What if my coworker builds a better LMX? The roles of envy and coworker pride for the relationships of LMX social comparison with learning and undermining

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Abstract

Although the extant literature has demonstrated the benefits of building a higher leader-member exchange (LMX) relationship with a leader, it has overlooked the efforts by lower LMX employees to leverage the difference from higher LMX coworkers. Integrating social comparison theory and EASI theory, we contend that lower LMX social comparison (LMXSC) is associated with positive (self-improving) and negative (undermining) behavior via different emotional mechanisms, and that the focal employee's perceptions of the comparison coworker's pride play a critical role in qualifying the effects of lower LMXSC. The results from a time-lagged field study and an online experiment reveal that lower LMXSC is associated with both benign and malicious envy, which in turn respectively relate to the focal employee learning and socially undermining the superior coworker. The negative indirect effect of LMXSC on learning behaviors via benign envy is stronger when the coworker compared is perceived to be higher (vs. lower) in authentic pride, whereas the indirect effect of LMXSC on social undermining via malicious envy is stronger when the coworker compared is perceived to be higher (vs. lower) in hubristic pride. We conclude with theoretical and practical implications.

Keywords: LMX social comparison, benign and malicious envy, perceived coworker authentic and hubristic pride, learning behaviors, undermining behaviors

INTRODUCTION

What to do when your boss has a favorite (and it is not you)

---Knight (2016) at the *Harvard Business Review*

Leader-member exchange (LMX) theory suggests that leaders build differential relationships with followers in order to effectively use their resources, time and energy (Dansereau, Graen, & Haga, 1975; Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997; Matta & Van Dyne, 2020). As the exchange relationship with the leader (i.e., LMX) is associated with a broad set of highly-valued resources, such as the leader's trust and support (see Law-Penrose, Wilson, & Taylor, 2016 for a comprehensive review), lower quality LMX suggests that employees cannot receive the valued resources, which may lead these employees to engage in upward social comparison with their higher-LMX coworkers. Although substantial evidence exists of a strong negative response by employees to being subjected to low LMX status, most research has focused on personal responses, such as quitting the job or retaliating with organizational deviance (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Qin, Chen, Yam, Huang, & Ju, 2020). Relatively little is known about the behaviors that lower-LMX employees may exhibit towards their higher-LMX coworkers in an attempt to level themselves up or pull their coworkers down, and moreover, when and how these interpersonal behaviors are elicited. Understanding how differential LMXs affect interpersonal interaction is theoretically important and practically relevant because coworkers' interaction has been shown to have strong work-related and emotional implications which ultimately affect the team functioning (Chiaburu & Harrison, 2008; Tang, Lam, Ouyang, Huang, & Tse, in press). It is therefore important to

understand how to manage employees with differentiated LMXs as to ensure productive employees' interaction and teamwork.

Social comparison theory is well-suited to answering these questions. This theory suggests that upward comparison can produce social comparison emotions (Festinger, 1954; Smith, 2000), which subsequently induces a series of behaviors towards superior others either to pull others down or leverage oneself up (Matta & Van Dyne, 2020; Van de Ven, Zeelenberg & Pieters, 2009). The most typical social comparison emotion aroused by upward comparison is envy (Smith, 2000), which is defined as the emotion that arises when a person lacks and desires others' superior qualities, achievements or possessions (Parrott & Smith, 1993). Envy is likely to be intense "when the envy object is relevant for social status" (Lange, Weidman, & Crusius, 2018a, p. 573), such as in LMX relationships (Breidenthal, Liu, Bai, & Mao, 2020; Sun, Li, Li, Liden, Li, & Zhang, 2021). By integrating social comparison theory with the dual envy literature (Lange & Crusius, 2015; Van de Ven et al., 2009), we build on the construct of LMX social comparison (LMXSC; Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010) to examine how lower LMXSC is associated with positive and negative interpersonal behaviors via two different forms of envy: benign envy and malicious envy respectively. We posit that group members who perceive lower LMXSC may experience benign envy, which motivates them to level themselves up by learning from higher-LMX coworkers, and also malicious envy, which fuels their behaviors to pull down higher-LMX coworkers by engaging in social undermining.

An important next question that needs to be addressed pertains to the factors that may influence when lower LMXSC is more likely to induce benign or malicious envy. Social comparison theory suggests that people's sensitivity to comparison information varies and depends on factors in the compared actor's social context, such as social information and its

characteristics received from the compared referent (Brown, Novick, Lord, & Richards, 1992). Among the social information received, the perceived emotions of the compared referent are particularly important. Indeed, emotions as social information (EASI) theory (Van Kleef, 2008, 2009), one of the key theories in the emotion research area, indicates that individuals pay close attention to others' emotional displays and then settle their own emotions in response to the observed emotional cues. We focus on pride because it is the prototypical emotion that individuals who occupy a superior position (e.g., higher LMX) display (Tracy & Matsumoto, 2008), and is often "intertwined with envy in a social-functional relationship" (Lange & Crusius, 2015, p. 454). Therefore, we integrate social comparison theory and EASI theory to propose that perceived compared coworkers' pride plays a vital role in qualifying the effects of LMXSC on benign and malicious envy. In parallel with the envy literature, recent research on pride has revealed two types of pride: hubristic pride ("a telltale sign of an exaggerated ego") and authentic pride ("an admirable expression of accomplished achievement") (Lange & Crusius, 2015, p. 453). We postulate that when the superior compared coworker is perceived to be higher in hubristic pride, lower LMXSC is more likely to elicit malicious envy and furthermore social undermining. Conversely, when the compared coworker is perceived to be higher in authentic pride, lower LMXSC is more likely to elicit benign envy and subsequently learning behaviors. Our theoretical model is presented in Figure 1. To test this model, we conducted a time-lagged round-robin study (Study 1) and a vignette experiment study (Study 2).

Insert Figure 1 about here

Our research makes three contributions to the literatures on LMX and envy. First, we add to the LMX literature by documenting that a lower-LMX member may not always make negative responses to lower LMX (e.g., pull down others) but may also engage in constructive behaviors

to alter the situation (i.e., level themself up). In doing so, we answer the research call to investigate both the pulling-down and levelling-up effects related to lower LMXSC (Matta & Van Dyne, 2020), enabling a comprehensive picture of responses following upward social comparison of LMX.

Second, our research advances the scholarly understanding of *how* and *when* the pulling-down and levelling-up effects of LMXSC transpire. Specifically, our research suggests that benign envy and malicious envy are the key mechanisms that translate low LMXSC into different behaviors towards superior compared referents. This adds to the emerging literature which contends that emotions are key to understanding LMX-related phenomena (Tse, Lam, Gu, & Lin, 2018a; Tse, Troth, Ashkanasy, & Collins, 2018b). Furthermore, our research highlights the role of the social comparison coworker's emotional display (i.e., pride) in affecting the focal employee's envy experiences and their corresponding behaviors. In doing so, we extend the recent studies on LMX and affect at the dyadic level (Tse, Lam, Lawrence, & Huang, 2013; Tse et al., 2018a) and enrich scholarly understanding of "the active role of the envied person in the elicitation of envy" (Lange & Crusius, 2015, p. 454).

Last, by adopting a *dual envy* theoretical lens to understand how low LMXSC is translated into constructive and destructive behavioral responses, our research extends recent advances in the organizational behavior literature on envy in two important ways. First, while we confirm the association between envy and social undermining and learning shown by Lee and Duffy (2019), our research goes beyond unilateral envy (focusing on inferiority and the resentment nature of envy; Duffy, Scott, Shaw, Tepper, & Aquino, 2012; Koopman, Lin, Lennard, Matta, & Johnson, 2020; Lee & Duffy, 2019) by considering the distinct effects of benign and malicious envy. Second, our research enriches scholarly understanding of the antecedents and contingency of

envy. We highlight that comparing their LMX is an origin of employees' envy emotion and this LMXSC-envy linkage is contingent on their perceptions of their coworkers' pride.

THEORY AND HYPOTHESIS DEVELOPMENT

Theoretical background

Upward social comparison and LMXSC

Social comparison is defined as the "process of thinking about information about one or more other people in relation to the self" (Wood, 1996, p. 520), which is viewed as an "inevitable element of social interaction" (Brickman & Bulman, 1977, p. 150). According to social comparison theory, individuals always search for self-relevant information to evaluate their situations and group standing by comparing themselves with others (Festinger, 1954; Mettee & Smith, 1977). When making social comparisons, they either compare themselves with people who are better off (i.e., upward social comparison) or with those who are worse off (i.e., downward comparison) (Mettee & Smith, 1977). Compared to downward comparison, upward comparison occurs in a situation where one has an inferior status (e.g., Wheeler et al., 1969; Wood, 1989), which is consistent with our research theme. In the light of our research focusing on lower-LMX employees, in the following sections we focus on upward social comparison.

The literature suggests two functions of upward social comparison: adaptive and aversive (e.g., Aspinwall, 1997; Collins, 1996). The former captures the motivation to be similar to a referent who is currently performing better while the latter refers to individuals' defensive responses when confronted with a superior, such as distancing themselves from the other or giving less helpful information (Buunk & Gibbons, 2007). Consistent with these two functions, researchers assert that upward social comparison can elicit two types of social-comparison-based emotions: assimilative emotions, which highlight *similarities* between focal individuals and their

upward social comparison referents, and contrastive emotions, which highlight *differences* between focal individuals and their upward social comparison referents (Smith, 2000). Aligned with the adaptive function, assimilative emotions denote a judgmental process in which focal individuals feel encouraged to be able to perform similarly to their upward social comparison referents (Aspinwall, 1997; Collins, 1996). In contrast, contrastive emotions denote a judgmental process in which individuals perceive that discrepancies between them and their upward social comparison referents are unchangeable (Smith, 2000).

As the LMX relationship is viewed as an important source of valuable resources, different LMX relationships in a group are likely to trigger social comparisons among members (Breidenthal et al., 2020; Sun et al., 2021). To capture this phenomenon, Vidyarthi et al. (2010) proposed the concept of LMX social comparison (LMXSC), referring to group members' subjective perceptions of differences in LMX between them and other group members. Building on social comparison theory, the literature on relative LMX (RLMX) and LMXSC primarily focuses on how higher LMXSC results in positive outcomes. For example, Hu and Liden (2013) found that higher RLMX relates to positive self-efficacy, which in turn is associated with high levels of in-role and extra-role behaviors. In stark contrast, few studies have investigated the implications of lower LMXSC for employees and their coworkers. An exception is Tse et al., (2018a), who focus on how lower LMXSC (as reflected in their measure of the high referent's LMXSC in their Study 2) triggers contrastive emotions (e.g., hostility to the compared referent) and so behaviors undermining the compared referent. To date, we still have little knowledge about whether, when and how lower LMXSC can evoke assimilative emotions which motivate employees to level themselves up or contrastive emotions which drive employees to pull others down. To provide a comprehensive picture, we develop and test a theoretical model that

simultaneously examines both contrastive and assimilative emotions associated with LMXSC (i.e., benign and malicious envy) and the subsequent behavioral responses (i.e., learning behaviors and social undermining).

Hypotheses development

LMXSC and dual envy

Envy is a form of emotion triggered by upward social comparison, and it is defined as a painful emotion derived from the envier's lack of the referent's success, achievement, status or possessions (Lange et al., 2018a; Parrott & Smith, 1993). Recent developments in the envy literature have differentiated envy into two specific forms: benign envy and malicious envy (Lange & Crusius, 2015; van de Ven et al., 2009). Although they are both painful and frustrating, they are different in nature and are associated with different patterns of appraisal of cognition and behavior (Crusius & Lange, 2014; Lange, Crusius, & Hagemeyer, 2016). Specifically, benign envy is an assimilative emotion in that the envier feels that the envied person's superior quality, achievement or possessions are deserved, and wants to become similar to this superior by moving up (van de Ven et al., 2009). Therefore, benign envy functions as a motivator or an inspiration to attain a higher status. In contrast, malicious envy is a contrastive emotion which is characterized by a willingness to degrade the superior compared referent, a hope that the other will fail at something or lose the envied objective, or even be hurt (Van de Ven, et al., 2009). Malicious enviers usually have negative thoughts about the superior and believe the envied person's higher status or achievement is undeserved and caused by uncontrollable factors, which triggers a tendency to pulling-down behavior.

Embedded in the LMX context, lower-LMX employees may experience both benign envy and malicious envy toward their higher-LMX coworkers. Specifically, benign envy describes an

emotional response to the reality that the compared coworker has a better relationship with the leader. According to social comparison theory (Smith, 2000), the occurrence of benign envy is a result of a judgmental process involving assimilative emotions. Group members with higher levels of benign envy feel encouraged and inspired by the high LMX status possessed by envied coworkers. In contrast, malicious envy is a feeling of hostility and wishing the envied coworker will lose their superior status (van de Ven et al., 2009). This form of envy is triggered by a judgmental process of upward contrastive emotions (Smith, 2000). Members with high levels of malicious envy feel that the envied coworker's superior LMX status cannot be achieved through their personal efforts and so they attempt to pull down the coworker so that their painful experiences (i.e., envy) can be alleviated.

EASI theory and perceived coworker's pride

As lower LMXSC may be associated with benign envy and/or malicious envy, the next critical question we need to answer is therefore when benign envy and malicious envy are more likely to be evoked. Emotion as social information theory (EASI theory, Van Kleef, 2008) stipulates that a specific target's emotion can convey important social information to emotion observers, which in turn affects the observers' reactions (Van Kleef, 2008, 2009). Specifically, based on their perceptions of a target's emotion, observers can infer information such as the target's feelings, attitudes, relational orientation and behavioral intentions. Such information may further impact observers' appraisals of the target and their own situations, ultimately guiding them to regulate their behavior and emotions (Kalokerinos, Greenaway, Pedder & Margetts, 2014) and respond to the received information (Van Kleef, 2008, 2009).

We focus on pride because the social information conveyed by pride is status-relevant and may determine how observers interpret their LMX standing in their LMX comparisons and

therefore whether they feel benign or malicious envy (Lange & Crusius, 2015). Pride is defined as a positive emotion that occurs when socially valued success is achieved (Tangney, Burggraf, & Wagner, 1995; Tracy & Robins, 2007). Unlike basic emotions (e.g., happiness, sadness, anger etc.), pride is generally a self-conscious emotion which reflects complex appraisals of one's achievement and status (Beer, Heerey, Keltner, Scabini, & Knight, 2003; Yeung & Shen, 2019). Pride therefore occurs in response to internal attributions that the self is credited with being the cause of achievement (Lewis, 2000).

In parallel with envy, the pride literature has theoretically and empirically differentiated between two forms of pride: authentic pride and hubristic pride (e.g., Tangney et al., 1995; Tracy, Cheng, Robins, & Trzesniewski, 2009). The two forms of pride are distinguished by different internal attributions (Tracy & Robins, 2007). Specifically, authentic pride occurs when one attributes a socially desired achievement to "internal, unstable, controllable" causes, for example I am successful because I work hard, while hubristic pride emerges from attributing success to "internal, stable, uncontrollable" causes, for example I am successful because I am a natural talent (Tracy & Robins, 2007, p. 507). Information on success attributions can be directly communicated to pride observers, who in turn use this information to infer the expresser's superior status differently: when authentic pride is perceived, the superior status of the expresser is something learnable through effort (Williams & DeSteno, 2008), and deserved (Ratcliff, Miller, & Krolikowski, 2013); in contrast, when hubristic pride is perceived, the status is innate rather than gained through effort (Horberg, Kraus, & Keltner, 2013), and undeserved (Ratcliff et al., 2013). Drawing on EASI theory (Van Kleef, 2008, 2009), which stipulates that observation of emotion provides meaningful information to emotion perceivers, we focus on *perceptions* of a

coworker's authentic (perceiving a coworker as accomplished, successful, achieving) and hubristic pride (perceiving a coworker as stubborn, pompous, stuck-up).

The moderating effect of perceived coworker's pride on the negative relationship between LMXSC and dual envy

Integrating social comparison and EASI theories, we posit that perceptions of a compared coworker's pride play a key role in translating LMXSC into different envious reactions (i.e., benign and malicious envy). Building on the distinct nature of pride, we reason that perceived authentic (hubristic) pride qualifies the effect of LMXSC on benign (malicious) envy by impacting focal employees' inference processes in terms of whether superior status can be attainable through personal effort and/or whether the coworker deserves the superior LMX status. Specifically, when lower LMXSC employees perceive high levels of coworker hubristic pride, they are likely to believe that the coworker's superior LMX status cannot be obtained through their own personal effort and/or that the higher-LMX coworker does not deserve the superior status, which induces their malicious envy toward the coworker (e.g., "I secretly wished that [Coworker A] would lose the leader's favor," Lange & Crusius, 2015). In contrast, when lower LMXSC employees perceive high levels of coworker authentic pride, they infer that a higher LMX relationship can be attained through hard work (Williams & DeSteno, 2008) and/or that the higher LMX coworker deserves the superior status, which induces benign envy ("I wanted to work harder to also obtain exactly the same as [Coworker A]'s relationship with our leader," Lange & Crusius, 2015). Our proposed moderating effects are consistent with social comparison theory (Smith, 2000). When individuals feel worse off than their referents regarding LMX and the situation is unchangeable (as indicated by hubristic pride observations), it generates contrastive emotions such as malicious envy. If the situation is perceived as

changeable (as indicated by authentic pride observations), by contrast, upward comparison on LMX elicits assimilative emotions such as benign envy (Matta & Van Dyne, 2020; Smith, 2000).

H1a: LMXSC is negatively related to benign envy (i.e., lower LMXSC is associated with higher benign envy), and the relationship is stronger when perceived authentic pride is higher.

H1b: LMXSC is negatively related to malicious envy (i.e., lower LMXSC is associated with higher malicious envy), and the relationship is stronger when perceived hubristic pride is higher.

The conditional dual pathways from LMSXC to employees' behaviors via dual envy

So far, we have theorized that LMXSC interplays with perceived coworker pride to elicit two distinct forms of envy – benign and malicious envy – which have notably different effects on the envier's behavior (Lange & Crusius, 2015). The envy literature suggests that benign envy is a form of assimilative social-comparison-based emotion (Smith, 2000). Therefore, when benign envy occurs, focal employees believe they have opportunities to have similar levels of LMX in the future and they are motivated to improve themselves. Indeed, benign envy has been associated with increased personal efforts to level oneself up (Cohen-Charash, 2009; Schaubroeck & Lam, 2004; van de Ven, Zeelenberg, & Pieters, 2012). We particularly focus on envious members' learning behaviors (Hill, DelPriore, & Vaughan, 2011; Lee & Duffy, 2019). We argue that employees with benign envy can observe superior coworkers' successful behaviors to improve themselves (i.e., observational learning) and directly seek advice from the coworkers (Lee & Duffy, 2019). Learning from superior peers and adapting the experience for one's own improvement is a quick and straightforward way to attain success similar to that achieved by superior coworkers (Lee & Duffy, 2019). In the context of our research, lower-LMX employees with benign envy can observe and shadow higher-LMX employees to learn how to

effectively interact with the group leader. They can also seek advice from higher-LMX employees on how to build a better relationship with the leader.

H2: Benign envy is positively related to learning behaviors.

Based on H1a and H2, we propose a conditional indirect relationship in which LMXSC is more negatively associated with learning behaviors through its effects on benign envy when employees perceive high levels of coworker authentic pride. That is, perceived coworkers' authentic pride augments the adaptive function of upward social comparison, which involves higher levels of benign envy, and subsequently greater personal efforts to learn from the coworker to achieve a similarly high LMX status.

H3: The negative indirect effect of LMXSC on learning behaviors via benign envy is stronger when perceived authentic pride is higher (i.e., lower LMXSC is associated with higher levels of learning behaviors via benign envy when perceived authentic pride is higher).

In contrast, malicious envy occurs when a lower-LMX employee believes that the discrepancy with the superior cannot be reduced by effort and they therefore tend to decrease the discrepancy by pulling down the envied person (van de Ven et al., 2009). Empirically, malicious envy has been found to be associated with negative outcomes, such as counter-productive work behaviors (Cohen-Charash & Mueller, 2007), cheating (Gino & Pierce, 2009), deception (Moran & Schweitzer, 2008) and social undermining (Duffy et al., 2012). In addition, malicious envy shifts the envier's attention from the envied object to the envied person, and malicious enviers can even compromise their own success to make the envied person suffer (Cruisius & Lange, 2014; Hill et al., 2011). Therefore, despite the potential cost of destructive behaviors (e.g., social undermining), malicious enviers still engage in these behaviors to hurt the superior.

We examine social undermining, which is defined as "behaviors intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation" (Duffy, Ganster, & Pagon, 2002, p. 332). Social undermining is manifested in rejecting the superior or belittling his or her ideas, which is an effective way to pull down the superior-status coworker. In this case, the superior coworker may find it threatening and distressing, which lowers their self-efficacy (Baron, 1988) and thus makes their performance worse. Furthermore, social undermining also includes behaviors such as talking badly about the compared coworker behind his or her back. Such information-spreading social-undermining behaviors can influence other group members' impressions of the superior coworker. Therefore, social undermining may be an effective way for lower-LMX employees to pull down higher-LMX coworkers.

H4: Malicious envy is positively related to social undermining.

Integrating H1b and H4, we propose that the negative indirect relationship of LMXSC on social undermining via malicious envy is stronger when a high level of coworker hubristic pride is perceived. In other words, the compared coworker's hubristic pride strengthens the aversive function of upward social comparison so that employees perceiving lower LMX may experience higher levels of malicious envy, and subsequently higher levels of social undermining toward higher-LMX coworkers.

H5: The negative indirect effect of LMXSC *on social undermining via malicious envy is stronger when perceived hubristic pride is higher (i.e., lower LMXSC is associated with higher levels of social undermining via malicious envy when perceived hubristic pride is higher).*

Study 1: A Field Investigation

Sample and procedures

We conducted a time-lagged round-robin study to test our theoretical model. To increase the representativeness of our sample and the generalizability of our findings, we announced our research to a host of organizations with the help of alumni MBA students who had connections with these organizations. Specifically, the MBA students were asked to present the senior managers and the human resource departments of these organizations with a brief explanation of our research, as well as the preview of our surveys. After various communications on the information of the organizations that expressed interest in participating in our surveys, we selected 90 groups from 29 organizations. The sample group selection was based on two criteria. First, group members worked together and interacted with one another frequently, so that they had opportunities to observe the interpersonal interactions among coworkers and between the leader and other group members. This criterion ensured that the group members had access to enough information for social comparison. Second, the group leader had legitimacy or power to assign tasks and resources to group members, evaluate their performance and determine promotions. This criterion ensured that group members valued their relationship with the leader, and therefore were motivated to engage in LMX-related social comparison. Our sample included organizations located in a large city in northern China. The organizations were in different industries: grain and oil production, system integration, third-party service, energy sources, information technology, jewelry and homeware. In the informed consent information, we assured the potential participants that their responses were voluntary and confidential. The human resource department of each organization provided us with a roster that included the contact details of the participants who signed the informed consent. We then sent survey links to the participants directly.

To collect data for testing our model, a round-robin design in which each group member rated every other one was adopted (Warner, Kenny, & Stoto, 1979). To reduce common-method variance, we employed a three-wave time-lagged design with a time interval of two weeks. We contacted 410 employees in total. Of these, 387 employees completed the Time 1 survey, which included LMXSC (independent variable), perceived coworker hubristic and authentic pride (moderators), social comparison orientation and demographic information (controls), generating a response rate of 94.39%. Of these, 365 participants completed the Time 2 survey, which included the two types of envy (mediators), resulting in a response rate of 89.02%. 290 participants completed the Time 3 survey, which included learning behaviors and social undermining (dependent variables), resulting in a final response rate of 70.73%.

Due to changes in work schedules or work locations or unexpected turnover, some employees only completed one or two surveys. Moreover, some employees skipped questions, resulting in missing values for some key variables (i.e., LMXSC, two types of envy, two types of pride and two outcome variables). These resulted in some invalid responses (i.e., incomplete dyads). After matching the responses from the three time points and excluding invalid responses, 118 employees (including 349 dyadic-level cases) completed all three waves of the investigation and provided valid responses for the final analysis. Among the 118 employees, the average age was 33.57 (*SD* = 7.88), the average tenure of working with the current leader was 43.20 months (*SD* = 30.95) and 47.5% were male. The 118 employees were from 37 groups. The size of the groups ranged from 3 to 5, with an average of 3.86 (*SD* = .79).

Measures

As all the measures in the study were developed in English, we followed the recommended translation and back-translation procedure (Brislin, 1986) to translate them into Chinese. Unless

otherwise indicated, the participants rated the items on a seven-point scale from 1= strongly disagree to 7= strongly agree.

LMXSC (Time 1). We adapted the six-item scale developed by Vidyarthi et al. (2010) to measure the focal employee's perception of his or her relative LMX relative to the LMX of a specific coworker. A sample item was "I have a better relationship with my manager than [Coworker A] in my work group" (α = .94).

Perceived coworker hubristic and authentic pride (Time 1). We adapted scales from Tracy and Robins (2007) to measure perceived hubristic pride and perceived authentic pride of a specific coworker. Given that the round-robin approach was employed, we followed previous studies and used shortened measures to reduce the participants' workload and make the responses more accurate (Hussain, Shu, Tangirala, & Ekkirala, 2019; Sherf, Sinha, Tangirala, & Awasty, 2018). Specifically, we selected the three items that had the highest factor loadings in the original measure for each type of pride. The participants indicated how strongly they felt [coworker A] appeared to be "pompous, snobbish, stuck-up (perceived hubristic pride) or accomplished, achieving and successful (perceived authentic pride)" (α = .96 for perceived hubristic pride; α = .91 for perceived authentic pride).

Benign envy and malicious envy (Time 2). We adapted scales from Lange et al. (2018a) to measure the focal employee's benign and malicious envy of specific coworkers. As with pride, we selected three items (based on the highest factor loadings) for each type of envy from the original scale. The respondents indicated their agreement with these items: "I wanted to work harder to also attain exactly the same as [Coworker A]'s relationship with our leader," "I devised a plan to obtain exactly the same as [Coworker A]'s relationship with our leader," "[Coworker A] motivated me to become just like him/her, who has a good relationship with my leader" (for

benign envy), "I complained to someone else about [Coworker A]," "I felt hostile towards [Coworker A]" and "I secretly wished [Coworker A] would lose the resources obtained from our leader" (for malicious envy)" (α = .98 for benign envy; α = .98 for malicious envy).

Learning behaviors (Time 3). We measured the focal employee's learning behavior by adapting three observational learning items from Lee and Duffy's (2019) study. A sample item was "I thought about how to change some of my behavior in accordance with [Coworker A]'s behavior" (α = .98).

Social undermining (Time 3). We selected three representative items with the highest factor loadings from the scale developed by Duffy et al. (2002) to measure the focal employee's social undermining toward a specific coworker. A sample item was "I talked badly about [Coworker A] behind his/her back" (α = .96).

We collected an independent two-wave time-lagged field dataset to validate the shortened scales (e.g., two types of envy, two types of pride and social undermining) used in this study. With the help of a professional consulting company, we invited 370 Chinese full-time employees to fill in the online surveys. Of these, 194 employees completed the Time 1 survey (response rate = 52.4%) and about a month later 136 employees completed the Time 2 survey, resulting in a final response rate of 36.7%. In the final sample, the average age was 31.6 (*SD* = 4.77), 47.1% were male and 58.1% had a bachelor's degree or above. Following the procedure recommended in Heggestad, Scheaf, Banks, Hausfeld, Tonidandel, and Williams (2019), we instructed all the participants to respond to the full scales at Time 1. At Time 2, we randomly assigned about half of the participants to Group A (N = 66) and asked them to respond to the full scales once again. The other half of the participants were assigned to Group B (N = 70) and were asked to respond to the shortened scales t used in Study 1. We then calculated the scale correlations between Time

1 and Time 2 for Groups A and B. The results showed that the Time 1 and Time 2 correlations between Group A and Group B were highly similar for the five variables, providing validation evidence for the shortened scales.

Control variables. We controlled for demographic variables (sex, age, dyadic tenure with supervisors) which have been found to influence social comparison emotions and corresponding behaviors in previous studies (e.g., Tse, et al., 2018a). We also controlled for social comparison orientation (using the scale adopted by Gibbons and Buunk, 1999). This is because individuals with different levels of social comparison orientation may respond to the results of social comparison differently (Buunk & Gibbons, 2007; Gibbons & Buunk, 1999). In addition, social comparison orientation has been associated with negative social comparison emotions (e.g., Tse et al., 2013). Moreover, to parcel out the individual-level effect of LMXSC on envy, which has been examined in previous studies such as Sun et al. (2021), and demonstrate the unique effect of LMXSC at the dyadic level, we controlled for the average LMXSC of each focal employee (i.e., the average of his or her reported LMXSC regarding all the coworkers).

Analytic Strategy

The round-robin data involved multiple levels of analyses: dyads (between an actor and a target member), actors (the individual members), and groups. We therefore followed a social relations modeling (SRM) approach to account for the non-independent and nested nature of the data (Kenny, 1994; Kenny, Kashy, & Cook, 2006; Kenny & La Voie, 1984) by partitioning the variance at each level (dyads, individual actors, and groups). The dyad-level (Level 1) variance reflected the relationship or interaction between the actor and the target. The actor-level (Level 2) variance reflected the tendency of an individual member to rate all the group members in a

particular way. The group-level (Level 3) variance indicated the proportion of members influenced by group characteristics or processes.

We used *Mplus 7.0* to analyze our data. The key variables in our model were at the dyad level (Level 1); the control variables such as actor demographics, social comparison orientation, and individual average LMXSC were at the actor level (Level 2); and an intercept-only model was specified at the group level (Level 3) to control for any possible group-level confounding effects.[1] In particular, we first performed multi-level confirmatory factor analysis (CFA) to establish the discriminant validity of our key variables. We then partitioned the variance at the dyadic, individual and group levels. Next, we conducted hierarchical multi-step regressions to test our hypotheses. We ran regressions on the two mediators (benign envy and malicious envy) in the first step and on the dependent variables (observational learning and social undermining) in the second step. Significance tests of the conditional indirect effects were completed using a parameter-based bootstrapping approach (MacKinnon, Fritz, Williams, & Lockwood, 2007). This resulted in a 95% confidence interval (CI), and significance was indicated by the CI not containing zero[2].

Results

Preliminary results. Table 1 presents the descriptive statistics, zero-order correlations and reliabilities of the variables. The multi-level CFA results suggested that our hypothesized seven-factor model (i.e., LMXSC, perceived hubristic pride, perceived authentic pride, benign envy, malicious envy, observational learning, and social undermining) fit the data well ($\chi^2_{[738]}$ =

[1] We also controlled for target effects (i.e., the tendency of an individual target to be rated by all groupmates in a particular way) by using dummy variables to indicate the focal individual's role as a target in dyads. To triangulate our results, we also used the multilevel social relations modeling (SRM) approach in the R software package (Kenny & Wong, 2016) to estimate our model. The pattern of results was substantially similar to what we report in the manuscript. All the hypotheses remained supported. The details and analysis can be provided on request.

[2] The data and Mplus codes used in Study 1 are available from the corresponding author upon reasonable request.

1409.70, $p < .001$; CFI = .92; TLI = .91; RMSEA = .05; dyad-level SRMR = .08; actor-level SRMR = .28). We also ran a series of alternative models in which items from two different constructs were collapsed into one factor. Our results showed that the alternative models fit the data worse than our hypothesized seven-factor model. Following the recommendations in Fornell and Larcker (1981), we further computed the average variance extracted (AVE) for all the variables, and the results in Table 1 show that the AVEs were higher than the squared correlations across different pairs of constructs. All the results supported the discriminant validity of the key variables in our model. The tests and results can be provided on request.

Variance partitioning results. Table 2 presents the variance partitioning of the seven key variables into the dyadic, actor, and group levels. As the table shows, 51.74% of the total variance in LMXSC, 57.43% in perceived authentic pride, 38.32% in perceived hubristic pride, 51.38% in benign envy, 45.03% in malicious envy, 66.06% in learning behaviors and 52.00% in social undermining were at the dyadic level. These findings indicated that a significant proportion of the variance in these variables was in the characteristics of the dyadic relationships or interactions between the actors and targets. The findings supported the appropriateness of focusing our main analyses at the dyadic level.

Insert Table 1 and Table 2 about here

Hypothesis testing results. H1a suggests that the negative relationship between LMXSC and benign envy is moderated by perceived authentic pride so that it is stronger when perceived authentic pride is higher (vs. lower). As Table 3 shows, the interaction between LMXSC and perceived authentic pride was significant ($\gamma = -.14$, $SE = .04$, $p < .01$). The interaction pattern is depicted in Figure 2. Simple slope tests (+/- 1 *SD* of perceived authentic pride) indicated that the negative relationship between LMXSC and benign envy was significantly stronger when

perceived authentic pride was higher (+1 *SD*; γ = -1.09 *SE* = .07, $p < .001$) than when perceived authentic pride was lower (-1 *SD*; γ = -.80, *SE* = .08, $p < .001$) (*diff* = -.29, 95% CI [-.44, -.12]). These results supported H1a.

Insert Table 3 and Figure 2 about here

H1b suggests that the negative relationship between LMXSC and malicious envy is moderated by perceived hubristic pride so that it is stronger when perceived hubristic pride is higher (vs. lower). As Table 3 shows, the interaction between LMXSC and perceived hubristic pride was significant (γ = -.20, *SE* = .04, $p < .001$). The interaction pattern is depicted in Figure 3. Simple slope tests (+/- 1 SD of perceived hubristic pride) indicated that the relationship between LMXSC and malicious envy was significant when perceived hubristic pride was higher (+1 *SD*; γ = -.89, *SE* = .13, $p < .001$) but non-significant when perceived hubristic pride was lower (-1 *SD*; γ = -.24, *SE* = .15, *n.s.)*. The difference between the effects of LMXSC on malicious envy across the higher and lower levels of perceived hubristic pride was significant (*diff* = -.65, 95% CI [-.91, -.40]). H1b was partially supported.

Insert Figure 3 about here

H2 suggests that benign envy is positively related to learning behaviors. In support of this, Table 4 shows that benign envy had a significant positive relationship with observational learning (γ = .37, *SE* = .10, $p < .001$). H3 suggests that the negative indirect relationship between LMXSC and learning behaviors via benign envy is stronger when perceived authentic pride is higher. The results showed that the negative indirect effect of LMXSC on observational learning via benign envy was significantly stronger when perceived authentic pride was higher (+1 *SD*; γ

= -.40, 95% CI [-.62, -.18]) than when perceived authentic pride was lower (-1 *SD*; γ = -.30, 95% CI [-.47, -.14]; *diff* = -.10, 95% CI [-.19, -.03]). These results supported H3.

Insert Table 4 about here

H4 suggests that malicious envy is positively related to social undermining. In support of this, Table 4 shows that malicious envy had a significant positive relationship with social undermining (γ = .19, *SE* = .04, $p < .001$). H5 suggests that the negative indirect relationship between LMXSC and social undermining via malicious envy is stronger when perceived hubristic pride is higher. The results showed that the indirect effect of LMXSC on social undermining via malicious envy was significantly stronger when perceived hubristic pride was higher (+1 *SD*; γ = -.17, 95% CI [-.26, -.09]) than when perceived hubristic pride was lower (-1 *SD*; γ = -.04, 95% CI [-.11, -.01]; *diff* = -.13, 95% CI [-.20, -.06]). H5 was supported.

Supplementary analyses. In addition to testing our hypotheses, we also conducted supplementary analyses to investigate the interaction effect between (1) LMXSC and perceived hubristic pride on benign envy, and (2) LMXSC and perceived authentic pride on malicious envy. The result suggested that LMXSC significantly interacted with perceived hubristic pride in its effect on benign envy (γ = -.15, SE = .03, $p < .001$) and with perceived authentic pride on malicious envy (γ = .39, SE = .06, $p < .001$). Simple slope tests indicated that the negative relationship between LMXSC and benign envy was significantly stronger when perceived hubristic pride was higher (+1 *SD*; γ = -1.03, *SE* = .06, $p < .001$) than when perceived hubristic pride was lower (-1 SD; γ = -.55, *SE* = .08, $p < .001$; *diff* = -.48, 95% CI [-.68, -.30]); the negative relationship between LMXSC and malicious envy was significant when perceived authentic pride was lower (-1 SD; γ = -.83, *SE* = .14, $p < .001$) but not significant when perceived authentic pride was higher (+1 SD; γ = -.05, *SE* = .12, *n.s.*; *diff* = .78, 95% CI [.54, 1.02]).

Essentially, we note that, after including these two additional interaction terms, the pattern of our hypothesized model remained largely unchanged.

Discussion

In Study 1, we found that when the compared coworker's authentic (hubristic) pride is perceived to be high, LMXSC is more positively related to benign (malicious) envy, which in turn is positively associated with learning (undermining) behavior. However, Study 1 was bounded by several limitations. First, while the study demonstrated our model's external validity using time-lagged employee data from naturalistic settings, questions about causality may arise because the data were cross-sectional. Second, regarding the indirect influence of LMXSC on employees' learning behaviors via benign envy, the study only examined observational learning. However, previous literature suggests that learning can take two forms: observational learning and advice-seeking (Celen & Kariv, 2004; Çelen, Kariv, & Schotter, 2010). Third, regarding the moderating effects, our theorization assumes that perceived coworkers' authentic versus hubristic pride may influence focal employees' appraisals of the compared coworkers' deservingness of LMX and their appraisals of personal control over improving their LMX relationships (e.g., Lange et al., 2016). However, we did not verify the assumption. To address the above issues, we conducted Study 2, in which we designed a 2 (i.e., high and low LMXSC) by 2 (i.e., authentic and hubristic pride) vignette-based experiment to a) examine the causal relationship between LMXSC, pride and envy, b) expand learning behaviors by including advice-seeking as an outcome, c) to explore the roles of focal employees' deservingness and personal control in explicating the interaction effect of LMXSC and perceived coworker pride on envy.

Study 2: An Vignette-based Experiment

Sample and procedures

We developed a vignette-based experiment (Aguinis & Bradley, 2014) to examine our hypotheses with a 2 × 2 (low vs. high LMXSC and authentic vs. hubristic pride) between-subject design. A total of 404 working adults were recruited via Prolific, a professional online platform for scientific research (Palan & Schitter, 2018; Peer, Brandimarte, Samat, & Acquisti, 2017). We recruited working adults who: (1) were over the age of 18, (2) were English speakers, and (3) worked with peers. The participants received £1 ($1.35) for completing our study. After obtaining their consent to participate in the study, we randomly assigned the participants to one of four conditions.

To guarantee the quality of our data, we excluded participants using three criteria: (1) spending an unreasonable length of time on our study (N = 125, Huang, Curran, Keeney, Poposki, & DeShon, 2012; Huang, Liu, & Bowling, 2015); (2) spending an unreasonable length of time on each vignette page (N = 11, Huang et al., 2012); and (3) providing wrong or irrelevant information in response to the text entry questions (N = 13). On average, the participants spent 11.34 minutes (*SD* = 6.8) to complete the study. We excluded responses from the participants who spent either too long (more than 30 minutes) or too short a time (less than 8 minutes) on our survey[3]. The former indicates that the participants may have experienced some disruptions when completing our study (Taylor, Griffith, Vadera, Folger, & Letwin, 2019), while the latter suggests the participants might pay insufficient attention when completing our experiment (Huang et al., 2012). We decided on 8 minutes as the lower-end cutoff, considering the fact that we asked the participants to recall and summarize the key information about Pat's relationship

[3] The results of robustness analysis based on using different time frames for exclusion are reported in the online Appendix A.

with the leader and Pat's pride in two text entry questions in at least 60 words. Second, we excluded responses from the participants who spent an extremely short or long time on the manipulation pages. Huang et al. (2012) suggest that page time is an important index of effort level. Specifically, responses from 11 participants were excluded, as they were identified as out-of-distribution outliers, based on the time that all the participants spent on our vignette pages. Third, after the participants read the manipulation, we asked them to answer two text entry questions to summarize the key information they obtained from the manipulations. One question was on LMXSC manipulation and one was on pride manipulation. Three members of the author team independently reviewed the recall texts and identified inattentive participants who wrote the information irrelevant to our manipulation in the two scenarios. The three authors then discussed together the identified cases and reached a consensus on the responses from 13 inattentive subjects from the final analysis. The final sample included 255 participants, among whom the average age was 33.8 years (*SD* = 9.5) and 40.8% were male.

Manipulations and measures.

The participants were asked to pay close attention to the scenario and imagine they were experiencing it themselves. The scenarios consisted of shared parts that were the same for all the participants and unique parts that corresponded to different conditions. In the shared parts of the scenarios, the participants were asked to imagine that they work in the consumer goods industry. They were told they worked in a team with a few coworkers on coordinating research projects. The leader was powerful, assigned tasks to the group members, evaluated their performance, and decided on promotion opportunities. Participants were also told that after working in the team for some time they had formed a general impression of their relationships with the supervisor and

their coworkers. One of the coworkers was Pat Fisher. They were then assigned to different scenarios with different information regarding the leader-member relationships and Pat's pride.

LMXSC manipulation

We adapted the LMXSC manipulation developed by Tse et al. (2018a) and revised it to better reflect self-perceived LMX compared with the coworker Pat (a gender-neutral name). In the high (low) LMXSC condition, the participants read:

> *You find that you have a better (worse) relationship with your supervisor than Pat has with the supervisor. In fact, you feel that your working relationship with the supervisor is more (less) effective than the relationship that Pat has with the supervisor. Relative to Pat, you seem to receive more (less) support, benefits and resources from the supervisor and you feel that the supervisor is more (less) loyal to you and enjoys your company more (less) than that of Pat. Finally, when the supervisor cannot make it to an important meeting, between you and Pat you (Pat) will usually be the first person to be asked by the supervisor to go to the meeting.*

Pride manipulation

Based on the dual pride literature and the pride scales in Tracy and Robins (2007), we developed the manipulation of authentic and hubristic pride. The description of authentic/(hubristic) pride read:

> *You overheard Pat discussing recent work with others.*
>
> *Pat said:*
>
> *"I am proud of myself. I feel fulfilled (superiority over others) when I achieve milestones in my career because I work very hard (am a natural talent). I try to (can) do well at everything."*

This statement from Pat gives you the impression that Pat has a successful and confident (arrogant and conceited) self-view. Based on Pat's emotional display, you find Pat is fulfilled (snobbish) and believes that his/her achievement is mainly due to repeated practices (ability) and constant effort (capacity), emphasizing the importance of hard work (natural talent).

To facilitate understanding and a deeper processing of the context, the participants were instructed to summarize the key information in their respective scenario in a few sentences before proceeding to the next step.

Measures

Unless otherwise stated, the participants rated the following items on a 7-point scale from 1 = extremely unlikely to 7 = extremely likely.

Manipulation check. To check the LMXSC manipulation, the participants were asked to respond to the statement "Compared to Pat, you have a better relationship with the supervisor" (1 = strongly disagree to 7 = strongly agree). To check the pride manipulation, in line with previous research (e.g., Lange & Crusius, 2015) the participants were asked to choose the emotions that best fit Pat. They were given three options: (a) accomplished, achieving, confident, fulfilled, productive, self-worth and successful; (b) arrogant, conceited, egotistical, pompous, smug, snobbish, stuck up; or (c) not enough information.

Benign envy and malicious envy. We used the 4-item full scale for benign envy and the 4-item full scale for malicious envy which were developed by Lange et al. (2018a). That is, in addition to the 3 items that we included in Study 1 for each form of envy, we also included "I feel deep longing for Pat's relationship with our supervisor" (benign envy) and "I feel hatred

towards Pat's relationship with our supervisor" (malicious envy) (α = .78 for benign envy; α = .87 for malicious envy).

Observational learning. We measured observational learning with the 3 items that we used in Study 1 (α = .74).

Advice-seeking. The three-item scale developed by Sparrowe, Liden, Wayne, and Kraimer (2001) was used to measure advice-seeking. A sample item was "I will seek advice on work-related matters from Pat" (α = .80).

Social undermining. We used the full 13-item scale developed by Duffy et al. (2002). A sample item was "I will delay work to make Pat look bad or slow Pat down" (α = .92).

Results

Manipulation check. The participants in the high LMXSC condition reported that they had a better relationship with the supervisor *(M* = 4.35, *SD* = .72) than those in the low LMXSC condition (*M* = 1.34, *SD* = .64) (*t* (253) = 35.20, *p* < .001). Therefore, our LMXSC manipulation was effective. We used a χ^2-test with the two pride conditions as independent variables and pride perception (i.e., our pride manipulation check question) as the dependent variable. 82.17% of the participants in the authentic pride condition reported authentic pride perception, 1.55% reported hubristic pride perception and 16.28% reported not enough information. For participants in the hubristic pride condition, 90.48% reported hubristic pride perception, 4% reported authentic pride and 5.52% reported not enough information. The overall difference was significant (χ^2 (2) = 207.03, *p* < .001). Therefore, our pride manipulation was successful.

Preliminary results. Descriptive statistics of the key variables are reported in Table 5.

Insert Table 5 about here

Hypothesis testing results. As Table 6 shows, the 2 × 2 analysis of variance (ANOVA) suggested the main effect of LMXSC (0 = low LMXSC, 1 = high LMXSC) and the interaction effect between LMXSC and pride (0 = authentic pride, 1 = hubristic pride) on benign envy were both significant. The participants in the low LMXSC condition reported higher benign envy *(M* = 4.02, *SD* = 1.28) than those in the high LMXSC condition (*M* = 3.36, *SD* = 1.30) (*t* (253) = 4.06, $p < .001$). Regarding the interaction effect between LMXSC and pride, when Pat's authentic pride was perceived, the participants in the low LMXSC condition reported higher levels of benign envy (*M* = 4.66, *SD* = 1.01) than those in the high LMXSC condition (*M* = 3.67, *SD* = 1.30) (*t* (127) = 4.80, $p < .05$). In contrast, when Pat's hubristic pride was perceived, the levels of benign envy reported by the participants in the low LMXSC condition (*M* = 3.37, *SD* = 1.20) and those reported by those in the high LMXSC condition (*M* = 3.04, *SD* = 1.23) were not significantly different (*t* (124) = 1.54, *p* = .13, *n.s*). The interaction pattern is depicted in Figure 4 and suggests the relationship between LMXSC and benign envy was significant in the authentic pride condition and non-significant in the hubristic pride condition. The slope difference test further suggested that the relationship between LMXSC and benign envy in the authentic pride condition was statistically different to that in the hubristic pride condition (*diff* = .39, 95% CI [.12, .69]). H1a was supported.

Insert Table 6 and Figure 4 about here

Regarding malicious envy, the participants in the low LMXSC condition reported higher levels of malicious envy (*M* = 3.98, *SD* = 1.41) than those in the high LMXSC condition (*M* = 2.60, *SD* = 1.35) (*t* (253) = 8.02, $p < .01$). The interaction effect between LMXSC and pride on malicious envy was also consistent with our expectation. Specifically, when Pat's hubristic pride was perceived, the participants in the low LMXSC condition reported higher levels of malicious

envy (*M* = 4.53, *SD* = 1.38) than those in the high LMXSC condition (*M* = 2.81, *SD* = 1.35) (*t* (124) = 6.99, *p* < .01). Although when Pat's authentic pride was perceived the levels of malicious envy reported by the participants in the low LMXSC condition (*M* = 3.44, *SD* = 1.21) were higher than those in the high LMXSC condition, (*M* = 2.39, *SD* = 1.30) (*t* (127) = 4.75, *p* < .01), the interaction pattern shown in Figure 5 suggests the negative relationship between LMXSC and malicious envy was stronger in the hubristic pride condition than in the authentic pride condition (*diff* = .38, 95% CI [.07, .68]). Therefore, H1b was supported.

Insert Figure 5 about here

To test H2 to H5, in line with previous studies (e.g., Tse, et al., 2018a) we used the PROCESS macro for SPSS (Hayes, 2018) to examine the direct effects of benign and malicious envy on learning behaviors (observational learning and advice-seeking) and social undermining, and the indirect effects of LMXSC on the three outcomes via the two forms of envy in the different pride conditions. We used 5,000 resampling iterations to produce 95% bias-corrected CI for the conditional indirect effects (Hayes & Preacher, 2010). The results are shown in Table 7 and Table 8. As Table 7 shows, supporting H2, benign envy was positively related with learning (observational learning: *B* = .32, *SE* = .06, *p* < .01; advice-seeking: *B* = .41, *SE* = .08, *p* < .01). As Table 8 shows, the indirect effect of LMXSC on learning via benign envy was stronger in the authentic pride condition (observational learning: *ind* = -.31, 95% CI [-.54, -.13]; advice seeking: *ind* = -.40, 95% CI [-.66, -.19]) than in the hubristic pride condition (observational learning: *ind* = -.11, [-.27, .03], *n.s.*, *diff* = .21, 95% CI [.01, .45]; advice-seeking: *ind* = -.14, 95% CI [-.34, .04], *n.s.*, *diff* = .26, 95% CI [.02, .55]). H3 was supported.

In support of H4, malicious envy was positively related to social undermining (*B* = .41, *SE* = .05, *p* < .01). Further, the indirect effect of LMXSC on social undermining via malicious envy

was stronger in the hubristic pride condition (*ind* = -.71, 95% CI [-1.01, -.45]) than in the authentic pride condition (*ind* = -.44, 95% CI [-.65, -.24], *diff* = -.27, 95% CI [-.59, -.01]). H5 was supported.

Insert Tables 7 and 8 about here

Supplementary analyses

Prior research suggests that coworker authentic pride tends to positively associate with focal employees' appraisals of deservingness and/or personal control, as this type of pride signals attribution of success to their coworkers' personal efforts (Lange et al., 2016; Van de Ven et al., 2012). When co-worker authentic pride is perceived, focal employees believe that the coworkers deserve this positive outcome (i.e., high coworker deservingness) and/or that they can attain a similar status through personal effort (i.e., high personal control). By contrast, hubristic pride is negatively related to deservingness and/or personal control as hubristic pride signals attribution of success to stable and uncontrollable causes (e.g., talent), which is irrelevant to the coworker's effort and therefore perceived as undeserved and out of the observer's control (Kalokerinos et al., 2014; Lange et al., 2016; Van de Ven et al., 2012). Therefore, deservingness and personal control may explain the effect of coworker pride in moderating the relationship between LMXSC and envy. Although it is not among our hypotheses, empirically examining the transmitting roles of deservingness and personal control in the moderating effect of coworker pride may enhance our understanding of our model. We therefore tested these possibilities.

We asked the participants in Study 2 to evaluate deservingness and personal control after they read the LMXSC and pride manipulation. We used two 3-item scales in Lange et al. (2016) to measure these two constructs. Example items were "Pat does not deserve the relationship with

our supervisor" (reversed) for deservingness (α = .83) and "I feel control over my possible actions to improve my own relationship with my supervisor" for personal control (α = .90).

The results are presented in Table 9. We standardized the variables except benign envy and malicious envy in the analyses. As Table 9 shows, pride (authentic pride = 0; hubristic pride = 1) was negatively related to deservingness (*B* = -.42, *SE* = .08, $p < .01$) while the relationship between pride and personal control was non-significant (*B* = -.08, *SE* = .09, *n.s.*). The interaction effect between LMXSC and personal control on benign envy was negative (*B* = -.23, *SE* = .10, $p < .05$)., whereas the interaction effect between LMXSC and deservingness on malicious envy was positive (*B* = .20, *SE* = .09, $p < .01$). Figures 8 and 9 show these interaction effects. As Table 9 shows (step 3 in the malicious envy model), after incorporating the interaction between LMXSC and deservingness the coefficient of the interaction term between LMXSC and coworker pride changed from significant (*B* = -.19, *SE* = .08, $p < .05$, in step 2) to non-significant (*B* = -.04, *SE* = .08, *n.s.*), suggesting that deservingness may transmit the moderating effect of coworker pride on the linkage between LMXSC and malicious envy. In line with previous studies (e.g., Grant & Sumanth, 2009; Grant & Wrzesniewski, 2010), we further explored the indirect effects of the interaction between LMXSC and coworker pride on dual envy through deservingness and personal control by bootstrapping with 5,000 resampling iterations to produce 95% bias-corrected intervals. The results revealed that only deservingness (but not personal control; *estimate* = .01, 95% CI [-.02, .05]) transferred the moderating effect of coworker pride on the relationship between LMXSC and malicious envy (*estimate* = -.07, 95% CI [-.15, -.01]). That is, high perceived hubristic pride was associated with low deservingness, which magnified the effect of low LMXSC on malicious envy. We discuss the implications of this finding for future research in the following sections.

Insert Table 9, Figure 6 and Figure 7 about here

DISCUSSION

Integrating social comparison theory and EASI theory, we developed a dual-path model to examine how LMXSC is related to positive and negative behaviors via dual envy and investigated the moderating role of perceived compared coworker emotion (i.e., pride) in determining the extent to which LMXSC is related to each type of envy. We tested our hypothesized model in a multi-time round-robin study and an experimental study. The results from both studies revealed that LMXSC is associated with both benign and malicious envy, which in turn relate to focal employee levelling up behaviors (i.e., learning from the coworker) and pulling down behaviors (i.e., social undermining of the coworker) respectively. We further found that the indirect effect of LMXSC on learning behaviors via benign envy is stronger when the compared coworker's pride is perceived as more (vs. less) authentic, whereas the indirect effect of LMXSC on learning behavior via benign envy is stronger when the compared coworker's pride is perceived as more (vs. less) hubristic. Our findings have important theoretical and practical implications.

Theoretical implications

First, our research advances the existing literature on LMX status and envy by demonstrating the active efforts made by lower LMXSC members in attempts to close the LMX status difference between them and their superior coworkers. Recently, there has been increasing research examining the LMX-related envy phenomenon. Specifically, Breidenthal et al. (2020) document that when employees build a higher-quality LMX with the leader than their coworkers do, their above-average creative behavior is more likely to trigger coworker envy, which in turn results in coworker ostracism. More recently, Sun et al. (2021) have demonstrated that high

LMX status is by itself a trigger of lower-LMX coworker envy, which is then associated with lower-LMX coworker social undermining. Our investigation has revealed that at the dyadic level lower LMXSC induces social undermining behaviors, echoing the findings of the previous studies that higher-LMXSC employees can be the victims of lower-LMXSC employee social undermining. Extending the literature, we found that lower LMXSC also stimulates employees to learn from their coworkers, highlighting constructive efforts made by members with relatively lower LMX status. Taken together, our research enables a fuller understanding of pulling-down and leveling-up effects associated with lower LMXSC.

Second, our research reveals that benign envy, an assimilative social comparison emotion, and malicious envy, a contrastive social comparison emotion, are responsible for translating LMXSC into group members' divergent behavioral responses to their coworkers. The theoretical framework proposed by Matta and Van Dyne (2020) suggests lower LMX can influence employee outcomes through assimilative and/or contrastive emotional mechanisms. However, empirical studies focused on the implications of LMXSC for behavioral outcomes have exclusively focused on contrastive emotional mechanisms (e.g., hostility, Tse et al., 2018a). We have extended the existing literature by revealing that LMXSC can induce *both* assimilative and contrastive emotions, which in turn are associated with constructive and destructive behaviors respectively. Specifically, our findings show that the effect of LMXSC on constructive behaviors (i.e., learning behaviors) is through benign envy and the effect on destructive behaviors (i.e., social undermining) is transmitted by malicious envy.

Our research further advances the literature by demonstrating the important role of perceived social compared coworker's emotions in qualifying the adaptive and aversive functions of upward social comparison. While the dyadic nature of LMXSC has been theorized

and empirically tested in previous studies (Tse et al., 2013, 2018a), few studies have examined the emotional interplay between the two parties in a social comparison dyad. Our findings suggest that the compared coworker's emotions (i.e., authentic pride and hubristic pride) are important social information that the focal employee may utilize to settle their own emotional and behavioral responses. Specifically, perceived authentic pride increases lower-LMXSC employees' tendency to experience assimilative emotions (i.e., benign envy) and engage in learning behaviors. In contrast, perceived hubristic pride augments lower-LMXSC employees' tendency to experience contrastive emotions (i.e., malicious envy) and engage in social undermining. Our findings underline the importance of considering the compared coworker's emotional expression when investigating when upward social comparison is related to assimilative and/or contrastive social comparison emotions.

Finally, the present study also advances the envy literature. Recent psychology research has suggested that envy can be operationalized in two distinct forms (i.e., benign and malicious envy), which further have different implications for the envier's behavior (Lange et al., 2018a; Cruise & Lange, 2015). Over the past few years, however, the duality of envy has been mainly tested in the psychology field (Lange et al., 2016; Van de Ven et al., 2009; Van de Ven et al., 2012). Our study extends the dual envy framework to the field of organizational studies and develops it in an organizational setting. In particular, Lee and Duffy (2019) have recently demonstrated that envy is associated with either learning behaviors (i.e., observational learning and advice-seeking) or social undermining behaviors toward the envied coworker. Our research advances their study by using the dual-envy framework to distinguish two types of envy that are associated with behaviors of opposing nature: learning behaviors and social undermining. This enables us to understand why and how envy can induce these seemingly contradictory behaviors.

Practical implications

We suggest practitioners should consider the double facets of LMXSC and envy and seek ways to better deal with destructive outcomes and promote positive outcomes. As has been shown by our research, benign envy can boost lower-LMX employees' personal efforts to improve themselves. Therefore, managers can motivate inferior group employees by encouraging them to engage in upward social comparison with superior coworkers and guiding them regarding the effort they can make to narrow the gap with the superior coworkers. For example, managers can develop more transparent working procedures that allow employees to understand how superior coworkers perform better, what resources and support the leader provides, and how these resources can be best utilized. This transparent information would make the picture clearer to inferior members regarding how to level themselves up. On the other hand, managers also should be aware of the potential harm of malicious envy, taking steps to prevent it from arising.

Furthermore, we recommend that higher-LMX employees should pay more attention to emotion management (e.g., emotion regulation and emotion appraisal; Kalokerino et al., 2014). Our findings suggest that when superior coworkers' hubristic pride is perceived, they are more likely to be socially undermined by their lower-LMX peers. Therefore, we suggest that, if possible, higher-LMX employees should regulate their hubristic pride and display more authentic pride, be humble, and emphasize their personal effort to build and maintain the high LMX relationship. Managers are also recommended to provide training on emotion appraisal (e.g., deep acting; Grandey, 2003) for inferior members, so that these members can effectively regulate their experience of envy, focusing on the benign aspect when they engage in upward comparison. We believe that effective training in this regard can promote motivational self-improvement

functions of envy, while alleviating the pain arising from it (Kalokerinos et al., 2014). This is also beneficial to superior coworkers in terms of not being pulled down.

Limitations and directions for future research

Our research is not without limitations. First, although we have examined behaviors at the dyadic level, future research can extend our research by examining individual-level self-improvement behaviors. For example, work engagement, defined as "a positive, fulfilling, work-related state of mind" which is characterized by high levels of energy, involvement and efficacy (Schaufeli, Bakker & Salanova, 2006), can be another indicator of self-improvement effort in the workplace (Bakker & Demerouti, 2008). Future research can investigate the effect of LMXSC on employee work engagement and the mechanisms that explain the influencing processes. Second, our research is particularly focused on perceived coworker pride in shaping the effect of LMXSC on envy. Future research could extend ours by investigating other individual characteristics of compared coworkers. For example, humility may be a variable relevant in the social comparison context. We conjecture that the compared coworker humility may influence lower-LMX members' emotional reactions, such that lower-LMX employees experience less malicious envy and more benign envy toward the superior coworker who is perceived as humble. In addition, the compared coworker's behavior, such as resource sharing, can be another moderator. For example, lower-LMX employees experience less malicious envy and more benign envy toward the superior coworker who oftentimes shares valuable resources with them.

Third, our field data were collected from the same source, which made it difficult to eliminate the potential possibility of common method bias. Although we conducted an experiment to remedy these concerns, we cannot confirm their causal relationships between envy and behavioral outcomes. Future research may benefit from using latent growth modeling with a

longitudinal design or field experiments to replicate the findings in our research. Our experimental study is also limited in that we only manipulated two conditions of pride (i.e., authentic and hubristic pride). Although our approach is in line with previous experimental research on pride (Ashton-James & Tracy, 2011; Lange & Crusius, 2015), future research can include a 'no pride' condition to replicate our findings.

Fourth, the cross effect of benign envy on social undermining and the cross effect of malicious envy on learning behaviors, deserve more empirical investigation. Specifically, the results from our two studies revealed that malicious envy was positively related with observational learning (Study 1: $\gamma = .14$, $SE = .07$ $p < .05$; Study 2: $B = .16$, $SE = .06$, $p < .01$). These are intriguing findings as they suggest that both malicious and benign envy can result in enviers' learning behavior, though the effect of benign envy seems stronger than that of malicious envy. One theoretical interpretation is that employees with malicious envy still learn from superior coworkers, as self-improvement may enable them to pull down their coworkers more easily and effectively. That said, given that both variables were self-rated and the self-serving desirability effect may inflate the linkage between malicious envy and learning behavior, future research may benefit from replicating this linkage to confirm its robustness. Future research is also encouraged to explore boundary conditions that qualify the relationship between envy and learning behavior. For example, Lee and Duffy (2019) found that personal (i.e., core self-evaluation, CSE) and relational (i.e., friendship) factors are two important moderators of the positive relationship between envy and learning behavior. Future scholars can build on Lee and Duffy (2019)'s work to probe the potential boundary conditions.

Fifth, our results in the supplementary analysis of Study 2 showed that perceived compared coworker pride was not associated with personal control, which therefore did not explain the

moderating effect of coworker pride on the LMXSC-envy linkages. One plausible reason is that our domain of social comparison is LMX, which is different to previous research that focuses on performance as the comparison domain (e.g., Lange et al., 2018a; Lange et al., 2018b). Maintaining a better exchange relationship with leaders, to some extent, is determined by uncontrollable factors such as leader-member fit and leader characteristics (e.g., extraversion and agreeableness) (see the meta-analysis by Dulebohn et al., 2012). As such, although higher-LMX coworkers display authentic pride, signaling that their success is attributed to personal effort, lower-LMX employees may still believe there exist more influential but uncontrollable factors such as leader-member demographic similarity or favorable personal characteristics, in determining the LMX relationship. Therefore, the connection between coworker pride and personal control over LMX improvement is weaker than we had expected. Further, deservingness only transmitted the moderating effect of coworker pride on the LMXSC-malicious envy linkage, but not the LMXSC-benign envy linkage. In sum, these findings show that deservingness and personal control play less substantial roles than we had expected in explaining how perceived compared coworker pride moderates LMXSC-envy linkages. To this end, we encourage future research to explore alternative mechanisms such as LMX similarity (Lam, Van der Vegt, Walter, & Huang, 2011).

Last, Table 4 shows that the relationship between LMXSC and social undermining was positive after controlling for malicious envy. Technically, this is a suppression effect which occurs when the sign of the direct effect of an independent variable (IV) on a dependent variable (DV) is opposite to the sign of the indirect effect of the IV on the DV via a mediator, in a regression analysis (Shrout & Bolger, 2002). One theoretical explanation for the direct positive LMXSC-social undermining relationship is that higher-LMXSC employees perceive their peers

as rivals who may threaten their advantaged status at present or in the future, which prompts them to socially undermine the peers (Reh, Troster, & Van Quaquebeke, 2018). However, it is important to note that the direct positive effect of LMXSC on social undermining was not replicated in our Study 2's regression analysis ($\gamma = .20$, *n.s.*, see Table 7). In addition, the bivariate correlations between these two variables in Study 1 and Study 2 were not consistent (non-significant in Study 1 and negative in Study 2). Future research may benefit from further investigating the LMXSC-social undermining linkage.

CONCLUSION

Our findings highlight the active endeavor made by employees who have a lower-quality LMX relationship than their peers in the same work group. Specifically, our research suggests that lower LMXSC is associated with benign envy and in turn learning from the higher-LMX coworker. Meanwhile, it is also related to malicious envy and subsequently social undermining toward the higher-LMX coworker. Considering focal employees' perceptions of their coworker's emotional feelings, we further suggest that the effect of LMXSC on learning behaviors via benign envy is stronger when the coworker is perceived to experience high levels of authentic pride, whereas the effect of LMXSC on social undermining via malicious envy is stronger when the coworker is perceived to experience high levels of hubristic pride. Our research has depicted a comprehensive picture of how and when LMXSC may shape divergent behavioral responses to coworkers by evoking different forms of envy.

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Table 1

Descriptive Statistics and Bivariate Correlations between Focal Variables – Study 1

Actor Individual Level:	***M***	***SD***	**AVE** [c]	**1**	**2**	**3**	**4**	**5**		
1 Sex [a]	1.47	.50	--	--						
2 Age	33.57	7.88	--	-.04	--					
3 Dyadic tenure with supervisor [b]	43.20	30.95	--	-.06	.54***	--				
4 Social comparison orientation	4.11	1.05	--	-.08	.17	.38***	.72			
5 Actor average LMXSC	4.08	1.05	--	-.09	.03	.38***	.40***	--		
Dyadic Level:	***M***	***SD***	**AVE** [c]	**6**	**7**	**8**	**9**	**10**	**11**	**12**
6 LMXSC	4.04	1.32	.76	**.94**						
7 Perceived authentic pride	4.77	1.00	.91	-.47***	**.91**					
8 Perceived hubristic pride	3.37	1.63	.89	.19***	-.06	**.96**				
9 Benign envy	3.71	1.90	.95	-.82***	.63***	-.19***	**.98**			
10 Malicious envy	3.22	1.83	.93	-.46***	.26***	.32***	.35***	**.98**		
11 Observational learning	4.68	1.28	.94	-.47***	.34***	.06	.51***	.44***	**.98**	
12 Social undermining	1.91	.72	.50	-.07	.05	.23***	-.01	.34***	.08	**.96**

Note. Actor level: n = 118; Dyadic level: n = 349. The reliabilities of the scales are boldfaced and noted in the diagonals.

[a] Male = 1, Female = 2.

[b] Unit = month.

[c] Average variance extracted, calculated based on the factor loadings of CFA.

*** $p < .001$ ** $p < .01$ * $p < .05$

Table 2

Variance Partitioning – Study 1

Source of variance	LMXSC		Perceived authentic pride		Perceived hubristic pride		Benign envy		Malicious envy		Observational learning		Social undermining	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Dyadic variance	.89***	.15	.58***	.08	1.05***	.19	1.86***	.28	1.54***	.22	1.09***	.23	.26***	.04
	(51.74%)		(57.43%)		(38.32%)		(51.38%)		(45.03%)		(66.06%)		(52.00%)	
Actor variance	.70***	.10	.43***	.10	.53*	.22	1.33***	.22	1.87***	.24	.50**	.19	.20*	.08
	(40.70%)		(42.57%)		(19.34%)		(36.74%)		(54.68%)		(30.30%)		(40.00%)	
Group variance	.13*	.06	.00	.05	1.16***	.22	.43	.22	.01	.31	.06	.09	.04	.04
	(7.56%)		(00.00%)		(42.34%)		(11.88%)		(00.29%)		(3.64%)		(8.00%)	

Note. *** $p < .001$ ** $p < .01$ * $p < .05$

Table 3

Unstandardized Results of Hierarchical Multi-Step Regressions on Benign Envy and Malicious Envy – Study 1

	Benign Envy						Malicious Envy					
	γ	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***
Actor-level predictors:												
Sex [a]	-.38*	(.17)	-.42**	(.15)	-.36*	(.14)	.24	(.24)	.19	(.25)	.15	(.24)
Age	.00	(.01)	.01	(.01)	.00	(.01)	.00	(.02)	.00	(.02)	-.01	(.02)
Dyadic tenure with supervisor [b]	-.01*	(.00)	-.01**	(.00)	-.01***	(.00)	.01*	(.00)	.01*	(.00)	.01**	(.00)
Social comparison orientation	-.07	(.10)	-.04	(.09)	.21†	(.12)	.64***	(.12)	.67***	(.17)	.31*	(.12)
Actor average LMXSC	-1.02***	(.10)	.07	(.09)	.09	(.15)	-.83***	(.10)	.14	(.16)	-.38†	(.21)
Dyad-level predictors:												
LMXSC			-1.15***	(.05)	-.94***	(.06)			-1.02***	(.08)	-.56***	(.12)
Perceived authentic pride					.76***	(.06)					.11	(.06)
Perceived hubristic pride					-.06	(.07)					.26†	(.13)
LMXSC × Perceived authentic pride					-.14**	(.04)					--	--
LMXSC × Perceived hubristic pride					--	--					-.20***	(.04)
Δ Pseudo R square	**.52**		**.31**		**.20**		**.35**		**.07**		**.10**	

[a] Male = 1, Female = 2.

[b] Unit = month.

Note. *** $p < .001$ ** $p < .01$ * $p < .05$ † $p < .10$.

Table 4

Unstandardized Results of Hierarchical Multi-Step Regressions on Observational Learning and Social Undermining – Study 1

	Observational Learning						Social Undermining					
	γ	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***	***γ***	***SE***
Actor-level predictors:												
Sex [a]	-.03	(.13)	.02	(.13)	.13	(.12)	.12	(.12)	.02	(.12)	.06	(.11)
Age	-.01	(.01)	-.01	(.01)	.00	(.02)	.00	(.01)	.00	(.01)	.00	(.01)
Dyadic tenure with supervisor [b]	.01†	(.00)	.00	(.00)	.01	(.01)	.00	(.00)	.00	(.00)	.00	(.00)
Actor social comparison orientation	.11	(.09)	.25†	(.13)	.18	(.12)	.20***	(.04)	.17*	(.08)	.12	(.08)
Actor average LMXSC	-.51***	(.09)	.14	(.24)	.27	(.24)	-.12*	(.05)	-.28**	(.09)	-.12	(.10)
Dyad-level predictors:												
LMXSC			-.57***	(.14)	-.23	(.15)			.06	(.08)	.15*	(.07)
Perceived authentic pride			.27*	(.10)	-.07	(.14)			.04	(.05)	-.04	(.07)
Perceived hubristic pride			-.04	(.08)	-.04	(.07)			.15***	(.04)	.10**	(.04)
LMXSC × Perceived authentic pride			-.06	(.08)	-.07	(.09)			.03	(.04)	-.05	(.04)
LMXSC × Perceived hubristic pride			.01	(.05)	.10†	(.05)			.04	(.03)	.08*	(.03)
Benign Envy					.37***	(.10)					.03	(.03)
Malicious Envy					.14*	(.07)					.19***	(.04)
Δ Pseudo R square	**.29**		**.13**		**.05**		**.13**		**.08**		**.10**	

[a] Male = 1, Female = 2.
[b] Unit = month.
Note. *** $p < .001$ ** $p < .01$ * $p < .05$ † $p < .1$

Table 5

Descriptive Statistics and Bivariate Correlations between Focal Variables – Study 2

	M	***SD***	**1**	**2**	**3**	**4**	**5**	**6**
1 LMXSC [a]	0.49	0.50						
2 Coworker pride [b]	0.49	0.50	-.00					
3 Benign envy	3.70	1.33	-.25**	-.37**				
4 Malicious envy	3.31	1.54	-.45**	.25**	.23**			
5 Social undermining	2.30	1.08	-.14*	.24**	.07	.55**		
6 Observational learning	4.53	1.20	-.23**	-.10	.43**	.30**	0.11	
7 Advice seeking	4.35	1.65	-.04	-.38**	.36**	-.15*	-.29**	.20**

Note. N = 255.

a Low LMXSC = 0, High LMXSC = 1

b Coworker authentic pride = 0, Coworker hubristic pride = 1

*** p < .01 * p < .05*

Table 6

Analysis of variance results for benign and malicious envy – Study 2

	Benign envy		**Malicious envy**	
	F	***η²***	***F***	***η²***
LMXSC [a]	19.47**	.07	70.24**	.22
Coworker pride [b]	42.14**	.14	20.79**	.08
LMXSC × Coworker pride	4.75*	.02	4.00*	.02

Note. N = 255.

a Low LMXSC = 0, High LMXSC = 1

b Coworker authentic pride = 0, Coworker hubristic pride = 1

*** p < .01 * p < .05*

Table 7

Unstandardized Regression Results of Direct Effects – Study 2

	Observational learning		**Advice-seeking**		**Social undermining**	
	B	**SE**	***B***	**SE**	***B***	**SE**
LMXSC [a]	-.25	.20	.10	.27	.20	.17
Coworker pride [b]	-.18	.22	-.44	.30	.12	.18
LMXSC × Coworker pride	.26	.27	-.54	.37	.16	.23
Benign envy	.32**	.06	.41**	.08	.00	.05
Malicious envy	.16**	.06	-.21*	.07	.41**	.04
R square	**.23**		**.23**		**.21**	

Note. N = 255.

a Low LMXSC = 0, High LMXSC = 1

b Perceived authentic pride = 0, Perceived hubristic pride = 1

*** p < .01 * p < .05*

Table 8

Indirect effect of LMXSC on outcomes via envy across different pride conditions – Study 2

	Indirect effect and 95%CI	**Indirect effect difference and 95% CI**
LMXSC -> Observational learning via benign envy		
Coworker authentic pride	-.31*[-.54, -.13]	
Coworker hubristic pride	-.11 [-.27, .03]	.21* [.01, .45]
LMXSC -> Advice seeking via benign envy		
Coworker authentic pride	-.40* [-.66, -.19]	
Coworker hubristic pride	-.14[-.34, .04]	.26*[.02, .55]
LMXSC -> Social undermining via malicious envy		
Coworker authentic pride	-.44* [-.65, -.24]	
Coworker hubristic pride	-.71*[-1.01, -.45]	-.27* [-.59, -.01]

Table 9

Unstandardized Regression Results for Supplementary Analysis – Study 2

	Deservingness		**Personal control**		**Benign envy**						**Malicious envy**					
					Step 1		Step 2		Step 3		Step 1		Step 2		Step 3	
	B	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***
Step 1																
LMXSC [a]					-.40**	.07	-.40**	.07	-.40**	.10	-.77**	.08	-.77**	.08	-.56**	.10
Coworker pride [b]	-.42**	.08	-.08	.09	-.47**	.07	-.46**	.07	-.42**	.08	.44**	.08	.44**	.08	.27**	.08
Step 2																
LMXSC × Coworker pride							.20**	.07	.22**	.08		.08	-.19*	.08	-.04	.08
Step 3												.				
Deservingness									.00	.09				.09	-.36**	.09
Personal control									-.01	.10				.10	-.10	.10
LMXSC × deservingness									.09	.09				.09	.20**	.09
LMXSC × personal control									-.23*	.10				.10	.08	.10
ΔR square	**.09**		**.00**		**.23**		**.02**		**.02**		**.36**		**.02**		**.07**	

Note. N = 255.

a Low LMXSC = 0, High LMXSC = 1

b Coworker authentic pride = 0, Coworker hubristic pride = 1

*** p < .01 * p < .05*

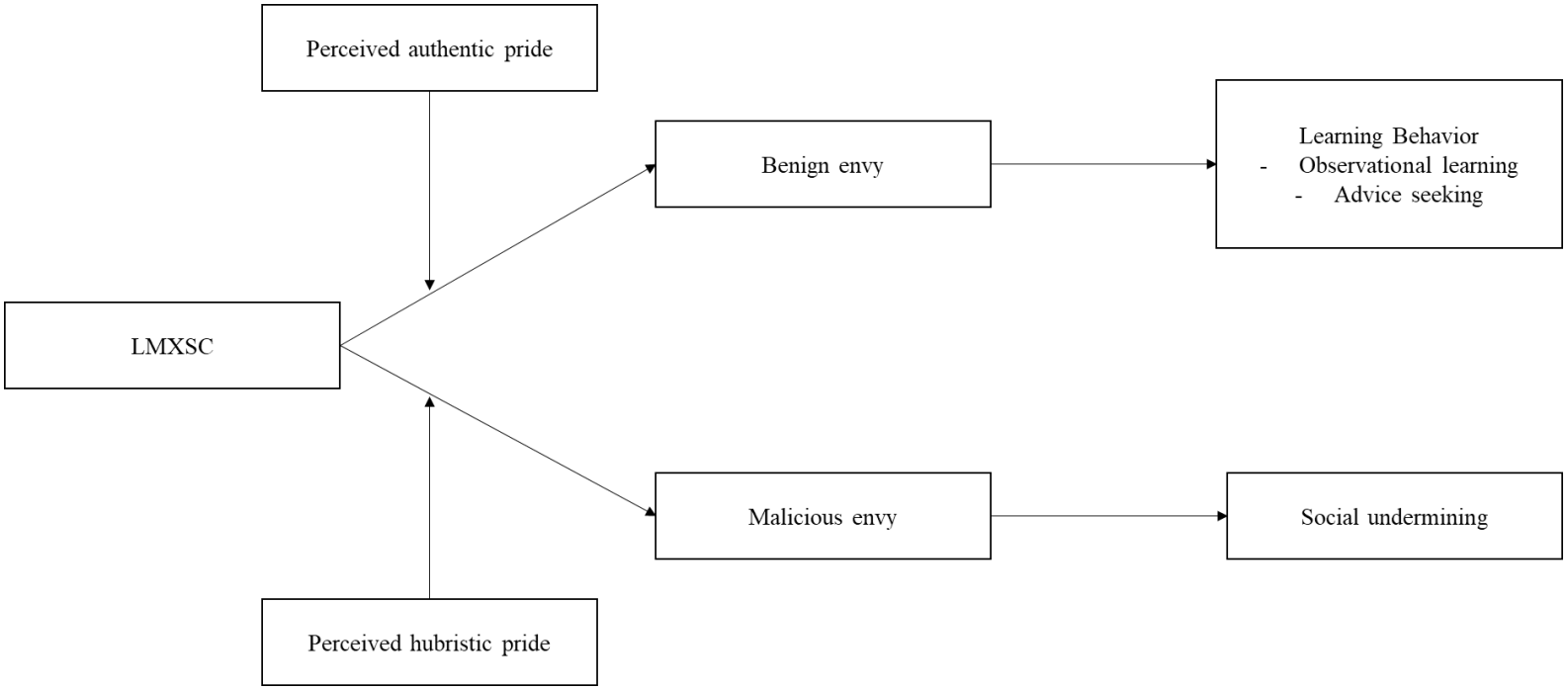

Figure 1. Research model

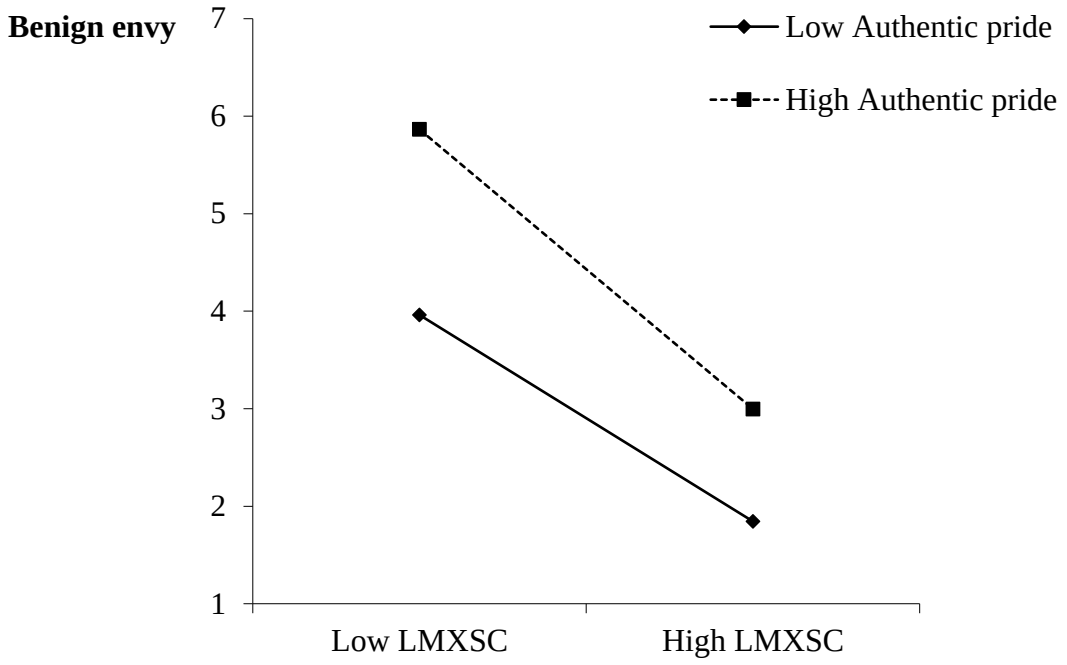

Figure 2. Interactive effect of LMXSC and perceived authentic pride on benign envy – Study 1

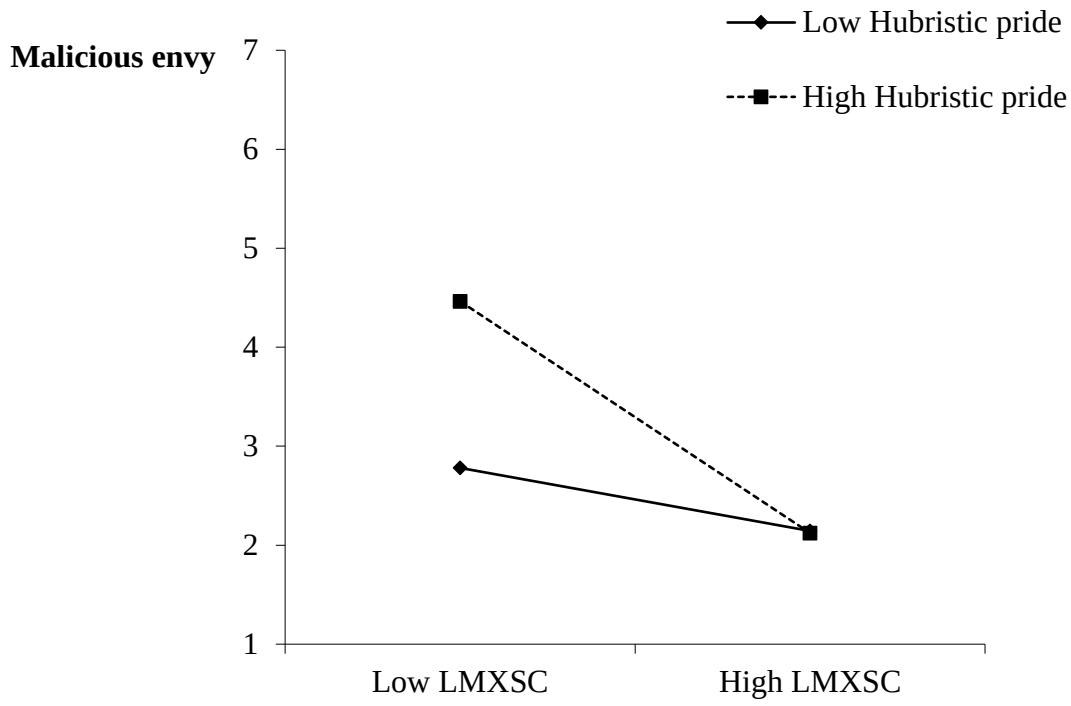

Figure 3. Interaction effect of LMXSC and perceived hubristic pride on malicious envy – Study 1

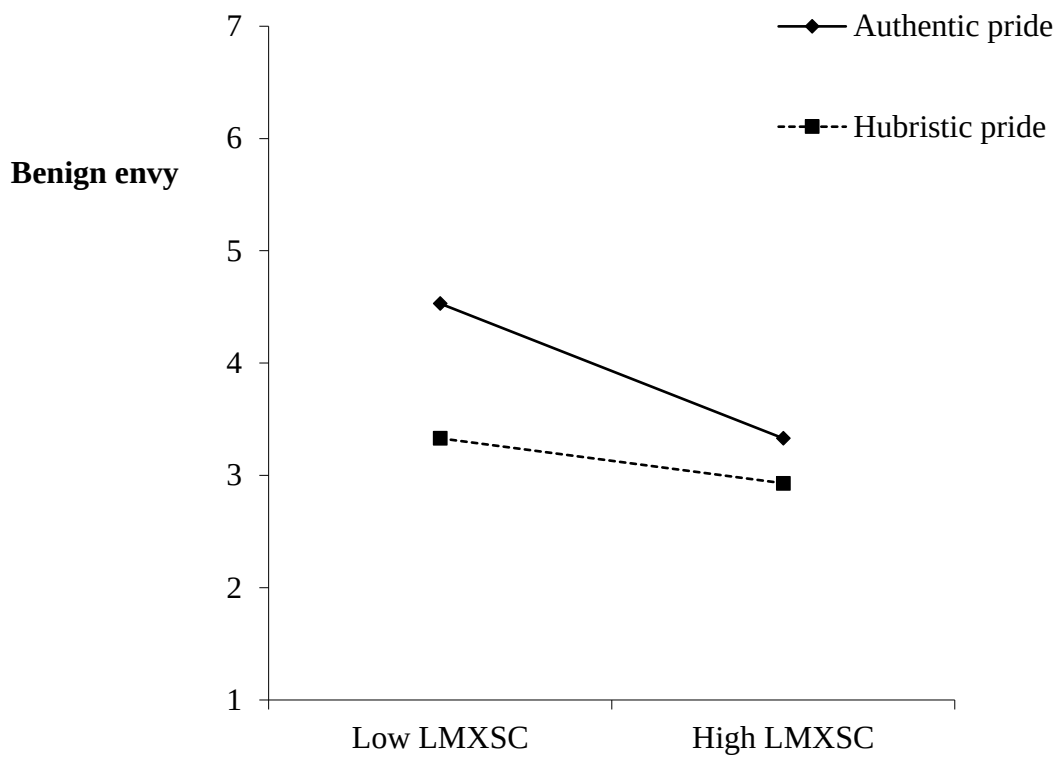

Figure 4. Interaction effect of LMXSC and perceived coworker pride on benign envy – Study 2

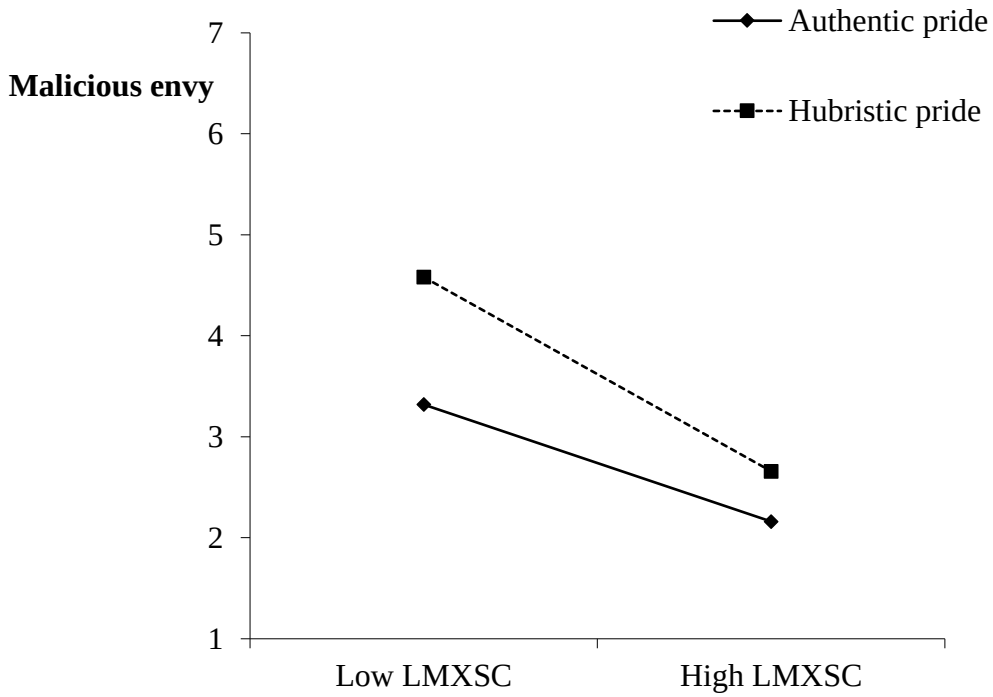

Figure 5. Interaction effect of LMXSC and perceived coworker pride on malicious envy – Study2.

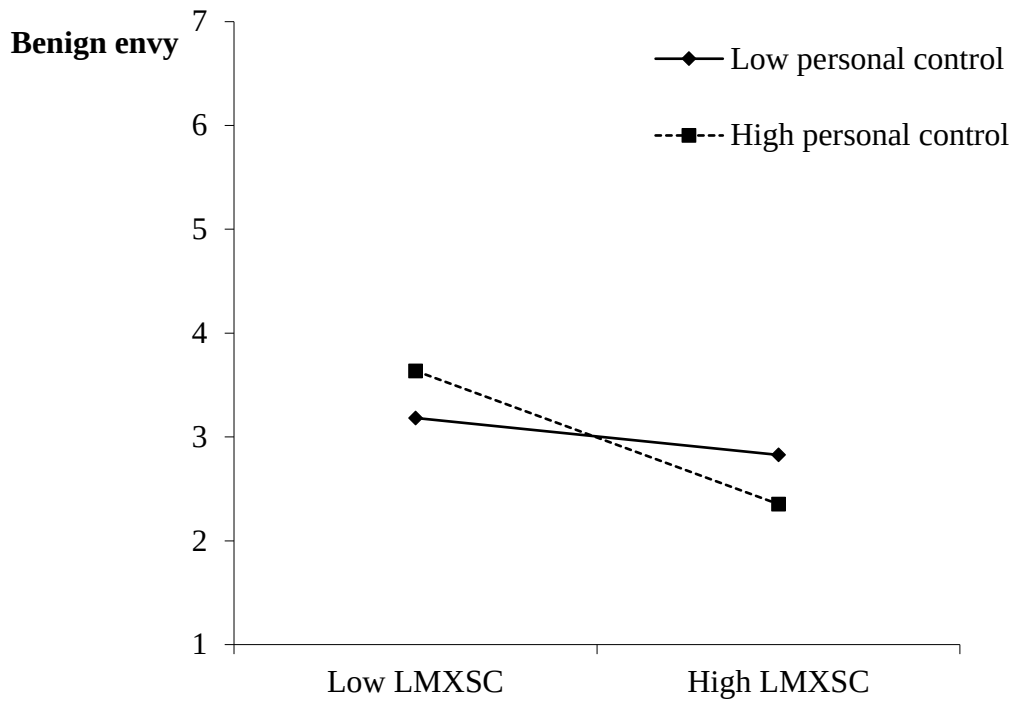

Figure 6. Interaction effect of LMXSC and personal control on benign envy in the supplementary analysis of Study 2

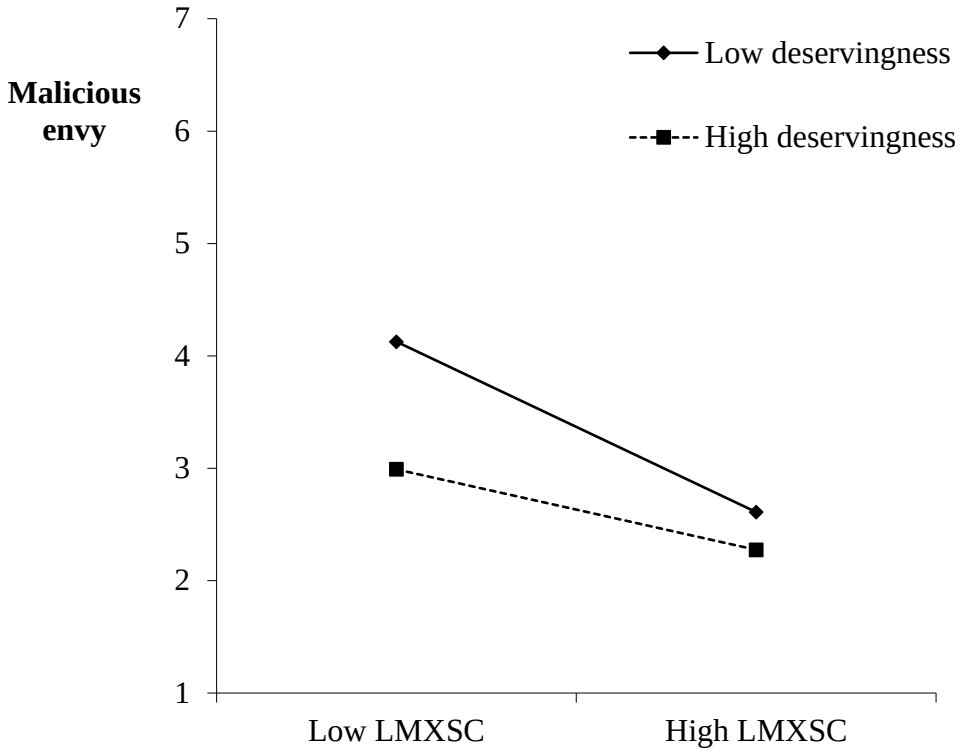

Figure 7. Interaction effect of LMXSC and deservingness on malicious envy in the supplementary analysis of Study 2