] [44]. This theoretical framework preserves social comparison theory's explanation of the comparison starting point while introducing stress cognitive appraisal theory to explain differentiated behavioral outcomes, thereby offering a more complete account of the double-edged sword mechanism through which employees' relative task performance influences coworker behavior [45] [46].

3. Research Design

3.1. Sample and Data Collection

Data were collected from employees working in business teams using a three-wave dyadic survey design with two-week intervals between waves. The design distin-

guished between two roles within each dyad: Employee A, the focal employee whose relative task performance served as the comparison cue, and Coworker B, the coworker who cognitively appraised A's performance and reported behavioral responses toward A. The use of temporal separation was intended to reduce common method bias and improve clarity in the proposed ordering of variables, although we do not treat the design as establishing definitive causality. At Time 1, Employee A reported relative task performance and demographic information. At the same time, Coworker B reported interpersonal competition in the relationship with Employee A, along with control variables. At Time 2 (two weeks later), Coworker B reported the two cognitive appraisal variables: task process and meta-process when responding to Employee A's relative performance. At Time 3 (two weeks after Time 2), Coworker B reported the two outcome variables: learning behavior toward A and social undermining toward A.

Responses across the three waves were matched using anonymous identification codes generated for each A-B dyad. Only cases with completely matched responses across all three waves were retained for the final analysis. The final analytic sample consisted of 661 valid A-B dyads nested within 225 focal employees from 60 teams. Because the data have both dyadic and nested team-level features, we adopted the social relations model (SRM) as the primary analytic framework.

3.2. Measures

All scales used in this study were drawn from established research and had undergone translation, back-translation, and adaptation procedures in the original studies. Employees' relative task performance was measured with the scale developed by Kim and Glomb (2014), whereby employees evaluated their own task output, quality, accuracy, and service level relative to their coworkers [5]. Task process was measured with the four-item scale developed by Kim and Kim (2020), assessing whether coworkers, when comparing themselves with high-performing employees, thought more about task execution methods, improvement strategies, and process optimization [30]. Meta-process was likewise measured using the five-item scale from Kim and Kim (2020), capturing coworkers' concern with self-presentation, others' evaluations, and impressions of competence during the comparison process [30]. Learning behavior was measured with the scale developed by Lee and Duffy (2019), primarily reflecting observation of, reflection on, consultation with, and imitation of outstanding coworkers [13]. Social undermining was measured with the scale developed by Duffy *et al.* (2002), reflecting behaviors such as neglecting, delaying, withholding information from, and disparaging high-performing coworkers [42]. Interpersonal competition was measured with the scale developed by Kilduff *et al.* (2014), assessing whether individuals regarded the other party as a personal rival, a competitor, and a source of hostility [19].

3.3. Analytical Strategy

We first conducted confirmatory factor analyses to assess the distinctiveness of

the core constructs. We then examined descriptive statistics and zero-order correlations. Hypotheses were tested using the social relations model (SRM) because the data structure contains repeated dyadic observations embedded within teams.

In the SRM framework, variance in dyadic responses can be decomposed into actor effects, partner effects, and relationship effects. In the present study, the focal hypotheses concern the relationship-level component of the A-B dyad—that is, how Employee A's relative task performance in relation to Coworker B predicts B's appraisals and behavioral responses toward A. Accordingly, our main tests retain the relationship-level effects as the substantively relevant component, while accounting for dependence created by repeated observations of the same focal employee and by team membership. The data were structured with dyads nested within focal employees and focal employees nested within teams. We controlled for team size, team age, A's age, gender, education, and organizational tenure, as well as B's age, gender, education, and organizational tenure, because these characteristics may shape social comparison and dyadic interaction patterns.

To reduce multicollinearity in the interaction models, continuous predictors used in moderation tests were grand-mean centered prior to creating the interaction term between relative task performance and interpersonal competition. Conditional indirect effects were estimated using a Monte Carlo simulation approach following Preacher, Rucker, and Hayes [47]. Confirmatory factor analyses were conducted in Mplus 8.2, and SRM-based hypothesis tests were conducted in R.

4. Data Analysis and Results

4.1. Confirmatory Factor Analysis

A confirmatory factor analysis was conducted for relative task performance, interpersonal competition, task process, meta-process, learning behavior, and social undermining. (Table 1) The results showed that the six-factor model fit the data well: $\chi^2(64) = 188.14$, CFI = 0.98, TLI = 0.97, RMSEA = 0.05, and SRMR = 0.05, indicating good discriminant validity among the variables. This finding suggests that it is reasonable to treat task process and meta-process, as well as learning behavior and social undermining, as distinct constructs, and it provides the measurement basis for subsequent hypothesis testing.

Table 1. Confirmatory factor analysis results (note: *** $p < 0.001$).

Model	χ^2 (df)	$\Delta\chi^2$ (Δ df)	CFI	TLI	RMSEA	SRMR Individual level	SRMR Interpersonal level
Six-factor model	188.14 (64)		0.98	0.97	0.05	0.05	0.00
Factor-merging models							
Merge coworker learning behavior and coworker social undermining	540.96 (60)	352.82(4)***	0.90	0.87	0.09	0.08	0.00

Continued

Merge coworker process conflict and coworker social undermining	572.09 (60)	383.95 (4)***	0.89	0.86	0.09	0.09	0.00
Merge interpersonal competition and coworker task conflict	1192.29 (60)	1004.15 (4)***	0.75	0.68	0.14	0.12	0.00
Merge coworker task conflict and coworker learning behavior	1214.33 (60)	1026.19 (4)***	0.74	0.67	0.14	0.11	0.00
Individual- and interpersonal-level two-factor model	4489.54 (54)	4301.40 (10)***	0.01	-0.19	0.27	0.22	0.00

4.2. Descriptive Statistics and Correlation Analysis

In **Table 2**, the descriptive statistics showed that the Cronbach's α coefficients of all core variables exceeded 0.70: 0.79 for relative task performance, 0.94 for interpersonal competition, 0.87 for task process, 0.91 for meta-process, 0.81 for learning behavior, and 0.71 for social undermining, indicating good internal consistency. Correlation analysis further showed that task process was significantly positively related to learning behavior ($\beta = 0.20$, $p < 0.01$), and meta-process was significantly positively related to social undermining ($\beta = 0.23$, $p < 0.01$), consistent with theoretical expectations and providing preliminary support for the subsequent test of mechanisms.

Table 2. Descriptive statistics and correlations.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Team size	-															
Team age	0.21**	-														
B's age	0.01	0.05	-													
B's gender	0.13**	0.01	0.14**	-												
B's education	0.04	0.09*	-0.17**	-0.02	-											
B's organizational tenure	0.10**	0.08*	0.68**	0.06	-0.18**	-										
A's age	-0.03	0.05	0.06	0.00	-0.02	0.07	-									
A's gender	0.13**	0.03	0.03	0.13**	-0.00	0.04	0.15**	-								
A's education	0.04	0.03	-0.03	0.01	0.24**	-0.02	-0.17**	-0.04	-							
A's organizational tenure	0.06	0.07	0.08*	0.01	-0.02	0.12**	0.68**	0.04	-0.16**	-						

Continued

A's relative task performance	0.07	0.21**	0.07	0.05	0.07	0.05	0.07	0.02	0.08*	0.11**	(0.79)					
Interpersonal competition between A and B	0.09*	0.04	-0.14**	0.09*	0.08	-0.23**	-0.10**	0.10**	0.02	-0.19**	0.17**	(0.94)				
Coworker B's task process regarding A	0.01	-0.08*	0.07	0.05	0.06	0.06	0.03	0.01	0.07	0.05	0.01	-0.12**	(0.87)			
Coworker B's meta-process regarding A	0.07	-0.05	-0.14**	0.03	0.04	-0.08*	-0.11**	-0.04	0.08*	-0.07	-0.26**	-0.05	-0.02	(0.91)		
A's learning behavior toward B	0.17**	-0.16**	0.01	0.16**	-0.01	-0.02	-0.07	0.19**	-0.03	-0.10*	0.11**	0.07	0.20**	-0.04	(0.81)	
A's social undermining toward B	0.01	0.01	-0.05	-0.09*	-0.07	-0.07	-0.01	-0.03	-0.09*	0.00	-0.17**	-0.00	-0.20**	0.23**	-0.13** (0.71)	
M	26.78	8.66	30.58	0.64	3.60	5.02	30.57	0.64	3.60	5.04	4.01	2.68	3.44	2.28	4.18	1.56
SD	19.17	4.84	6.39	0.48	0.58	4.82	6.50	0.48	0.58	4.88	0.56	1.02	0.87	0.80	0.56	0.50

Note: N = 661 dyads among 225 employees from 60 teams; *p < 0.05, **p < 0.01. Gender was coded as 1 = male and 0 = female. Education was coded as 1 = junior high school or below, 2 = high school, 3 = junior college, 4 = bachelor's degree, and 5 = master's degree or above. Values in parentheses are Cronbach's alpha coefficients.

4.3. Hypothesis Testing

Interpersonal competition significantly moderated the effect of employees' relative task performance on task process (Figure 1). SRM analysis showed that the interaction term between relative task performance and interpersonal competition was significantly negative ($\beta = -0.27$, $p < 0.05$), indicating that the lower the level of interpersonal competition, the more easily employees' relative task performance stimulated coworkers' task process. Further simple slope analysis showed that compared with the high interpersonal competition group, the positive relationship between relative task performance and task process was stronger in the low interpersonal competition group. Therefore, H1 was supported.

Interpersonal competition also significantly moderated the effect of employees' relative task performance on meta-process (Figure 2). The results indicated that the interaction term between relative task performance and interpersonal competition was significantly positive ($\beta = 0.40$, $p < 0.001$), suggesting that when interpersonal competition was higher, employees' relative task performance was more likely to activate coworkers' meta-process. The simple slope plot similarly showed that the positive relationship between relative task performance and meta-process was more pronounced in the high-competition group. Therefore, H3 was supported.

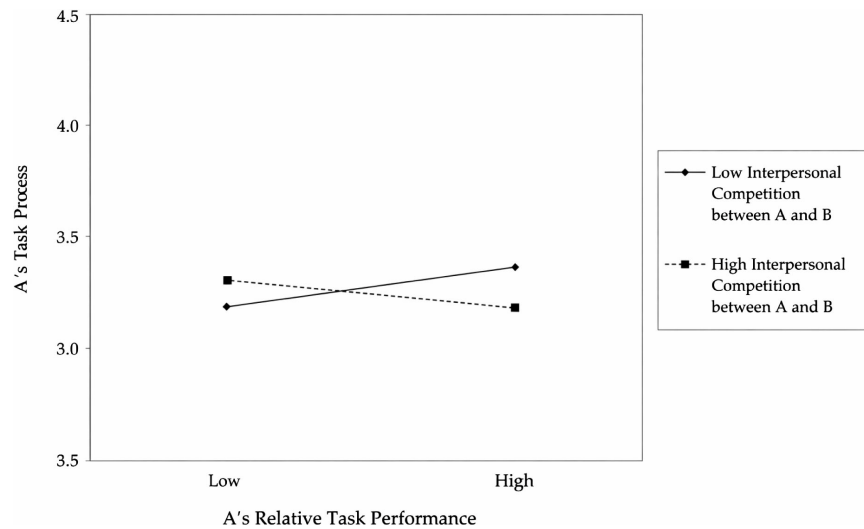


Figure 1. Moderating effect of interpersonal competition on the relationship between relative task performance and task process.

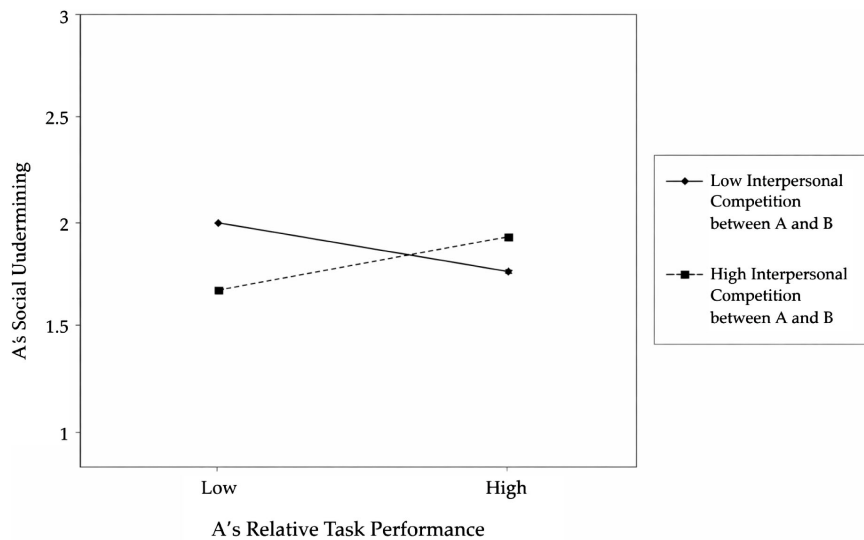


Figure 2. Moderating effect of interpersonal competition on the relationship between relative task performance and meta-process.

Task process significantly promoted learning behavior, and a moderated mediation effect was observed. The SRM results showed that task process had a significant positive effect on learning behavior ($\beta = 0.11$, $p < 0.001$). Further indirect-effect testing showed that in the high interpersonal competition group ($M + 1$ SD), the indirect effect of relative task performance on learning behavior through task process was not significant (indirect effect = -0.03 , 95% CI = $[-0.08, 0.01]$); however, in the low interpersonal competition group ($M - 1$ SD), this indirect effect was significantly positive (indirect effect = 0.03 , 95% CI = $[0.002, 0.07]$). The difference between the two groups was significant (diff = -0.06 , 95% Monte Carlo CI = $[-0.13, -0.01]$). This indicates that only in low-competition contexts does employees' relative task performance promote learning behavior by activating

coworkers' task process. Thus, H2 was supported.

Meta-process significantly promoted social undermining, and a moderated mediation effect was likewise observed. The results showed that meta-process had a significant positive effect on social undermining ($\beta = 0.12$, $p < 0.001$) (Table 3). Indirect-effect testing further found that in the high interpersonal competition group ($M + 1$ SD), the indirect effect of relative task performance on social undermining through meta-process was significantly positive (indirect effect = 0.05, 95% CI = [0.01, 0.11]); in the low interpersonal competition group ($M - 1$ SD), the indirect effect was significantly negative (indirect effect = -0.05 , 95% CI = [-0.11 , -0.01]). The difference between the two groups was significant (diff = 0.11, 95% Monte Carlo CI = [0.04, 0.19]). Therefore, H4 was supported.

Table 3. Indirect effect test results.

Conditional indirect effects	A's relative task performance \rightarrow B's task process regarding A \rightarrow B's learning behavior toward A		A's relative task performance \rightarrow B's meta-process regarding A \rightarrow B's social undermining toward A	
	Effect	95% MC CI	Effect	95% MC CI
High interpersonal competition between A and B (+1 SD)	-0.03	[-0.08, 0.01]	0.05	[0.01, 0.11]
Low interpersonal competition between A and B (-1 SD)	0.03	[0.002, 0.07]	-0.05	[-0.11, -0.01]
Between-group difference in indirect effects	-0.06	[-0.13, -0.01]	0.11	[0.04, 0.19]

Notably, the indirect effect of relative task performance on social undermining through meta-process was negative under low interpersonal competition. We interpret this pattern cautiously. Theoretically, when interpersonal competition is low, coworkers are less likely to construe another employee's superior relative performance as a self-relevant threat. Under such conditions, higher relative task performance may actually suppress defensive self-presentational concerns, thereby reducing the activation of meta-process and, in turn, lowering the likelihood of social undermining. Thus, the negative indirect effect is consistent with the theorized reversal of appraisal under low competition, rather than merely reflecting a statistical artifact. Overall, all four hypotheses were supported. The findings indicate that employees' relative task performance does not automatically lead to a single type of coworker response; rather, it produces differentiated outcomes through different cognitive pathways across competitive contexts: learning behavior is more likely to emerge under low-competition conditions, whereas social undermining is more likely to emerge under high-competition conditions.

5. Conclusion and Discussion

5.1. Research Conclusion

Based on stress cognitive appraisal theory, this study constructed and tested a dou-

ble-edged sword model explaining how employees' relative task performance influences coworker behavior. The findings show that, first, interpersonal competition significantly moderates the effect of employees' relative task performance on coworkers' cognitive appraisal processes. Low interpersonal competition helps coworkers interpret high-performing peers as developmental referents, thereby activating task process; high interpersonal competition, by contrast, makes high-performing coworkers more likely to be interpreted as sources of threat, thereby activating meta-process. Second, task process significantly promotes coworker learning behavior, indicating that when coworkers transform performance gaps into opportunities for task improvement, they are more likely to proactively observe, imitate, and seek advice from high performers. Third, meta-process significantly promotes coworker social undermining, indicating that when coworkers transform performance gaps into threats to the self and relationships, they are more likely to adopt defensive behaviors such as exclusion, suppression, and information withholding.

5.2. Theoretical Implications

First, this study introduces stress cognitive appraisal theory. Existing research has mainly explained coworkers' reactions to high performers from the perspectives of envy, resource competition, or social exchange, whereas the present study emphasizes that coworkers first subjectively appraise high-performance cues before entering the stage of behavioral response. In other words, performance differences do not directly determine behavioral outcomes; cognitive appraisal is the key link connecting the two.

Second, by introducing task process and meta-process, this study refines the two core cognitive pathways through which coworkers respond to high-performing targets. Task process directs comparison toward work improvement and capability enhancement, explaining why high-performing employees can become learning resources. Meta-process, by contrast, directs comparison toward self-defense and relational sensitivity, explaining why high-performing employees may also become targets of suppression. This dual-path explanation is consistent with recent research trends regarding the double-edged effects of social comparison in organizations.

Finally, this study incorporates interpersonal competition into the overall framework and further reveals the boundary conditions of the double-edged sword effect. Although prior research has recognized the importance of competition, it has often treated competition as a general background variable. This study shows that interpersonal competition changes the meaning construction that employees assign to high-performance cues, thereby determining whether they are more likely to move toward learning or toward undermining. In other words, competition does not merely amplify or weaken effects; at a deeper level, it shapes the direction of cognitive appraisal itself.

5.3. Managerial Implications

First, while organizations emphasize the selection, motivation, and retention of high-performing employees, they must simultaneously pay attention to their “interpersonal spillover effects.” High performers are not simply individual assets; under an inappropriate climate, they may also become triggers of team conflict. Managers should promptly identify whether there are signs of hostility, alienation, gossip, or resource blockage around high-performing employees so as to prevent them from becoming targets of covert social undermining.

Second, managers should proactively cultivate a low-hostility, high-learning competitive environment. Competition is not inherently harmful, but when it is understood by members as a zero-sum game, high-performing coworkers are more easily seen as threats. The stronger the cooperative goal interdependence, the more likely positive behaviors are to receive constructive responses—an insight with direct relevance for team management. Organizations can orient comparison toward growth rather than hostility by strengthening shared goals, reducing excessive ranking, encouraging experience sharing, and establishing cooperative incentive systems.

Finally, organizations should build clearer learning interfaces between high-performing employees and ordinary employees. For example, through mentoring systems, demonstration sharing, peer coaching, task review, and experience codification mechanisms, the advantages of high performers can be transformed into knowledge resources that the team can absorb. Only when organizations convert comparison targets into learning-resource targets can high relative task performance produce more diffuse positive effects.

6. Limitations and Future Directions

Although this study systematically reveals the double-edged sword mechanism through which employees’ relative task performance influences coworker behavior, several limitations remain.

First, the sample was drawn mainly from specific team contexts. Although the study employed three-wave matched data and featured a sound temporal design, there remains room to expand industry coverage and sample sources. Future studies may conduct replication tests across more industries, organizational types, and cultural contexts in order to enhance the external validity of the conclusions.

Second, this study focused on task process and meta-process as two types of cognitive appraisal mechanisms, but did not incorporate more fine-grained emotional variables. For example, benign envy, admiration, threat, shame, or moral disengagement may all play roles at different stages. Existing research increasingly emphasizes the dynamic transformation among assimilation and contrast, challenge and threat, and positive versus defensive attributions in social comparison. Future research may therefore construct a multistage “cognition-emotion-behavior” chain to improve the precision of mechanism explanations.

Third, this study treated interpersonal competition as the key boundary condi-

tion, but organizations may also contain other important contextual variables, such as team psychological safety, fairness perceptions of performance evaluation, cooperative goal interdependence, leadership style, and a knowledge-sharing climate. When the organizational environment is more cooperative and fair, individuals are more likely to make positive attributions about coworkers' advantages and to respond constructively. Future research may therefore introduce additional moderators at the team and organizational levels and conduct cross-level investigations.

Finally, social undermining is a relatively covert, low-intensity but consequential negative behavior. Future studies may continue to examine its antecedent mechanisms while also paying greater attention to governance mechanisms, such as justice-oriented leadership, feedback norms, informal relationship governance, and anti-exclusion institutional design. Such efforts would not only enrich research on the social consequences of high-performing employees but also provide more targeted evidence for organizations seeking to build management systems that balance performance and relational health.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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