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Effects of inter-group status on the pursuit of intra-group status

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ABSTRACT

This research examines how the status of one's group influences intra-group behavior and collective outcomes. Two experiments provide evidence that, compared to members of low-status groups, members of high-status groups are more concerned about their intra-group standing, which in turn can increase both the likelihood of competitive and cooperative intra-group behavior. However, whether the desire for intra-group standing manifests via competitive versus cooperative behavior depends on the relevance of the task to the group's inter-group standing. When the task is not clearly relevant to the group's status, members of high-status groups are more likely to engage in competitive behavior out of a desire to manage their intra-group status, which, in turn, leads to less desirable collective outcomes. However, when the group's status is at stake, members of high-status groups seek intra-group status via cooperative behavior, leading to better collective outcomes.

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1. Introduction

The desire for status is often referred to as a fundamental human need (Anderson, Hildreth, & Howland, 2015; Barkow, 1989; Maslow, 1943). The desire for status is not limited to the amount of status individuals themselves have in social or organizational contexts, but spans across and operates at multiple levels; just as people want respect and a superior social position in the groups to which they belong (Frank, 1985; Maslow, 1943), they also want the groups to which they belong to be respected and to be seen as superior to other groups (Tajfel, 1978; Tajfel & Turner, 1986). Indeed, much of competitive and cooperative patterns of individual and group behavior has been shown to, at least in part, have its root in people's desire for status (Fehr & Fischbacher, 2003; Festinger, 1954; Sidanius & Pratto, 1999; Tajfel & Turner, 1986).

Given its importance and ubiquity in everyday social life, it is not surprising that social scientists have given significant thought to status and how status can be gained, lost, and maintained. Yet, much of this prior work has not distinguished between the desire for one's group to be high-status and the desire to be a high-status member of one's group. Rather, these two desires are typically studied and theorized independently from one another, without explicit consideration as to how they might jointly affect intra-group behavior (Anderson et al., 2015; Ellemers & Barreto, 2000;

Tajfel & Turner, 1986). Further, prior work has found that the desires for inter- and intra-group status might lead to different member behavior. For example, research in inter-group relations has shown that individuals who want to improve the group's status will often engage in collective action that enhances or maintains the group's status, even at the cost of their personal interests (Barreto & Ellemers, 2000; Ellemers, Doosje, van Knippenberg, & Wilke, 1992). Research on intra-group processes, by contrast, has suggested that status-oriented group members typically engage in competitive behavior toward other in-group members, even if at a cost to the group's best interests (Bendersky & Hays, 2012; Hays & Bendersky, 2015). In the present work, we attempt to bridge the divide between the work on inter- and intra-group status by exploring when individuals experience desire for intra- versus inter-group status and how they manage these desires through competitive versus cooperative behavior.

We suggest that the status of one's group may affect the extent to which group members want status within the group, but also that the way they pursue *intra*-group status – engaging with other group members competitively versus cooperatively – depends on their desire for *inter*-group status. Specifically, we propose that members of high-status groups are more concerned about intra-group status than members of low-status groups, potentially leading to more competitive and cooperative behavior vis-à-vis other group members. The decision to pursue intra-group status competitively versus cooperatively, however, depends on the extent to which members of high-status groups want to protect their group's status; when protecting the group's status is a salient goal, such as when a task is clearly relevant to the basis of the group's status,

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they will refrain from engaging in competitive behavior and instead seek intra-group status by engaging in what is likely to be valued more by the group: cooperation. Stated differently, we argue that the salience of the concern for inter-group status will determine whether group members attempt to manage their intra-group status through competitive versus cooperative behavior, and this will be especially evident among members of high-status groups who experience stronger desire for intra-group status. In exploring this possibility, we also investigate how these different patterns of status pursuit affect collective processes and outcomes. In this way, the present work adds to our understanding of how group members manage their desire for intra-group status alongside the desire for inter-group status and under what conditions status-striving among group members can benefit or harm collective functioning.

1.1. The effect of inter-group status on concern for intra-group status

At the individual level, status is defined as the respect and esteem that individuals are granted by others on the basis of one's relative rank (Anderson et al., 2015; Magee & Galinsky, 2008). A host of positive effects come from being held in high standing within a group; with status comes greater control over resources and influence over group outcomes (Berger, Fisek, Norman, & Zelditch, 1977). Similarly, group status is construed as how positively viewed a group is by others on the basis of its relative rank within a social system (Ellemers & Barreto, 2000; Tajfel & Turner, 1986). In this instance, too, status confers similar benefits for members of high-status groups; being a member of a high-status group is associated with higher self-esteem, greater access to resources, and more influence over outcomes (Sidanius & Pratto, 1999; Tajfel & Turner, 1986).

Although the desire for both intra- and inter-group status is thought to be a fundamental human need (Anderson et al., 2015; Maslow, 1943; Tajfel & Turner, 1986), people seem to want status more when their group is high status than low status. For example, group members are typically more strongly identified with high-status groups than with low-status groups (Ellemers, 1993; Ellemers et al., 1992). In-group identification, in turn, increases the extent to which members are concerned about their intra-group status; individuals want acceptance and respect from groups with which they are more strongly identified, as evidenced by increased compliance and conformity among highly-identified group members (Tyler & Blader, 2002; Tyler, DeGoey, & Smith, 1996). Group members also find it more rewarding to be respected by other group members (or to have higher status within the group) when their group is high status than when their group lacks status (Smith, Tyler, Huo, Ortiz, & Lind, 1998) and it is more hurtful to group members to not be respected by the group when they perceive their group to be high status than when they think it is low status (Duguid, 2011; Duguid, Loyd, & Tolbert, 2012). We thus predict that members of high-status groups, as compared to members of low-status groups, will be more concerned about their intra-group status.

Hypothesis 1. Members of high-status groups will be more concerned with their intra-group status than members of low-status groups.

1.2. The effect of intra-group status concern on competitive and cooperative behavior

One perspective on status dynamics in groups has suggested that status striving among group members is essentially a competitive process, with each member attempting to outdo other members or to prevent others from outdoing them (Barkow, 1989;

Frank, 1985). In fact, desire for status has been shown to be one of the primary drivers of competitive behavior (Festinger, 1954; Garcia, Tor, & Schiff, 2013). For example, concern about one's status position causes competitive behavior toward other members, such as withholding help from others (Pettit, Yong, & Spataro, 2010), not acknowledging the contributions of other group members (Menon & Pfeffer, 2003), and even sabotaging other members (Charness, Masclet, & Villeval, 2014).

Yet, group members can also pursue status by engaging in cooperative, other-enhancing behaviors. Functionalist perspectives on status attainment suggest that group members' intra-group status standing is determined by the extent to which the individual is seen positively within the group by demonstrating the ability to promote group outcomes (Anderson & Kilduff, 2009) or commitment to the group's success (Ridgeway, 1987; Willer, 2009). As such, concern about intra-group status can also lead to cooperative intra-group behaviors. Consistent with this point, prior work has found that one's concern for others, as measured by one's attentiveness to fairness (Blader & Chen, 2011, 2012) and willingness to engage in perspective taking (Blader, Shirako, & Chen, 2016), increases as one seeks to manage one's status. Research has also shown that group members who want status will offer help to other in-group members (Flynn, Reagans, Amanatullah, & Ames, 2006) and even engage in self-sacrificial behavior on the behalf of other group members (Hardy & Van Vugt, 2006). Moreover, voluntarily helping others by providing one's expertise and unique information such as know-hows and know-whoms can be an effective means through which group members can express their value to the group, ultimately increasing their status within the group (Cheshire, 2007).

Given these two perspectives, when will group members engage in competitive versus cooperative behaviors in order to manage their intra-group status? We propose that the way group members pursue their status within the group is context-dependent, particularly on the extent to which group members believe competitive and cooperative behavior will be condemned or rewarded, respectively, by other group members (Anderson et al., 2015; Torelli, Leslie, Stoner, & Puente, 2014). Importantly, while competitive and cooperative behaviors are typically conceptualized and empirically investigated as being on opposite ends of a single continuum (i.e., high levels of cooperation are equivalent to low levels of competition), we distinguish them for two reasons. First, in many interpersonal and social situations, that one does not help others to achieve their interests does not necessarily mean that one must also interfere with others' ability to achieve their interests, and vice versa (e.g., Dalal, 2005). Second, as reviewed above, individuals who seek status in groups have been shown to use both competitive and cooperative behaviors (Flynn et al., 2006; Garcia et al., 2013; Hardy & Van Vugt, 2006; Hays & Bendersky, 2015), and both types of behaviors can independently help status-concerned individuals attain or maintain their status (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Halevy, Chou, Cohen, & Livingston, 2012). As such, distinguishing competitive behavior from cooperative behavior may offer insights into understanding how group members' concern for status are differentially enacted. In the following section, we detail how one specific contextual factor – the relevance of the task at hand for the group's inter-group status – might affect whether the concern for intra-group status will manifest in competitive versus cooperative intra-group behavior.

1.3. Task relevance to group status and its effects on competitive and cooperative behavior

Group status is often determined on the basis of the group's past achievements or its expected future achievements on a dimension that a particular inter-group hierarchy agrees to be important (Bettencourt, Dorr, Charlton, & Hume, 2001; Schmader,

Major, Eccleston, & McCoy, 2001). For example, among investment banks, a bank's position in the status hierarchy of investment banks is based on its past performance and associated signals of future performance in investment banking in particular, such as their success in initial public offerings. In contrast, an investment bank's past performance and expected future performance in other domains, like commercial banking, is not fundamental to determining its status in the hierarchy of investment banks (Ellemers & Barreto, 2000; Schmader et al., 2001). For this reason, it is important to highlight that inter-group status is domain-specific. And, if status is domain-specific, it also means that certain tasks or endeavors are deemed more or less central to the identity and standing of the group. More to the point, when a task is seen as relevant to the group's inter-group status, it is likely that group members' concern about the group's status will be elevated (Bettencourt et al., 2001; Schmader et al., 2001). This increase in concern for the group's status is especially more likely among members of high-status groups than among members of low-status groups, because the former experience their group's high status to be at stake when working on a task relevant to inter-group status, while the latter tend not to (Oldmeadow & Fiske, 2010; Scheepers & Ellemers, 2005).

If group members are concerned about their group's status, ensuring successful collective outcomes will become more imperative because collective outcomes on such tasks have direct implications for the group's status relative to other groups. Thus, it is likely that they will view competitive behavior as more damaging and cooperative behavior as more valuable to the group when the group's status is at stake. Expectations about how others will respond to their competitive or cooperative behavior will also change, leading to differences in their engagement in said behaviors, especially by members who are concerned with managing their intra-group status. For example, group members may feel less hesitant to seek intra-group status through competitive behavior when collective outcomes are of less or no concern, such as when they do not perceive a task at hand to be relevant to the group's status (Rabbie & Wilkens, 1971). However, when the task is seen as relevant to the group's status and the importance of successful collective outcomes becomes salient, group members will expect that their competitive behavior will be seen as inappropriately self-serving by other group members and thereby condemned. As a result, when the task is relevant to the group's status, status-concerned group members are likely to refrain from acting competitively toward other members.

In a similar vein, if it is not clear whether a task at hand is relevant to the group's status, group members may feel uncertain to what extent their cooperative behavior will be rewarded with greater status, and therefore, their concern for status may not necessarily lead to an increase in cooperative behavior. In fact, status-seeking individuals display cooperative behavior only to the extent that they expect their cooperative effort to be rewarded (Hardy & Van Vugt, 2006; Willer, Feinberg, Flynn, & Simpson, 2011). By contrast, when the task is seen as relevant to the group's status and cooperation is expected to be considered more valuable, members concerned with their intra-group status are likely to engage in cooperative behavior because they expect status rewards from their cooperative behavior.

Hypothesis 2a. Concern for intra-group status will lead to an increase in competitive behavior when a task's relevance to inter-group status is ambiguous, as compared to when it is clear.

Hypothesis 2b. Concern for intra-group status will lead to an increase in cooperative behavior when a task's relevance to inter-group status is clear, as compared to when it is ambiguous.

To this point, we have proposed that inter-group status influences intra-group status concern, such that members of high-status groups have higher concern for their intra-group status than members of low-status groups. We have also argued that intra-group status concern can lead to competitive behavior when the group is working on a task that is not clearly relevant to its inter-group status, but cooperative behavior when the group is working on a task relevant to its status. Taken together, we predict that when a task's relevance to the group's status is ambiguous, members of high-status groups, who we predict to have higher concern for their intra-group status, will engage in more competitive behavior than members of low-status groups. Conversely, when it is made clear that a task is relevant to the group's status, members of high-status groups will display more cooperative behavior than members of low-status groups because of their heightened concern for intra-group status. Put differently, we predict that the inter-group status-relevance of a task will moderate the effects of inter-group status on competitive and cooperative behaviors, by attenuating the association between concern for intra-group status and competitive behavior and amplifying the association between concern for intra-group status and cooperative behavior (i.e., second stage moderated mediation, please see Fig. 1).

Hypothesis 3a. Members of high-status groups will engage in more competitive behavior than members of low-status groups when a task's relevance to inter-group status is ambiguous, but not when it is clear.

Hypothesis 3b. Concern for intra-group status will mediate the effect of inter-group status on competitive behavior when a task's relevance to inter-group status is ambiguous, but not when it is clear.

Hypothesis 4a. Members of high-status groups will engage in more cooperative behavior than members of low-status groups when a task's relevance to inter-group status is clear, but not when it is ambiguous.

Hypothesis 4b. Concern for intra-group status will mediate the effect of inter-group status on cooperative behavior when a task's relevance to inter-group status is clear, but not when it is ambiguous.

1.4. Collective process and outcome implications

We have argued that while high inter-group status may engender both competitive and cooperative patterns of intra-group status pursuit, the relevance of the task to inter-group status can affect which behavior is actually manifested. We turn our attention to how these individual-level responses to inter-group status might aggregate to inform collective processes, with downstream consequences for collective outcomes.

Importantly, our focus at the collective level is on cooperative process only, rather than on cooperative and competitive processes simultaneously. Collective-level process consists of visible, overt patterns of interaction among members of the collective (McGrath, 1984). Thus, cooperative individual behaviors, which are typically overt and explicit, are likely to directly inform the collective-level cooperative process. In contrast, competitive individual behaviors are not necessarily overt and explicit, and competitive behavior designed to manage intra-group status in particular often manifest via intentional inaction such as

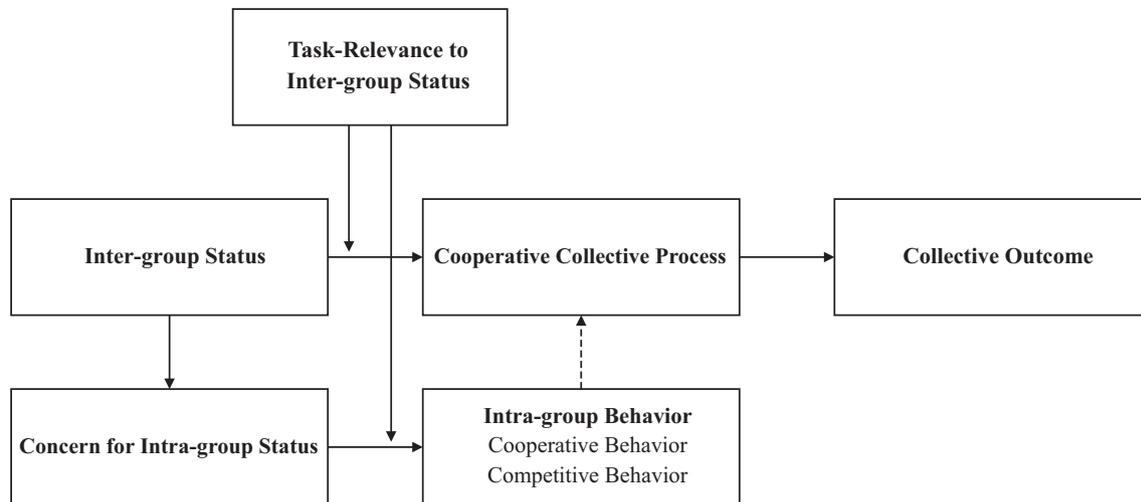


Fig. 1. Conceptual model.

withholding of assistance to thwart others' progress (Garcia et al., 2013; Pettit et al., 2010). Such inaction is less visible, if not invisible, and is therefore less likely to influence collective-level process. Beyond being less likely to influence collective-level process, behaviors that are not overt, such as withholding help and information, are difficult to discern at the collective level. For these reasons, we focus our theoretical discussion on how inter-group status affects cooperative collective-level process.

Group members' interpersonal behavior is a building block of collective process that characterizes the group as a whole (Hackman & Morris, 1975; McGrath, 1984). Although individual members may vary in their inclination to act competitively or cooperatively toward others, their behavior tends to converge because their behavior is influenced by the (in)actions of others. Specifically, one group member's cooperative behavior typically invites similarly cooperative behavior from others, and lack of cooperative behavior similarly is responded with lack of cooperative behavior (Chatman & Barsade, 1995; Van Lange & Visser, 1999). Thus, if members of a high-status group seek intra-group status through inaction to block others' progress more than members of a low-status group, the high-status group as a whole will display less cooperative collective process than the low-status group, and this is especially likely to be true when the relevance of a collective task to inter-group status is ambiguous. Furthermore, in groups in which members interact cooperatively, status-concerned members tend to pursue intra-group status through increased cooperation (Hardy & Van Vugt, 2006). Consequently, if members of a high-status group, compared to members of a low-status group, display cooperative behavior more when working on a task clearly relevant to the group's status, the high-status group as a whole is likely to exhibit more cooperative collective process than the low-status group.

Hypothesis 5a. When a task's relevance to inter-group status is ambiguous, high-status groups will exhibit less cooperative process than low-status groups.

Hypothesis 5b. When a task's relevance to inter-group status is clear, high-status groups will exhibit more cooperative process than low-status groups.

Given that cooperative collective process is critical in determining collective effectiveness (Chatman & Barsade, 1995; McGrath, 1984), these effects of inter-group status and task-relevance on cooperative collective process should, in turn, affect collective

effectiveness. Specifically, we predict that high-status groups working on a task not clearly relevant to inter-group status will work less cooperatively and therefore achieve less desirable collective outcomes than low-status groups, whereas high-status groups working on a task relevant to inter-group status will work more cooperatively and thus achieve better collective outcomes than low-status groups.

Hypothesis 6a. When a task's relevance to inter-group status is ambiguous, high-status groups will achieve worse collective outcomes than low-status groups, and the effect of inter-group status on collective outcome will be mediated by levels of cooperative process.

Hypothesis 6b. When a task's relevance to inter-group status is clear, high-status groups will achieve better collective outcomes than low-status groups, and the effect of inter-group status on collective outcome will be mediated by levels of cooperative process.

2. Overview of research

We report two experiments that tested how inter-group status affects members' concern about intra-group status, their subsequent intra-group behavior, and collective processes and outcomes. Experiment 1 investigated whether inter-group status and group status-relevance of task influence group members' intention to engage in competitive and cooperative intra-group behavior. Experiment 2 examined the effects of inter-group status and group status-relevance of task on members' intra-group status concern and behavior in a face-to-face setting, and explored their implications for collective-level processes and outcomes. In both experiments, group status-relevance of task was manipulated by providing explicit instructions that the group task was related to how inter-group status was determined in a given inter-group hierarchy, on the assumption that members of task groups do not always realize the relevance of the task to inter-group status hierarchy.

3. Experiment 1

In Experiment 1, we test our prediction that the concern for intra-group status, which would be heightened by high inter-group status, will manifest through competitive versus cooperative behavior depending on the relevance of task to the group's status.

To do so, we asked participants to imagine being in a scenario in which inter-group status and group status-relevance of task were manipulated, and measured their intention to act competitively and cooperatively in the scenario.

3.1. Method

3.1.1. Participants

One hundred sixty-six working adults (56 women, $M_{\text{age}} = 30.74$, $SD_{\text{age}} = 6.65$) recruited via Amazon's Mechanical Turk participated in the experiment and were paid \$0.50. Four participants failed to pass an attention check item (Oppenheimer, Meyvis, & Davidenko, 2009), resulting in a final sample of 162. The results reported below are identical when these participants are included in the analyses.

3.1.2. Design and procedure

Participants were randomly assigned to one of four conditions created by a 2 (inter-group status: High vs. Low) \times 2 (task-relevance to group status: Clear vs. Ambiguous) between-participants design.

Upon entering the study website, participants read a description of a hypothetical company, with which we manipulated inter-group status, and answered questions assessing their concern for status within the company. Next, participants were asked to further imagine that they were teamed up with other equal-rank employees at the company for a project, which varied in terms of the clarity of its relevance to the company's status. After this, participants responded to items for their willingness to extend and withhold help to other equal-rank employees.

3.1.3. Manipulations and measures

3.1.3.1. Inter-group status manipulation.

The experiment was introduced as concerning workplace attitudes and behaviors. All participants were asked to imagine that they were an associate consultant at a consulting firm named Strathmore & Co. Participants in the High- [Low-] Status Group condition read:

"Imagine that you are an associate consultant at Strathmore & Co., a consulting firm which is currently ranked high [low] on the Consulting Magazine's consulting firms ranking. According to the magazine, Strathmore & Co. is very well [not well] respected by clients and industry alike."

3.1.3.2. Intra-group status concern.

After reading the description of the firm, participants responded to six items about their concern for status within the firm, adapted from Flynn et al. (2006) and Blader and Chen (2011). Sample items were: "Being a highly valued member in this company would be important to me," "I would want other consultants in this company to respect me and hold me in high esteem," and "I would be concerned that other consultants see me as an unworthy member of this company," ($\alpha = 0.76$, 1 = strongly disagree, 7 = strongly agree).

3.1.3.3. Task-relevance to group status manipulation.

Next, all participants read: "Now imagine that you are staffed with other associate consultants at Strathmore & Co. for a project on designing strategies to launch and implement new information technology for one of your clients." Then, participants assigned to the Clear Relevance condition received the following information about the project: "Strategy formulation for launching and implementing new technology is one of the core areas weighed heavily in the Consulting Magazine's consulting firms ranking." Participants in the Ambiguous Relevance condition proceeded to the next set of questions without any other information.

3.1.3.4. Competitive and cooperative behavioral intentions.

We measured how likely participants would be to behave competitively and cooperatively toward other members of a project team. For competitive behavior, we focused on the extent to which participants would interfere with others' ability to do work by withholding help or information. The cooperative behavior measure was designed to assess the extent to which participants would assist with others' ability to do work by providing help or information. Thus, the competitive behavior measure was about one's active attempt to block others' progress, and the cooperative behavior measure was about one's active attempt to aid others' progress.

To assess intentions to engage in competitive behavior, we used four items adapted from Connelly, Zweig, Webster, and Trougakos (2012), focusing on participants' willingness to act in an other-interfering manner by withholding help. Participants were given an initial prompt: "If other consultants in this project team ask you for specific information, how likely is it that you would..." and then rated the likelihood that they would "Agree to help him/her but never really intend to," "Agree to help him/her but instead give him/her information different from what he/she wants," "Tell him/her that I would help him/her out later but stall as much as possible," and "Offer him/her some other information instead of what he/she really wants," ($\alpha = 0.93$, 1 = not at all likely, 7 = very likely). These four items were presented in random order.

Cooperative behavioral intention was measured with four items presented in random order and were designed to measure participants' willingness to offer help to others. Specifically, participants were prompted, "In this project team, how willing will you be to," followed by: "Share your work reports and official documents," "Share your experience or know-how from work," "Provide your know-where or know-whom to other consultants," and "Share my expertise," ($\alpha = 0.80$, 1 = not at all, 7 = very much).

3.1.3.5. Manipulation checks.

As an inter-group status manipulation check, we asked participants: "What is the status of Strathmore & Co.?" (1 = very low, 7 = very high) and "To what extent do you expect that people in the consulting industry admire Strathmore & Co.?" (1 = not at all, 7 = very much), $r = 0.90$, $p < 0.001$. The effectiveness of the task-relevance to group status manipulation was assessed in two ways. First, we asked participants two items to assess whether participants understood the description of the relevance of the task to the firm's ranking: "How relevant is the area that your project team will cover to the Consulting Magazine's rankings of consulting firms?" and "How important is your team's ability to complete this project successfully in determining your company's ranking in the industry?" ($r = 0.81$, $p < 0.001$, 1 = not at all, 7 = very much). Second, we also measured the perceived importance of collective performance to examine whether the status-relevance of a task indeed makes collective goals more salient with the item, "The success of this project team is important to me," (1 = strongly disagree, 7 = strongly agree).

3.2. Results

Table 1 presents means, standard deviations, and correlations among variables in Experiment 1. Participant gender and age neither had main effects on nor interacted with other variables.

3.2.1. Preliminary analyses

3.2.1.1. Manipulation checks.

A 2 (inter-group status: High vs. Low) \times 2 (task-relevance to group status: Clear vs. Ambiguous) ANOVA on the inter-group status manipulation check score revealed a significant main effect of inter-group status only, such that participants in the

High-status Group condition perceived the firm to be significantly higher in status ($M = 5.82$, $SD = 1.14$) than participants in the Low-status Group condition ($M = 3.93$, $SD = 1.74$), $F(1,158) = 68.14$, $p < 0.001$.

We also conducted the same ANOVA on the group status-relevance manipulation check items. First, results showed that participants in the Clear Relevance condition perceived the project to be significantly more related to the status ranking of the firm ($M = 5.76$, $SD = 1.13$) than did participants in the Ambiguous Relevance condition ($M = 4.66$, $SD = 1.17$), $F(1,158) = 21.37$, $p < 0.001$. Second, concerning the importance of collective success, the analysis revealed only a significant interaction between inter-group status and task-relevance to group status, $F(1,158) = 4.16$, $p = 0.043$. Specifically, a planned contrast showed that participants in the High-status Group – Clear Relevance condition tended to perceive collective success to be more important ($M = 4.79$, $SD = 1.14$) than participants in the other three experimental conditions (High-status Group – Ambiguous Relevance condition $M = 4.18$, $SD = 1.57$, Low-status Group – Clear Relevance condition $M = 4.18$, $SD = 1.59$, and Low-status Group – Ambiguous Relevance condition $M = 4.42$, $SD = 1.51$), $t(158) = 1.83$, $p = 0.070$.

3.2.2. Main analyses

To test our hypotheses, we conducted a series of ordinary least square (OLS) regression analyses, followed by a second-stage moderated mediation analysis using 10,000 bootstrapped samples to estimate conditional indirect effects and bias-corrected 95% confidence intervals (CI) for the indirect effects (Edwards & Lambert, 2007; Hayes, 2013).

3.2.2.1. Intra-group status concern.

We first tested whether group status affected participants' intra-group status concern (Hypothesis 1). Consistent with our prediction, participants in the High-status Group condition reported significantly higher concern for intra-group status ($M = 5.43$, $SD = 0.77$) than participants in the Low-status Group condition ($M = 4.95$, $SD = 0.85$), $b = 0.24$, $SE = 0.06$, $p < 0.001$, Model 1, Table 2.

3.2.2.2. Competitive and cooperative behavioral intentions.

Hypothesis 2a predicted that the concern for intra-group status would be more likely to lead to competitive behavior when the task's relevance to the group's status is ambiguous than when the task's relevance to the group's status is clear. To test this prediction, we regressed competitive behavioral intention on intra-group status concern, task-relevance to group status, and the interaction between these two variables (Model 2, Table 2). The analysis showed a significant interaction between the intra-group status concern and task-relevance to group status, $b = -0.49$, $SE = 0.16$, $p = 0.003$. Consistent with Hypothesis 2a, the effect of intra-group status concern increased competitive behavioral intentions in the Ambiguous Relevance condition, $b = 0.75$, $SE = 0.21$, $p < 0.001$; it did not in the Clear Relevance condition, $b = -0.23$, $SE = 0.24$, $p = 0.343$, see Fig. 2a.

Hypothesis 2b stated that the concern for intra-group status would be more likely to lead to cooperative behavior when the task is clearly relevant to the group's status than when it is not. The analysis revealed a significant interaction, $b = 0.51$, $SE = 0.11$, $p < 0.001$ (Model 5, Table 2). Simple slopes analyses indicated that, consistent with Hypothesis 2b, intra-group status concern increased cooperative intentions in the Clear Relevance condition, $b = 0.49$, $SE = 0.16$, $p < 0.001$; in contrast, in the Ambiguous Relevance condition, intra-group status concern decreased cooperative intentions, $b = -0.35$, $SE = 0.13$, $p = 0.011$, see Fig. 2b.

3.2.2.3. Inter-group status, intra-group status concern, and behavioral intentions.

Hypotheses 3a–4b predicted that the effect of inter-group status on competitive and cooperative intentions would be mediated by group members' intra-group status concern, and that the relationship between intra-group status concern and competitive and cooperative intentions would be moderated by the group status-relevance of the task.

In Hypothesis 3a, we predicted that members of high-status groups would engage in competitive behavior more than members of low-status groups. As shown in Model 3 of Table 2, consistent with Hypothesis 3a, inter-group status and task-relevance to group status significantly interacted to predict competitive intentions, $b = -0.31$, $SE = 0.14$, $p = 0.024$, such that when the task was not clearly relevant to the group's status, participants in the High-status Group condition ($M = 3.57$, $SD = 1.95$) were significantly more willing to engage in competitive behavior than participants in the Low-status Group condition ($M = 2.44$, $SD = 1.78$), $t(158) = 2.91$, $p = 0.004$. In contrast, when the project was seen as group status-relevant, participants' levels of competitive intentions did not differ between Low- ($M = 2.89$, $SD = 1.67$) and High-status ($M = 2.77$, $SD = 1.67$) Group conditions, $t(158) = 0.31$, $p = 0.758$.

We then examined whether intra-group status concern drove the increase in competitive intention of participants in the High-status Group – Ambiguous Relevance condition (Hypothesis 3b). When the proposed mediator (intra-group status concern) and its interaction with the moderator (task-relevance to group status) were added to the model, the inter-group status \times task-relevance interaction was no longer significant, $b = -0.20$, $SE = 0.14$, $p = 0.152$, Model 4, Table 2. Importantly, the interaction between intra-group status concern and task-relevance remained significant, $b = -0.42$, $SE = 0.17$, $p = 0.013$, suggesting that task-relevance moderated the link between intra-group status concern and competitive intentions. The second-stage moderated mediation analysis further showed that high inter-group status increased competitive behavioral intentions through intra-group status concern only when the task was ambiguously group status-relevant, conditional indirect effect = 0.17, $SE = 0.09$, 95% CI [0.04, 0.38], see Fig. 3a. These results support Hypothesis 3b.

We also predicted that, when the task is clearly relevant to the group's status, compared to members of low-status groups, members of high-status groups would act more cooperatively (Hypothesis 4a). The same OLS regression analyses as above using cooperative intention as the dependent variable (Model 6, Table 2) revealed a significant interaction between inter-group status and task-relevance to group status, $b = 0.20$, $SE = 0.09$, $p = 0.029$, such that when the project was described to be clearly relevant to the firm's status, participants in the High-status Group condition ($M = 5.75$, $SD = 0.99$) were marginally significantly more willing to cooperate with their teammates than participants in the Low-status Group condition ($M = 5.28$, $SD = 1.08$), $t(158) = 1.83$, $p = 0.070$. In contrast, when there was no clear indication that the project was related to the firm's status, participants' willingness to act cooperatively in the High-status Group condition ($M = 5.27$, $SD = 1.32$) did not differ from that of participants in the Low-status Group condition ($M = 5.61$, $SD = 1.24$), $t(158) = 1.29$, $p = 0.201$.

We then examined whether concern for intra-group status explained the increase in cooperative behavioral intentions among participants in the High-status Group – Clear Relevance condition (Hypothesis 4b). As shown in Model 7 of Table 2, when intra-group status concern and task-relevance to group status were added to the model, the previously significant interaction between inter-group status and task-relevance was no longer significant, $b = 0.09$, $SE = 0.09$, $p = 0.308$, while the task-relevance \times intra-group status concern interaction remained significant, $b = 0.48$,

Table 1
Means, standard deviations, and correlations among variables (Experiment 1).

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Inter-group status						
2. Task-relevance						
3. Intra-group status concern	5.19	0.84	0.29***	−0.03		
4. Competitive behavior	2.93	1.78	0.15†	−0.06	0.16†	
5. Cooperative behavior	5.47	1.18	0.03	0.03	0.06	−0.51***

Note. *N* = 162. For inter-group status, high group status was coded 1 and low group status was coded −1. For task-relevance, clear relevance was coded 1 and ambiguous relevance was coded −1.

*** *p* < 0.01.
† *p* < 0.10.
* *p* < 0.05.
*** *p* < 0.001.

Table 2
OLS regression results (Experiment 1).

Variable	Intra-group status concern		Competitive behavioral intention			Cooperative behavioral intention		
	Model 1		Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Inter-group status	0.24***			0.25†	0.19		0.04	0.02
Task-relevance	−0.01		−0.10	−0.09	−0.09	0.04	0.04	0.04
Group status × Task-relevance	−0.04			−0.31†	−0.20		0.20†	0.09
Status concern		0.26			0.20		0.16	0.16
Status concern × Task-relevance		−0.49**			−0.42*		0.51***	0.48***
<i>R</i> ²	0.09		0.08	0.05	0.10	0.13	0.03	0.14
Δ <i>R</i> ²					0.05			0.11

Note. *N* = 162. Entries are unstandardized regression coefficients. For inter-group status, high group status was coded 1 and low group status was coded −1. For task-relevance to group status, clear relevance was coded 1 and ambiguous relevance was coded −1.

† *p* < 0.10.
* *p* < 0.05.
** *p* < 0.01.
*** *p* < 0.001.

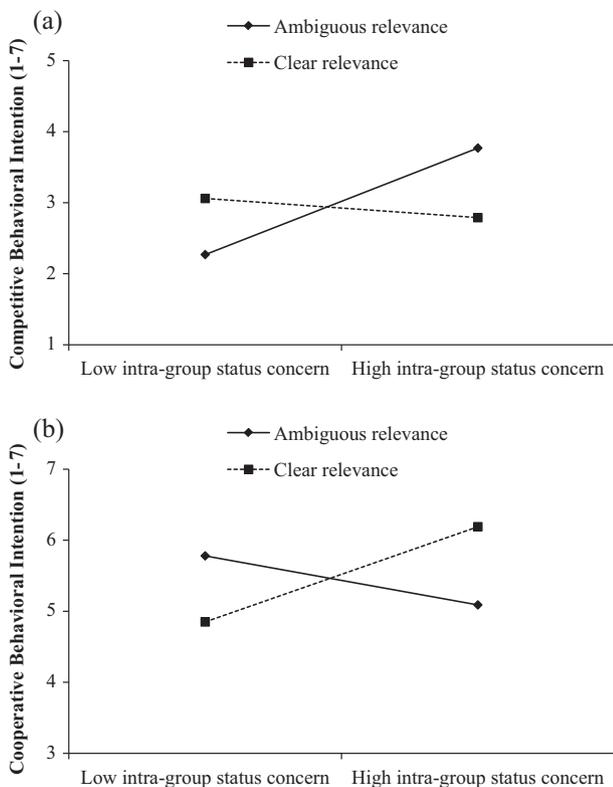


Fig. 2. Effects of intra-group status concern and task-relevance to group status on (a) competitive behavioral intention and (b) cooperative behavioral intention (Experiment 1).

SE = 0.11, *p* < 0.001, suggesting that the moderation by task-relevance occurred on the link between intra-group status concern and cooperative intentions. Tests of second-stage moderated mediation revealed that intra-group status concern mediated the effect of inter-group status on cooperative intentions only when the task was clearly relevant to group status; the conditional indirect effect of inter-group status on cooperative intentions via intra-group status concern was 0.16, *SE* = 0.06, 95% CI [0.06, 0.31], see Fig. 3b. Hypotheses 4a and 4b were thus supported.

3.3. Discussion

In Experiment 1, we found that when the group task is not explicitly related to the group’s status, members of high-status groups are more willing to act competitively than members of low-status groups because they are more concerned with their intra-group status. In contrast, when the group task is clearly relevant to the group’s status, members of high-status groups are more willing to act cooperatively than members of low-status groups, and this effect is driven by group members’ concern for intra-group status. These results are consistent with our contention that inter-group status can elicit intra-group behavior that can both be beneficial and harmful to the group through its impact on members’ desires for intra-group status. Furthermore, the ways in which members seek to address their desire for status, by engaging with other in-group members competitively versus cooperatively, differ depending on their desire to protect the group’s status, as triggered by the group status-relevance of the task at hand.

There are several issues to note about Experiment 1. First, our measures of competitive and cooperative behavioral intention differed from those used in prior work on status dynamics (e.g.,

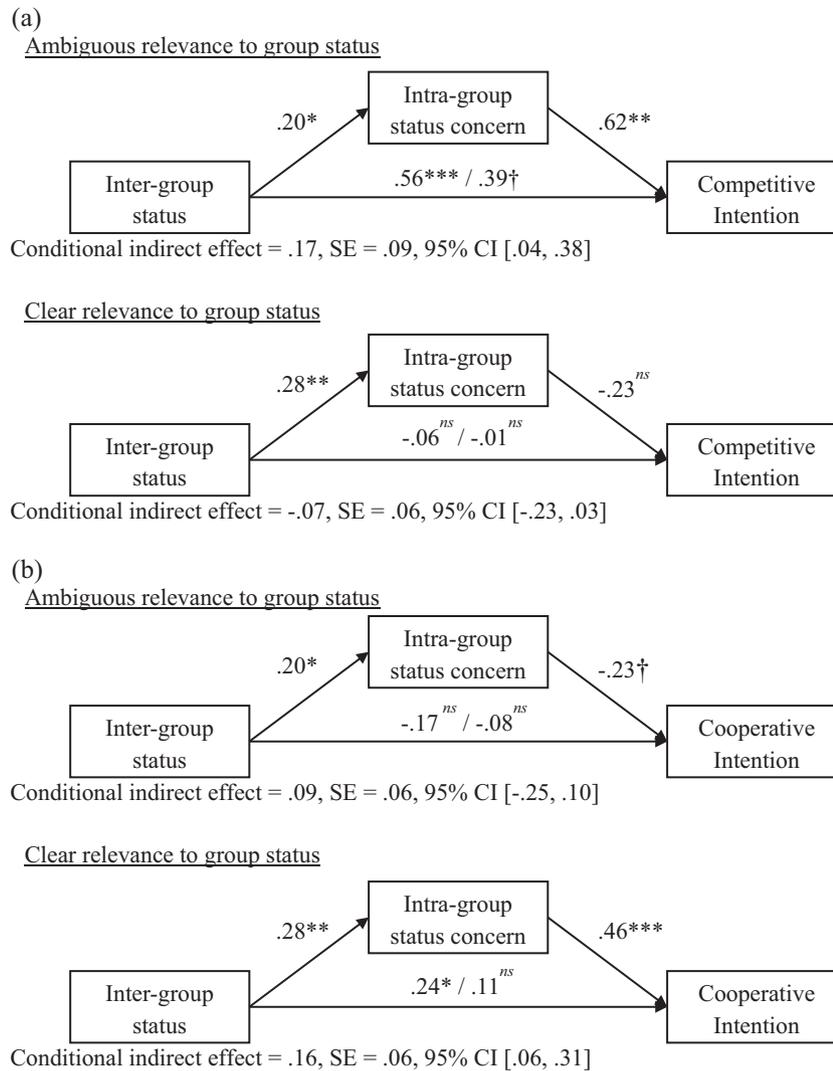


Fig. 3. Moderated path analysis for (a) competitive behavioral intention and (b) cooperative behavioral intention (Experiment 1). Entries are unstandardized path coefficients. For inter-group status, high group status was coded 1 and low group status was coded -1 . † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Bendersky & Hays, 2012; Hays & Bendersky, 2015), in that our competitive intention items tapped into participants' unwillingness to share information out of a desire to impede the progress of their teammates. We did this because from our perspective, people can use information sharing and withholding as a way to compete for status. Thus, willingness to share or withhold information is an instantiation of status competition, rather than merely a consequence of status competition. In Experiment 2, we will utilize a different operationalization of competitive behavior to better match our measures to those that have been used before.

Another limitation of Experiment 1 was that it used a hypothetical organizational scenario, in which participants imagined membership in a high- or low-status company. In addition, we did not measure actual competitive or cooperative behavior – in face-to-face group contexts, behavioral intentions might not necessarily lead to actual competitive or cooperative intra-group behavior. Experiment 2 attempts to address these limitations by manipulating the status of a real group to which participants belong and by having participants work together on a standardized collective decision-making task, which we audio-recorded and then coded for actual member behavior. We also included a control condition to ascertain whether differences in behavior are due to changes in

behavior among members of low-status groups or due to changes in behavior among members of high-status groups.

4. Experiment 2

In Experiment 2, we examined our predictions about the effects of inter-group status and task-relevance to group status on competitive and cooperative behavior among individuals working on a collective decision-making task. The use of a decision-making task allowed us to more precisely measure actual member behavior as well as collective-level processes and outcomes. We specifically focused on information exchange among members, which has been shown to be critical to outcomes of collective decision-making and other tasks in general (Mesmer-Magnus & DeChurch, 2009; Stasser & Titus, 1985). Information exchange is an interpersonal process stemming from an individual's willingness to cooperate with others (Thompson, 1991). Thus, if a group status-relevant task promotes cooperative behavior among members of high-status groups, members of high-status groups might exchange information more and thus be able to achieve better collective outcomes, as compared to members of low-status groups.

Experiment 2 thus allows us to test the collective-level implications of inter-group status, in addition to its predicted effects on individual behavior.

4.1. Method

4.1.1. Participants

Two hundred twenty-five undergraduate students in 75 three-person teams (111 women, $M_{\text{age}} = 20.30$, $SD_{\text{age}} = 1.26$) participated in the study for either extra course credit ($n = 166$) or for \$10 cash payment ($n = 59$). Participants who received extra course credit did not differ on any demographic variables from those who received cash payment for participation.

4.1.2. Design and procedure

Each three-person team was randomly assigned to one of five experimental conditions created by a 2 (inter-group status: High vs. Low) \times 2 (task-relevance to group status: Clear vs. Ambiguous) + 1 (Control) design.

Upon arrival to the laboratory, each participant received a packet that provided general instructions and a short survey, which were read and responded to individually. Our inter-group status and task-relevance manipulations were included in this packet. After completing the survey individually, participants were seated together at a table, and the group decision-making task was introduced, with each participant receiving individual role information for the task. They then engaged in a three-person negotiation exercise, which was audio-recorded. Upon reaching an agreement, participants completed a post-task questionnaire.

4.1.3. Task

We used a multi-party negotiation exercise (Palmer & Thompson, 1995). The exercise concerned a house design project, in which a client specified his fixed budget and the features that should be included in the design. Participants were randomly assigned to one of three roles (i.e., finishing expert, land expert, and structural expert). Each expert was given 17 unique features that could be included in the design of the house, which were unknown to the other participants. Each feature was associated with a certain price for the client and a corresponding profit for the expert if it was included in the final design.

Although the task was essentially distributive, it involved integrative potential. The distributive aspect derived from the client's limited budget; participants had to decide how to allocate the client's budget to include one another's features in the final agreement, while each expert had an incentive to include as many features as possible from his or her areas of specialization to maximize his or her own profit. However, the client's limited budget meant that only a subset of all possible features could be included, requiring negotiation.

The integrative aspect of the exercise was built into a bonus profit each member could receive. Bonuses were contingent on particular combinations of features included in the final design. Specifically, participants could gain a bonus profit if one of their features and a specific feature of another expert were both included in the final design. Thus, including a particular combination would be helpful both to the participant and to the other team member. For example, the information for the structural expert role stated that building a master suite with a Jacuzzi tub would result in an additional \$1500 over the usual profit for the structural expert. The master suite was a feature for the structural expert, and the Jacuzzi tub was a finishing expert's feature. Thus, to gain a bonus, the structural expert had to convince the finishing expert to include a Jacuzzi tub. Each expert had two bonus options they could get by convincing other members to include a particular feature.

The participants' task was to determine the set of features to be included in the final design. Although the optimal strategy to attain the highest collective outcome was to openly share preferences during the discussion and have all the bonus options included in the final design (i.e., engage cooperatively with one another), we anticipated that individual participants might want to only include the features that would maximize their own profit.¹

4.1.4. Manipulations and measures

4.1.4.1. Inter-group status and task-relevance to group status manipulations.

The general instructions for the experimental session included our manipulations of inter-group status and task-relevance to group status. In the *Ambiguous Relevance* condition, participants were told that the experimental session was composed of two separate, unrelated studies. The alleged first study, which was described as an individual task surveying students' opinions about campus issues, included our inter-group status manipulation. In this part of the study, participants, who were all undergraduate students from the same university, received ranking information about how recruiters from globally renowned companies viewed students and graduates from the participants' university. This information was drawn from a real source (*The New York Times*, 2012), but presented differently in order to induce a sense of high or low group status. Specifically, in the *High- [Low-] Status Group* condition, participants read that recruiters viewed the participants' university as being *top-tier [low-tier]*, that they ranked the participants' university *higher [lower]* than other schools to which the participants' school was often compared, and that students and graduates from the participants' university were *very well [not well]* respected by these recruiters. After reading this, participants were asked to write briefly about why the recruiters might view their university in this manner. The second study, which was the 3-person negotiation exercise described above, was subsequently introduced as a separate, unrelated study about group behavior that simulates the experience of cross-functional teams in organizations.

In the *Clear Relevance* condition, participants read, in addition to the inter-group status manipulation above, that recruiters considered students' ability to work in teams comprised of people with different backgrounds to be one of the most important qualities of an ideal employee and weighed this ability heavily when they evaluate and rank colleges and universities. As in the *Ambiguous Relevance* condition, participants wrote briefly about their thoughts on the recruiters' views of their university. After this, the 3-person negotiation task was introduced as a simulation of experiences of a cross-functional team in organizations, highlighting the relevance of the exercise to the basis of the status of the participants' university.

We also included a baseline *Control* condition in Experiment 2, in which participants were told that the experimental session was composed of two separate, unrelated studies. As in the other conditions, the first study was an individual task, and the second study was purportedly about group behavior. However, the "first" study did not include information about how corporate recruiters viewed the participants' university. Instead, participants were asked to write briefly about their opinions about food and dining services on campus. The second task, which was the 3-person negotiation task, was introduced as a separate study about group behavior, as in the *Ambiguous Relevance* condition.

¹ Because the desire for status typically is an end itself rather than a means to other rewards (Anderson et al., 2015; Frank, 1985), we did not offer any incentive for individual or collective outcome. Thus, that the task did not include any strong incentive to act competitively or cooperatively means that our investigation is a more conservative test of our predictions, independent of financial incentives.

4.1.4.2. Intra-group status concern.

After the manipulations, participants responded to five items designed to measure their concern for status. Sample items included: “Being a highly valued member of [University name] is very important to me,” “I want other students at [University name] to respect me and hold me in high esteem,” “I feel concerned that other students at [University name] see me as an unworthy member of the community,” ($\alpha = 0.82$, 1 = *strongly disagree*, 7 = *strongly agree*).

4.1.4.3. Self-rated intra-group behavior.

After the negotiation exercise, participants rated how they behaved during the negotiation using the scale anchored with 1 = *strongly disagree*, 7 = *strongly agree*. Competitive behavior was measured with two items: “I did not tell my teammates anything until they gave me information first,” and “I did not want to take risks by giving my teammates too much information,” ($r = 0.84$, $p < 0.001$). Two items measured participants’ engagement in cooperative behavior: “I shared information a lot,” and “I behaved cooperatively during the discussion,” ($r = 0.89$, $p < 0.001$).

4.1.4.4. Coded collective process: information exchange.

We assessed the amount of information exchanged during the negotiation by coding verbal interactions to capture the collective-level manifestation of competitive versus cooperative behavior among group members. Following recommendations for coding group interaction (Weingart, 1997), we coded the two behavioral categories in the exercise: provision of information about participants’ preferred features and bonus options, and questions about others’ preferred features and bonus options.

Two independent coders blind to the experimental conditions tallied the number of instances that each participant asked for and provided information during the negotiation. Of the 75 recorded sessions, one coder coded all 75 discussions, and the other coded a subset of 25 discussions, randomly selected from each condition, to determine the inter-rater reliability. We computed an intra-class correlation for each behavioral category (i.e., asking for information and providing information) to determine the inter-rater reliability. The average intra-class correlation of these two behavioral categories was 0.92 for the 25 recordings

coded by both coders. Thus, we used the ratings of the individual who had coded all recordings.

4.1.4.5. Collective outcome.

The collective outcome was calculated as the total profits that each negotiating team earned at the end of the exercise.

4.1.4.6. Manipulation checks.

The effectiveness of our inter-group status manipulation was assessed with two items: “How high- or low-status do you think [University name] is?” (1 = *very low*, 7 = *very high*), and “How well or poorly respected do you think students of [University name] are by recruiters?” ($r = 0.78$, $p < 0.001$, 1 = *very poorly*, 7 = *very well*). We checked the effectiveness of the task-relevance to group status manipulation in two ways (both on 1 = *strongly disagree*, 7 = *strongly agree*). First, participants responded to a single item: “Recruiters’ views of students and graduates of colleges depend on the ability to successfully complete this kind of task.” Second, we measured participants’ concern for the team outcome: “In this exercise, it is important to me that my team achieves the greatest possible profit.”

4.2. Results

Means, standard deviations, and correlations among individual- and collective-level variables are presented in Tables 3 and 4 respectively. Participant gender, age, and payment type did not have main effects on and did not interact with other variables. While all our analyses were conducted primarily within the overall framework of a 2 (inter-group status: High vs. Low) \times 2 (task-relevance to group status: Clear vs. Ambiguous) factorial design, we also conducted planned contrasts including data from the baseline control condition to see whether the effects emanated from changes among low- or high-status groups.

4.2.1. Preliminary analyses

4.2.1.1. Manipulation checks.

A 2 (inter-group status: High vs. Low) \times 2 (task-relevance to group status: Clear vs. Ambiguous) ANOVA revealed a significant main effect of inter-group status only, such that participants in

Table 3
Means, standard deviations, and correlations among individual-level variables (Experiment 2).

Variables	M	SD	1	2	3	4
1. Inter-group status						
2. Task-relevance						
3. Intra-group status concern	4.45	1.34	0.19*	0.11		
4. Competitive behavior	2.84	1.54	0.23**	-0.10	0.37***	
5. Cooperative behavior	5.49	1.18	-0.06	0.04	0.07	-0.17*

Note. $N = 180$. For inter-group status, high group status was coded 1 and low group status was coded -1. For task-relevance to group status, clear relevance was coded 1 and ambiguous relevance was coded -1.

* $p < 0.10$.
** $p < 0.01$.
*** $p < 0.001$.

Table 4
Means, standard deviations, and correlations among collective-level variables (Experiment 2).

Variable	M	SD	1	2	3
1. Inter-group status					
2. Task-relevance					
3. Information exchange	3.48	0.55	-0.07	0.18	
4. Collective outcome	11.09	0.11	-0.02	0.03	0.55***

Note. $N = 60$. For inter-group status, high group status was coded 1 and low group status was coded -1. For task-relevance to group status, clear relevance was coded 1 and ambiguous relevance was coded -1. Information exchange and collective outcome are log-transformed.

*** $p < 0.001$.

the High-status Group condition perceived their university to be significantly higher status ($M = 5.93, SD = 0.73$) than participants in the Low-status Group condition ($M = 5.32, SD = 0.83$), $F(1, 176) = 27.87, p < 0.001$. In addition, planned contrasts including the data from the Control condition indicated that participants in the High-status Group condition perceived their university to be higher in status than participants in the Control condition ($M = 5.58, SD = 1.02$), $t(220) = 2.31, p = 0.022$, and that participants in the Low-status Group condition tended to perceive their university to be lower in status than those in the Control condition, $t(220) = 1.72, p = 0.087$.

We conducted the same ANOVA to test the effectiveness of our task-relevance to group status manipulation. On the first measure, we found a significant main effect of task-relevance only, $F(1, 176) = 5.51, p = 0.020$, such that participants in the Clear Relevance condition expected the task to be related to how the recruiters evaluated their university's status ($M = 5.16, SD = 1.41$) more than participants in the Ambiguous Relevance condition ($M = 4.60, SD = 1.75$) and participants in the Control condition ($M = 4.76, SD = 1.26$), $t(220) = 2.39, p = 0.018$. On the measure of collective outcome concern, we found a marginally significant inter-group status \times task-relevance to group status interaction, $F(1, 176) = 3.74, p = 0.055$. A planned contrast indicated that participants in the High-status Group – Clear Relevance condition were marginally more concerned about the team's outcomes ($M = 5.62, SD = 0.91$) than participants in the other conditions (High-status Group – Ambiguous Relevance condition $M = 5.10, SD = 1.16$, Low-status Group – Clear Relevance condition $M = 5.31, SD = 1.24$, Low-status Group – Ambiguous Relevance condition $M = 5.42, SD = 1.06$, Control condition $M = 5.33, SD = 0.98$), $t(220) = 1.85, p = 0.066$.

4.2.2. Main analyses

Because our participants were nested into 3-person teams, we used hierarchical linear modeling (HLM) which allowed us to test individual-level hypotheses while controlling for potential team effects (Bryk & Raudenbush, 1992). To do so, we first examined whether there was between-group variability in our measured variables: concern for intra-group status, and cooperative and competitive behaviors. We conducted ANOVAs with random effects on these three variables and found the evidence of significant between-group variance in all of them, intraclass correlation coefficients (ICC) $> 0.30, F_s > 2.5, p_s < 0.001$. We thus proceeded to test our specific hypotheses using HLM. To test our moderated mediation hypotheses, we also probed biased-corrected confidence intervals for multilevel conditional indirect effects using 10,000 simulated samples (Bauer, Preacher, & Gil, 2006; Edwards & Lambert, 2007).

4.2.2.1. Intra-group status concern.

Hypothesis 1 stated that members of high-status groups would be more concerned with their intra-group status than members of low-status groups. Consistent with this prediction, controlling for the three-person team effect, inter-group status positively and significantly predicted intra-group status concern, $\gamma = 0.25, SE = 0.10, p = 0.013$ (Model 1, Table 5). Specifically, participants in the High-status Group condition reported significantly higher concern for intra-group status ($M = 4.70, SD = 1.33$) than participants in the Low-status Group ($M = 4.20, SD = 1.32$) and in the Control conditions ($M = 4.32, SD = 1.12$), $t(220) = 2.67, p = 0.008$. The difference between the Low-status Group and Control conditions was not significant, $t(220) = 0.52, p = 0.605$.

4.2.2.2. Competitive and cooperative intra-group behavior.

Hypothesis 2a stated that intra-group status concern would be more likely to lead to competitive behavior when the task's relevance to the group's status is ambiguous than when it is clear. To test this prediction, we regressed self-reported competitive behavior (Level-1 dependent variable) on concern for intra-group status (Level-1 independent variable), status-relevance of task (Level-2 moderator variable), and the cross-level interaction between these two variables (Model 2, Table 5). The HLM analysis showed a significant cross-level interaction, $\gamma = -0.14, SE = 0.07, p = 0.048$, such that intra-group status concern increased competitive behavior when the task was ambiguously group status-relevant, $b = 0.46, SE = 0.14, p = 0.002$, but it did not when the task was clearly group status-relevant, $b = 0.21, SE = 0.14, p = 0.129$, Fig. 4a.

Hypothesis 2b predicted that intra-group status concern would be more strongly associated with cooperative behavior when the task's relevance to the group's status is made explicit than when it is ambiguous. The above HLM analysis using self-reported cooperative behavior as the Level-1 dependent variable revealed that, consistent with Hypothesis 2b, the effect of intra-group status concern on cooperative behavior was positive and significant when the task was clearly group status-relevant, $b = 0.28, SE = 0.09, p = 0.002$, but the effect was not significant when the task was ambiguously group status-relevant, $b = -0.13, SE = 0.09, p = 0.134$, overall interaction $\gamma = 0.21, SE = 0.06, p = 0.001$, see Model 5, Table 5, and Fig. 4b.

4.2.2.3. Inter-group status, intra-group status concern, and intra-group behavior.

Hypotheses 3a and 3b predicted that, compared to members of low-status groups, members of high-status groups would be more likely to engage in competitive behavior when the task at hand is not group status-relevant because of their heightened concern for intra-group status. We first tested Hypothesis 3a by regressing

Table 5
HLM results for individual-level predictions (Experiment 2).

Variable	Intra-group status concern		Competitive behavior			Cooperative behavior		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	
Inter-group status	0.25*							
Task-relevance	0.15	-0.21	-0.15	0.30	0.04	0.11	0.04	
Group status \times Task-relevance	-0.07		-0.22*	-0.17		0.25*	0.18	
Status concern		0.42***		0.39***	0.08		0.08	
Status concern \times Task-relevance		-0.14*		-0.11†	0.21**		0.21**	
Pseudo R^2	0.03	0.15	0.07	0.18	0.03	0.03	0.04	
Δ Pseudo R^2				0.11			0.01	

Note. $N = 180$. Entries are unstandardized regression coefficients. For inter-group status, high group status was coded 1 and low group status was coded -1. For task-relevance to group status, clear relevance was coded 1 and ambiguous relevance was coded -1.

† $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

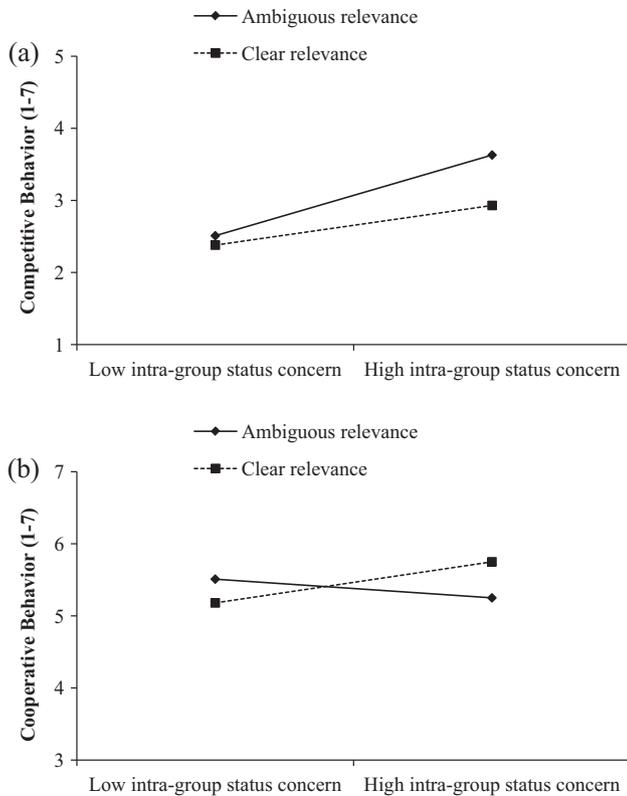


Fig. 4. Effects of intra-group status concern and task-relevance to group status on (a) competitive behavior and (b) cooperative behavior (Experiment 2).

self-reported competitive behavior on inter-group status, task-relevance to group status, and the interaction between the two Level-2 manipulated variables. The HLM analysis showed a significant interaction between inter-group status and task-relevance to group status, $\gamma = -0.22$, $SE = 0.11$, $p = 0.047$ (Model 3, Table 5). When the task was ambiguously group status-relevant, participants in the High-status Group condition were more competitive ($M = 3.57$, $SD = 1.84$) than participants in the Low-status Group condition ($M = 2.41$, $SD = 1.15$), $t(176) = 3.68$, $p < 0.001$. However, when the task was clearly group status-relevant, competitive behavior of participants in the High-status Group condition ($M = 2.82$, $SD = 1.36$) did not differ from that of participants in the Low-status Group condition ($M = 2.56$, $SD = 1.52$), $t(176) = 0.85$, $p = 0.397$. In addition, competitive behavior in the High-status Group – Ambiguous Relevance condition was higher than competitive behavior in the Control condition ($M = 2.70$, $SD = 1.41$), $t(220) = 3.85$, $p < 0.001$.

Next, we tested whether intra-group status concern drove the increase in competitive behavior of participants in the High-status group – Ambiguous Relevance condition (Hypothesis 3b). When intra-group status concern and its interaction with task-relevance to group status were entered into the model predicting competitive behavior, the interaction between inter-group status and task-relevance to group status was no longer significant, $\gamma = -0.17$, $SE = 0.10$, $p = 0.141$, while the task-relevance \times intra-group status concern interaction was marginally significant, $\gamma = -0.11$, $SE = 0.06$, $p = 0.088$ (Model 4, Table 5). These results indicate that task-relevance moderated the link between intra-group status concern and competitive behavior. We further found that, when the task was ambiguously group status-relevant, the concern for intra-group status mediated the effect of inter-group

status on competitive behavior, conditional indirect effect = 0.14, $SE = 0.06$, 95% CI excluding zero [0.03, 0.28], Fig. 5a.

In Hypotheses 4a and 4b, we predicted that members of high-status groups would exhibit more cooperative behavior than members of low-status groups when the task at hand is clearly group status-relevant because of their heightened concern for intra-group status. We tested Hypothesis 4a by examining the effects of inter-group status on cooperative behavior, contingent upon task-relevance to group status (see Model 6, Table 5). The interaction between inter-group status and task-relevance was significant, $\gamma = 0.25$, $SE = 0.11$, $p = 0.031$, such that when the decision-making task was said to be group status-relevant, participants in the High-status Group condition ($M = 5.83$, $SD = 1.05$) reported that they had engaged in cooperative behavior marginally significantly more than participants in the Low-status Group condition ($M = 5.34$, $SD = 1.38$), $t(176) = 1.96$, $p = 0.051$. However, when the task was ambiguously group status-relevant, participants in the High-status Group condition ($M = 5.12$, $SD = 1.28$) reported engaging in significantly lower levels of cooperative behavior than participants in the Low-status Group condition ($M = 5.63$, $SD = 0.84$), $t(176) = 2.10$, $p = 0.037$. Cooperative behavior in the High-status Group – Clear Relevance condition did not differ significantly from cooperative behavior reported in the Control condition ($M = 5.64$, $SD = 0.93$), $t(220) = 0.80$, $p = 0.422$.

We proceeded to examine whether intra-group status concern explained the increase in cooperative behavior among participants in the High-status Group – Clear Relevance condition (Hypothesis 4b). When intra-group status concern and its interaction with task-relevance were added, the interaction between inter-group status and task-relevance was no longer significant, $\gamma = 0.18$, $SE = 0.11$, $p = 0.107$, while the task-relevance \times intra-group status concern interaction remained significant, $\gamma = 0.21$, $SE = 0.06$, $p = 0.001$. These results show that task-relevance moderated the link between intra-group status concern and competitive behavior. The second-stage moderated mediation analysis further revealed that, when the task was described as group status-relevant, the effect of group status on cooperative behavior was mediated by the intra-group status concern, conditional indirect effect = 0.09, $SE = 0.06$, 95% CI excluding zero [0.01, 0.25], Fig. 5b.

4.2.2.4. Effects on collective process and outcome.

Finally, we examined the collective-level process and outcome implications of inter-group status (Table 6). Specifically, we predicted that when a task's relevance to the group's status is ambiguous, members of high-status groups would exhibit less cooperative collective process than members of low-status groups (Hypothesis 5a). In contrast, when a task is clearly relevant to the group's status, members of high-status groups would display more cooperative collective process than members of low-status groups (Hypothesis 5b). A regression analysis on the coded information exchange (log-transformed) revealed a significant group status \times task-relevance interaction, $b = 0.18$, $SE = 0.07$, $p = 0.009$, Fig. 6a. Specifically, when the task's relevance to group status was ambiguous, participants in the High-status Group condition exchanged information significantly less than participants in the Low-status Group condition, $t(56) = 2.28$, $p = 0.027$. In contrast, when the task was clearly relevant to group status, participants in the High-status Group condition exchanged information marginally more than participants in the Low-status Group condition, $t(56) = 1.89$, $p = 0.064$. In addition, planned contrasts that included the data from the Control condition showed that participants in the High-status Group – Ambiguous Relevance condition exchanged information marginally less than participants in the Control condition, $t(70) = 1.94$, $p = 0.057$, but the amount of information exchanged among participants in the High-status Group –

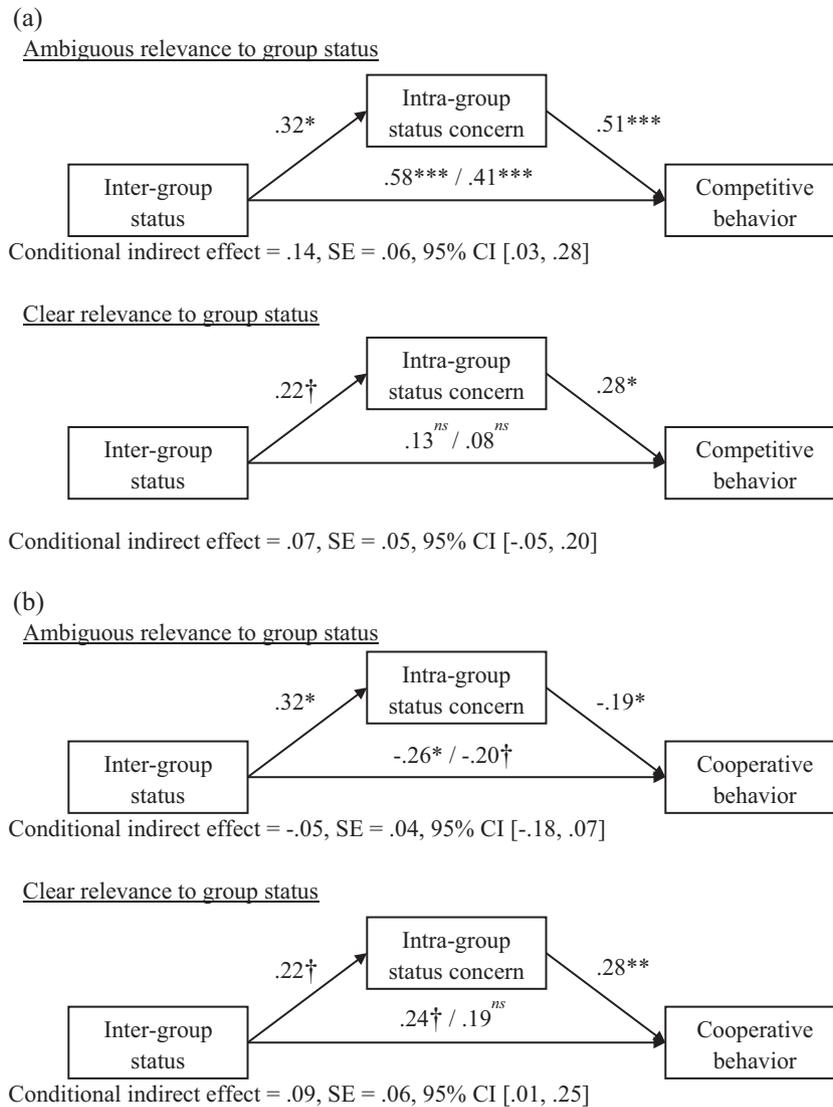


Fig. 5. Moderated path analysis for (a) competitive behavior and (b) cooperative behavior (Experiment 2). Entries are unstandardized path coefficients. For inter-group status, high group status was coded 1 and low group status was coded -1. † $p < 0.10$; * $p < 0.05$; †† $p < 0.01$; ††† $p < 0.001$.

Clear Relevance condition and in the Control condition did not differ significantly, $t(70) = 0.90, p = 0.370$.²

Hypotheses 6a and 6b stated that high inter-group status could both benefit and impair collective outcome depending on the group status-relevance of task, and that the effect of inter-group status would be mediated by levels of cooperative collective process. To test these predictions, we first regressed collective outcome on inter-group status, task-relevance, and the interaction between the two. This analysis revealed a significant group sta-

Table 6
OLS results for collective-level predictions (Experiment 2).

Variable	Information exchange	Collective outcome	
	Model 1	Model 2	Model 3
Inter-group status	-0.04	-0.01	-0.01
Task-relevance	0.10	0.01	-0.01
Group status × Task-relevance	0.18**	0.03*	0.01
Information exchange			0.13***
R ²	0.15*	0.10*	0.45***
ΔR ²			0.35***

Note. $N = 60$. Entries are unstandardized regression coefficients. For inter-group status, high group status was coded 1 and low group status was coded -1. For task-relevance to group status, clear relevance was coded 1 and ambiguous relevance was coded -1. Both information exchange and collective outcome were log-transformed.

† $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

tus × task-relevance interaction only, $b = 0.03, SE = 0.01, p = 0.034$, Fig. 6b. Specifically, participants in the High-status Group condition achieved significantly lower collective outcomes

² We also examined how well our coded information exchange represented participants' self-reports of competitive and cooperative behavior. Specifically, we averaged self-reports of competitive behavior ($ICC(1) = 0.16, ICC(2) = 0.37, p = 0.010$, median $r_{wg} = 0.83$) and cooperative behavior ($ICC(1) = 0.30, ICC(2) = 0.56, p < 0.001$, median $r_{wg} = 0.89$), and correlated these aggregated measures with the coded information exchange. The coded information exchange was significantly negatively correlated with the group average of individual competitive behavior ($r = -0.24, p = 0.040$) and significantly positively correlated with the group average of individual cooperative behavior ($r = 0.44, p < 0.001$). These correlations suggest that our measure of cooperative collective process (information exchange) is more reflective of cooperative individual behavior than competitive individual behavior, the magnitudes of correlation coefficient differing marginally significantly, $t = 1.62, p = 0.097$. The group level averages of competitive behavior and cooperative behavior were negatively and significantly correlated ($r = -0.37, p = 0.001$).

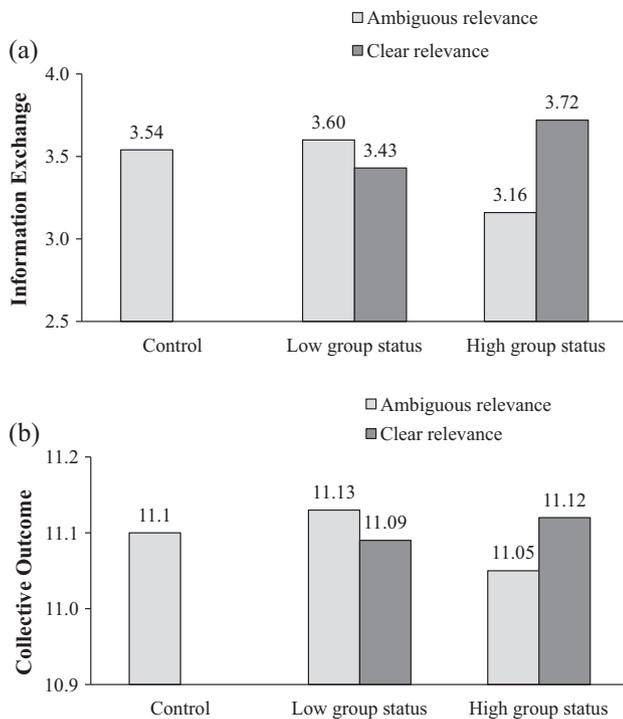


Fig. 6. Effects of inter-group status and task-relevance to group status on (a) information exchange and (b) collective outcome (log-transformed, Experiment 2).

than those in the Low-status Group condition when the task was not clearly related to group status, $t(56) = 2.02$, $p = 0.049$. However, when the task was clearly group status-relevant, collective outcomes in the High- and Low-status Group conditions did not differ significantly, $t(56) = 1.05$, $p = 0.297$. Planned contrasts including the data from the Control condition did not reveal any significant difference in collective outcomes between teams in the Control condition and the other four experimental conditions, $ps > 0.10$.

Furthermore, when our predicted mediator (information exchange) was added to the model predicting collective outcome, the previously significant group status \times task-relevance interaction was no longer significant, $b = 0.01$, $SE = 0.01$, $p = 0.571$, whereas information exchange was a significant predictor of collective outcome, $b = 0.13$, $SE = 0.02$, $p < 0.001$. The analyses of conditional indirect effects of inter-group status using 10,000 bias-corrected bootstrap samples showed that, when the task was ambiguously relevant to the group's status, high inter-group status impaired collective outcome via decreased information exchange, conditional indirect effect = -0.03 , $SE = 0.02$, 95% CI [-0.07 , -0.01], providing empirical support for our Hypothesis 6a. In contrast, when the task was clearly relevant to the group's status, high inter-group status improved collective outcome via increased information exchange, conditional indirect effect = 0.02 , $SE = 0.01$, 95% CI [0.00 , 0.05], thus supporting Hypothesis 6b.

4.3. Discussion

In Experiment 2, we examined participants' actual behavior during a face-to-face collective decision-making task, and found that inter-group status affected member behavior by influencing their concern for intra-group status. Experiment 2 provided additional evidence that competitive behavior is tempered and cooperative behavior is promoted by making concern about inter-group status and collective objectives more salient by informing members of the relevance of the task to the group's status. In addition, by using a behavioral measure of information exchange and exam-

ining standardized collective outcomes, we further showed that high inter-group status can sometimes harm overall collective outcomes. Specifically, we found that high inter-group status, and the subsequent increase in group members' concern about their intra-group status, can cause disruptive member interactions and thus impair collective outcomes if group members do not also keep the group's outcomes in mind.

One thing to note is that our measure of competitive behavior in Experiment 2 differed somewhat from that of Experiment 1, in that the former captured participants' unwillingness to share information due to a desire not to be exploited by others, whereas the latter assessed participants' proactive attempt to obstruct others by withholding or giving misleading information. We did this because we see both behaviors as tactics that individuals can use to manage their status, driven by competitive motivation (Steinel, Utz, & Koning, 2010). Moreover, despite this difference in measurement, we found identical patterns of results across experiments, which suggests that how group members use their information strategically can be a manifestation of how they compete with one another for status.

5. General discussion

In the present work, we examined the possibility that inter-group status exerts effects on how group members pursue status within the group. Our contention is that membership in a high-status group leads group members to be more concerned about their intra-group standing than membership in a low-status group, and to therefore engage in behaviors designed to manage their intra-group status. Importantly, we argued that whether group members' desire for status manifested through competitive and cooperative intra-group behavior depends on whether the task at hand is relevant to the group's status. Supporting these arguments, we found that participants in the high inter-group status conditions reported that they were more concerned with their intra-group status than participants in the low inter-group status conditions. And, as predicted, the way this status concern manifested via competitive and cooperative intra-group behavior varied depending on the relevance of the task to the group's status. Specifically, participants in the high inter-group status conditions working on a task whose relevance to the group's status was ambiguous were more willing to and actually engaged in more competitive behavior because of their concern for intra-group status. In contrast, participants in the high inter-group status conditions working on an inter-group status-relevant task were more willing to and actually engaged in more cooperative behavior, also because of their concern for intra-group status. Experiment 2 further showed that these behaviors associated with status pursuit within groups could harm a high-status group's collective outcomes when the task was not seen as relevant to the group's status.

5.1. Theoretical implications

The desire for status manifests itself at both intra- and inter-group levels: the desire to be a respected member of a group to which one belongs, and the desire to be a member of a respected group. Although these aspects of desire for status are inherently related, they have been studied separately in research on intra-group processes and inter-group relations. The primary objective of the present research is to integrate these literatures and examine when desires for intra- and inter-group status might or might not co-occur, and how they affect group member behavior. We found that members of high-status groups had stronger desires for intra-group status than members of low-status groups, and that the intra-group behavior of members in high-status groups was

more strongly guided by the desire for intra-group status than that of members in low-status groups. These findings, in and of themselves, are not surprising in light of prior work that has shown that securing intra-group status can be more important to those who have already satisfied the desire for inter-group status than those who have not (Branscombe, Spears, Ellemers, & Doosje, 2002). However, our findings specify how these energies will be manifested; we also found that when the desire for inter-group status becomes imperative, that is, when the importance of ensuring successful collective outcomes to maintain the group's status was highlighted, members of high-status groups tried to manage their intra-group status in ways that could accommodate their status concern at both intra- and inter-group levels.

The present work also sheds light on when and why status striving will manifest itself through competitive versus cooperative behavior. Research on status striving has produced contradicting sets of results. On the one hand, status striving can lead to destructive member behavior, with status-concerned members discounting others' deservingness of status or even harming others (Bendersky & Hays, 2012; Charness et al., 2014; Menon & Pfeffer, 2003). On the other hand, group members seek intra-group status through making visible contributions to the group by acting cooperatively, such as helping others and making sacrifices for others (Flynn et al., 2006; Hardy & Van Vugt, 2006; Willer, 2009). We have argued that the concern for inter-group status can affect expectations of potential status rewards, such that competitive behavior is anticipated to be sanctioned more strongly and cooperative behavior is anticipated to be rewarded more handsomely when the group's status is potentially at stake, and that these expectations can determine how group members pursue intra-group status. Consistent with our arguments, we found that status-concerned group members engaged in competitive behavior unless the task's relevance to group status was made clear. However, when it was made clear that the task was relevant to the group's status, group members pursued intra-group status in ways that could help the group maintain its status – by engaging in cooperative behavior and by refraining from competitive behavior. In this way, the present work reconciles the conflicting findings regarding the behavioral manifestations of status-striving by incorporating the idea that one determinant of how group members seek intra-group status is how members expect their behavior to yield status rewards (and punishments) in a given context.

At a broader level, our findings suggest potential mechanisms through which inter-group status might be sustained or changed. Specifically, that negotiating teams who believed that they were part of a high-status university performed worse when it was ambiguous whether the task was relevant to the university's status (Experiment 2) implies that it is possible for high-status groups to lose their status because their members do not expend their efforts in a way that maximize group outcomes. This finding complements studies of social stratification and social inequality, which have typically focused on how and when less privileged or low-status groups will mobilize resources within the group to initiate status and societal change (Ellemers & Barreto, 2000). Our work shows that hierarchy change can come not only from subordinate groups agitating for social change, but also from dominant groups performing worse, thereby losing the legitimacy of their dominance.

It is important to note that participants in general appear to regard collective tasks as being relevant to their group's status (the means of the status-relevance of task manipulation checks were significantly higher than the scale mid-point), even when such information is not explicitly provided. Thus, it appears that group members may see most tasks as relevant to the group's status, indicating that although status is conceptually domain-specific, individuals may look at the world through status-tinted lenses, seeing all things, whether legitimately or not, as being

status-relevant. In this way, status may be akin to power, which has been thought of as a mindset, even though it too is generally considered domain-specific (Galinsky, Gruenfeld, & Magee, 2003). If this is true, the tendency to see all tasks as relevant to the group's status and its attendant positive effect on high-status groups' performance may underlie some of the robustness of inter-group status differences (Sidanius & Pratto, 1999).

5.2. Limitations and directions for future research

We set out to explore the potential influence of inter-group status on members' desire for intra-group status and behavior. In doing so, our focus was on the experience of high inter-group status based on the theoretical reasons explained above. This emphasis on high inter-group status means neither that members of low-status groups do not experience potential conflicts between desires for inter- and intra-group status, nor that the experience of low-status groups is of lesser importance. In fact, research in the social identity tradition has focused predominantly on the experience of low-status groups, examining potential conflicts between personal and collective interests, and how various structural factors resolve or exacerbate such conflicts of interest (Ellemers, 1993; Ellemers & Barreto, 2000). Future work building on our findings should thus further explore whether these structural factors, such as the stability of inter-group status differences and the permeability of group boundaries, might have the same or differential effects on high-status groups as their effects on low-status groups. For example, unstable inter-group status could promote cooperative intra-group behavior among members of high-status groups by highlighting the desire for inter-group status, just as it promotes cooperative behavior among members of low-status groups (Ellemers, 1993). In contrast, unlike members of low-status groups, who tend to respond to the realistic prospect of changing their group membership (i.e., high boundary permeability) with competitive intra-group behavior (Seta & Seta, 1996), members of high-status groups might primarily engage in cooperative behavior in order to raise the threshold for entry to the group, thus reducing the chances for members of low-status groups to enter.

Relatedly, members of low-status groups neither seemed to care much about collective status improvement nor increased cooperative behavior when the task was not clearly relevant to the inter-group status difference. At first blush, these might appear at odds with prior research showing that members of low-status groups seek superiority in status-irrelevant domains to maintain their positive group identity (i.e., social creativity, Oldmeadow & Fiske, 2010; Tajfel & Turner, 1986). However, we do not believe that our findings are inconsistent with this argument since participants in the low-status group – ambiguous relevance conditions in our experiments were not provided with alternative comparative dimensions on which they might seek collective improvement. Instead, our findings suggest that for members of low-status groups to expend collective-oriented effort, they might need more explicit information about alternative dimensions on which they can claim superiority.

We should also note some observations about the low-status groups in the present research. Specifically, we did not observe any meaningful statistical effects among participants in the low-status group conditions across experiments. This may be partly due to our low inter-group status manipulation failing to induce a sense of being part of a low-status group. The results of our inter-group status manipulation checks suggest this might have been the case: participants in the low-status group condition in Experiment 1 did not perceive the group's status to be significantly lower than the scale mid-point and participants in the low-status group condition in Experiment 2 actually perceived their university's status to be significantly higher than the scale mid-point.

In addition, participants in the low-status group condition in Experiment 2 perceived their university's status to be only marginally significantly lower than participants in the control condition. These results suggest that although our inter-group status manipulations were effective enough to elicit the perception of high(er) group status, they might not have been strong enough to lead participants to feel they were part of a low-status university. Alternatively, these results might reflect the effectiveness of psychological mechanisms designed to defend individuals' positive group-esteem, in that people tend to discount unfavorable inter-group comparison on particular comparative dimensions in an effort to maintain a positive image of the group (Bettencourt et al., 2001; Ellemers et al., 1992; Elsbach & Kramer, 1996). In addition, concern for intra-group status was quite high, even for participants in the low-status group conditions. This may not be too surprising, given that the desire for status is often considered a fundamental human motive (Anderson et al., 2015). In fact, this might explain the lack of significant differences between the low-status group and control conditions, in addition to the above-mentioned issue of inducing low inter-group status. In this regard, the present findings mirror work on members of stigmatized groups, who often do not experience lower self-esteem, even though they are members of low-status groups (Crocker & Major, 1989; Gray-Little & Hafsdahl, 2000). Indeed, members of low-status groups will sometimes be even more identified with the group than members of high-status groups (Brewer, Manzi, & Shaw, 1993). Thus, members of low-status groups need not be disidentified from the group; in the present case, it may be that because our student population questioned their group's (relatively) low status, they still cared about their relative standing within the group itself.

Finally, we want to note that it has been our contention that the extent to which the group's task is perceived to be relevant to the group's status determines how status-concerned group members behave toward other in-group members. This occurs because the group status-relevance of the task, and subsequent increase in the importance of the group's collective achievements, will affect group members' expectations of social rewards and sanctions following cooperative and competitive behavior, respectively. However, we did not directly measure the reward – punishment expectations of group members. Future work may thus benefit from assessing how expectations about status rewards and sanctions shape status-seeking members' behavior, and perhaps more importantly, under what circumstances will members' expectations of rewards and sanctions be altered.

With a primary focus on the effects of high inter-group status, we did not explicitly consider the roles of factors that give rise to intra-group differentiation, such as rankings, formal positions, status, and power. However, we still expect that the general pattern of findings will remain after considering the within-group status-positions of group members. We would expect that high-status members of high-status groups will still experience higher level of status concern, as compared to high-status members of low-status groups. Moreover, we would expect low-status members of high-status groups to still experience higher levels of intra-group status concern than low-status members of low-status groups. However, this remains an open empirical question and we look forward to future work that adds on the layer of complexity of within-group status to the interplay of inter- and intra-group status striving.

5.3. Conclusion

It's good to be on top. Being a member of a prestigious social collective is both psychologically and materially rewarding, and can lead to group-serving behavior, such as complying with the group's rules and norms and speaking well of the collective to out-

siders (Dukerich, Golden, & Shortell, 2002; Tyler & Blader, 2002). However, the very fact that people understand themselves to be part of a high-status collective can also lead members to want status within the group. These desires, ironically, may engender competitive, group-harming behavior. What this means, practically speaking, is that managers need to be cautious as to how their workers understand their group's inter-group standing, lest the status concern of their workers develop into destructive process. To enhance the effectiveness of their work teams, managers can guide these status-oriented energies by underscoring the importance of collective success or by highlighting the possibility that their group's status can be renegotiated and lost.

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