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How to get radical creative ideas into a leader's mind? Leader's achievement goals and subordinates' voice of creative ideas

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In the present research we investigated when and why leaders tend to oppose or adopt radical creative ideas voiced by their subordinates. In a field study (Study 1, $N = 127$) we showed that leaders' performance goals were positively related to their tendency to oppose radical creative ideas, whereas leaders' mastery goals were positively related to their tendency to adopt them. We replicated these findings in an experimental study (Study 2, $N = 90$), in which we showed that performance goal leaders were more likely to oppose radical creative ideas voiced by their subordinates than mastery goal leaders, whereas mastery goal leaders were more likely to adopt those ideas than performance goal leaders. In Study 2, we further showed that the effects of leaders' achievement goals on their oppose and adopt responses were mediated by the leaders' interest in exploration. Finally, in Study 3 ($N = 91$), we experimentally demonstrated that oppose and adopt responses of performance goal leaders, rather than mastery goal leaders, were sensitive to the behavioural mode by which subordinates voiced their radical creative ideas. That is, performance goal leaders were less likely to oppose and more likely to adopt radical creative ideas when subordinates voiced them in a considerate mode rather than an aggressive mode.

Keywords: Goal orientation; Voice; Creativity; Opposing and adopting creative ideas.

In the present dynamic environment of global competition, creativity and innovation have become more important for many organizations (Tushman & O'Reilly, 1997). As it is individuals who generate creative ideas for innovation (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Axtell et al., 2000; Scott & Bruce, 1994), the evaluation and approval of bottom-up creativity can be regarded as one of the important aspects that leaders need to handle in their complex tasks. Recognition of the importance of employee creativity, defined as the generation of novel and useful ideas (Amabile, 1988), for organizational effectiveness has led to an increasing research interest in understanding how leaders facilitate employees to perform creatively or hinder them from doing so (Mumford, Scott, Gaddis, & Strange, 2002; Zhou & Shalley, 2003). The predominant focus of this work centres on identifying leader behaviours as determinants of employee creativity (Sternberg & Vroom, 2002). However, scant research has explored how leaders actually react to challenging creative ideas voiced by their employees (Amabile, 1988; Mumford &

Gustafson, 1988; for an exception see Burris, 2012). These leader reactions are of particular interest because even though subordinates' creative ideas may provide an organization with crucial material for innovation and development (Amabile, 1988; Amabile, Schatzel, Moneta, & Kramer, 2004; Kanter, 1988; Oldham & Cummings, 1996), it often challenges the frameworks of thoughts and routines established by their leaders (Detert & Burris, 2007).

Leaders affect the initial selection of voiced creative ideas because they control resources and have power to make these decisions (cf. Dewar & Dutton, 1986). That is, their authority position provides them with power to provide or withhold support to bottom-up creativity (Amabile et al., 2004) and to control the transfer of subordinates' creative input to higher-level actors (Detert & Burris, 2007; Janssen, 2005). As such, leaders fulfil a key role in the process of converting these voiced creative ideas into new and improved ways of doing things (e.g., Kanter, 1988; West, 2002; Woodman, Sawyer, & Griffin, 1993). Although research showed

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that the prolonged exposure to specific firm and organizational contexts tend to foster an attachment to extant beliefs and practices (Hambrick, Geletkanycz, & Fredrickson, 1993), we know little about motivational factors that influence leaders in their oppose and adopt responses to subordinates' voiced creative ideas. This is remarkable, because leaders' reactions to subordinates tend to be inextricably bound with leaders' own achievement pursuits (e.g., Hambrick & Mason, 1984; Yukl, 1989). To address this gap in the literature, we use the achievement goal approach (Elliot, 2005; Farr, Hofmann, & Ringenbach, 1993; Payne, Youngcourt, & Beaubien, 2007) to identify leaders' achievement goals as an important motivational factor that can clarify why some leaders are motivated to consider and adopt creative ideas voiced by their subordinates, whereas others oppose this creative input and stick to their own established ideas. Moreover, scholars have shown that employees differ in behavioural modes in which they voice their concerns and suggestions (e.g., Hagedoorn, Van Yperen, Van de Vliert, & Buunk, 1999). Based on this, we investigate how effects of leaders' achievement goals are contingent upon behavioural modes (i.e., aggressive vs. considerate) with which subordinates voice their creative ideas.

Thus, the contributions of this study are twofold. First, we theorize and test how leaders' oppose and adopt responses to subordinate creativity are affected by leaders' own achievement goals. Second, by implicating behavioural modes with which subordinates voice their creative ideas, we shed light on how an important situational contingency factor moderates the effects of leaders' achievement goals on their responses to subordinate creativity.

LEADERS' EVALUATION OF CREATIVE IDEAS

Ideas are perceived as creative when they are novel and useful (Amabile, 1996). In line with Shalley, Zhou, and Oldham (2004), we consider ideas to be novel if they are unique relative to other ideas currently available in the organization and useful if they have potential value to the organization, either in the short or in the long term. Although creative ideas may be generated by employees in any job and at any level of the organization (Madjar, Oldham, & Pratt, 2002; Shalley, Gilson, & Blum, 2000), we focus exclusively on subordinates who generate and voice creative ideas towards their leader. Furthermore, creative ideas can range from suggestions for incremental adaptations in current practices to radical ideas for set-breaking frameworks or processes (Madjar, Greenberg, & Chen, 2011; Mumford & Gustafson, 1988). In contrast to incremental creative ideas, which typically can be accommodated within existing structures, radical creative ideas tend to be associated with more substantive changes. That is, radical ideas imply

that established practices, roles, interests, and power structures within the organization are challenged and, as a consequence, may elicit more controversy (Baer, 2012; Janssen, Van de Vliert, & West, 2004; Kanter, 1988; Madjar et al., 2011) and may be resisted more often (Damanpour, 1988). In the present study, we focus on examining leaders' differential reactions to subordinates' creative ideas that are radical and depart from the current ways of doing things rather than to incremental ideas that can be smoothly accommodated within existing structures.

Due to their key position in an established and proven organization, leaders tend to operate as gatekeepers of the current status quo (Csikszentmihalyi, 1990). As such, they may perceive little need to adjust their current practices and ways of thinking, even not in the face of very useful and valuable ideas. Research has identified some antecedents for why leaders keep relying on the existing frameworks of thoughts and routines instead of being open to new ideas (Hambrick et al., 1993), such as tenure in leadership role (Miller, 1991), organizational tenure (Hambrick et al., 1993), and mere ownership effects (e.g., Beggan, 1992). This work suggests that leaders with a prolonged exposure to specific firm and organizational contexts tend to foster an attachment to extant beliefs and practices (Hambrick et al., 1993). However, although it is acknowledged that leaders' own achievement pursuits are of central significance for leadership effectiveness (Hambrick & Mason, 1984; Yukl, 1989), achievement motivation has been largely ignored as a potential factor that may affect leaders' responses to creative ideas voiced by their subordinates. This is remarkable, because leaders play a key part in employee creativity, and their creativity management may be highly influenced by their own achievement goals. To fill this void in the leadership and creativity literature, the present study aims to examine why and how achievement goals influence leaders in their responses to creative ideas voiced by their subordinates.

THE ACHIEVEMENT GOAL APPROACH

The achievement goal approach to achievement motivation has emerged as a highly influential framework for understanding how people define, experience, and respond to competence-relevant achievement situations, including the workplace (DeShon & Gillespie, 2005; Elliot, 2005; Van Yperen & Orehek, 2013). In the present research, two distinct types of achievement goals were investigated, namely mastery-approach goals and performance-approach goals. We focus exclusively on approach goals, defined as goals directed towards positive or desirable events, as experimental research has demonstrated that these goals are the most efficacious in enhancing performance, whereas avoidance goals, defined as goals directed to avoid negative outcomes,

are most likely to adversely affect performance attainment (Senko & Harackiewicz, 2005; Van Yperen, Elliot, & Anseel, 2009). So, from an applied perspective, only approach goals are of interest for achievement goal-based interventions. Specifically, performance-approach goals reflect the desire to demonstrate superior competence by outperforming others, whereas mastery-approach goals reflect the desire to develop and gain competence by acquiring new skills and mastering new situations (Elliot & McGregor, 2001; Van Yperen, 2003). Because in the present research we focused on approach goals only, performance-approach goals are referred to as *performance goals* and mastery-approach goals as *mastery goals*. Conceptual and empirical considerations suggest that achievement goals may be best suited for the situation-specific level rather than the dispositional-specific level (cf. Baranik, Barron, & Finney, 2010; see Elliot, 2005). In Study 1, we measured work-specific performance goals and mastery goals among leaders with substantial leadership experience. In Study 2 and Study 3, we focused on, and experimentally manipulated, situational achievement goals because we aimed to identify leaders' goal states as possible *causes* of their oppose and adopt responses to creative input voiced by their subordinates.

LEADERS' OPPOSE AND ADOPT RESPONSES TO VOICED CREATIVE IDEAS

Although potentially beneficial, radical creative ideas voiced by subordinates may challenge the elements of the established framework of thoughts and routines, that is, the current status quo (Detert & Burris, 2007). As leaders are the power holders of, and responsible for, the current status quo (Detert & Burris, 2007), an important complication of such set-breaking ideas is that they may give the leader the impression that his or her leadership competencies and authority are questioned (Janssen et al., 2004; Levitt, 2002; Wolfe, 1995). Accordingly, leaders may feel threatened by voiced ideas that challenge the current state of affairs, thereby leading them to actively oppose any further development of these ideas (Damanpour, 1988; Howell & Higgins, 1990; Wolfe, Wright, & Smart, 2006). We argue, however, that leaders' perceptions of, and responses to, these challenging ideas can be expected to be motivated and regulated by their achievement goals.

Performance goal leaders are focused on demonstrating superior competence and performance relative to others, including their subordinates (e.g., Dweck, 1986; Nicholls, 1984). Given their focus on competence demonstration, performance goal leaders may view the proven framework of thoughts, practices, and routines they have established in their managerial domain as a demonstration of their leadership competence and performance. As they are (partly) responsible for the current status quo, performance goal leaders may perceive a

subordinate who has voiced a radical creative idea as a rival who challenges and threatens their superior competencies as a leader (Darnon, Muller, Schrager, Pannuzzo, & Butera, 2006). Hence, in order to uphold their goal of demonstrating superior competence and protect their self-view, performance goal leaders tend to stick to the status quo and oppose subordinates' challenging ideas. Indeed, previous research shows that performance goals are less likely to utilize creative input as they see little value in it (VandeWalle, 2003). Moreover, performance goals have been linked to self-presentation, self-validation, and self-protection concerns (Elliot, 1999; Elliot & Moller, 2003; Tuckey, Brewer, & Williamson, 2002). Furthermore, previous research on feedback has shown that individuals pursuing performance goals suffer ego cost when they receive unfavourable feedback about the self and are likely to protect their ego from this threat by discounting, avoiding or distorting the feedback (Ashford, Blatt, & VandeWalle, 2003; Tuckey et al., 2002).

Rather than pursuing the demonstration of superior competence towards subordinates, mastery goal leaders are focused on developing and gaining competence by acquiring new skills and mastering new situations (e.g., Dweck, 1986; Nicholls, 1984). Driven by this focus, they might view subordinates' creative ideas as a potentially useful source of diagnostic and new information they can learn from. As such, subordinate creativity can facilitate their competence and performance as leaders, even though it may challenge the content of the current state of affairs. Therefore, spending time on and exploring the content and validity of subordinates' creative ideas seem to be congruent with a mastery goal. Consequently, when mastery goal leaders recognize valuable and useful potential for improvement and innovation in the creative input, it might lead them to reconsider their own thoughts and ideas. That is, mastery goal leaders might be willing to reconstruct their current framework of thoughts and routines and consequently (partially) abandon the status quo in favour of the newly adopted ideas. Thus, driven by their desire for developing their competence, mastery goal leaders are able to let go previously established viewpoints and ideas and welcome and adopt new ones voiced by subordinates that can facilitate the pursuit of their own development goals. In line with this argumentation, research showed that mastery goal leaders tend to evaluate subordinates' creative input in an epistemic way (Doise & Mugny, 1984), which includes examination of the creative ideas' usefulness and validity. Additionally, mastery goals have been linked to positive developmental reactions in the recipients of feedback information (e.g., motivation to learn, task interest, increased self-efficacy, and adaptive learning strategies) and to promote the recipients' utilization of this information (e.g., Barron & Harackiewicz, 2001; Chen, Gully, Whiteman, & Kilcullen, 2000; Colquitt & Simmering, 1998; Kluger & DeNisi, 1996; VandeWalle,

2003). On the basis of these arguments, we tested the following hypotheses:

Hypothesis 1: Leaders' performance goals are positively related to their tendency to oppose radical creative ideas voiced by subordinates.

Hypothesis 2: Leaders' mastery goals are positively related to their tendency to adopt radical creative ideas voiced by subordinates.

STUDY 1

Method

One hundred and twenty-eight participants were recruited through Amazon's Mechanical Turk (see Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012) to complete an online questionnaire in exchange for monetary compensation. In order to get a relevant sample, a system qualification was used such that only individuals who reside in the United States and were in supervisory positions could participate. Furthermore, at the end of the survey respondents had to answer several additional questions, including how many years they were in a supervisory position and how many subordinates they supervised, that were used as control variables. Based on the inspection of the control variables, we excluded one respondent, as he or she did not supervise any employees, resulting in a usable sample of 127 participants (74 male, $M_{\text{age}} = 29.7$ years, $SD_{\text{age}} = 7.9$). The respondents' mean total work experience was 10.5 years ($SD = 7.0$), mean total work experience in a supervisory position was 4.5 years ($SD = 4.5$), and mean number of supervised subordinates was 11.9 ($SD = 21.9$).

The participants' achievement goals were first assessed using the questionnaire. They were then asked to think about a recent situation in which a subordinate voiced a creative idea that challenged their own established ideas about the current practices and routines after which their responses to the creative idea were assessed.

Measures

Performance goal ($\alpha = .90$) was measured using the three-item subscale of Elliot, Murayama, and Pekrun's (2011) achievement goal questionnaire. Items were adapted to fit the work context of the research: (1) My aim as a leader at work is to outperform my subordinates, (2) In my work as a leader I am striving to do well compared to my subordinates, and (3) In my work as a leader my goal is to do better than my subordinates. Response categories ranged from 1 (*not true*) to 7 (*extremely true*).

Mastery goal ($\alpha = .87$) was measured using the three-item subscale of the achievement goal questionnaire (Elliot et al., 2011). We adapted the items to fit the work context: (1) My aim is to perform better in my work as a leader than I have done in the past, (2) In my work as a leader I am striving to do well relative to how well I have done in the past, and (3) My goal in my work as a leader is to do better than I typically do. Response categories ranged from 1 (*not true*) to 7 (*extremely true*).

Oppose creative ideas ($\alpha = .89$) was measured using the forcing subscale of the conflict handling measurement developed by De Dreu, Evers, Beersma, Kluwer, and Nauta (2001). Participants were asked to indicate to what extent each of the following behaviours was characteristic for their responses to the creative idea voiced by the subordinate. The scale consisted of three items: (1) I pushed my own established ideas at cost of my subordinate's creative idea, (2) I fought to win this dispute with my subordinate about the use of the creative idea, and (3) I did everything to win. Response categories ranged from 1 (*not at all*) to 7 (*very much*).

Adopt creative ideas ($\alpha = .81$) was measured using the accommodating subscale of the conflict handling measurement developed by De Dreu et al. (2001). The scale consisted of three items: (1) I concurred with the creative ideas of my subordinate, (2) I sacrificed my own ideas in favour of my subordinate's creative ideas, and (3) I went along with my subordinate's creative idea. Response categories ranged from 1 (*not at all*) to 7 (*very much*).

Control variables. We controlled for age (in years), gender (1 = male, 2 = female), and tenure in current supervisory position (in years), as these demographic variables may affect the process of bringing new ideas into use (Baer, 2012; Mumford & Gustafson, 1988). To reduce the likelihood that other variables likely to affect responses to voiced creative ideas would confound the relations examined in this research, our analyses controlled for openness to experience, creative requirement from the job, and level of creativity of the leader. Openness to experience ($\alpha = .75$) was measured using eight items from Baer and Oldham (2006). Creative requirement from the job ($\alpha = .86$) was measured using five items from Yuan and Woodman (2010). Both the measures use a response format ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Finally, leader's level of own creativity ($\alpha = .94$) was measured using 13 items from Zhou and George (2001) rated on a scale ranging from 1 (*very unlikely*) to 7 (*very likely*).

Discriminant and convergent validity

To provide evidence of discriminant and convergent validity, we conducted a confirmatory factor analysis (CFA) on the survey items of the four variables: mastery goal, performance goal, oppose creative ideas, and adopt creative ideas. We computed parameter estimates using

LISREL 8.80 with the maximum likelihood method. We compared three models: (1) a model with the four intended constructs, (2) a model in which mastery goal and adopting creative ideas were collapsed into one factor and in which performance goal and opposing creative ideas were collapsed into one factor, and (3) a model with one underlying construct.

The fit indexes of each model clearly showed the best fit for our hypothesized four-factor model (i.e., Model 1). Specifically, the fit statistics of the four-factor model were: $\chi^2(48, N = 127) = 66.83, p < .05$; root mean square error of approximation (RMSEA) $< .06$, adjusted goodness-of-fit index (AGFI) $= .87$, goodness-of-fit index (GFI) $= .92$, and comparative fit index (CFI) $= .98$. The factor loading of each item was significant at the .001 level or better. These indexes were better than the second model: $\Delta\chi^2(5) = 362.55, p < .001$, RMSEA $= .25$, AGFI $= .44$, GFI $= .62$, CFI $= .60$; and the third model: $\Delta\chi^2(6) = 640.08, p < .001$, RMSEA $= .32$, AGFI $= .28$, GFI $= .50$, CFI $= .30$.

Results

Table 1 displays the descriptive statistics and correlations for all variables. As expected, performance goals were positively related to opposing creative ideas ($r = .28, p < .01$), whereas mastery goals appeared to be positively correlated with adopting creative ideas ($r = .25, p < .01$).

Hypothesis testing. Hierarchical regression analyses consisting of two successive steps were conducted. In the first step, the control variables were entered to control for relationships with the other variables in the regression models. In the second step, we included performance goals and mastery goals to test their hypothesized effects on the outcome variables.

As shown in Table 2, leaders' performance goals were positively related to opposing subordinates' creative ideas (see step 2 of the regression equation), supporting

TABLE 2
Results of regression analyses^a

Steps and variables	Oppose creative ideas		Adopt creative ideas	
	1	2	1	2
1. Age	-.02	-.01	.03 [†]	.03 [†]
Gender	-.51*	-.45 [†]	-.03	-.04
Time in position	.06	.05	-.04	-.04
Level of creativity	.58**	.51**	-.21	-.34*
Creative requirement	-.25 [†]	-.23 [†]	.16	.17 [†]
Openness to experience	-.91***	-.87***	.49***	.43**
2. Performance goal		.20**		-.02
Mastery goal		-.03		.26*
ΔR^2	.28***	.05*	.18**	.04 [†]
Adjusted R^2	.24***	.28***	.13**	.16***

^a $N = 127$. Unstandardized regression coefficients are reported for the respective regression steps.

[†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Hypothesis 1. Leaders' mastery goals were positively related to adopting creative ideas, confirming **Hypothesis 2.** Furthermore, performance goals were unrelated to adopt responses, and mastery goals were unrelated to oppose responses.

Conclusion and discussion

The purpose of Study 1 was to test whether leaders' performance and mastery goals have differential effects on their oppose and adopt responses to creative ideas proposed by subordinates. Using data from a sample of real leaders, we found that leaders' performance goals are positively related to their tendency to oppose radical creative ideas delivered by subordinates, whereas leaders' mastery goals are positively related to their tendency to adopt those radical creative ideas. Moving beyond leaders' self-reports, in Study 2, we manipulated

TABLE 1
Means, standard deviations, and correlations (Study 1)^a

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Age	29.71	7.89									
2. Gender	1.42	.50	-.13								
3. Time in supervisory position	3.98	3.92	.69***	-.15 [†]							
4. Level of creativity	5.81	.85	.06	.15 [†]	-.02						
5. Creative requirement	4.34	1.01	.19*	.00	.18*	.47***					
6. Openness to experience	5.51	.84	.03	.09	-.07	.51***	.23**				
7. Performance goal	5.09	1.59	-.16 [†]	-.04	-.07	.10	-.03	-.03			
8. Mastery goal	5.96	.95	-.04	.12	-.05	.54***	.21*	.41***	.23*		
9. Oppose creative ideas	3.28	1.45	-.00	-.18*	.11	-.05	-.13	-.43***	.28**	-.07	
10. Adopt creative ideas	5.03	1.05	.14	-.01	.00	.12	.18*	.36***	-.04	.25**	-.47***

^a $N = 127$.

[†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

leaders' achievement goals in order to test causal links between leaders' achievement goals and their responses to subordinates' creative input. Furthermore, in Study 2, we investigated underlying processes that can clarify leaders' responses.

STUDY 2

In Study 2, we experimentally manipulated performance and mastery goals to test their causal effects on leaders' oppose and adopt responses to voiced creative ideas. Furthermore, based on interest theories and research (for reviews see, Lepper & Henderlong, 2000; Renninger & Hidi, 2011), we tested the idea that explorative interest, as an epistemic motivational process, can explain the differences in performance and mastery goal leaders' responses to subordinates' creative input. In line with other scholars, we define explorative interest as an interactive relation between an individual and certain aspects or activities in a given area that involves information search and demands concentrated cognition (cf. Hidi, Renninger, & Krapp, 2004; Krapp, 2007; Krapp, Hidi, & Renninger, 1992). Explorative interest is associated with focused attention, information processing, and cognitive persistence (Hidi, 2006) and is widely used as an explanatory construct in the field of learning and development (e.g., Krapp et al., 1992) and creativity (Amabile, 1988).

As delineated above, performance goal leaders may experience subordinate's creative input as challenging information that is incongruent with their goal of demonstrating superior leadership competence. Hence, they are likely to be motivated to protect and preserve their own established ideas rather than taking a genuine interest in exploring the potential usefulness of subordinates' creative ideas. Consequently, this may set them free to oppose creative ideas and inhibit them from adopting those ideas. Indeed, previous research has demonstrated that individuals holding performance goals tend to avoid challenge, minimize effort in learning new strategies, and experience impaired problem solving (Graham & Golan, 1991; Pintrich, 1989). Furthermore, performance goals are negatively related to motivation to learn and are unrelated with learning interest (Colquitt & Simmering, 1998; Elliot & Church, 1997).

In contrast, mastery goals are congruent with explorative interest because it directs the individual to potential resources for performance improvement, skill development, and leadership ability growth. Leaders pursuing mastery goal may, therefore, tend to display high levels of explorative interest in subordinates' creative input because it may provide them with valuable information about potential problems they can learn from and use for leadership improvement. Hence, mastery goal leaders' explorative interest may amplify the potential value and can be expected to enhance their adoption of the new

ideas suggested by subordinates while inhibiting their opposition to those ideas. Indeed, previous research shows that mastery goals promote situational interest, elicit feelings of excitement, and encourage cognitive and affective immersion in task activities (Elliot & Church, 1997; Elliot & McGregor, 2001; Rawsthorne & Elliot, 1999), all of which signify the aspects of explorative interest.

Because Study 2 is an experimental study in which we compare conditions with one another, we reformulated *Hypotheses 1* and *2* to make them testable.

Hypothesis 1: Performance goal leaders are more likely to oppose radical creative ideas voiced by subordinates than mastery goal leaders.

Hypothesis 2: Mastery goal leaders are more likely to adopt radical creative ideas voiced by subordinates than performance goal leaders.

In addition, we tested the following hypothesis about the mediational role of explorative interest:

Hypothesis 3: Explorative interest mediates the effects of leaders' achievement goals (performance vs. mastery) on their tendency to oppose (H3a) and adopt (H3b) radical creative ideas suggested by subordinates.

Method

Participants and design. Ninety Dutch business undergraduates participated for research points. The ages of the participants ranged from 18 to 45 years, and the mean age was 20.7 years ($SD = 3.3$). Participants were randomly assigned to one of the three achievement goal conditions (performance vs. mastery vs. no goal) of the between-subjects design, with men ($n = 45$) and women ($n = 45$) equally divided across the conditions. Gender had no effects and is not discussed further.

Procedure. Participants came to the laboratory and were seated in individual cubicles that were equipped with a computer. The participants read that they were participating in a research project on the assessment of managerial skills and abilities.

The experiment began with the presentation of a marketing scenario to the participants. The scenario described a company that developed, produced, and sold fast food products. The participants were assigned to the role of the company's marketing manager, who was responsible for positioning and selling the fast food products on the consumer market. It was emphasized that the manager had gained this top position in the company's hierarchy by being successful in establishing an *informational strategy* (IS). An IS contains factual

and meaningful descriptions of relevant product attributes, delivered in a logical, verifiable manner to attract customers (Okazaki, Mueller, & Taylor, 2010; Puto & Wells, 1984).

In the scenario, the organization had developed a new product, *fat-free fries*, and a project team was composed to successfully introduce the product on the consumer market. The project team consisted of three subordinates, and the marketing manager operated as the team leader. As a team leader, the marketing manager had assigned the team members the task to come up with informative sentences that could be used for applying the IS in the marketing campaign. The informative sentences developed by the subordinates were sent by email to the team leader in sets of three, and it was his or her task to give preference to one of these three alternatives. In actuality, the team members were nonexistent, and in their role of team leader, the participants received standardized informative sentences. Examples of three informative sentences used to stress the functionality of the product are as follows: (1) "Fat-free fries fit in perfectly with a fat-free diet;" (2) "Fat-free fries help to lower bad LDL cholesterol levels;" and (3) "Fat-free fries contain healthy body-building nutrients."

After they had given preference to the informative sentences sent by two subordinates, the participants received an email from the third member of the project team, named Anne (a Dutch unisex name). In the email, Anne proposed the use of another marketing strategy to introduce the new product, namely a *transformational strategy* (TS). A TS conveys affect-based contents that associate the experience of owning or using a product with psychological characteristics, such as excitement and enjoyment (Okazaki et al., 2010; Puto & Wells, 1984). Anne's proposal was completely different from the common, established IS propagated by the team leader to introduce new products. To advocate this novel idea of using the alternative method of TS, Anne described the weaknesses of the IS and emphasized the strengths of the TS relative to the IS with regard to the marketing of the new product. Given its novelty and potential usefulness in the context of the company's aims, Anne's proposal can be considered a creative idea for renewing the marketing strategy (Amabile, 1996; Shalley et al., 2004). The dependent variables and the manipulation checks were then assessed. We also asked the participants if they had any idea about the purpose of the study; none of the participants made correct guesses about the purpose of the study. Before leaving, the participants were debriefed and thanked for their participation.

As recognition of the potential value of a creative input is an essential and a crucial prerequisite for evaluation (cf. Zhou & Woodman, 2003), we tested whether the participants would recognize and perceive the creative input voiced by a subordinate as being useful for the situation at hand in a pilot study.¹ Results showed that

the subordinate's creative input was judged and evaluated positively and being suitable for marketing the invention of fat-free fries, meaning that leaders were able to recognize the usefulness of subordinate's idea. Thus, the idea voiced by the subordinate met the creativity criteria of novelty and usefulness, which made the leadership task appropriate for testing our hypotheses in Study 2.

Achievement goal manipulation. The manipulation took place after the participants had stated their preference for the informative sentences sent by two subordinates and before they had received the email from the third team member of the project team, Anne. The participants received an email from the editor of the company's staff magazine. In this email, the participants were told that an interview held with them as the marketing manager of the company a week ago would be published in the next edition of the magazine. The interview was focused on a characteristic leadership motto held and frequently expressed by the marketing manager. The email explained the grounds for this specific leadership motto and was used to induce the achievement goal manipulation, that is, the experimental manipulation.

The manipulation consisted of three coherent aspects from which a specific achievement goal was derived. First, different information with respect to the organizational climate was given in the different achievement goal conditions. In the performance goal condition it was emphasized that the organization had a strong competitive climate, continuously stimulating the leaders to demonstrate their competences by performing better than others. In contrast, in the mastery goal condition, it was emphasized that the organization had a strong developmental climate, continuously stimulating the leaders to develop their competences by gaining new knowledge

¹Twenty-two Dutch business undergraduates received €3 for their participation. The ages of the participants ranged from 17 to 27 years, and the mean age was 21.4 years ($SD = 2.74$). The mean work experience of the participants was 48.8 months ($SD = 36.0$). Participants were presented the same procedure as described earlier, without the achievement goal manipulation. Subsequently, they were asked a number of questions that measured the valence, suitability, and preference of both strategies. Valence of strategy was assessed using two items: (1) How do you feel about the TS? (2) How do you feel about the IS? The response categories ranged from 1 (*very negative*) to 7 (*very positive*). Suitability of strategy was assessed using the following two items: (1) How do you feel about the suitability of the TS for the current situation? (2) How do you feel about the suitability of the IS for the current situation? The response categories ranged from 1 (*not at all suitable*) to 7 (*very suitable*). To test whether leaders could recognize the valence of the subordinates' creative idea (the TS) relative to the valence of the leaders' established idea (the IS) a dependent t test was conducted. There was a significant effect for valence of strategy, $t(21) = 2.23, p < .05$, with the TS ($M = 5.64, SD = .95$) valenced more positively than the IS ($M = 4.68, SD = 1.49$). Furthermore, there was a significant effect for suitability of strategy as well, $t(21) = 2.15, p < .05$, with the TS ($M = 5.59, SD = .96$) being evaluated as more suitable than the IS ($M = 4.82, SD = 1.33$).

and skills. In the control condition, no information about the organizational climate was given.

Second, the participants held and frequently expressed a personal leadership motto, which was consistent with the organizational climate. In the performance goal condition, the personal leadership motto was: *Managers are superiors and, therefore, must demonstrate their superior competences in their executive work with subordinates*. The motto in the mastery goal condition was: *Managers are developers and, therefore, must keep developing their competences in their executive work*. Next, the editor of the staff magazine asked the participants to write a short narrative in which they clearly advocated their characteristic leadership motto to intensify the manipulation. Participants were asked to describe their emotions and beliefs associated with the personal leadership motto assigned to them (cf. Poortvliet, Janssen, Van Yperen, & Van de Vliert, 2007). The participants then had unrestricted time to write their short narratives and to send them to the editor by clicking on the “send” button. In the control condition, the participants did not hold a personal leadership motto; they were asked to write a narrative for the staff magazine about a neutral topic, which was unrelated to achievement goals and personal competences. The topic was the outsourcing of several (support) services to India and the Philippines owing to lower wages. The participants had to write down their opinions on this development.

Finally, the participants were assigned a specific achievement goal, which was consistent with the leader’s individual motto and the organizational climate. In the *performance goal condition*, in which outperforming others was the central aim, the participants were advised to demonstrate their leadership competences in their executive work with their subordinates (performance goal). In contrast, in the *mastery goal condition*, in which developing their own abilities was the central aim, the participants were advised to develop their leadership competences in their executive work (mastery goal). In the control condition, no specific achievement goal was assigned to the participants.

Measures

Manipulation checks. In the experimental conditions, participants were asked to indicate which characteristic personal leadership motto they held as managers. Participants could choose (1) *Managers are superiors and therefore must demonstrate their superior competences in their executive work with subordinates* (performance goal condition), (2) *Managers are developers and therefore must keep developing their competences in their executive work* (mastery goal condition), or (3) *I did not receive information with respect to a motto* (no goal condition).

The short narratives participants wrote about their personal leadership mottos were coded by two judges who were unaware of the study’s purposes and content. They independently assessed each participant’s narrative on two dimensions, namely the extent to which the narrative emphasized the importance of demonstrating leadership competences to others (performance goal dimension) and the extent to which it emphasized the importance of developing leadership competences (mastery goal dimension). The response categories ranged from 1 (*not at all*) to 5 (*very much*). Intraclass correlations were .68 and .86 for the performance goal dimension and the mastery goal dimension, respectively. Measures were averaged to get a single score on each dimension.

Dependent variables

Unless otherwise indicated, all the items used a Likert-type scale anchored at 1 (*not at all*) and 7 (*very much*). The presentation of the items was randomized for each scale.

Explorative interest ($\alpha = .85$) was measured using an adapted version of the situational interest subscale measurement developed by Chen, Darst, and Pangrazi (2001). The scale consisted of three items: (1) I want to get to the bottom with respect to Anne’s input, (2) I like to inquire into details about Anne’s input, and (3) Anne’s input is interesting for me. The response categories ranged from 1 (*totally disagree*) to 7 (*totally agree*).

Oppose creative ideas ($\alpha = .75$) and **adopt creative ideas** ($\alpha = .85$) were measured using the similar scales as in Study 1. However, the items were now context-specific. For oppose creative ideas the items were: (1) I push my own point of view with respect to the marketing strategy, (2) I struggle to win this dispute (about the marketing strategy) with Anne and (3) I do everything to win. For adopt creative ideas the items were: (1) I concede to Anne’s ideas with respect to the marketing strategy, (2) I will sacrifice my ideas in favour of Anne’s input to the marketing strategy, and (3) I will go along with Anne’s input to the marketing strategy. The correlation between oppose and adopt creative ideas was $-.27$ ($p = .01$). Correlations with explorative interest were $-.36$ ($p < .001$) and $.34$ ($p < .001$) for oppose and adopt creative ideas, respectively.

Results

Manipulation checks. The achievement goal manipulation check concerned the characteristic personal motto. In both the performance goal condition and the mastery goal condition, 97% of the subjects indicated the correct motto, $\chi^2(1, N = 60) = 52.27, p < .001$. In addition, the narrative scores on the performance goal dimension were significantly higher in the performance goal condition ($M = 4.15, SD = .76$) than in the mastery goal condition

TABLE 3

Multivariate F , univariate F 's, η^2 , means, and standard deviations of measures of dependent variables as a function of achievement goals in Study 2 ($N = 90$)

	Multivariate $F(6, 170)$		Univariate $F(2, 87)$	Partial η^2	Goal					
					Performance ($n = 30$)		Mastery ($n = 30$)		No goal ($n = 30$)	
					M	SD	M	SD	M	SD
Responses	2.63*	1. Oppose creative ideas	2.58 [†]	.06	3.72 _a	1.29	3.00 _b	1.22	3.32 _{ab}	1.19
		2. Adopt creative ideas	4.54*	.10	2.73 _a	.97	3.29 _b	1.30	2.41 _a	1.13
		3. Explorative interest	3.68*	.08	5.34 _a	.74	5.77 _b	.96	5.23 _a	.68

Higher values of means indicate a higher tendency of opposing creative ideas, adopting creative ideas, and higher explorative interest, respectively. Within each row, means with different subscripts differ at $p < .05$ minimally, except for subscripts in italic indicating differences at $p = .06$.

[†] $p < .10$; * $p < .05$.

($M = 1.52$, $SD = .75$), $F(1, 58) = 183.84$, $p < .001$, $\eta^2 = .76$; the narrative scores on the mastery goal dimension were significantly higher in the mastery goal condition ($M = 4.80$, $SD = .57$) than in the performance goal condition ($M = 1.53$, $SD = .78$), $F(1, 58) = 346.84$, $p < .001$, $\eta^2 = .86$. Hence, the manipulation of achievement goals was successful.

Discriminant and convergent validity. We used CFA to assess the discriminant and convergent validity of the scales for oppose and adopt creative ideas and explorative interest. We computed parameter estimates with the LISREL 8.80 computer package, using the maximum likelihood method. We first tested a model (1) in which opposition to creative ideas, adopting creative ideas and explorative interest items were loaded on three corresponding constructs. The overall fit of the model to the data was adequate [$\chi^2(24, N = 90) = 35.10$, $p = .07$, RMSEA = .07, AGFI = .85, GFI = .92, CFI = .97]. The factor loading of each item was significant at the .001 level or better.

We computed three alternative models: (2) a model with two underlying constructs, in which oppose creative ideas and explorative interest were collapsed into one factor; (3) a model with two underlying constructs, in which adopt creative ideas and explorative interest were collapsed together; and (4) a model with one underlying construct. The fit statistics of the second model were: $\Delta\chi^2(2) = 42.40$, $p < .001$, RMSEA = .15, AGFI = .72, GFI = .84, CFI = .88. For the third model: $\Delta\chi^2(2) = 72.33$, $p < .001$, RMSEA = .19, AGFI = .63, GFI = .79, CFI = .82. For the fourth model: $\Delta\chi^2(3) = 117.88$, $p < .001$, RMSEA = .23, AGFI = .54, GFI = .72, CFI = .72. These fit indices clearly show that our hypothesized three-factor measurement model (i.e., Model 1) fits our data well and was the most appropriate for the situation under consideration.

Dependent variables. A one-way multivariate analysis of variance (MANOVA) was conducted to examine the extent to which participants with different achievement

goals (performance goal vs. mastery goal vs. no goal) differed in their explorative interest and oppose and adopt responses. Table 3 shows that, at the multivariate level, the main effect was significant. At the univariate level, the effect was significant for adopting creative ideas and explorative interest and marginally significant for opposing creative ideas.

Hypothesis 3 stated that performance goal leaders are more likely to oppose creative ideas than mastery goal leaders. As can be seen in Table 3, performance goal leaders indeed opposed the creative ideas voiced by subordinates to a greater extent than leaders in the mastery goal condition. There were no significant differences in opposition to creative ideas between the no-goal condition and the performance or mastery conditions.

Hypothesis 4 stated that mastery goal leaders would to a greater extent adopt creative ideas than performance goal leaders. Again, the results (see Table 3) were in line with our expectation. Compared to performance goal leaders, mastery goal leaders were more likely to adopt creative ideas in response to subordinates' creative input. There was no difference between the performance goal condition and the no goal condition.

Mediating hypothesis. To test whether explorative interest mediated the effect of achievement goal (performance goal = -1, mastery goal = +1) on opposing creative ideas (*Hypothesis 3a*) and adopting creative ideas (*Hypothesis 3b*), we followed scholars' recommendations to directly test the significance of the indirect effects (e.g., MacKinnon, Krull, & Lockwood, 2000; Shrout & Bolger, 2002). To do so, we performed two bootstrap analyses (5000 bootstrap resamples) following the procedure outlined by Preacher and Hayes (2004, 2008). Examination of the specific indirect effect revealed that explorative interest was a borderline significant mediator between achievement goal and opposing creative ideas (indirect effect = -.10, $SE = .09$, 95% confidence interval: [-.375, .002], 90% confidence interval: [-.329, -.011]), because the 90% confidence interval did not

contain zero. Furthermore, examination of the specific indirect effect also revealed that explorative interest was a borderline significant mediator between achievement goal and adopting creative ideas (indirect effect = .06, $SE = .05$, 95% confidence interval $[-.002, .234]$, 90% confidence interval: $[-.014, .189]$). As we hypothesized the specific direction of these indirect effects, the 90% confidence interval is appropriate as a significant criterion. Thus, we found support for *Hypothesis 3a* and *3b*.

Supplementary analyses. In addition to the hypotheses testing, we conducted paired sample t tests, to test whether an experimental condition had a stronger tendency to oppose or adopt creative ideas. For performance goal leaders there was a stronger tendency to oppose creative ideas ($M = 3.72$, $SD = 1.29$) than to adopt creative ideas ($M = 2.73$, $SD = .97$), $t(29) = 3.35$, $p = .002$. A similar pattern was found for the no goal control condition, that is, a stronger tendency to oppose creative ideas ($M = 3.32$, $SD = 1.19$) than to adopt creative ideas ($M = 2.41$, $SD = 1.13$), $t(29) = 2.82$, $p = .009$. Mastery goal leaders, however, did not significantly differ in their tendencies to oppose creative ideas ($M = 3.00$, $SD = 1.22$) and to adopt creative ideas ($M = 3.29$, $SD = 1.30$), $t(29) = -.72$, ns .

Conclusions

In line with Study 1, a correlational study, the experimental data of Study 2 demonstrate that leaders holding performance goals were more likely to oppose voiced radical creative ideas than mastery goal leaders. In contrast, mastery goal leaders were more likely to adopt radical creative ideas than performance goal leaders. Explorative interest was found to mediate these effects of leaders' achievement goals on their oppose and adopt responses to subordinates' radical creative ideas.

Thus, relative to performance goals, mastery goals produce more favourable leader responses to creative input voiced by subordinates. Hence, an interesting question is under which condition performance goal leaders may be more likely to respond favourably to ideas voiced by subordinates. Specifically, in Study 3, we examined whether the mode in which subordinates voice their creative ideas (i.e., aggressive vs. considerate) moderates the effect of leaders' achievement goals on their oppose and adopt responses to valuable creative ideas voiced by their subordinates.

STUDY 3

Scholars distinguish different behavioural modes in which individuals can voice their concerns and opinions differing on their degree of constructiveness, namely aggressive voice and considerate voice (e.g., Hagedoorn et al., 1999; Rubin, Pruitt, & Kim, 1994; Saunders, Sheppard, Knight, & Roth, 1992). *Aggressive*

voice lacks subordinates' consideration for leaders' concerns and consists of efforts to overrule the leader. *Considerate voice* consists of subordinate's attempts to solve the issue at stake considering one's own concerns and those of the leader and organization (Hagedoorn et al., 1999). We propose that *subordinates' mode of voice* (aggressive vs. considerate) may affect the oppose and adopt responses of performance goal leaders rather than mastery goal leaders.

As performance goal leaders rely on interpersonal standards when evaluating their competence, relative competence between leader and subordinate may be considered as an important and crucial factor (Butera & Mugny, 2001). When subordinates use aggressive voice, they display efforts aimed at winning a dispute with the leader, leaving no room for leaders' concerns. Performance goal leaders might perceive such aggressive voice as a "win-lose" frame in which they see the subordinate as a rival (Ryan & Pintrich, 1997) who challenges and threatens their superior competencies as a leader (Darnon et al., 2006). Thus, aggressive voice makes performance goal leaders' tendency to focus on relative competence issues more salient. Accordingly, it strengthens these leaders' dominant reaction to defend their superior competence by opposing rather than adopting the creative ideas voiced aggressively by the subordinate. Scholars indeed show that aggressive ways of expressing oneself can evoke defensiveness as a result of a perceived threat (Penney & Spector, 2005).

In contrast, when subordinates voice creative ideas in a considerate way, they request their leader to consider the content and value of their new ideas. Such a considerate request by a subordinate confirms rather than threatens a leader's superior competence. Considerate requests acknowledge the leader's role as a superior in considering and evaluating ideas for doing things differently. Leaders might even feel strengthened in their own competence when subordinates appeal to their leader's expertise in evaluating their input. By respecting the leader's superior position and taking his or her opinion into account, considerate voice may create a more constructive foundation for discussing the content of the creative input. That is, by neutralizing the potential for competence-related conflict and focusing on the content of the ideas, considerate voice provides the leader with the opportunity to really consider the value of the creative ideas. Consequently, performance goal leaders should be less likely to oppose and more likely to adopt valuable creative ideas when they are voiced considerately rather than aggressively.

Rather than performance goal leaders, mastery goal leaders are more focused on content-related aspects of the subordinates' creative input. Given this focus on the instrumental value of the input, mastery goal leaders may not be very sensitive to and influenced by the way in which the creative input is voiced by the subordinate. They tend to evaluate creative input in an epistemic way

(Doise & Mugny, 1984). When the input contains elements that can help them further develop their leadership knowledge, skills, and abilities, they are willing to use that input, regardless of the aggressive or considerate way the creative input is voiced. Therefore, we predict the following:

Hypothesis 4: Performance goal leaders are less likely to oppose and more likely to adopt radical creative ideas when subordinates voice them in a considerate rather than aggressive mode.

Method

Participants and design. Ninety-one Dutch business school undergraduates were given either partial course credit or €5 each for their participation. The ages of the participants ranged from 18 to 28 years, and the mean age was 20.8 years ($SD = 2.8$). Participants were randomly assigned to experimental conditions in a 2 (achievement goal: performance vs. mastery) $\times$ 2 (subordinates' mode of voice: aggressive vs. considerate) between-subjects factorial design, with men ($n = 50$) and women ($n = 41$) equally divided across the conditions. Gender had no effects and is not discussed further.

Procedure. The procedure of Study 3 was similar to that of Study 2, with one crucial difference. In Study 3, an additional factor was included: subordinates' mode of voice. The behavioural mode in which the creative input of the third team member (Anne) was voiced to the team leader varied, thereby creating two different voice conditions. In one condition, the input was voiced aggressively, characterized by efforts to overrule the leader (*aggressive voice*). In the other condition, the input was voiced considerately, characterized by requests to the leader to consider the creative input (*considerate voice*). See the Appendix for the complete texts, where words in italics indicate the differences between the two voice conditions.

Measures

Manipulation checks. The same manipulation checks were used as in Study 2. Intraclass correlations for the judges' ratings of the short narratives that the participants wrote were .70 for the performance goal dimension and .92 for the mastery goal dimension. Measures were averaged to get a single score on each of these dimensions.

The subordinates' mode of voice manipulation was checked by asking participants to assess the extent to which certain adjectives described the subordinates' input. For aggressive voice we used the following three adjectives ($\alpha = .86$): hostile, aggressive, and ill-mannered. For considerate voice the three adjectives were polite, diplomatic, and respectful; $\alpha = .87$. A higher score

means a higher degree of perceived aggressiveness and perceived considerateness, respectively.

Dependent variables

Oppose creative ideas ($\alpha = .78$) and *adopt creative ideas* ($\alpha = .69$) were assessed using the same measures as in Study 2. The correlation between both the variables was $-.36$.

Results

Manipulation checks. In the performance goal condition and the mastery goal condition, 86% and 100%, respectively, indicated the correct motto, $\chi^2(1, N = 91) = 69.60, p < .001$. In addition, the narrative scores on the performance goal dimension were significantly higher in the performance goal condition ($M = 3.91, SD = .93$) than in the mastery goal condition ($M = 1.36, SD = .46$), $F(1, 89) = 280.62, p < .001, \eta^2 = .76$; the narrative scores on the mastery goal dimension were significantly higher in the mastery goal condition ($M = 4.72, SD = .49$) than in the performance goal condition ($M = 1.23, SD = .50$), $F(1, 89) = 1108.74, p < .001, \eta^2 = .93$. These narrative scores are comparable to those found in Study 2. Hence, the manipulation of achievement goals was successful.

The participants in the aggressive voice condition ($M = 4.12, SD = 1.37$) perceived the subordinates' creative input to be more aggressive than did the participants in the considerate voice condition ($M = 2.19, SD = 1.02$), $F(1, 89) = 57.86, p < .001, \eta^2 = .39$. Furthermore, the participants in the considerate voice condition ($M = 4.87, SD = 1.10$) perceived the subordinates' creative input to be more considerate than did the participants in the aggressive voice condition ($M = 3.13, SD = 1.24$), and this difference was significant, $F(1, 89) = 50.20, p < .001, \eta^2 = .36$. Therefore, the manipulation of the subordinates' mode of voice was successful.

Dependent variables. A 2 (achievement goal: performance vs. mastery) $\times$ 2 (subordinates' mode of voice: aggressive vs. considerate) between-groups MANOVA was conducted to examine the differences between the four conditions with regard to the dependent variables of opposing and adopting creative ideas. At the multivariate level, no main effect for achievement goal was found, $F(2, 86) = .41, ns$. The main effect of subordinates' mode of voice was significant, $F(2, 86) = 3.20, p < .05, \eta^2 = .07$. At the univariate level a significant effect was found for opposing creative ideas, $F(1, 87) = 4.05, p < .05, \eta^2 = .04$, and a borderline significant effect was found for adopting creative ideas, $F(1, 87) = 3.34, p = .06, \eta^2 = .04$. Overall, leaders reported lower intentions to oppose creative ideas when the subordinates voiced the creative input considerately ($M = 2.89, SD = 1.15$) than when the creative input was voiced aggressively ($M = 3.35, SD = 1.24$). Similarly, leaders

TABLE 4

Significant interaction effects of achievement goal (performance vs. mastery) and subordinates' mode of voice (aggressive vs. considerate): Study 3 ($N = 91$)

Achievement goals	Performance				Mastery			
	Aggressive ($n = 22$)		Considerate ($n = 21$)		Aggressive ($n = 24$)		Considerate ($n = 24$)	
Dependent variables								
1. Oppose creative ideas	3.52 _a	1.01	2.51 _b	1.03	3.21 _{ab}	1.43	3.22 _{ab}	1.16
2. Adopt creative ideas	2.53 _a	1.00	3.49 _b	1.44	2.89 _{ab}	1.22	2.88 _{ab}	1.25

Higher values of means indicate higher degree of opposing creative ideas and adopting creative ideas, respectively.
Within each row, means with different subscripts differ at $p < .05$ minimal.

reported higher intentions to adopt the creative idea when subordinates voiced the creative input considerably ($M = 3.16$, $SD = 1.36$) than when the creative input was voiced aggressively ($M = 2.72$, $SD = 1.12$). Most interestingly, we found the hypothesized interaction effects of achievement goal and subordinates' mode of voice at the multivariate level, $F(2, 86) = 3.39$, $p < .04$, $\eta^2 = .07$, and at the univariate level for both opposing creative ideas, $F(1, 87) = 4.28$, $p = .04$, $\eta^2 = .05$, and adopting creative ideas, $F(1, 87) = 3.54$, $p = .06$, $\eta^2 = .04$.

The means and standard deviations are presented in Table 4. As expected, performance goal leaders were less likely to oppose creative ideas when the creative input was voiced considerately ($M = 2.51$, $SD = 1.03$) rather than aggressively ($M = 3.52$, $SD = 1.01$), $F(1, 87) = 7.89$, $p < .01$, $\eta^2 = .08$. We found a similar pattern for adopting creative ideas, $F(1, 87) = 6.52$, $p = .01$, $\eta^2 = .07$, with performance goal leaders being more likely to adopt creative ideas when they were voiced considerately ($M = 3.49$, $SD = 1.44$) rather than aggressively ($M = 2.53$, $SD = 1.00$). No differences were found for mastery goal leaders on opposing creative ideas, $F(1, 87) < .01$, *ns*, and adopting creative ideas, $F(1, 87) < .01$, *ns*. These results are completely in line with Hypothesis 4.

Supplementary analyses. In addition to the hypotheses testing, and similar to Study 2, we used paired sample *t* tests to test whether an experimental condition had a stronger tendency to oppose or adopt creative ideas. For mastery goal leaders, no significant differences were found between oppose ($M = 3.22$, $SD = 1.29$) and adopt responses ($M = 2.88$, $SD = 1.22$), $t(47) = 1.16$, *ns*. Also, for performance goals the differences between oppose ($M = 3.02$, $SD = 1.13$) and adopt responses ($M = 3.00$, $SD = 1.31$) were nonsignificant, $t(43) = .82$, *ns*.

GENERAL DISCUSSION

We proposed and demonstrated that achievement goals influence leaders in their tendency to oppose or adopt

potentially useful radical creative ideas proposed by their subordinates. Specifically, we showed that relative to mastery goal leaders, performance goal leaders are more likely to stick to their own established ideas at the cost of novel and valuable ideas voiced by the subordinates (Studies 1 and 2). In contrast, relative to performance goal leaders, mastery goal leaders were more likely to adopt new and valuable insights that subordinates deliver to them (Studies 1 and 2). In Study 2, we further showed that these effects of leaders' achievement goals on their oppose and adopt responses were mediated by leaders' explorative interest. Consistent with our reasoning, results of the supplementary analyses showed that mastery goals have oppose and adopt response options equally available to them, whereas performance goal leaders tend to have a preference for opposing creative ideas. Finally the results of Study 3 show that subordinates' mode of voice moderates the effects of leaders' achievement goals. That is, in contrast to mastery goal leaders, performance goal leaders were sensitive to subordinates' mode of voice, such that performance goal leaders responded more positively (i.e., less likely to oppose and more likely to adopt radical creative ideas) when the creative input was voiced considerately rather than aggressively. In other words, performance goal leaders tend to smother bottom-up creativity *more* when subordinates voice their creative input aggressively rather than considerately. Confidence in our findings is bolstered not just by the replication over studies per se but especially by the fact that the studies used different methodologies (i.e., cross-sectional survey, laboratory experiment), different samples (i.e., nonstudent leaders in organizations, students), and different sources of achievement goals (i.e., freely adopted, assigned).

Theoretical implications

The primary contribution of this study lies in providing an explanation for why leaders sometimes oppose and other times adopt radical creative ideas voiced by their subordinates. Our research shows that motivational drivers, that is, leaders' dominant achievement goal, can

explain differences in leaders' responses to subordinate creativity. Not only does our research demonstrate that leaders' achievement goals affect their responses to subordinates' voice of creative input, it also shows that the behavioural mode in which subordinates voice their creative ideas affects performance goal leaders in their responses. As leadership in its core is an interpersonal influence process, the current results represent, in this sense, a significant contribution to the growing field of interpersonal achievement goal research (e.g., Darnon et al., 2006; Poortvliet et al., 2007; VandeWalle, 2003). Specifically, we contribute to the interpersonal effects of mastery and performance goals in leader-subordinate relationships (e.g., Janssen & van der Vegt, 2011; Janssen & Van Yperen, 2004) by showing that leaders' achievement goals affect their interpersonal reactions to subordinates who come up with new and potentially useful ideas.

Our results contribute theoretically to the employee creativity literature as well, and more specifically, to the specific role leaders play in evaluating employee creativity. Although the importance of the leader role in recognizing employee creativity is acknowledged (Zhou & Woodman, 2003), scant research has actually investigated factors and conditions that determine leaders' behavioural responses to subordinates who actually come up with creative ideas. The few studies conducted in this realm suggest that prolonged exposure to specific firm and organizational contexts tend to foster an attachment to extant beliefs and practices that cause leaders to keep relying on existing frameworks of thoughts and routines instead of considering new ideas (e.g., Beggan, 1992; Hambrick et al., 1993; Miller, 1991). Rather than choosing this attachment perspective, we used an achievement motivation perspective to identify how leaders' own achievement goals influence their tendencies to oppose or adopt creative ideas proposed by subordinates. Our study contributes to the creativity literature by showing that leaders' achievement motivation affects their evaluation and judgement of radical creative ideas voiced by subordinates and consequently determines the way they react to these ideas.

Our results also have implications for the literature on employee voice and more specifically for employee voice of radical creative ideas. Previous research has focused on identifying factors and psychological mechanisms underlying employee voice, like antecedents of perceived riskiness of voicing "up the hierarchy" (e.g., Ashford, Sutcliffe, & Christianson, 2009; Burris, Detert, & Chiaburu, 2008; Detert & Burris, 2007), rather than examining how leaders manage employee voice (for an exception, see Burris, 2012). Our research adds to the limited number of studies that investigated leaders' responses to employees who actually expressed their concerns and opinions. Furthermore, we identified mode of voice as a boundary condition that affects leaders' reactions to subordinates who voice

radical creative ideas that are challenging. Burris (2012) recently showed that challenging voice elicits unfavourable reactions. Our findings may provide a nuance to this by showing that leaders' reactions to employee voice depend on the achievement goals they pursue and the behavioural mode in which employees voice their ideas. Behavioural mode of voice seems to operate as a contingency factor that moderates performance goal leaders' responses: a considerate mode of voice leads to more favourable reactions than an aggressive mode of voice.

Finally, this research contributes to an emerging line of leadership research documenting how subordinates seek to upwardly influence their leaders. Subordinates can exercise influence over their leaders by, for example, engaging in proactive behaviour (Grant, Parker, & Collins, 2009), taking charge (Morrison & Phelps, 1999), or taking initiatives (Frese & Fay, 2001). We contribute to this upward influence research by identifying how subordinates' upward voice of radical creative ideas trigger differential reactions from their leaders. The present research findings show that subordinates' mode of voice may clarify why some leaders stay attached to the status quo and oppose bottom-up creativity, whereas others undertake adaptive measures by adopting and incorporating new ideas delivered by subordinates.

Limitations and future research

Besides the strengths, the present research clearly has limitations. A limitation may be that we focused exclusively on how achievement motivational factors in leaders would influence leader-subordinate interactions. Comparisons with other referents may lead to different responses and displays of behaviour by leaders to achieve their goal. For instance, performance goal leaders, who are motivated to demonstrate superior competence relative to others, might display other behaviours to a subordinate (e.g., explicitly reject creative input) than to their superior (e.g., implicitly adopt the subordinate's creative input and exploit it to impress the superior). Performance goals, rather than mastery goals, have been linked to thwarting, deceiving, and cheating (Poortvliet, Anseel, Janssen, van Yperen, & Van de Vliert, 2012; Van Yperen, Hamstra, & van der Klauw, 2011). Therefore, we expect performance goal leaders to be more inclined to exploit creative ideas of their subordinates than mastery goal leaders. Future research may investigate this suggestion, as well as the influence of achievement motivational factors on the quality and outcomes of exchange relationships between the leader and other significant others in the work environment, such as peer leaders and superiors.

In the present research, we only examined *approach* goals, that is, performance-approach goals and mastery-approach goals. As indicated, the reason is that approach goals have the most potential in terms of practical

implications by means of achievement goal-based interventions. Responses to upwardly voiced creative input, however, might also be affected by *avoidance* goals. More specifically, avoidance goals may be expected to be particularly maladaptive to voiced creative input. As avoidance goals are associated with risk aversion (Jagacinski, Kumar, & Kokkinou, 2008), leaders with avoidance goals might overestimate the risk of creative change (Elliot & Church, 1997) and tend to stick to the status quo. Such suggestions about potential effects of avoidance goals await future research to be explored.

We investigated mode of voice as an important interpersonal contingency factor and found, as expected, that performance goals were sensitive to the mode in which subordinates voiced their radical creative ideas. However, we lack understanding of factors that may affect mastery goal leaders in their reactions. For example, given the focus of mastery goal leaders on developing competence, they can be expected to be sensitive to subordinates' expertise, whereby mastery goal leaders may be more likely to utilize creative ideas generated and voiced by subordinates with high rather than low expertise (cf. VandeWalle, 2003). Hence, future research may focus on examining contingency factors that moderate the effects of mastery goals.

Finally, we investigated only two types of responses (i.e., oppose and adopt) that leaders could demonstrate in reaction to voiced creative ideas. Of course, other response options might be available to leaders, such as integration of suggestions of the subordinate with leaders' own ideas or a further investigation and elaboration of ideas. Furthermore, leaders might be inspired by creative suggestions and use them for the further development or rethinking of their own ideas. Management of employee creativity is a complex and ever-ongoing process of which we only investigated how leaders respond to radical creative ideas that were one-sidedly generated and voiced by subordinates. However, creativity may also involve iterative processes in which leaders and subordinates collaborate in developing, promoting, and realizing new ideas (Amabile, 1988; Drazin, Glynn, & Kazanjian, 1999).

Practical implications

Organizations, especially those that depend on creativity and innovation to survive, benefit from leaders who are able to recognize and utilize creative input that is deemed valuable for the organization. As some leaders might be more attached to their own established framework of thoughts and routines (Hambrick et al., 1993), valuable and fruitful ideas might be lost which may negatively affect organizational effectiveness. When evaluating and managing creative input delivered by subordinates, rather than performance goal leaders, mastery goal leaders are more likely to abandon their

initial thoughts and adopt new ideas. The present findings suggest that organizations that create an environment in which leaders are encouraged to adopt mastery goals rather than performance goals may have an advantage in this regard (VandeWalle, 2003). As it is easier to increase mastery goals than to lower performance goals of leaders (Baranik et al., 2010), organizations should take this into account when determining the most efficient strategy to motivate leaders. One way organizations can create a mastery goal motivational climate is by emphasizing evaluation more in terms of progress and effort, by defining success more in terms of progress and improvement, and by accepting errors or mistakes as part of the learning process, particularly in training programs (e.g., Ames, 1992; Van Yperen & Orehek, 2013).

Our results further suggest that under certain circumstances performance goals can be as effective and beneficial on the job as mastery goals. That is, we provide empirical evidence showing that performance goal leaders are less likely to oppose and more likely to adopt subordinates' creative ideas when the input was voiced considerably rather than aggressively. Hence, to increase the likelihood that creative ideas may be recognized and managed by leaders, organizations may provide training to subordinates in how to voice creative ideas in considerate ways and to avoid exaggerating aggressive ways of voicing ideas. In line with this suggestion, (performance goal) leaders might also be trained. Specifically, they might be trained to focus on the content of the voiced creative input instead of focusing on the mode of voice and to respond to radical creative ideas as an opportunity rather than a dispute. Finally, the conventional wisdom is that encouraging employees to voice creative ideas should increase innovation (e.g., Detert & Burris, 2007). This encouragement, however, does not account for how managers respond when employees actually come up with radical creative ideas. So, organizations might not only focus on encouraging employees to provide radical creative suggestions, but also on encouraging leaders to act upon those suggestions in appropriate and effective ways.

Conclusion

Our research findings show that it is not only novelty and usefulness that determine whether ideas voiced by subordinates will become part of the "legitimate" repertoire of thoughts and routines of the leader. We showed that leaders' achievement goals and the behavioural mode in which subordinates voice their creative input affect leaders' responses to valuable creative ideas. We hope that the present study provides an impetus for further research on leader reactions to employee creativity.

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APPENDIX.

SUBORDINATES’ MODE OF VOICE MANIPULATION

Aggressive voice condition

I think it is ridiculous that you want to use an IS for the introduction of this revolutionary new product. Fat-free fries are namely a product that is difficult for consumers to distinguish from other fries. With an IS, technical and sometimes “invisible” characteristics of the product are emphasized, by which the product will definitely not catch the eye of customers. Everyone can see that an IS is completely unsuitable, and therefore I have absolutely no confidence that this strategy will lead to success.

I think the campaign needs to focus more on people’s feelings and emotions that they may experience with the product. First, I would use a catchy and feeling-evoking slogan to emphasize the

distinctive characteristics of the fat-free fries. By combining the slogan with a tune, the recognition and reputation of the fat-free fries will increase quickly. Some ideas for a slogan:

- Even with the strictest diet you are allowed to eat these fries, so try them!
- Eat the world's tastiest fries, without your conscience in disguise!

An important advantage of a TS is that we can anticipate important values in society. In addition to the emphasis on healthy lifestyles, it also allows you to stress other emotions and feelings such as enjoyment and the experience of tasting the fries. With a TS you are more capable of creating a positive image around the fat-free fries. *Everyone can see that the use of a TS with the abovementioned elements will be way more effective than an IS. I am counting on the fact that you will not use your IS, but will use my TS for the introduction of the fat-free fries.*

Considerate voice condition

With all due respect, I think that the IS you are planning to use for the introduction of this new revolutionary product might possibly not lead to the best results. Fries are namely a product that is difficult for consumers to distinguish from other fries. With an IS, technical and sometimes “invisible” characteristics of the product are emphasized, by which the product might not catch the eye of the

customer very well. In my modest opinion, I think that an IS might not be the best-suited strategy, and therefore I have some doubts if this strategy will lead to success.

I think the campaign needs to focus more on people's feelings and emotions that they may experience with the product. First, I would use a catchy and feeling-evoking slogan to emphasize the distinctive characteristics of the fat-free fries. By combining the slogan with a tune, the recognition and reputation of the fat-free fries will increase quickly. Some ideas for a slogan:

- Even with the strictest diet you are allowed to eat these fries, so try them!
- Eat the world's tastiest fries, without your conscience in disguise!

An important advantage of a TS is that we can anticipate important values in society. In addition to the emphasis on healthy lifestyles, it also allows you to stress other emotions and feelings such as enjoyment and the experience of tasting the fries. With a TS you are more capable of creating a positive image around the fat-free fries. *The use of this TS with the abovementioned elements could possibly be more effective than an IS. May I therefore ask you to consider the use of a TS for the introduction of the fat-free fries?*