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## Self-improvement and cooperation: How exchange relationships promote mastery-approach driven individuals' job outcomes

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In the present research we argue that mastery-approach goals may be beneficial in social achievement contexts because these goals lead to constructive exchange relationship building. An examination of three methodologically complementary studies revealed that mastery-approach goals lead to more cooperative and higher-quality exchange relationships than performance-approach goals and are, ultimately, associated with better job outcomes, as well. The results of a questionnaire study demonstrated that mastery-approach goals are more strongly related to cooperative motives and more weakly related to competitive motives than performance-approach goals. Furthermore, an experimental study indicated that mastery-approach driven individuals show a higher concern for others and are more strongly inclined to cooperate with an exchange partner when engaged in a complex reasoning task than performance-approach driven individuals. Finally, an organizational field study showed that team–member exchange mediates the effect of mastery-approach goals on job performance, job satisfaction, and organizational commitment.

**Keywords:** Achievement goals; Collaboration; Exchange relationships; Job outcomes; Social motives.

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An important question in organizations is what makes employees effective in their jobs. A person's motivation to perform well is widely regarded as a key factor that promotes such task-related success (Atkinson, 1964; McClelland, 1951). However, given that most jobs are not solitary endeavors but are performed within the exchange context and within the inherently social structure of the organization, it is likely that employees will interact with constituents in their environment when striving for their work-related goals (Wageman, 1995). Specifically, individuals are likely to strive to establish constructive exchange relationships with their coworkers when they perceive their coworkers as aids. In contrast, individuals are unlikely to actively strive for fruitful exchange relationships with their coworkers when they perceive their coworkers as rivals. In this article we argue and demonstrate that different types of achievement motivation may affect the quality of exchange relationships with others. In turn, these relationships may offer important explanations as to why some individuals strive for cooperation, perform well on important aspects of their jobs, experience job satisfaction, and are committed to the organization.

### THE SOCIAL DYNAMICS OF ACHIEVEMENT MOTIVATION

The most dominant theoretical framework within the achievement motivation literature focuses on achievement goals (e.g., DeShon & Gillespie, 2005; Elliot, 2005). Achievement goals reflect the purpose of an individual's achievement pursuits in a particular situation (Harackiewicz & Sansone, 1991). The achievement goal literature typically distinguishes between two types of goals: performance goals and mastery goals. Performance goals focus on *interpersonal* standards of competence and mastery goals focus on *intrapersonal* standards of competence (Dweck, 1986; Nicholls, 1984). That is, people who pursue performance goals tend to compare their performances with those of others in order to monitor their progress towards the desired outcome, thereby developing an other-referenced focus. In contrast, individuals who pursue mastery goals compare their present performances predominantly with their previous performances, and consequently develop a self-referenced focus on outcomes in achievement situations. Performance goals and mastery goals can be directed at positive or desirable events or at avoiding negative and undesirable events, that is, they can be approach or avoidance goals (Elliot & McGregor, 2001). Accordingly, *mastery-approach goals* reflect the desire to do better than one has done before, whereas *performance-approach goals* reflect the desire to do better than others. Likewise, *mastery-avoidance goals* reflect the desire to avoid doing worse than one has done before, whereas *performance-avoidance goals* reflect the desire to avoid doing worse than others. In this article we focus on the two

most developed goals in the literature, namely mastery-approach goals and performance-approach goals.

Research has indicated that achievement goals may operate at different motivational levels. Nicholls (1984) and Dweck (1986) established in their classical works that individuals differ in the way in which they pursue achievement goals. As such, achievement goals may reflect rather stable personality characteristics. However, there is growing evidence to suggest that features of the situation or the organizational climate may trigger different achievement goals. Thus, achievement goals may act as temporal and situation-specific drives, and individuals may endorse different levels of achievement goals over time (Button, Mathieu, & Zajac, 1996; DeShon & Gillespie, 2005; Elliot & McGregor, 2001; Payne, Youngcourt, & Beaubien, 2007; Yeo, Loft, Xiao, & Kiewitz, 2009). Accordingly, in the current article we conceptualize achievement goals as context-specific aims that are evoked by the particular context at hand. Clearly, the stability of achievement goals has considerable consequences for how achievement goals need to be measured and operationalized in organizational research. Furthermore, viewing achievement goals as cognitive representations that may change has considerable implications for organizational practice: Selection and assessment, but also training programmes and goal setting, are predominantly developed from basic premises about whether (and how) personal characteristics, such as achievement goals, can be changed or not.

An important agenda in the achievement motivation research concerned with the context dependency of achievement goals is the identification of the goals that seems most effective in different contexts and the promotion of those goals in corresponding achievement situations (e.g., Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Fryer & Elliot, 2008; Midgley, Kaplan, & Middleton, 2001; Payne et al., 2007). However, the question concerning which goal is most constructive in achievement contexts remains difficult to answer. Traditionally, the vast majority of achievement goal studies has focused on individual performance as an outcome measure. Many of these studies found performance goals to be associated with better individual performance than mastery goals, whereas the latter showed a stronger relationship with intrinsic motivation (e.g., Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Skaalvik, 1997). However, in recent years, cumulating evidence has shown that mastery goals are actually more beneficial for individual performance outcomes. For instance, a meta-analysis by Payne and colleagues (2007) found performance goals to be unrelated to individual performance measures, whereas mastery goals were generally positively related to these outcomes. Also, a recent meta-analysis by Hulleman, Schragar, Bodmann,

and Harackiewicz (2010) found mastery-approach goals more strongly related to performance outcomes than performance-approach goals.<sup>1</sup> An important explanation for these somewhat contradictory findings may be that the interpersonal context of many achievement situations has been largely neglected. In this article, we aim at filling this void and propose that interpersonal processes may importantly explain task-related outcomes on the individual level.

As achievement goals are often pursued in social exchange situations (e.g., work teams, student groups, sports teams), the interpersonal dynamics of these situations may arguably color the effects of achievement goals on performance. Therefore, in order to advance a more complete understanding of the effects of achievement goals, the interpersonal dynamics resulting from achievement goals will be taken into account in the present series of studies. An examination of the patterns of interpersonal behaviours stemming from mastery-approach and performance-approach goals is important from both a theoretical and a practical perspective. It is possible that knowledge of some highly characteristic patterns of cognition and action resulting from mastery-approach and performance-approach goals pursued in interpersonal achievement situations might have remained incomplete as a result of the dominant focus on individual outcomes of previous research. By also taking into account interpersonal processes we aim to gain a more comprehensive understanding of how achievement motivations may influence relevant work outcomes.

To date, only a few organizational studies have focused on interpersonal behaviour in relation to achievement goals. In their work on leader-member exchange, Janssen and Van Yperen (2004) showed that subordinates' performance-approach goals were negatively related, and subordinates' mastery-approach goals were positively related, to the perceived quality of the exchange relationships between supervisors and subordinates. A finding by LePine (2005) indicated that teams working together on a complex task composed of high performance goal individuals were less likely to adapt to unforeseen changes than teams with high mastery goal individuals. Furthermore, compared to performance goals, mastery goals were more strongly related to backing up behaviour, the provision of resources and efforts to help team members who are apparently failing to perform well (Porter, 2005). Finally, Poortvliet and colleagues (Poortvliet, Janssen, Van

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<sup>1</sup>A complicating factor in this regard is that quite different operationalizations of achievement goals have been adopted by scholars throughout the achievement goal literature (e.g., Elliot & Murayama, 2008). Consequently, the specific way in which achievement goals have been assessed in research moderates the strength of specific achievement goal-performance outcome relationships (Hulleman et al., 2010).

Yperen, & Van de Vliert, 2007) have shown that mastery-approach goals give rise to a stronger reciprocity orientation and a weaker exploitation orientation than performance-approach goals. In turn, these exchange orientations encourage mastery-approach driven individuals to provide exchange partners with better task-related information than performance-approach goal individuals do.

Similarly, recent research in educational psychology and sport psychology suggests that performance goals are less constructive for social relationships than mastery goals. Darnon and her colleagues, for instance, found that when students have different task-related solutions, performance-approach goal individuals regulate such a conflict in a relational manner, that is, by insisting that they are right and the other is wrong. On the other hand, mastery-approach goal individuals try to find out whether both points of view can be integrated into a joint solution (Darnon, Muller, Schragar, Pannuzzo, & Butera, 2006). Another study showed that performance goals are associated with lower levels of social-moral functioning, less sports-personship, and more undesirable perceptions of team norms, than are mastery goals (Ommundsen, Roberts, Lemyre, & Treasure, 2003).

Thus, trying to outperform others (i.e., pursuing performance-approach goals) versus trying to improve one's own previous performance (i.e., pursuing mastery-approach goals) may importantly affect how people behave in social exchange situations. Indeed, previous studies generally indicate that performance-approach goals are less constructive in such social situations than mastery-approach goals (e.g., Darnon et al., 2006). However, to date, the underlying process that may explain *how* different achievement goals may give rise to different interpersonal dynamics and concomitant outcomes has remained largely unexplored.

### PERSPECTIVES ON INTERDEPENDENCE

People with different achievement goals have different foci (striving for self-improvement vs. striving to outperform others) and will presumably also have distinct perceptual-cognitive frameworks with which they approach others and construct exchanges with them (Poortvliet et al., 2007). Interdependence theory (e.g., Kelley & Thibaut, 1978) and related theories stemming from a social exchange perspective (Blau, 1964; Emerson, 1962) consider dependence as the central facet of relationships. Within this framework, dependence is based upon an individual's need to maintain a relationship with the other in order to achieve his or her own goals. Following such a perspective, one might jump to the conclusion that individuals with mastery-approach goals perceive low interdependence with others because they reach their goal when they improve their individual performance regardless of the others' performance. However,

social exchanges can serve as an important means by which mastery-approach driven individuals can reach their individual goal of self-improvement. Therefore, mastery-approach goal individuals may in fact perceive positive interdependence with others (Deutsch, 1949; Johnson & Johnson, 1989).

In contrast, individuals with performance-approach goals may experience negative interdependence with coworkers because they reach their goal when they outperform the other. Such a negative interdependence will likely lead to a reduced willingness to coordinate efforts with potential exchange partners, a dependence on the actions of others, and a reduced readiness to be influenced by exchange. Given that mastery-approach and performance-approach individuals will presumably develop different perspectives on interdependence, people with different achievement goals may arguably have different preferences for their own outcomes, as well as the outcomes of others. These differences in outcome preferences are typically addressed by social motives theory.

Social motives—sometimes also called social value orientations (Messick & McClintock, 1968)—usually refer to choices people make in interpersonal situations which reflect preferences for distributions of outcomes between oneself and the interdependent other (McClintock, 1977). Although an infinite number of social motives may be distinguished, three motives are regarded as particularly dominant: Actors can be oriented towards maximizing the payoffs for both themselves and others (cooperative motive), maximizing their own payoff relative to the other's payoff (competitive motive), or maximizing their own payoff (individualistic motive). The question as to which specific motives are evoked by different achievement goals is of particular relevance for the current investigation. One may incorrectly assume that mastery-approach goals, given the fact that these goals are at heart purely individualistic (trying to improve one's *own* performance), will give rise to making individualistic choices. However, we posit that the strong focus on self-improvement will drive mastery-approach goal individuals to cooperate with exchange partners in social exchange situations. Such exchanges may be pursued for instrumental purposes: to obtain additional skills and know-how that can aid in improving one's own performance. In contrast, it is not in the interest of performance-approach goal individuals to seek cooperation, given their ultimate aim to outperform others. Clearly, performance-approach goals will give rise to a stronger competitive motive. We therefore expected mastery-approach individuals to be more strongly inclined to make cooperative choices (Hypothesis 1), and less inclined to make competitive choices (Hypothesis 2) than performance-approach individuals. Because we can assume that individuals with both types of achievement goals share a concern for



their own outcomes, we did not expect these goals to differ with regard to making individualistic choices (Hypothesis 3).

So, both individuals with mastery-approach goals and those with performance-approach goals likely have a high concern for their own outcomes as both need to obtain valuable outcomes from the social exchange process to meet both kinds of achievement goals. However, the concern for the other parties' outcomes will likely differ substantially. Individuals with a mastery-approach goal will presumably develop a greater concern for others than individuals with a performance-approach goal, because, drawing from the reciprocity principle, a person acting in a benevolent manner in social exchanges will likely be treated similarly by others in return (Poortvliet et al., 2007). This benevolence from others may, in turn, serve to improve the mastery-approach driven individuals' task performance. In contrast, the inherent focus on outperforming others in a performance-approach goal will be associated with a low concern for others' outcomes. We therefore posited that actors with performance-approach goals will have a lower concern for others' outcomes than actors with mastery-approach goals (Hypothesis 4). Having a greater concern for others may nevertheless be self-serving, because task-related exchange may aid in obtaining useful task-related information and promote self-improvement, which may then ultimately lead to positive job outcomes (cf. Hertel, Konradt, & Orlikowski, 2004). A greater concern for others may explain why mastery-approach driven individuals are more willing to cooperate with potential exchange partners than performance-approach goal individuals. We therefore also expected that individuals with mastery-approach goals would be more inclined to cooperate with a potential exchange partner than individuals with performance-approach goals (Hypothesis 5), and that this effect would be mediated by a greater concern for others (Hypothesis 6).

## OVERVIEW OF STUDIES

The present research is comprised of three studies designed to investigate the relationship between achievement goals and perceptions of exchange relationships in social contexts. To improve upon the generalizability of our findings and to avoid mono-operation bias, we conducted three studies that differ with regard to how achievement goals are operationalized, the type of sample that was used, and the way perceptions of exchange relationships were assessed. In the first two studies we tested Hypotheses 1–6. In Study 1 we investigated whether individuals with dominant mastery-approach goals and dominant performance-approach goals differ systematically with regard to making cooperative and competitive choices. Then, in Study 2, we sought to demonstrate that

these two achievement goals have distinct effects on the willingness to cooperate with a potential exchange partner on a complex task, and that differences in the concern for others' outcomes could account for these effects. Study 3, which we will present after discussing the findings of the first two studies, builds upon the previous two studies in three ways. In the first two studies, we focus on showing that achievement goals systematically covary with preferences for different exchange relationships with others. In the third study, we transfer our research to an organizational setting and investigate whether employees systematically differ in the quality of the established exchange relationships with their colleagues based on their respective levels of achievement goals. Second, we take into account the relative intensity of individuals' goal striving by measuring achievement goals, thereby acknowledging the fact that people often pursue multiple achievement goals. Third, we examine whether exchange relationships between coworkers may actually serve as an explanatory mechanism that predicts three important job outcomes: job performance, job satisfaction, and organizational commitment.

## STUDY 1

### Method

#### *Participants and procedure*

Two hundred and thirty students were approached at a university sports centre and asked to fill out an online questionnaire at a later point in time. All respondents played a team sport (e.g., basketball, volleyball, soccer). Of the 230 students who received the questionnaire by email, 126 responded by providing reports of their achievement goals and the cooperative, individualistic, and competitive choices they made. The percentage of men in the sample was 61.1% ( $M_{age} = 22.63$ ,  $SD_{age} = 3.16$ ).

#### *Measures*

*Achievement goals.* The individual's dominant achievement goal was assessed by means of a six-item, round robin, forced-choice measure (Van Yperen, 2006). In this measure, each achievement goal from Elliot and McGregor's (2001)  $2 \times 2$  framework is contrasted in a pairwise fashion with the other three achievement goals. If a particular achievement goal is consistently preferred by the participant, that is, if it is chosen in each of the three contrasts between it and another achievement goal, then it is considered to be the individual's dominant goal. If participants do not consistently prefer a particular goal (because they do not have one or

because they respond to the six items randomly), it is assumed that they do not have a dominant achievement goal. In this study, 92.9% ( $n=117$ ) of the participants were found to have a dominant achievement goal (i.e., they consistently preferred one particular goal). For a minority, a performance-approach goal was the dominant achievement goal (10.3%) and for 8.7% of the participants, the dominant achievement goal was a performance-avoidance goal. For most participants, a mastery goal was the dominant achievement goal, either a mastery-approach (51.6%) or a mastery-avoidance goal (22.2%). The division of dominant achievement goals that we found in this study is comparable with earlier research (Van Yperen, 2006). Because we focus in the current article on the approach forms of achievement goal regulation, we included for further analysis only those participants who had either a mastery-approach goal or a performance-approach goal ( $n=78$ ). There was no gender difference in goal choice,  $\chi^2(4, N=126)=3.88, ns$ .

*Social motives.* Participants' cooperative, competitive, and individualistic choices were assessed with the nine-item decomposed game measure (for details see Van Lange, Otten, De Bruin, & Joireman, 1997). Participants were asked to decide nine times how they wanted to split up points between themselves and another person. The other was said to be someone that they did not know and that they would never knowingly meet in the future so as to examine participants' general tendencies towards others. Outcomes were presented in terms of points, and participants were asked to imagine that the points had value to themselves as well as to the other person.

An example of a decomposed game is the choice among three options; Option A: 480 points for self and 480 points for other; Option B: 480 points for self and 80 points for other; and Option C: 540 points for self and 280 points for other. In this example, Option A represents the cooperative choice because it yields the greatest joint outcomes ( $480 + 480 = 960$ ), as well as the smallest absolute difference between outcomes for self and other ( $480 - 480 = 0$  points). Option B represents the competitive choice, because it yields the greatest outcomes for self relative to the other ( $480 - 80 = 400$  points), and Option C represents the individualistic choice, because it yields the greatest absolute outcomes for self (540 points).

Thus, in each decision, participants had the choice between a cooperative option (i.e., maximizing joint outcomes), a competitive option (i.e., maximizing relative differences), and an individualistic option (i.e., maximizing own outcomes). We calculated the number of cooperative, competitive, and individualistic choices that each participant made, respectively.

TABLE 1

Means and standard deviations of number of cooperative, competitive, and individualistic choices in the decomposed game measure as a function of dominant achievement goal (Study 1)

Choice type	Dominant achievement goal			
	Mastery approach ( <i>n</i> = 65)		Performance approach ( <i>n</i> = 13)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cooperative	4.98	3.28	2.77	3.70
Competitive	1.12	1.32	4.00	3.49
Individualistic	2.78	3.35	2.23	2.86

## Results

The means and standard deviations of the number of cooperative, competitive, and individualistic choices that participants made are displayed in Table 1.<sup>2</sup> A multivariate analysis of variance (MANOVA) on the number of cooperative, competitive, and individualistic choices that participants made indicated the expected main effect of the dominant achievement goal at both the multivariate level and the univariate levels: multivariate,  $F(3, 74) = 8.92, p < .001, \eta_p^2 = .27$ ; for the number of cooperative choices,  $F(1, 76) = 4.75, p = .03, \eta_p^2 = .06$ ; for the number of competitive choices,  $F(1, 76) = 26.51, p < .001, \eta_p^2 = .26$ . We did not find a difference for the number of individualistic choices,  $F(1, 76) = 3.32, ns, \eta_p^2 = .00$ . In line with Hypotheses 1 and 2, respectively, participants who had a dominant mastery-approach goal made more cooperative choices and less competitive choices relative to participants with a dominant performance-approach goal. Furthermore, in line with Hypothesis 3, participants with a dominant mastery-approach goal did not differ with regard to making individualistic choices compared to participants with a dominant performance-approach goal.

## STUDY 2

The results of Study 1 give grounds for the assertion that different dominant achievement goals are associated with differences in making

<sup>2</sup>In Study 1, we also checked whether gender had main effects, or interacted with dominant achievement goals on the number of cooperative, competitive, and individualistic choices that were made, but this was not the case.

cooperative and competitive choices in social situations, but not with making different individualistic choices, as the first three hypotheses predicted. However, one drawback of the procedure used was that the number of participants that had mastery-approach goals and performance-approach goals was not equal. Another limitation of Study 1 was its correlational character. In Study 2, we therefore sought to experimentally extend these results in a controlled lab setting by assigning achievement goals to participants. In this way, we were able to investigate whether a causal relationship could be established between achievement goals and the extent to which individuals make cooperative choices in a social exchange context. Research by Stapel and Koomen (2005) demonstrated that when people perceive a situation as cooperative, they tend to align themselves with social comparison targets. Conversely, when people perceive a situation to be predominantly competitive, they contrast themselves with the social comparison target. We reason that the particular mind-set created by the social achievement situation will entice mastery-approach goal individuals to opt for task-related cooperation with an exchange partner more strongly than performance-approach goal individuals. It is clear that, because of their goal striving, both mastery-approach goal and performance-approach goal individuals will experience high concern for self. However, because they will likely put different weight on the concern for others dimension, they might respond to such a situation with different levels of cooperation intentions towards an exchange partner (Van de Vliert, 1999).

In Study 2, rather than asking participants to make abstract choices with regard to the division of points, we asked participants to work on a complex reasoning task. After completion of a first task component, the participants were asked to score their concern for their own outcomes on the task and their concern for the outcomes of someone else who was also engaged in the task at hand. In this way, we were able to measure concern for self and others in a more realistic setting than was done in Study 1. Finally, participants were asked to indicate whether they wanted to continue working on the task alone or cooperate with another participant. Obviously, task-related information exchange might be very beneficial or even crucial to improve one's task-related performance. We reasoned that mastery-approach driven individuals would be more interested in cooperation because such joint efforts could result in higher outcomes than if both actors were to work by themselves. By using this approach, we could test our expectation that individuals with an assigned mastery-approach goal would show a greater willingness to cooperate with an exchange partner by exchanging task-relevant information than individuals with a performance-approach goal, and that this effect could be explained by a higher concern for others.

## Method

### *Participants and design*

Thirty-eight undergraduate university students (of whom 44.7% were male<sup>3</sup>;  $M_{age} = 20.55$ ,  $SD_{age} = 2.44$ ) participated in the study and were paid (6 Euros) or received partial course credit for their participation. Participants were randomly assigned to one of the two conditions (mastery-approach goal vs. performance-approach goal). The design was balanced with 19 participants taking part in each condition.

### *Procedure*

Upon arrival at the laboratory, participants were led to a separate cubicle containing a computer with a monitor and a keyboard. Next to the monitor, participants found pieces of paper and a pencil. The participants were told that the computer was connected to the computer network and that it was possible to communicate with others. The computers were used to present the stimulus information and to collect data.

The study started off by presenting an adapted version of the winter survival exercise (WSE; Johnson & Johnson, 2009) to the participants. This exercise consisted of reading a scenario that described a crash landing of a plane in a very cold and desolate area. Both pilots were killed in the crash and the plane was lost. However, the surviving passengers managed to salvage 12 items from the plane (e.g., a hand axe, a compass, a lighter). After reading this scenario, the participants were instructed to think about and write down on a form the possible advantages and disadvantages of each of the 12 items. Then the participants ranked the 12 items in order of their importance for survival on a piece of paper and entered this ranking into the computer.

The interpersonal character of the exercise was introduced by informing the participants that another participant had also carried out this assignment, and that information about the WSE would be exchanged with this other person after which they each had to make a second, definitive ranking of the 12 items. However, the experiment actually stopped after the participants had indicated their intention to cooperate with the other participant.

Then the goal manipulation was introduced. In line with Van Yperen (2003), the following goals were assigned: "Perform better on your second ranking compared to your first ranking" (mastery-approach goal), or

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<sup>3</sup>In Study 2, gender was proportionally distributed among conditions. Gender had no main or interaction effects on the dependent variable and was thus dropped from the analysis.

“perform better on your second ranking compared to the other’s ranking” (performance-approach goal). Next, the participants elaborated on their assigned goal in order to intensify the achievement goal manipulation. Participants were asked to write down their answers to two questions about their thoughts and feelings evoked by the specific goal that was assigned to them (cf. Poortvliet et al., 2007).

After this procedure was explained, the goal manipulation was introduced and questions were asked about concern for own and others’ outcomes. The participants were then instructed about the potential benefits of continuing to work individually versus working together with the other. They were informed that previous research had shown that participants who continue to work individually on the WSE generally improve their performances on the WSE. However, they also read that previous research demonstrated that exchanging information with someone else led to an even better performance on the WSE for both exchange partners. The participants were also informed that working alone versus cooperating with another participant would consume an equal amount of time. Then the participants answered questions about their intentions to cooperate with the other participant. After this, the manipulation check was assessed, the participants were thanked for their participation, and they were thoroughly debriefed.

### *Measures*

*Manipulation check.* The participants were asked to indicate which specific goal had been assigned to them for the exercise. Participants could choose between a mastery-approach goal and a performance-approach goal.

*Concern for self.* This was assessed with four items ( $\alpha = .67$ ) to check for a possible effect on this construct. Illustrative examples of our operationalization of concern for self are the following: “I hope that I can profit from the other’s information” (1 = “strongly disagree”, 7 = “strongly agree”), and “If I could use the other’s information, I would be pleased” (1 = “strongly disagree”, 7 = “strongly agree”).

*Concern for others.* This was assessed with four items ( $\alpha = .75$ ). Illustrative examples of our operationalization of concern for others are the following: “I hope that my information is useful for the other” (1 = “strongly disagree”, 7 = “strongly agree”), and “I couldn’t care less if the other would receive poor information from me” (1 = “strongly disagree”, 7 = “strongly agree”; reverse scored).



*Cooperation intention.* This dependent variable was measured by asking the participants about the extent to which they wanted to exchange task-related information with the other participant (1 = “not at all”, 7 = “very much so”), wanted to cooperate with the other (1 = “not at all”, 7 = “very much so”), and preferred to work together instead of working individually on the task (1 = “not at all”, 7 = “very much so”). These three items were averaged and formed a reliable scale ( $\alpha = .84$ ).

## Results

*Manipulation check.* A chi-square test comparing the observed frequencies of cases with the expected frequencies revealed that the goal manipulation was successful,  $\chi^2(1, N=38) = 27.64, p < .001$ . The achievement goal that was assigned to them was correctly recalled by 92.1% of the participants.

*Concern for self.* An ANOVA showed no significant effect of the achievement goal manipulation on the concern for self measure,  $F(1, 36) = 0.00, ns, \eta_p^2 = .00$ . As expected, participants with mastery-approach goals ( $M = 5.30, SD = 0.86$ ) and with performance-approach goals ( $M = 5.30, SD = 0.87$ ) were not found to differ in the extent to which they valued their own task-related outcomes.

*Concern for others.* An ANOVA did show, however, a significant effect of the achievement goal manipulation on the concern for others measure,  $F(1, 36) = 6.40, p = .02, \eta_p^2 = .15$ . As expected, and in line with Hypothesis 4, mastery-approach goal participants reported a higher concern for others ( $M = 5.57, SD = 0.74$ ) than performance-approach goal participants ( $M = 4.76, SD = 1.17$ ).

*Cooperation intention.* The dependent variable assessed the extent to which participants indicated they intended to cooperate with the other participant. Analysis of variance (ANOVA) revealed a significant effect of goal manipulation on the intention to cooperate,  $F(1, 36) = 5.68, p = .02, \eta_p^2 = .14$ . In line with Hypothesis 5, participants in the mastery-approach goal condition indicated that they had a stronger intention to cooperate with the other participant ( $M = 5.56, SD = 1.18$ ) than participants in the performance-approach goal condition ( $M = 4.61, SD = 1.27$ ).

*Mediation analysis.* Concern for others was expected to mediate the effect of achievement goal on cooperation intention (Hypothesis 6). To test this, we simultaneously entered achievement goals (mastery-approach



goal=0; performance-approach goal=1) and concern for others in a regression analysis as predictors of cooperation intention (Baron & Kenny, 1986). Consistent with our hypothesis, the effect of concern for others continued to predict cooperation intention,  $B=0.46$ ,  $t=2.30$ ,  $p=.03$ , whereas the effect of achievement goal on cooperation intention was no longer significant,  $B=-0.58$ ,  $t=-1.43$ ,  $p=.16$ . To more directly demonstrate mediation, a bootstrap analysis (Preacher & Hayes, 2004; Shrout & Bolger, 2002) was employed. This approach involves computing 95% confidence intervals (CIs) around indirect effects; mediation is indicated by CIs that do not contain zero. The results gave a CI range from  $-.9621$  to  $-.0593$ . Based on this result (zero is not included in the 95% CI), we conclude that the mediated effect is indeed significantly different from zero ( $p < .05$ , two-tailed; 5000 bootstrap resamples).

### STUDY 3

The results of Study 2 indicate that, in line with our expectation, individuals with a mastery-approach goal display stronger intentions to cooperate by exchanging task-relevant information with an exchange partner than performance-approach goal individuals. This is particularly remarkable given the potential benefits of cooperation that were explicitly communicated to the participants. So, although performance-approach driven individuals were instructed that they could enhance their task-related performance to a much larger extent by cooperating than by working alone, they nevertheless showed weaker intentions to cooperate with a potential exchange partner than mastery-approach goal individuals. The observation that performance-approach goal individuals reported a lower concern for others could explain their relatively weak cooperation intention.

Together, Studies 1 and 2 show that mastery-approach and performance-approach goals result in distinct preferences in the way in which social achievement situations are approached. However, a drawback in these two studies is that mastery-approach goals were pitted against performance-approach goals by measuring dominant achievement goals (Study 1) and by experimentally assigning achievement goals to participants (Study 2) without taking into account the intensity of goal striving. It has, however, been firmly established that individuals can simultaneously hold multiple achievement goals (Barron & Harackiewicz, 2000; Elliot, 2005). In Study 3 we therefore measured both types of work-related achievement goals for each participant. Furthermore, we wished to address the limitation of having used fairly small samples of students in the first two studies. To improve upon the generalizability of our results to work settings, we included a much larger sample of members of the workforce in Study 3. Finally, we wanted not only to investigate whether distinct achievement

goals lead to different perceptions of social exchange situations in Study 3, but also to explore whether differences in exchange relationship quality can explain variations in three important work outcomes: job performance, job satisfaction, and organizational commitment.

We consequently tested whether different achievement goals lead to the establishment of constructive exchange relationships in an organizational setting. A particularly relevant construct in this regard is team–member exchange (TMX; Seers, 1989), which aims to capture the quality of an actor's established effective work relationships with coworkers. This measure basically assesses whether individuals have a constructive reciprocal relationship with their colleagues, as indicated by the exchange of work-related information, feedback, and help. Because of the relatively high concern for others and strong cooperative orientation that mastery-approach goal individuals display, we expected that mastery-approach goals would be positively related to TMX (Hypothesis 7).

Given that individuals typically perform their jobs within the social context of the organization, it is logical to assume that employees need to interact with their colleagues around them to have the perception that their task-related efforts are effective. In Study 3, we assessed not only the most studied outcome variable in achievement goal research, task performance, but also job satisfaction and organizational commitment. The latter two job outcomes offer insight in affective dimensions and behavioural intentions, respectively. By including these variables, we sought to determine whether different types of achievement goals are effective not only with regard to immediate performance, but also in a more broad sense as displayed by levels of TMX, satisfaction, and commitment (cf. Hackman, 1987). Indeed, earlier research has indicated that high levels of TMX empower employees to feel satisfied and committed, and experience high job performance (e.g., Liden, Wayne, & Sparrowe, 2000). We will now outline our expectations with regard to the relationship between achievement goals, TMX, and the three job outcomes included in Study 3.

Individuals with relatively strong mastery-approach goals will likely profit from the different perspectives and the know-how of the others that they interact with because these goals may lead to the establishment of constructive exchange relationships with others (Bommer, Miles, & Grover, 2003; Darnon et al., 2006). They are also inclined to use deep processing strategies when approaching complex and challenging tasks (e.g., Elliot, McGregor, & Gable, 1999; Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000). Furthermore, considering their focus on self-improvement, mastery-approach goals could lead people to perceive exchange partners as their allies because exchanging and pooling task-related know-how and skills with others may facilitate the attainment of one's own goal of developing competence and mastering tasks. For this reason, we expected

mastery-approach goals to be positively related to job performance (Hypothesis 8a), and this relationship to be mediated by TMX (Hypothesis 8b; cf. Walumbwa, Cropanzano, & Hartnell, 2009). In contrast, individuals with performance(-approach) goals wish to demonstrate superior performance, and therefore have high extrinsic motivation and a greater inclination to use surface processing strategies when performing tasks (Elliot et al., 1999; Steele-Johnson et al., 2000; Van Yperen, 2006). Perhaps more importantly, performance-approach goals have been shown to lead to exploitation of exchange partners and to a hesitancy to share good quality information with others (Poortvliet et al., 2007). People who repeatedly fail to be open with their exchange partners are not likely to be very popular. In ongoing relationships, coworkers will probably not tolerate such behaviour (Kurzban, McCabe, Smith, & Wilson, 2001). Therefore, we did not expect performance-approach goals to be related to job performance in such social contexts.

Second, people who pursue mastery-approach goals strive to *improve* their individual level of performance. In contrast, performance-approach goal individuals seek to *prove* their performance to others. It is therefore not surprising that mastery goals have been found to be more strongly related to intrinsic motivation (e.g., Barron & Harackiewicz, 2000), which is a critical determinant of satisfaction (Deci & Ryan, 1987). When people perform a task for its own sake, they will likely experience a sense of meaningfulness and, as a result, work satisfaction (Hackman & Oldham, 1976). Also, when experiencing a setback, mastery goal individuals tend to perceive the exertion of increased levels of effort as a natural part of their task performance, which is different from performance goal individuals (cf. Hong, Chiu, Dweck, Lin, & Wan, 1999). Given their high-quality relationships with others, individuals with strong mastery-approach goals may deal with such job stressors by falling back on support and help from their coworkers. We therefore expected mastery-approach goals to be positively related to job satisfaction (Hypothesis 9a), and this relationship to be mediated by TMX (Hypothesis 9b).

Finally, we anticipated that mastery-approach goals would be positively related to organizational commitment, defined as the experienced attachment to the organization. Individuals with strong mastery-approach goals tend to establish commitment by viewing work as a source of personal growth and investing extra effort in their job performances when challenges occur. Also, employees with strong mastery-approach goals invest actively in their exchange relationships with their coworkers, suggesting a desire to remain in these exchange relationships for a prolonged period of time. We therefore expected mastery-approach goals to be positively related to organizational commitment (Hypothesis 10a), and that this relationship would run through TMX (Hypothesis 10b). In contrast, given the

extrinsically motivational nature of performance-approach goals, we did not expect these goals to be related to organizational commitment.

## Method

### *Participants and procedure*

The relationship between achievement goals, team–member exchange, and job outcomes was measured in a field study conducted in several divisions of a large bank. Four hundred and twenty-three employees were invited to participate in the study and were sent the questionnaires via e-mail. The employees were asked to respond to questionnaires assessing their achievement goals, team–member exchange, job performance, job satisfaction, and organizational commitment. Participation was encouraged through an internal newsletter and confidentiality of the responses was assured.

Two hundred and fifty-three of the 423 employees returned their completed questionnaire, resulting in a response rate of 59.8%. In this final sample of 253 respondents,<sup>4</sup> 82.2% were male and the average age was 44.95 years ( $SD_{age} = 8.72$ ), with ages ranging from 23 to 62 years. The average organizational tenure of participants was 13.09 years ( $SD_{tenure} = 11.61$ ), ranging from less than 1 year to 40 years, and 92.9% had completed a college or university education.

### *Measures*

*Achievement goals.* Individual differences in achievement goals were tested with Elliot and Murayama's (2008) Achievement Goal Questionnaire–Revised (AGQ-R). We adapted this questionnaire to make it suitable for a work context. The participants responded to three mastery-approach goal items ( $\alpha = .61$ ), three mastery-avoidance goal items ( $\alpha = .64$ ), three performance-approach goal items ( $\alpha = .91$ ), and three performance-avoidance goal items ( $\alpha = .89$ ). Illustrative items are “In my work, my goal is to learn as much as possible” (mastery-approach goal), and “My aim is to perform well relative to other employees” (performance-approach goal). Given this article's focus on the approach types of achievement goals, we only performed analyses on the mastery-approach and performance-approach scales. Responses were provided on a 5-point scale (1 = “strongly disagree”, 5 = “strongly agree”).

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<sup>4</sup>Age was not reported by one participant, and two participants did not indicate their tenure.

*Team-member exchange.* The quality of team-member exchange was measured with a 15-item scale based on Seers (1989;  $\alpha = .78$ ). A sample item is “Team members generally trust each other”. Employees indicated the extent to which they agreed with the items that characterized the quality of their exchange relations with their team members on a 5-point Likert scale (1 = “strongly disagree”, 5 = “strongly agree”).

*Job performance.* Given the diverse jobs represented, no common objective measure of job performance was available. Therefore, we assessed self-perceptions of job performance with a 15-item scale developed by Welbourne, Johnson, and Erez (1998;  $\alpha = .84$ ). Sample items are “The quality of my work is good” and “I find improved ways to do things”. Employees rated these on a 5-point scale (1 = “strongly disagree”, 5 = “strongly agree”).

*Job satisfaction.* The level of job satisfaction was measured with a five-item scale developed by Bacharach, Bamberger, and Conley (1991;  $\alpha = .83$ ). This general job satisfaction scale aims at assessing the match between job expectations and the fulfillment of these job expectations. Employees were asked to rate how satisfied they are with their job. An example of an item is “How satisfied are you with your present job when you consider the expectations you had when you took the job?” Employees answered on a 5-point Likert scale (1 = “very dissatisfied”, 5 = “very satisfied”).

*Organizational commitment.* We assessed organizational commitment with three items that measure affective commitment (Allen & Meyer, 1996;  $\alpha = .58$ ). A sample item is “I would be very happy to spend the rest of my career with this organization”. Employees rated these items on a 7-point scale (1 = “strongly disagree”, 7 = “strongly agree”).

*Covariates.* We controlled for sociodemographic differences by entering gender (1 = male, 2 = female), age (in years), and tenure (in years) as covariates in the analyses.

## Results

*Descriptive statistics and correlations.* Means, standard deviations, and zero-order Pearson correlations between the variables are presented in Table 2. As predicted, mastery-approach goal showed positive correlations with team-member exchange, job performance, job satisfaction, and organizational commitment. No significant correlations were found between performance-approach goal and these job outcome measures.

TABLE 2  
Means, standard deviations, and Pearson correlations among the variables (Study 3;  $N=253$ )

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Gender	1.18	0.38								
2. Age	44.95	8.72	-.19**							
3. Tenure	13.09	11.61	-.11 <sup>†</sup>	.70***						
4. Mastery-approach goal	4.04	0.55	.07	-.04	.02					
5. Performance-approach goal	3.30	0.93	.07	-.15*	-.10	.25***				
6. Team-member exchange	3.72	0.39	.02	.10	.14*	.25***	.06			
7. Job performance	3.89	0.36	.01	-.09	-.03	.26***	.09	.43***		
8. Job satisfaction	3.74	0.61	-.01	.06	.11 <sup>†</sup>	.11 <sup>†</sup>	-.03	.30***	.45***	
9. Organizational commitment	5.29	0.88	-.02	.20**	.19**	.23***	-.01	.36***	.38***	.43***

<sup>†</sup>  $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Team–member exchange was positively related with job performance, job satisfaction, and organizational commitment.

*Test of direct effects.* Hierarchical regression analyses consisting of two successive steps were conducted to test our expectations. In the first step, the sociodemographic variables were entered as covariates to control for relationships with the other variables in the regression models. In the second step, we included mastery-approach goal and performance-approach goal to test their hypothesized effects on the mediating and outcome variables.

As displayed in Table 3, the results showed that a mastery-approach goal was positively related to team–member exchange, supporting Hypothesis 7. In addition, mastery-approach goals were found to be positively related to job performance (Hypothesis 8a), job satisfaction (Hypothesis 9a), and organizational commitment (Hypothesis 10a). Furthermore, the results showed that performance-approach goals were not significantly related to team–member exchange, job performance, job satisfaction, and organizational commitment.

*Mediation analyses.* To investigate whether the effect of mastery-approach goals on the different job outcomes could be explained by team–member exchange, we conducted additional mediation analyses by adding a third step to the regression analyses of the outcome variables, one that contained TMX. As is shown in Table 3, when TMX was added to the models, the regression coefficients of the relationships between mastery-approach goal and the outcome variables decreased from .26 ( $p < .001$ ) in the second step to .16 ( $p < .01$ ) in the third step for job performance, from .12 ( $p < .05$ , one-tailed) to .05 (*ns*) for job satisfaction, and from .25 ( $p < .001$ ) to .17 ( $p < .01$ ) for organizational commitment. Moreover, although the effect of mastery-approach goal decreased, TMX as a mediator had significant effects on all three outcome variables.

Finally, to more formally test whether the effects of mastery-approach goal on the three job outcome variables significantly decreased upon the addition of TMX, we performed three bootstrap analyses ( $p < .05$ , two-tailed; 5000 bootstrap resamples). The tests revealed that TMX mediated the effects of mastery-approach goals on job performance (Hypothesis 8b; CI range from .0289 to .1117), job satisfaction (Hypothesis 9b; CI range from .0255 to .1579), and organizational commitment (Hypothesis 10b; CI range from .0565 to .2341). Therefore, and in line with our hypotheses, we conclude that higher levels of mastery-approach goals promote the establishment of better team–member exchange, which in turn leads to higher levels of reported job performance, job satisfaction, and organizational commitment.

TABLE 3  
Results of regression analyses (Study 3; N = 253)

Step and variables	Job performance			Job satisfaction			Organizational commitment			TMX	
	1	2	3	1	2	3	1	2	3	1	2
1. Gender	-.01	-.02	-.03	.02	.01	.01	.02	.01	.00	.04	.02
Age	-.14	-.11	-.13	-.02	-.02	-.03	.14	.16 <sup>†</sup>	.14 <sup>†</sup>	.01	.04
Tenure	.06	.04	-.01	.12	.11	.08	.10	.08	.04	.13	.11
2. Mastery-approach goal		.26***	.16**		.12 <sup>†</sup>	.05		.25***	.17**		.24***
Performance-approach goal		.01	.00		-.05	-.05		-.04	-.05		.01
3. TMX			.41***			.28***			.30***		
$\Delta R^2$	.01	.07**	.15***	.01	.01	.07***	.05**	.06**	.09***	.02	.01**
Adjusted $R^2$	.00	.06***	.21***	.00	.01	.08***	.00**	.02***	.04***	.06	.06***

Standardized regression coefficients are reported for the respective regression steps. Step 1 including sociodemographics, Step 2 including sociodemographics and achievement goals, and Step 3 including sociodemographics, achievement goals, and team-member exchange (TMX). <sup>†</sup> $p < .05$  (one-tailed test); \* $p < .05$  (two-tailed test); \*\* $p < .01$  (two-tailed test); \*\*\* $p < .001$  (two-tailed test).



## GENERAL DISCUSSION

Across three studies we found considerable and consistent support for our assertion that mastery-approach goals, compared to performance-approach goals, lead to more constructive and better exchange relationships in social task-contexts. In Study 1, we found that individuals with mastery-approach goals make more cooperative choices and fewer competitive choices than performance-approach goal individuals when they have to divide outcomes between themselves and someone else. In Study 2, it was shown that individuals with mastery-approach goals are more willing to cooperate with someone else when both are engaged in a similar complex performance task than individuals with performance-approach goals. A mediation analysis showed that this effect could be explained by the higher concern for others that mastery-approach goal individuals experience, relative to individuals with performance-approach goals. Finally, in Study 3, we found that mastery-approach goals are positively related to levels of team-member exchange, and that this quality of exchange relationships mediates the positive relationship between mastery-approach goals and job satisfaction, and partly mediates the positive relationship between mastery-approach goals and two other important individual job outcomes: job performance and organizational commitment. The results that we obtained in this article were remarkably consistent across different types of studies (survey research representing a setting with high external validity and a laboratory experiment able to provide causal evidence), across different types of participants (undergraduate students and members of the workforce), and across different types of measures. Thus, across very differently designed studies, we consistently found support for our general assertion that a mastery-approach goal leads to more cooperative and constructive exchange relationships with others than a performance-approach goal, and this, in turn, may at least partly explain the positive relationship between mastery-approach goals and individual job outcomes.

### Practical and theoretical implications

The present research showed that individuals with performance-approach goals make more competitive choices and show less concern for others than individuals with mastery-approach goals. Moreover, unlike mastery-approach goals, performance-approach goals were not found to be related to the level of TMX. This may all appear to be obvious, given that individuals with performance-approach goals focus on outperforming others. However, in our studies, we also found that performance-approach goal individuals had a lower willingness to cooperate with others even though the advantages of cooperation were made very clear to them.

Furthermore, we did not observe relationships between the strength of performance-approach goals and some of the most crucial job outcomes: job performance, job satisfaction, and organizational commitment. This suggests that the pursuit of performance-approach goals may turn out to be quite inefficient in social work settings in terms of important individual job outcomes. Given that such settings are widespread rather than hypothetical in organizational life, and the fact that constructive information exchange and the building of exchange relationships have been found to strongly predict performance outcomes in organizations (e.g., Argote & Ingram, 2000; Weick & Roberts, 1993), we conclude that mastery-approach goals will lead to more desirable outcomes than performance-approach goals in many organizational settings. Of course, controlled conflict escalations can be utilized to enhance interpersonal relations (e.g., Tjosvold, 1997), but the negative interdependence that individuals with performance-approach goals presumably experience undeniably decreases the intention to cooperate with peers. As individuals need to work together in order to enhance their performances in various work situations (e.g., product development teams, cross-functional teams; Howard, 1995), it is important to endorse mastery-approach goals in such contexts. Furthermore, job performance is only one indicator within a much broader job outcome spectrum. Workers are really considered effective when they are able to perform well in the long run (DeShon & Gillespie, 2005), not only in terms of their own perceptions of performing well, but also in terms of their perceptions of satisfaction and commitment to the organization. Given the positive associations that exists to all of these job outcomes, the promotion of mastery-approach goals seems very necessary indeed.

Yet, to offer the simple suggestion that performance-approach goals should be discouraged and mastery-approach goals be promoted may be unrealistic or even unwarranted. Indeed, earlier research has argued (Farr, Hofmann, & Ringenbach, 1993) and demonstrated (Janssen & Van Yperen, 2004) that the negative or maladaptive effects of performance goals are most salient when mastery goals are absent or relatively weak. This observation suggests that it would be more precise and nuanced to call for the promotion of mastery-approach goals and not the discouragement of performance-approach goals per se. Another complicating factor is that it is uncertain which contextual elements of achievement situations should be altered in order to make mastery-approach goals more salient. Ideally, solutions should be tailored to fit the specific task context in order to harvest the potentially positive effects of mastery-approach goals. Granted, the creation of climates that focus exclusively on mastery-approach goals may be practically in conflict with organizational and academic realities (cf. Bunderson & Sutcliffe, 2003; DeShon & Gillespie, 2005).

A possible solution for this issue may be found in recent research, which uncovered the importance of social norms in the achievement context for the individual goal setting process. In other words, a promising way to encourage particular goals is by setting specific norms (Darnon et al., 2009; see also Ordóñez, Schweitzer, Galinsky, & Bazerman, 2009). Also, there is no question that goal setting is a powerful and widely applicable technique to attain desirable task outcomes (Latham & Locke, 2006; Locke & Latham, 2002; Wegge & Haslam, 2005). Indeed, when organizations emphasize exploration, learning from errors, and task mastery, they may in fact be inducing mastery goals in their employees (Kozlowski & Bell, 2006). Evidence from achievement goal research in educational psychology suggests that teachers play a central role in communicating the goals they endorse (Darnon et al., 2009; Murdock, Miller, & Kohlhardt, 2004). In the same way, managers in organizations may have a crucial responsibility when it comes to creating the right motivational climate for employees. Another way of increasing the effectiveness of goal setting is by making public the goals that one is striving for (Hollenbeck, Williams, & Klein, 1989). All in all, we believe that individuals are actually able to set mastery-approach goals in social task situations. From this perspective, setting mastery-approach goals could be perceived as a quite uncomplicated way to smoothen interpersonal processes in such achievement situations.

We believe the present study contributes to the achievement goal literature in at least two ways. For one thing, the current investigation amends to the achievement field by showing that individual achievement goals may have important interpersonal effects in social achievement settings, and that, in turn, these effects can meaningfully explain individual task-related outcomes (cf. Poortvliet & Darnon, 2010). Consequently, the extent to which a given situation is interdependent might act as an important moderator in the relationship between achievement motivation and individual outcomes. However, it should be stressed that in this article we have made the assumption that individuals with mastery-approach goals and performance-approach goals have different perceptions of interdependence, and that this, in turn, has consequences for job outcomes. Future research should not only assume, but also test whether task interdependence plays such a moderating role.

Second, we have explicitly investigated the links between achievement goals and social motives, and between achievement goals and concern for self and others. We are not aware of any existing works in the literature that directly test the relationship between achievement goals and social motives. Social motives theory has been dominantly represented in research on social exchange situations where individuals pursue joint tasks, including research on information sharing and group decision making (Steinel, Utz, & Koning, 2010), group planning tasks (Beersma & De Dreu, 2005), negotiation

(De Dreu, Weingart, & Kwon, 2000), and coalition formation (Van Beest, Andeweg, Koning, & Van Lange, 2008). As such, our research is able to bridge the social motive and the achievement goal domains and, by uncovering these links, is able to further understanding concerning the mechanisms that explain the social effects of achievement goals.

### Limitations and future directions

Several caveats must be offered regarding the findings of the current research. In Study 1 and Study 2 we pitted mastery-approach and performance-approach goals against each other (by measuring dominant achievement goals and by manipulating achievement goals, respectively). However, previous research convincingly shows that achievement goals may be endorsed simultaneously (e.g., Barron & Harackiewicz, 2000). Therefore, endorsing a performance goal does not mean that one cannot endorse a mastery goal, as well. In fact, a mastery-approach goal correlated positively with a performance-approach goal ( $r = .25$ ) in Study 3. The last study therefore complemented the first two studies by measuring actual achievement goals. In this way it was possible to test our expectations regarding the proposed relationships between mastery-approach goals and the level of TMX and the three job outcomes, while statistically controlling for the level of performance-approach goals.

It should also be stressed that the first two studies were not conducted within an organizational context. In both studies participants were undergraduate students who participated in a sport context (Study 1) or a lab context (Study 2). It is possible, for example, that competition may be more appropriate in sport contexts than in organizational contexts. However, our data indicate that the banking employees who participated in Study 3 scored slightly above the midpoint of the performance-approach goal scale. This suggests that striving to outperform others is for many, to some degree, part of organizational reality, as well. Furthermore, our (concise) review of earlier achievement goal research has quite convincingly and consistently suggested that mastery(-approach) goals lead to more constructive social outcomes than performance(-approach) goals (e.g., Darnon et al., 2006; Janssen & Van Yperen, 2004; LePine, 2005; Ommundsen et al., 2003; Poortvliet et al., 2007; Porter, 2005). Therefore, even though we are aware of the fact that context is an important issue to take into account within the field of organizational psychology, we nevertheless assert that the first two studies give us generalizable information concerning the interpersonal dynamics that are evoked by achievement goals, and also offer insight into how these dynamics can explain the functioning of employees with mastery-approach and performance-approach goals within their social work environment.

With regard to the experimental design of Study 2, it should be noted that no control condition was included. Of course, such a baseline condition would provide additional insight into the specific goal that drives the observed effects in the study. Earlier work showed that a mastery goal condition resulted in comparable benevolent information exchange behaviour compared to a no-goal condition (Poortvliet et al., 2007). However, in that particular study a difference was found between the mastery goal condition and the no-goal condition with regard to the underlying psychological mechanisms. Specifically, mediation analyses revealed that the effect of the performance goal condition on the information giving measure was mediated by reciprocity orientation and exploitation orientation, but only relative to the mastery goal condition, and not relative to the no-goal control condition. Apparently, in such exchange situations, people typically follow the norm of reciprocity. A performance goal motivates individuals to breach the reciprocity norm, whereas a mastery goal reinforces this norm.

Another limitation of this investigation concerns the self-report nature of the measures in Study 3, particularly the fact that we had no other source of job performance-ratings. Future research should include more objective data to further support the idea that stronger mastery-approach goals may lead to higher levels of job performance through team-member exchange. However, earlier investigations have found that TMX leads to the experience of empowerment (Liden et al., 2000). In turn, the feelings of competence, impact and meaningfulness that empowerment encourages is positively associated with objective measures of job performance (Hackman & Oldham, 1976; Thomas & Velthouse, 1990), thereby supporting the outcomes of the current study. It should also be noted that the fact that performance-approach goals were not found to be positively associated with job performance gives an indication that the measure we used was valid and was perhaps less biased by self-presentation concerns than one might expect. Specifically, performance-approach goals are connected to a desire to prove one's competence to others (Dweck, 1986; Nicholls, 1984), and may enhance a positivity bias when reporting performance (Janssen & Van der Vegt, in press). However, this was not observed in our study, as reflected by the null relationship between performance-approach goals and self-reported job performance. Because mastery goals are found to be more socially desirable than performance goals (Darnon et al., 2009), it may be the case that participants in our study reported a lower level of performance goals than they actually really endorsed, and that our results were consequently biased by such self-presentation concerns. However, earlier achievement goal research that included a valid measure of social desirability showed that, when social desirability was statistically controlled for, the effects of achievement goals were maintained (Pekrun, Elliot, & Maier, 2006). In

order to draw more solid conclusions, future research should include a measure of social desirability.

Another reason for concern is the low reliability of the mastery-approach and organizational commitment measures that were assessed in Study 3. Although acceptable, the reliabilities of these specific subscales were rather weak. In this study we used an adapted version of the recently developed achievement goal questionnaire by Elliot and Murayama (2008), which is a revised version of the original Elliot and McGregor questionnaire (2001). Even though the internal reliability of the mastery-approach goal in the revised version of this questionnaire is known to be slightly lower than in the original version, we are confident that the scale developed by Elliot and Murayama is a reliable and valid measure, suited for use in organizational research.

To some, the finding that mastery-approach goals promote the willingness to cooperate on a task may be remarkable. Mastery goals have been found to be positively associated with self-efficacy (e.g., Bell & Kozlowski, 2002; Payne et al., 2007), and high levels of self-efficacy might entice mastery driven individuals to feel they do not need to seek cooperation. However, our results point in the opposite direction and support the basic assumption that, by default, mastery-approach goals are more likely to promote cooperative behaviour in social task situations.

Having established that achievement goals have an important impact on exchange relationships, job performance, job satisfaction, and organizational commitment, the question remains as to what other relevant job outcomes might also be affected by achievement goals. One particularly crucial outcome domain is vocational health and well-being. Earlier achievement motivation research has explored the relationship between achievement goals and well-being and showed that mastery goals are positively related to well-being, whereas performance goals have a negative relationship (e.g., Kaplan & Maehr, 1999). It is not unlikely that the building of constructive exchange relationships with immediate others is accompanied by the receipt of social support in times of need or in times when one is struggling with challenges on the job. Indeed, experiencing social support may buffer against work stressors and can enhance occupational well-being (e.g., Cohen & Wills, 1985). Therefore, stemming from their established exchange relationships with others, mastery-approach goals may prove to have other beneficial effects beyond job performance, job satisfaction, and organizational commitment, such as being better able to deal with organizational strain.

Another avenue for future research is the examination of more concrete interpersonal behaviours. In the current investigation we limited ourselves to studying preferences for the abstract division of points to assess cooperative and competitive motives (Study 1), concern for others (Study



2), and perceptions of the quality of exchange relationships (Study 3). To date, very few studies have examined how performance-approach goals may not only lead to behaviour that is less constructive, but may actually instigate behaviour that is harmful for the goal pursuit and performance of others in the same achievement situation (cf. Poortvliet et al., 2007). This may be so because individuals with performance-approach goals may experience negative interdependence, which is to say that their goal attainment is directly and negatively related to the exchange partners' task performance. The exchange situation is threatening to individuals with performance-approach goals (and not to mastery-approach goal individuals) because others taking advantage of the shared information will almost automatically obstruct individuals with performance-approach goals in attaining their goal of outperforming others. To protect oneself against this threat, people with performance-approach goals may want to prevent exchange partners from profiting from their information exchange. Individuals with strong performance-approach goals can therefore be expected to engage in less constructive exchanges with others, and may even choose to actively display counterproductive work behaviours in order to effectively frustrate their exchange partners' task performances.

## CONCLUSION

In conclusion, the present research suggests that mastery-approach goals are more beneficial than performance-approach goals in social achievement situations in which cooperation is important. Specifically, as compared to performance-approach goal individuals, mastery-approach goal individuals show their willingness to invest in exchange relationships by making cooperative choices, having a high concern for others, and by establishing exchange relationships of high quality with colleagues. Even more important may be the observation that such constructive attitudes in social exchange situations lead to crucially positive consequences for individual job outcomes.

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