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Leaders' receptivity to subordinates' creative input: The role of achievement goals and composition of creative input

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We identified leaders' achievement goals and composition of creative input as important factors that can clarify when and why leaders are receptive to, and supportive of, subordinates' creative input. As hypothesized, in two experimental studies, we found that relative to mastery goal leaders, performance goal leaders were less receptive to subordinates' voiced creative input. In Study 1, we further showed that image threat appraisal and learning opportunity appraisal mediated this effect. In Study 2, we demonstrated that when merely creative ideas were expressed by the subordinate, performance goal leaders responded like mastery goal leaders. However, as in Study 1, performance goal leaders were less receptive to, and less supportive of, subordinates' creative input than mastery goal leaders when the composition of subordinates' creative input included both problem identifications and creative ideas.

Keywords: Goal orientation; Creativity; Leader behaviours; Responsiveness; Image threat; Learning opportunity.

In today's complex, dynamic, and highly competitive environment, organizations need to innovate continuously to survive and prosper. Since the foundation of all innovation is creative ideas (Axtell et al., 2000; Scott & Bruce, 1994), employee creativity is a crucial resource in the process of organizational innovation (Amabile, Schatzel, Moneta, & Kramer, 2004; Kanter, 1988). Employees exhibit creativity when they "produce novel, potentially useful ideas about organizational products, practices, services or procedures" (Shalley, Zhou, & Oldham, 2004, p. 933). The challenges of managing employee creativity effectively are considerable, and a growing body of research reveals that leaders can either make or break creative initiatives taken by subordinates through their power of providing or withholding resources and support (e.g., Amabile et al., 2004; Graen & Cashman, 1975; Mumford, Scott, Gaddis, & Strange, 2002). Hence, leaders fulfil key positions in managing bottom-up creativity as they decide whether creative input may flourish or not (Ford & Gioia, 2000; Janssen, 2005).

In accordance with the critical role of leaders, organizational scholars have conducted a great deal of research on detecting and understanding the importance of leader determinants in promoting subordinate creativity (e.g., Oldham & Cummings, 1996; Shalley et al., 2004), and in stimulating subordinates to voice their ideas (e.g., Detert & Burris, 2007; Edmondson, 2003; Liu, Zhu, & Yang, 2010; for a review, see Morrison, 2014). Yet, little research has examined how leaders actually react when subordinates voice challenging creative ideas towards them (for exceptions, see Burris, 2012; Sijbom, Janssen, & Van Yperen, 2014). This is remarkable, because leaders are not solely important in stimulating employees to engage in creativity, they also play a vital role in managing and incorporating employees' creative input that deems valuable for the organization (Detert & Burris, 2007; Quinn, Faerman, Thompson, & McGrath, 1996). However, although potentially beneficial, creative input voiced by subordinates can challenge the "current ways of doing things"

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(Detert & Burris, 2007) and may therefore be met with resistance by leaders. Indeed, Burris (2012) showed that leaders tend to react in negative ways in response to challenging voice input delivered by employees, even though this input was voiced with the intention to improve current situations. A relevant question, therefore, is which factors underlie leaders' reactions and guide them in their management of voiced creative input.

Although prior research showed that 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' receptiveness to subordinates' voiced creative input. This is unfortunate, because achievement motivation has long been recognized to be of central significance for leader effectiveness (Hambrick & Mason, 1984), and motivational factors may substantially affect leaders in the way they interpret, experience, and respond to subordinates' creative input (cf. Sedikides & Strube, 1997). To fill this void in the research literature, and as leaders' perceptions and behaviours towards subordinates are inextricably bound with their achievement pursuits in leadership situations (e.g., Yukl, 1989), we use an achievement goal approach (Elliot, 2005; Van Yperen & Orehek, 2013) to investigate how leaders' achievement goals may influence their receptiveness to, and support of, voiced creative input. Specifically, we examine whether image threat appraisal and learning opportunity appraisal mediate the effect of leaders' achievement goals on their receptiveness to subordinates' creative input.

Furthermore, as creative ideas are usually generated in response to perceived irregularities, insufficiencies, or inefficiencies (Kanter, 1988), subordinates' creative input may consist of two related yet distinct basic aspects, namely, the identification of a problem and the expression of a creative idea generated for potential problem solution (e.g., Amabile, 1996; Reiter-Palmon, Mumford, Boes, & Runco, 1997; Shalley et al., 2004). Although both aspects are inherently associated with creativity, when voicing their creative input towards the leader, subordinates may differ in the extent to which they point out and elaborate on the problems (i.e., problem identification) that have triggered them to engage in creativity. Because pointing out problems and making comments carry the risk of challenging and upsetting the leader (cf. Milliken, Morrison, & Hewlin, 2003), employees may choose to focus on expressing and discussing their creative ideas without highlighting the insufficiencies they detected in the leader's domain too much. Hence, we disentangle the two aspects of problem identification and creative idea in subordinates' creative input in order to investigate how different compositions of creative input (i.e., both problem identification and creative idea vs. solely a creative idea) moderate the effects of leaders' achievement goals on their receptiveness to, and supportiveness of, subordinates' creative input.

In sum, we seek to contribute to the extant literature (1) by theorizing and testing how leaders' reactions to subordinates' creative input are affected by leaders' own achievement goals; (2) by showing that image threat appraisal and learning opportunity appraisal mediate these effects; (3) by investigating different compositions of creative input, assuming that particular characteristics of the creative input shape the effects of leaders' achievement goals on their responses to creative 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 (Elliot, 2005; Van Yperen & Orehek, 2013). In this approach, the focus on an *interpersonal* (or other-referenced) standard is referred to as a performance goal. People who strive for performance goals tend to compare their performances with those of others. In contrast, mastery goals are grounded in an *intrapersonal* (or self-referenced) standard. People who pursue mastery goals tend to compare their present performance with their previous performance (cf. DeShon & Gillespie, 2005; Elliot & McGregor, 2001; Van Yperen, 2003a).

In the achievement goal tradition, performance goals and mastery goals have typically been portrayed, both implicitly and explicitly, as approach forms of regulation (Elliot, 2005). Research has demonstrated that approach goals, defined as goals directed towards positive or desirable events, are the most efficacious in enhancing performance, whereas avoidance goals, defined as goals directed towards avoiding negative outcomes, are most likely to adversely affect performance attainment (Van Yperen, Blaga, & Postmes, *in press*). Furthermore, a large body of empirical work indicates that approach goals are more adaptive forms of self-regulation than avoidance goals (see Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Richardson, Abraham, & Bond, 2012; Van Yperen, Blaga, & Postmes, 2014). So, from an applied perspective, approach goals, in particular, are of interest for achievement-goal-based interventions. *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, 2003a). Because we focused on approach goals only in the present research, performance-approach goals are referred to as *performance goals* and mastery-approach goals as *mastery goals*.

Achievement goals have been conceptualized differently in literature (DeShon & Gillespie, 2005). Some researchers conceptualize achievement goals as a relatively stable disposition inherently associated with self-theories about the nature and development of people's

attributes (DeShon & Gillespie, 2005; VandeWalle, 2003), whereas others argue that achievement goals are domain specific and are influenced by situational characteristics (Pintrich, 2000; Van Yperen & Orehek, 2013; Van Yperen et al., *in press*). Conceptual and empirical considerations suggest that achievement goals may be best suited for the domain-specific level rather than the dispositional-specific level (cf. Baranik, Barron, & Finney, 2010; Van Yperen, Hamstra, & van der Klauw, 2011; see Elliot, 2005). In this article, we followed the conceptualization of Elliot (2005) and examined and induced leaders' achievement goals from a domain-specific perspective. Hence, performance goal leaders and mastery goal leaders refer to leaders with dominant performance goals and leaders with dominant mastery goals, respectively.

According to this domain-specific perspective, an achievement motivational climate surrounding individuals informs them about what kinds of competence-relevant achievements are expected and will be supported and rewarded, thereby signalling individuals to adopt and pursue the corresponding achievement goals. As such, a work climate characterized by a strong focus on interpersonal comparisons and competition, other-referenced feedback, and the like might prompt individuals to pursue performance goals. In contrast, a work climate characterized by a strong focus on effort, self-referenced feedback, task mastery, competence and skill development, and the like might guide individuals to adopt mastery goals (Ames, 1992b; Button, Mathieu, & Zajac, 1996; Van Yperen, 2003b). In the present research, we focused on situational achievement goals because we aimed to identify leaders' goal states that are embedded in an organizational achievement climate as possible *causes* of their responses to subordinates' creative input.

LEADERS' ACHIEVEMENT GOALS AND RECEPTIVENESS TO CREATIVE INPUT

Creative input is usually generated in response to perceived problems, irregularities, or suboptimal processes that arise in the pursuit of task objectives (Kanter, 1988; Shalley, 1991; Zhou & George, 2003). 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). We focus on radical creative input that challenges leaders' objectives and the "current way of doing things" rather than to incremental ideas that can be smoothly accommodated within existing structures (cf. Sijbom et al., 2014). As such, creativity has conceptual similarities with challenging-promotive voice (also referred to as *problem-focused voice*, Morrison, 2011)—defined as the expression of challenging but constructive concerns, opinions, or suggestions about work-related issues (e.g., Burris, 2012;

Venkataramani & Tangirala, 2010), as they are both inherently change oriented and include a call for modifications in "the way things are" (Detert & Burris, 2007). That is, both creativity and voice are essential for the early detection of serious problems and the creation of improvement and innovation opportunities in organizations (e.g., Detert & Burris, 2007; Madjar et al., 2011; Venkataramani & Tangirala, 2010). However, notwithstanding these similarities, voice is not necessarily creative (Maynes & Podsakoff, 2014). An employee can voice his or her concerns about a problematic course of action in the workplace without generating and providing creative ideas for solutions. Such voice behaviour in and of itself is not creative, albeit it can trigger creative initiatives in response to the concerns voiced. To be clear about our research focus, we examine how leaders respond to subordinates' voice input that is explicitly creative in nature and challenges the status quo with the intent to improve the current state of affairs.

As creativity is often triggered by problems observed, employees who upwardly voice creative ideas may provide leaders with feedback information about potentially problematic practices and routines they are responsible to oversee (Burris, 2012). Feedback information, however, often holds both instrumental and evaluative information for the feedback recipient (i.e., the leader). Instrumental feedback refers to information that facilitates goal achievement and regulation of goal-directed behaviour, whereas evaluative feedback reflects information that directly references the self and conflicts with the desire to protect one's self-esteem or ego (e.g., Anseel, Lievens, & Levy, 2007; Ashford, Blatt, & VandeWalle, 2003). As such, subordinates' creative input can provide leaders with instrumental, diagnostic information about problems in their managerial domain combined with potentially useful suggestions for how these problems can be solved. However, as creative input may draw attention to potential deficiencies in their leadership competence (cf. Ashford & Cummings, 1983), leaders may also perceive subordinates' creative input as evaluative feedback which can damage their image of being a competent leader (Baumeister, 1998).

We suggest that achievement goals may cause leaders to focus predominantly on either the instrumental or the evaluative feedback information inherently associated with subordinates' creative input (cf. Brett & Atwater, 2001; Farr, Hofmann, & Ringenbach, 1993). In turn, their focus on either the instrumental or the evaluative information may influence leaders in their cognitive appraisals of the creative input (Lazarus, 1991), which may finally influence leaders' receptiveness for subordinates' creative input. Leaders' receptiveness, in this regard, refers to leaders' willingness and motivation to gain a greater understanding of the voiced creative input (cf. Chen, Minson, & Tormala, 2010).

IMAGE THREAT AND LEARNING OPPORTUNITY APPRAISALS AS MEDIATORS

Based on the cognitive appraisal theory (see Lazarus, 1991, for a review), we examined *appraisals of image threat* and *learning opportunity* as potential mediators that can clarify why performance goal leaders are less receptive to subordinates' creative input than mastery goal leaders. We refer to *image threat appraisal* when the impressions and perceptions that leaders would like other people to have about their leadership competence run the risk of being damaged (Ashford et al., 2003; Yuan & Woodman, 2010). We refer to *learning opportunity appraisal* when leaders perceive possibilities to acquire new knowledge, skills, or abilities that are relevant for their leadership competence.

Leaders pursuing performance goals desire to demonstrate superior leadership performance relative to others, including their subordinates (e.g., Dweck, 1986; Nicholls, 1984), thereby making their leader qualities an important and relevant aspect of their leadership image (cf. Dweck & Leggett, 1988). Given their focus on competence demonstration, performance goal leaders may perceive subordinates' creative input as evaluative feedback information that draws attention to potential deficiencies in their leadership competence, and thus as threatening to their desired image of being a competent leader. That is, by voicing creative input, subordinates may highlight that some state of affairs that are under the leaders' responsibility for overseeing are insufficient or at least suboptimal. Performance goal leaders may interpret this creative input as evaluative feedback information that is threatening to their image of being a competent leader. Due to this image threat appraisal, performance goal leaders can be expected to become motivated to preserve their image, thereby leading them to ignore or deny the subordinates' creative input. Hence, image threat appraisal can be expected to inhibit performance goal leaders' receptiveness to subordinates' creative input. Indeed, previous research in the feedback domain shows that individuals pursuing performance goals suffer ego cost when they receive unfavourable feedback about the self (Ashford et al., 2003) and are likely to protect their ego from the threat of evaluative feedback by discounting, avoiding, or distorting the feedback (Ashford et al., 2003; Tuckey, Brewer, & Williamson, 2002). Moreover, performance goals produce negative affective reactions in the recipient of the feedback (e.g., anxiety, despair, threats to self-concept, lowered self-efficacy) and were found to inhibit recipient's receptiveness to the feedback (e.g., Anseel, Van Yperen, Janssen, & Duyck, 2011; Chen, Gully, Whiteman, & Kilcullen, 2000; DeNisi & Kluger, 2000). Moreover, research evidence from the broaden-and-build theory of emotions (Fredrickson, 2001) showed that appraisals of threat narrows a person's

attention scope and information processing mode (Staw, Sandelands, Dutton, & Dutton, 1981). Consequently, individuals may consider fewer alternatives and may narrow the processing of new information (Fredrickson & Branigan, 2005). Furthermore, leaders' holding performance goals are focused on demonstrating their competence, and consequently may be negatively related to learning opportunity appraisal to develop their own skills as a leader. Research indeed showed that performance goals are negatively related to motivation to learn (Colquitt & Simmering, 1998), whereas null-relations have been found between performance goals and learning interest (Elliot & Church, 1997).

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). Accordingly, rather than perceiving creative input as evaluative feedback information, mastery goal leaders are likely to focus on the instrumental value of subordinates' creative input because such a focus is congruent with their mastery goal of developing and learning new leadership knowledge, abilities, and domain-relevant skills (Elliot & McGregor, 2001). Subordinates' creative input may provide them with important diagnostic information and suggestions for making improvements in their managerial domain, which may enhance their leadership performance and self-development (Reilly, Smither, & Vasilopoulos, 1996). Such learning opportunity appraisals can be expected to promote mastery goal leaders' receptiveness to subordinates' creative input. Indeed, previous findings show that mastery goals tend to induce positive developmental reactions in the recipients of feedback (e.g., motivation to learn, task interest, increased self-efficacy, adaptive learning strategies, explorative interest) and to promote recipients' acceptance of and receptiveness for the feedback (e.g., Barron & Harackiewicz, 2001; Chen et al., 2000; Heslin & Latham, 2004; Sijbom et al., 2014). This argument is also in line with the broaden-and-build theory of emotions, which suggests that positive emotions related to learning opportunity appraisal, like happiness and elation, tend to broaden people's scope of attention and information processing mode (Fredrickson, 2001; Fredrickson & Branigan, 2005). Accordingly, learning opportunity appraisals may enhance mastery goal leaders' receptiveness. Furthermore, individuals pursuing mastery goals were found to be less concerned about negative evaluations (VandeWalle & Cummings, 1997), were less likely to protect their ego (Tuckey et al., 2002), and were negatively related to "threat-like" variables such as anxiety (Payne, Youngcourt, & Beaubien, 2007).

Accordingly, in Study 1, we formulated hypotheses about (1) the direct relation between leaders' achievement goal and their receptiveness to subordinates'

creative input and (2) the mediating roles of image threat appraisal and learning opportunity appraisal:

Hypothesis 1: Performance goal leaders are less receptive to subordinates' creative input than mastery goal leaders.

Hypothesis 2: Performance goal leaders are less receptive to subordinates' creative input than mastery goal leaders because of (a) stronger image threat appraisal and (b) weaker learning opportunity appraisal.

STUDY 1

In Study 1, we experimentally manipulated and contrasted performance goals and mastery goals in order to examine their relative effects on leaders' reactions to subordinates' creativity.

Methods

Participants and design. Seventy-seven Dutch undergraduates (of whom 45.5% were male; $M_{\text{age}} = 21.8$, $SD_{\text{age}} = 3.6$) participated for research points. Participants were randomly assigned to one of the three achievement goal conditions (performance goal condition vs. mastery goal condition vs. no goal condition) of the between-subject design. All participants who started the experiment also finished it. The design was balanced, and men ($n = 35$) and women ($n = 42$) were 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 were presented with a marketing scenario (for exact details, see Sijbom et al., 2014). 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 and executing a specific marketing strategy.

In the scenario, the organization had developed a new product, so-called fat-free fries, and a project team was composed to successfully introduce the product to the consumer market. The project team consisted of three subordinates; the marketing manager operated as the team leader. As team leader, the marketing manager had assigned the team members the task of coming up with informative sentences that could be used to apply the strategy 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 non-existent, and in their role of team leader, the participants received standardized informative sentences.

After they had given preference to the informative sentences sent by two subordinates, the achievement goal manipulation took place. 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 and was used to induce the achievement goal manipulation. In the no goal condition, however, no achievement goal was induced. More information about the exact procedure of the achievement goal manipulation will be discussed in the next section.

After the achievement goal manipulation, the participants received an email from the third member of the project team, named Anne (a Dutch unisex name). In the email, this team member proposed the use of another marketing strategy to introduce the new product. Anne's proposal was completely different from the common, established strategy propagated by the team leader to introduce new products. To advocate this novel idea of using this alternative strategy, Anne described the weaknesses of the team leader's strategy and emphasized the strengths of the alternative strategy relative to the team leader's strategy 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). Anne's creative input contains the two aspects of: (1) identifying problems with regard to the established strategy of the team leader and (2) proposing the creative idea of using an alternative strategy in order to solve the problems identified. The dependent variables and the manipulation checks were then assessed. We also asked 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.

Achievement goal manipulation. The achievement goal manipulation consisted of three coherent aspects from which a specific achievement goal was derived (Sijbom et al., 2014). 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, whereas in the mastery goal condition it was emphasized that the organization had a strong developmental climate. In the no goal

condition, no specific information was given. Second, the participants held and frequently expressed a personal leadership motto, which was consistent with the organizational climate. The personal motto in the performance goal condition 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." In order to intensify the manipulation, the editor of the staff magazine asked the participants to write a short narrative in which they had to describe their emotions and beliefs associated with the personal leadership motto assigned to them (cf. Poortvliet, Janssen, Van Yperen, & Van de Vliert, 2007). In the no goal condition, the participants 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, 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, participants were advised to demonstrate their leadership competences in their executive work with subordinates. In the *mastery goal condition*, in which developing their own abilities was the central aim, participants were advised to develop their leadership competences in their executive work. In the no goal condition, no specific achievement goal was assigned to the participants.

Manipulation checks. In the experimental conditions, participants were asked to indicate which characteristic personal leadership motto they held as a manager. Participants could choose between (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), and (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 own leadership competences (mastery goal dimension). The response categories ranged from 1 (*not at all*) to 5 (*very much*). Intraclass correlations

were .80 and .95 for the performance goal dimension and mastery goal dimension, respectively. Measures were averaged to get a single score on each dimension.

Idea quality was assessed using two subscales corresponding with the two components of creativity—usefulness and novelty. Usefulness was measured using a six-item subscale ($\alpha = .88$). Example items are: "How valuable do you, as a leader, think Anne's idea is?" and "How feasible do you, as a leader, think Anne's ideas is?". Novelty was measured with a three-item subscale ($\alpha = .86$). Example items are: "How original do you, as a leader, think Anne's idea is?" and "How renewing do you, as a leader, think Anne's idea is?". The response categories ranged from 1 (*not at all*) to 7 (*very much*).

Mediating and dependent variables. A response scale ranging from 1 "not at all" to 7 "very much" was used for all measures. The presentation of the items was randomized for each scale.

Image threat appraisal ($\alpha = .89$) was a scale comprising six items: (1) To what extent does Anne's criticism question your credibility as a leader? (2) Anne's input is an attack on my own ideas as a leader; (3) I consider Anne's input to be negative feedback on my position as a leader; (4) To what extent does Anne's criticism undermine your position as a leader? (5) I have the feeling that Anne is trying to pull the rug out from under me; and (6) I have the feeling that Anne is opposing me.

Learning opportunity appraisal ($\alpha = .81$) was assessed using three items: (1) As a leader, I can learn a lot from Anne's input; (2) Anne's input enriches my own ideas; and (3) Anne's input makes me enthusiastic. The correlation with image threat appraisal was $-.26$.

Receptiveness to subordinates' creative input ($\alpha = .81$) was assessed using a three-item scale based on Chen et al. (2010). The items were adapted to fit the research context: "How likely is it that you will let Anne know that: (1) You would like to discuss the input together? (2) You seriously want to discuss the input during the next meeting of the project team? and (3) You want to further develop the input together?" Correlations with image threat appraisal and learning opportunity appraisal were $-.54$ and $.53$, respectively.

Results

Manipulation checks. In the performance goal condition, 85% indicated the correct personal motto; this was 96% in the mastery goal condition, $\chi^2(1, N = 52) = 34.38, p < .001$. In addition, the narrative scores on the performance goal dimension were significantly higher in the performance goal condition ($M = 4.04, SD = 0.97$) than in the mastery goal condition ($M = 1.98, SD = 0.88$), $F(1, 50) = 64.45, p < .001, \eta_p^2 = .56$; the narrative scores on the mastery goal dimension were significantly higher in the mastery goal condition

($M = 4.42$, $SD = 0.82$) than in the performance goal condition ($M = 1.04$, $SD = 0.14$), $F(1, 50) = 430.22$, $p < .001$, $\eta_p^2 = .90$. Hence, the manipulation of achievement goals was successful, and we used the full sample for further analyses.

We expected no differences between the conditions with respect to participants' cognitive judgment of the quality of the creative idea proposed. A one-way multivariate analysis of variance (MANOVA) with usefulness and novelty as the dependent variables revealed non-significant results at the multivariate level, $F(4, 146) = 0.87$, *ns*, and on the univariate level for both usefulness, $F(2, 74) = 0.38$, *ns*, and novelty, $F(2, 74) = 0.28$, *ns*. The overall mean for usefulness ($M_{\text{usefulness}} = 5.43$, $SD = 0.87$) and novelty ($M_{\text{novelty}} = 4.30$, $SD = 1.31$) suggests that the voiced creative idea was appraised as a rather high-quality idea.

Discriminant and convergent validity. We used confirmatory factor analysis, using AMOS 21.0, to assess the discriminant and convergent validity of the image threat appraisal, learning opportunity appraisal, and receptiveness scales. We compared three models: (1) a model with the three intended constructs; (2) a model with two underlying constructs, in which learning opportunity appraisal and receptiveness were collapsed into one factor; and (3) a model with one underlying construct.

The fit indices of each model clearly showed the best fit for our hypothesized three-factor measurement model (i.e., Model 1). Specifically, the fit statistics of the three-factor model were: $\chi^2(51, N = 77) = 68.44$, *ns*; root mean square error of approximation (RMSEA) = .07, adjusted goodness of fit index (AGFI) = .81, goodness of fit index (GFI) = .88, and comparative fit index (CFI) = .96. The factor loading of each item was significant at the .001 level or better. These indices were better than the second model ($\Delta\chi^2(2) = 27.99$, $p < .001$, RMSEA = .10, AGFI = .73, GFI = .82, CFI = .90) and the third model ($\Delta\chi^2(3) = 118.46$, $p < .001$, RMSEA = .18, AGFI = .47, GFI = .64, CFI = .71).

Testing for direct effects. A one-way MANOVA was conducted to examine the extent to which participants with different achievement goals (performance goal vs. mastery goal vs. no goal) differed with regard to image threat appraisal, learning opportunity appraisal, and receptiveness to subordinates' creative input. Table 1 shows that the main effect was significant at the multivariate level. At the univariate level, the effect was significant for the two mediator variables (i.e., image threat appraisal and learning opportunity appraisal) and for the dependent variable (i.e., receptiveness to subordinates' creative input).

Hypothesis 1 stated that performance goal leaders would be less receptive to subordinates' creative input than mastery goal leaders. As can be seen in Table 1, performance goal leaders were indeed less receptive to subordinates' creative input than leaders in either the mastery goal condition or the control condition. Note that the means in the mastery condition did not significantly differ from the no goal condition. A clarification for this pattern of results might be that the dominant achievement goal for the majority of people tends to be a mastery goal rather than a performance goal (Van Yperen & Orehek, 2013), with the consequence that most participants in the no goal condition might have acted upon their dominant mastery goal.

Testing for multiple mediation. To test the hypothesis whether image threat appraisal and learning opportunity appraisal mediated the relationship between leaders' achievement goal (performance goal = -1, mastery goal = +1) and receptiveness to subordinates' creative input, we followed Preacher and Hayes' (2008) bootstrapping procedure (5000 resamples) for assessing and comparing indirect effects in multiple mediator models. Using bootstrap methods to assess multiple mediation is especially recommended in small-to-moderate samples (as in the present case;

TABLE 1
Multivariate F , univariate F , η_p^2 , means, and standard deviations of measures of dependent variables as a function of achievement goals (Study 1, $N = 77$)

	Multivariate $F(6, 144)$		Univariate $F(2, 74)$	Partial η^2	Goal					
					Performance ($n = 26$)		Mastery ($n = 26$)		No goal ($n = 25$)	
					M	SD	M	SD	M	SD
Responses	2.60*	1. Receptiveness	3.26*	.08	5.26 ^a	1.14	5.83 ^b	0.71	5.83 ^b	0.90
		2. Image threat appraisal	6.12**	.14	2.94 ^a	1.29	2.02 ^b	0.78	2.18 ^b	0.87
		3. Learning opportunity appraisal	3.55*	.09	4.62 ^a	1.21	5.33 ^b	1.31	5.37 ^b	0.87

Higher values of means indicate higher receptiveness, higher image threat appraisal, and higher learning opportunity appraisal, respectively.

Within each row, means with different superscripts differ at $p < .05$ minimally.

* $p < .05$; ** $p < .01$.

Figure 1. Effect of leaders' achievement goals on their receptiveness to subordinates' creative input through the mediators of image threat appraisal and learning opportunity appraisal. Path coefficients represent unstandardized regression weights. * $p < .05$; ** $p < .01$; *** $p < .001$. ^aPerformance goal = -1; mastery goal = +1.

Shrout & Bolger, 2002). For testing significance, confidence intervals (CI) are computed for the indirect effects through each mediator. If zero falls outside the CI, then the indirect effect is significant, and mediation can be said to occur.

The multiple mediation model is shown in Figure 1. The specific indirect effects indicated that *both* image threat appraisal (indirect effect = 0.21, $SE = 0.09$, 95% CI: [0.063, 0.442]) and learning opportunity appraisal (indirect effect = 0.10, $SE = 0.06$, 95% CI: [0.007, 0.248]) were significant mediators, which fully supports *Hypotheses 2a* and *2b*.

STUDY 2

In Study 1, we showed that relative to mastery goal leaders, performance goal leaders were less receptive to subordinates' creative input. Increased appraisals of image threat and decreased appraisals of learning opportunity were found to mediate the effects of leaders' achievement goals on their receptiveness. Thus, relative to performance goals, mastery goals produced more favourable leader responses to creative input voiced by subordinates. Hence, a next, interesting question is whether there are conditions under which performance goal leaders respond more favourably to creative input voiced by subordinates. Therefore, in Study 2, we examined whether the composition of subordinates' creative input may moderate the effects of leaders' achievement goals on their receptiveness to subordinates' creative input.

Creative input is usually generated in response to irregularities, inefficiencies, or insufficiencies in states of affairs in a particular domain (Kanter, 1988). This implicates that in order to generate suggestions to solve a perceived problem, the problem needs to be identified first (cf. Davis, 2009; Reiter-Palmon et al., 1997). We will use the term *problem identification* to refer to this process which comprehends information that structures, defines, and redefines the problem into a form that allows solution (Reiter-Palmon & Robinson, 2009). Next, potentially useful and new ideas for problem

solution may be generated and voiced in order to solve the identified problem (e.g., Amabile, 1996; Reiter-Palmon et al., 1997), which we will refer to as the *creative idea*. Accordingly, creative input consists of two related yet distinct basic aspects, namely, the identification of a problem and the expression of a creative idea generated for problem solution (Amabile, 1996; Reiter-Palmon & Illies, 2004; Reiter-Palmon et al., 1997; Shalley et al., 2004).

However, when voicing their creative input towards the leader, subordinates may differ in the extent to which they explicitly point out and elaborate on the problems (i.e., problem identification aspect of creativity) that have triggered them to engage in the generation of creative ideas. That is, employees may be concerned that by highlighting the identified problems too much, the leader would perceive their voice input as criticism of the established framework of thoughts and routines. Such perceived criticism may not only carry the risk of challenging and upsetting the leader (Milliken et al., 2003), but may also run the risk of reduced endorsement by leaders (Burris, 2012). Subordinates may therefore choose to focus on expressing and discussing their creative ideas with the leader without pointing out too loudly the problems detected in the leader's domain. Thus, we assume that subordinates differ in the extent to which they highlight and elaborate on problems detected when they voice their creative input towards their leader. Thus, we expect variance in the *composition of creative input* across voicing subordinates. This variance in composition of subordinates' creative input may moderate the effects of leaders' achievement goals on their receptivity to that input.

As performance goal leaders strive to demonstrate superior leadership competence, they may be especially sensitive to the problem identification aspect of subordinates' creative input. When voicing subordinates point out loudly detected insufficiencies or irregularities in a particular course of action in a leader's managerial domain, a performance goal leader may perceive this as evaluative feedback information that

challenges and threatens their competence as a leader, resulting in reduced receptiveness. Thus, when subordinates' voiced input contains an emphasis on pointing out problems alongside the expression of the creative ideas proposed for problem solution, it 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. Research in the employee voice domain indeed showed that employee voice of opinions and suggestions that fundamentally challenges the status quo is met with resistance by leaders (Burris, 2012).

In contrast, when subordinates' voice of creative input in particular revolves around the creative ideas, performance goal leaders obtain potentially valuable suggestions that, in their perception, do not explicitly evaluate or threaten their leadership image of being capable and competent. Subordinates may choose to focus on addressing and discussing the creative ideas they have generated without highlighting too boldly the problems that have triggered their creativity. As such, creative input is likely to neutralize the potential for competence-related conflict and is less threatening to performance goal leaders. In fact, performance goal leaders may even perceive the creative idea for problem solution as an opportunity to demonstrate their superior competence in managing employee input of creative ideas for performance enhancement. Hence, when the creative input only includes a creative idea for problem solution, performance goal leaders can be expected to be more receptive than when the input comprises problem identification alongside creative ideas.

Rather than focusing on relative competence issues, mastery goal leaders tend to perceive subordinates' creative input as an opportunity for improvement. Specifically, driven by their goal to develop their leadership competence, mastery goal leaders see the identification aspect of creative input as instrumental feedback that may provide them with valuable diagnostic information about issues in their managerial domain from which they can learn. In a similar vein, as mastery goals induce an epistemic motivation (Doise & Mugny, 1984), mastery goal leaders are focused on exploring the value and usefulness of creative ideas about products, processes, or procedures that subordinates generate and propose. Therefore, we expected that mastery goal leaders would not be affected by composition of creative input. Specifically, mastery goal leaders will be equally receptive for creative input that constitutes problem identifications alongside creative ideas or only contains creative ideas. Thus, we hypothesize:

Hypothesis 3: Performance goal leaders are less receptive than mastery goal leaders when the

composition of creative input contains both problem identifications alongside creative ideas rather than only creative ideas.

Leaders' support for subordinates' creative input

Leaders can either make or break subordinates' creative input by allocating or withholding support (Amabile et al., 2004; Mumford et al., 2002). Leaders' support, defined as the extent to which a leader provides recognition and encouraging behaviour to his or her subordinates (cf. Madjar, Oldham, & Pratt, 2002), is an important and necessary prerequisite for further realization of the creative input within the organization (Amabile et al., 2004; Mumford et al., 2002). However, before leaders are open to support creative ideas, they first need to recognize and understand the potential value in the voiced ideas (cf. Zhou & Woodman, 2003). As receptiveness encompasses motivation to explore and gain a greater understanding of the voiced creative input, we may expect that leaders' receptiveness to voiced creative input precedes their subsequent support of these ideas. Indeed, previous research shows that receptiveness is positively related to willingness to support and implement changes (Ashford, Rothbard, Piderit, & Dutton, 1998; Detert & Burris, 2007). Therefore, we expect that the interaction between leaders' achievement goal and composition of creative input will affect support through its effect on receptiveness. As such, we assume that composition of creative input moderates the strength of the indirect effect of leaders' achievement goals on support, thereby demonstrating a pattern of mediated moderation (Edwards & Lambert, 2007; Preacher, Rucker, & Hayes, 2007) between the study variables, as depicted in Figure 2. Accordingly, we hypothesize:

Hypothesis 4: The interaction effect of leaders' achievement goal and composition of creative input will indirectly affect support through its effect on receptiveness.

Method

Participants and design. One hundred and five Dutch business school undergraduates (of whom 72.4% were male; $M_{\text{age}} = 21.4$, $SD_{\text{age}} = 3.9$) were paid 5 euros for their participation. The participants were randomly assigned to experimental conditions in a 3 (achievement goal: performance vs. mastery vs. no goal) $\times$ 2 (composition of creative input: problem identification + creative idea vs. creative idea) factorial design. Gender had no effects and is not discussed further.

Procedure. The procedure of Study 2 was similar to that of Study 1, with one crucial difference. In Study 2,

Figure 2. Mediated moderation model in which composition of creative input moderates and receptiveness mediates the relationship between achievement goal and support. ^aPerformance goal = -1; mastery goal = +1. ^bProblem identification + creative idea = -1; creative idea = +1.

composition of creative input was included as an extra factor. The creative input sent by the third project team member (Anne) to the team leader by email was varied, thereby creating two different conditions. In one condition, the email was identical to that in Study 1; it contained problem identifications regarding the established strategy of the leader as well as the creative idea of using an alternative strategy instead (*problem identification + creative idea condition*). The input in the second condition only included the creative idea of using an alternative strategy for introducing the new product to the market (*creative idea condition*).

Manipulation checks. To check the achievement goal manipulation, the same manipulation checks were used as in Study 1. Intraclass correlations were .84 and .93 for the narrative scores on the performance goal dimension and mastery goal dimension, respectively.

The composition of creative input manipulation was checked by asking participants to indicate which input they received from Anne. Participants could choose between: (1) Anne pointed out problems with respect to the intended leader's strategy and proposed the creative idea of using an alternative strategy instead (*problem identification + creative idea condition*) and (2) Anne proposed the creative idea of using an alternative strategy (*creative idea condition*).

Mediator and dependent variables. Receptiveness ($\alpha = .66$) was assessed using the same measure as in Study 1.

Support ($\alpha = .77$) was measured using a three-item scale developed by Gordijn, Yzerbyt, Wigboldus, and Dumont (2006). The items were adapted to fit the research context: (1) To what extent do you want to show support to Anne? (2) To what extent do you want to support the input? and (3) To what extent do you want to show sympathy for the input? The correlation with receptiveness was .56.

Results

Manipulation checks. The achievement goal manipulation check concerned the characteristic personal motto.

In the performance goal condition and the mastery goal condition, 97% and 100%, respectively, indicated the correct motto, $\chi^2(1, N = 71) = 67.11, p < .001$. In addition, the narrative scores on the performance goal dimension were significantly higher in the performance goal condition ($M = 4.27, SD = 0.81$) than in the mastery goal condition ($M = 1.82, SD = 0.83$), $F(1, 69) = 159.19, p < .001, \eta_p^2 = .70$. For the mastery goal dimension, we found significantly higher narrative scores in the mastery goal condition ($M = 4.43, SD = 0.85$) than in the performance goal condition ($M = 1.46, SD = 0.93$), $F(1, 69) = 195.90, p < .001, \eta_p^2 = .74$. Hence, the manipulation of achievement goals was successful, and we used the full sample for further analyses.

The second manipulation check concerned composition of creative input. In the condition that combined problem identification and a creative idea, 77% of the participants indicated the correct composition; in the creative idea condition, 81% of the responses were correct, $\chi^2(1, N = 105) = 35.50, p < .001$.

Discriminant and convergent validity. To assess the discriminant and convergent validity of the receptiveness and support scales, we computed parameter estimates using AMOS 21.0. We first tested a model in which the receptiveness and support items loaded on two corresponding constructs. The fit statistics were satisfactory, $\chi^2(8, N = 105) = 20.03, p = .01$; RMSEA = .12, AGFI = .83, GFI = .94, and CFI = .93, albeit that the RMSEA value was somewhat higher than desired. The factor loading of each item was significant at the .001 level or better. We computed one alternative model, which contained only one latent variable. The fit of the model was significantly worse than that of the original model ($\Delta\chi^2(1) = 9.53, p < .01$, RMSEA = .15, AGFI = .80, GFI = .91, CFI = .88); hence, the hypothesized two-factor measurement model was the most appropriate for the matter under consideration.

Dependent variables. A 3 (achievement goal: performance vs. mastery vs. no goal) $\times$ 2 (composition of creative input: problem identification + creative idea vs. creative idea) between-group MANOVA was conducted

TABLE 2
Interaction effects of achievement goals (performance goal vs. mastery goal vs. no goal) and composition of creative input (problem identification and creative idea vs. creative idea) (Study 2, $N = 105$)

Achievement goals	Achievement goals and composition of creative input											
	Performance				Mastery				No goal			
	1 (n = 17)		2 (n = 18)		3 (n = 18)		4 (n = 18)		5 (n = 18)		6 (n = 16)	
	Problem identification and creative idea		Creative idea		Problem identification and creative idea		Creative idea		Problem identification and creative idea		Creative idea	
Composition of creative input	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Dependent variables												
1. Receptiveness	5.27 ^a	0.80	6.06 ^b	0.84	6.04 ^b	0.59	5.61 ^b	0.85	5.61 ^{ab}	0.99	5.73 ^b	0.65
2. Support	4.57 ^a	1.02	5.61 ^b	1.02	5.43 ^b	0.71	5.33 ^b	0.91	4.98 ^{ab}	1.04	5.08 ^b	0.68

Within each row, means with different superscripts differ at $p < .05$ minimally.

to examine differences between the six conditions with regard to the dependent variables of receptiveness and support. At the multivariate level, no main effect was found for achievement goal, $F(4, 196) = 0.73$, ns , nor for composition of creative input, $F(2, 98) = 1.92$, ns . However, we found the hypothesized interaction effects of achievement goal and composition of creative input at the multivariate level, $F(4, 196) = 3.02$, $p = .019$, $\eta_p^2 = .06$, and at the univariate level for both receptiveness, $F(2, 99) = 5.04$, $p = .008$, $\eta_p^2 = .09$, and support, $F(2, 99) = 3.89$, $p = .024$, $\eta_p^2 = .07$.¹

The means and standard deviations of the mediator variable of receptiveness and the dependent variable of support are presented in Table 2. When composition of creative input contained both problem identification and creative idea aspects, it resulted in lower receptiveness to subordinates' creative input by performance goal leaders ($M = 5.27$, $SD = 0.80$) than by mastery goal leaders ($M = 6.04$, $SD = 0.59$), $F(2, 99) = 3.99$, $p = .022$, $\eta_p^2 = .08$. These results replicate the results of Study 1. There were no significant differences in receptiveness to subordinates' creative ideas between the no goal condition ($M = 5.61$, $SD = 0.99$) and the performance or mastery conditions. However, as expected, when composition of creative input contained only a creative idea, no significant differences in receptiveness were found between performance goal leaders ($M = 6.06$, $SD = 0.84$), mastery goal leaders ($M = 5.61$, $SD = 0.85$), and leaders in the no goal condition ($M = 5.73$, $SD = 0.65$), $F(2, 99) = 1.48$, ns .

Most interestingly, additional contrast analyses revealed that performance goal leaders were less receptive when composition of creative input included problem

identification and a creative idea ($M = 5.27$, $SD = 0.80$) than when it included only a creative idea ($M = 6.06$, $SD = 0.84$), $F(1, 99) = 8.31$, $p = .005$, $\eta_p^2 = .08$. No differences were found between the two conditions of composition of creative input for the mastery goal condition $F(1, 99) = 2.54$, ns , nor for the no goal condition, $F(1, 99) = 0.18$, ns . These results fully support Hypothesis 3.

Mediated moderation analysis. Hypothesis 4 was that receptiveness would mediate the interaction effect of leaders' achievement goal and composition of creative input on support (see Figure 2). We used contrast coding for the coding of our independent variables (Cohen, Cohen, West, & Aiken, 2003): performance goal condition was coded -1 , mastery goal condition $+1$, composition of creative input that included problem identification alongside creative ideas -1 , and composition of creative input that included only creative ideas $+1$. We tested the mediated moderation hypothesis using a bootstrap procedure developed by Preacher et al. (2007). This method is used to directly examine indirect effects using a product of coefficient approach, which is consistent with recommendations made by other methodologists (e.g., Edwards & Lambert, 2007; Muller, Judd, & Yzerbyt, 2005).

Table 3 shows the results of two multiple regression models: (1) the mediator variable model (with receptiveness as the dependent variable) and (2) the dependent variable model (with support as the dependent variable). As required for mediated moderation (Preacher et al., 2007), in the mediator variable model, the interaction term (achievement goal $\times$ composition of creative input) was significantly associated with the mediator (receptiveness) ($B = -0.30$, $p = .002$). In the dependent variable model, the mediator (receptiveness) was significantly associated with the dependent variable (support) ($B = 0.63$, $p < .001$).

¹With a sample of $n = 105$, a sensitivity power analyses executed with G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009; O'Keefe, 2007) revealed that interaction effects as small as $f = 0.39$ (i.e., a medium-to-large sized effect as defined by Cohen, 1988) could be detected with desired levels of $\alpha = \beta = .05$.

TABLE 3
Indirect effects of achievement goal on support through receptiveness (Study 2)

Model	B	SE	t	R ²
Mediator variable model: Receptiveness				0.15*
Constant	5.74	0.09	62.18***	
Achievement goal ^a	0.08	0.09	0.86	
Composition of creative input ^b	0.09	0.09	0.96	
Achievement goal × composition of creative input	-0.30	0.09	-3.27**	
Dependent variable model: Support				0.40***
Constant	1.63	0.72	2.28*	
Achievement goal ^a	0.10	0.09	1.01	
Composition of creative input ^b	0.18	0.09	1.93	
Achievement goal × composition of creative input	-0.09	0.10	-0.94	
Receptiveness	0.63	0.12	5.08***	
<i>Indirect effects</i>	<i>Bootstrap indirect effect</i>	<i>Bootstrap SE</i>	<i>Bootstrap LLCI</i>	<i>Bootstrap ULCI</i>
Composition of creative input:				
(-1) problem identification + creative idea	0.24	0.08	0.109	0.416
(+1) creative idea	-0.14	0.09	-0.325	0.019

N = 71. Bootstrap sample size = 5,000. Unstandardized coefficients are presented.

^aAchievement goal manipulation was coded as -1 for performance goal and +1 for mastery goal.

^bComposition of creative input manipulation was coded as -1 for problem identification and creative idea condition and +1 for creative idea condition.

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

Next, we examined the *indirect effects* from leaders' achievement goal (performance goal = -1, mastery goal = +1) to support for subordinates' creative input for the different compositions of creative input separately. As shown in the lower part of Table 3, the indirect effect of achievement goal on support was significant when composition of creative input contained both problem identification and a creative idea (composition of creative input = -1; 95% CI: [0.109 to 0.416]), but not significant when composition of creative input contained only a creative idea (composition of creative input = + 1; 95% CI: [-0.325 to 0.019]). These results indicate support for Hypothesis 4, such that the interaction effect between achievement goals and composition of creative input indirectly affected support, with lower support for performance goal leaders combined with composition of creative input containing both problem identification and a creative idea.

GENERAL DISCUSSION

Our studies show that leaders' achievement goals affect their receptiveness and support to creative ideas voiced by subordinates. This is an important finding as it suggests that novelty and potential usefulness are not sufficient for ideas to be considered and recognized. The results of the present research are the first to demonstrate that leaders' achievement goals affect their reactions (i.e., receptiveness and support) to creative input voiced by subordinates and that different mediating mechanisms were associated with different achievement goals. That is, we showed that image threat appraisal and learning opportunity appraisal mediated the relation between

achievement goals and receptiveness (Study 1). We have further shown that, relative to mastery goal leaders, performance goal leaders were less receptive to (Studies 1 and 2) and less supportive of (Study 2) subordinates' creative input. Furthermore, in Study 2, composition of creative input was found to interact with leaders' achievement goals: performance goal leaders were less receptive than mastery goal leaders but only when the composition of subordinates' creative input included both elements of problem identification and creative ideas rather than solely creative ideas for problem solution.

Theoretical implications

Our research contributes to the research literature on employee voice in several ways. First, previous voice research has focused on identifying antecedents and psychological mechanisms underlying employee voice, like 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. By doing so, we focused on investigating how leaders' achievement goals influence their reactions to subordinate creativity. Furthermore, we identified composition of creative input as a boundary condition that affects leaders' receptiveness to challenging creative ideas voiced by subordinates. Recently,

Burris (2012) showed that challenging employee voice elicits unfavourable reactions by leaders. Our findings may provide a nuance to this by showing that leaders' receptiveness to employee voice depends on the achievement goals they pursue and the composition of the voiced creative input. Composition of voiced creative input seems to operate as a contingency factor that moderates performance goal leaders' receptiveness: it is the problem identification aspect rather than the creative ideas themselves that leads to less receptiveness of performance goal leaders.

Second, the present research contributes to the emerging line of research focusing on the interpersonal meaning of achievement goals (e.g., Janssen & Van Yperen, 2004; Poortvliet et al., 2007; Sijbom et al., 2014; VandeWalle, 2003). We provide theoretical logic and experimental evidence showing that leaders' achievement goals are related to how they approach, interpret, and react to a subordinate. The impact of leaders' achievement goals is emphasized by the fact that we did not find differences between achievement goal conditions with regard to leaders' evaluation of the quality of subordinates' creative idea ($M_{\text{usefulness}} = 5.43$, $SD = 0.87$; $M_{\text{novelty}} = 4.30$, $SD = 1.31$). Hence, it is leaders' motivation rather than a misunderstanding or differences in evaluation of the creative idea that determines whether leaders will be receptive to these ideas.

Finally, the present findings provide new insights into the meaning of leaders' achievement goals for the management of subordinates' creative input. Scholars and researchers have conducted a great deal of research in order to improve understanding of leaders' behaviours as determinants of, or facilitative conditions for, subordinates' willingness to generate and express creative ideas (e.g., Oldham & Cummings, 1996; Shalley et al., 2004). However, the question of which factors may clarify how leaders react to subordinates' creative input has largely been neglected. As Heslin and Latham (2004) have shown, several phenomena are embedded in the management of subordinate input, including the effects of being evaluated and motivational preferences for using the upward information to pursue particular goals. The current findings contribute to the existing creativity literature by identifying distinct aspects of subordinates' creative input (i.e., composition of creative input) that may clarify why some leaders tend to be receptive to and supportive of subordinates' creative input, whereas others are not.

Strengths, limitations, and future research

Although our research extends previous research in several ways, some limitations of the present research should also be noted. First, although an experimental setup using a scenario method is widely used in psychology, it is often criticized by more applied researchers as

somewhat "artificial". However, recent leadership research documented highly similar effects between field-based studies and laboratory experiments using scenario methods (e.g., Belschak & Den Hartog, 2009; Mitchell, 2012; Van Knippenberg & van Knippenberg, 2005). Notwithstanding, a replication of results in an actual organizational setting whereby behaviours rather than intentions are measured would contribute to the generalizability of our outcomes.

Second, we focused on *approach* goals only (i.e., performance-approach goals vs. mastery-approach goals). From a theoretical perspective, an interesting avenue for future research may be to examine the effects of *avoidance* goals on employee creativity. Individuals holding avoidance goals strive to avoid detrimental outcomes (Elliot & McGregor, 2001). Particularly, individuals who pursue performance-avoidance goals tend to report more negative affect, anxiety, and fear of negative evaluation (Elliot & McGregor, 2001; VandeWalle, 2003; Van Yperen, 2006). Therefore, we may expect that leaders with performance-avoidance goals would react most sensitively and negatively to subordinates who provide creative input that contains problem definitions. Also, avoidance goals may result in different evaluations of the idea quality than approach goals, which in turn may affect their reactions. For example, research on regulatory focus and idea evaluation showed that promotion motivations (similar to approach motivations) and prevention motivation (similar to avoidance motivations) affect idea evaluations differently (Herman & Reiter-Palmon, 2011; Lam & Chiu, 2002). Future research may therefore focus on investigating the differences between approach and avoidance goals in evaluating creative input. Furthermore, we investigated leader's dominant achievement goals as a *determinant* of leader's cognitive appraisals and reactions to creative input of voicing employees. However, leader cognitive appraisals and reactions may also serve as *antecedents* of goal adoption. In fact, research showed that performance-oriented individuals have a tendency to shift from performance-approach goals to performance-avoidance goals and vice versa (Brophy, 2005; Van Yperen & Renkema, 2008). Future research may therefore investigate whether exposure to, for example, image threat appraisals may cause leaders to shift from a performance-approach goal to a performance-avoidance goal.

Third, although creativity usually encompasses the two basic elements of problem identification and creative ideas for problem solution, identifying and upwardly voicing problems to leaders is not exclusively reserved for subordinates' *creative* input. That is, subordinates can provide leaders with feedback on any kind of work-related matter that is not creative in nature but does include problem identifications that can be interpreted as instrumental or evaluative in nature. It is possible that the differential reactions of performance goal leaders and mastery goal leaders will also emerge in

response to, for example, feedback on leadership behaviours that subordinates give to their leaders. Therefore, future research may be focused on exploring differential reactions of leaders to other kinds of subordinate input.

Fourth, achievement goals may not exclusively influence leaders' reactions to *subordinates*. Also comparisons with other referents (e.g., peers, superiors) may cause leaders to respond and behave differently in order to achieve their goals. For instance, performance goal leaders, who are motivated to perform better than others, might exhibit different behaviours to their subordinate (e.g., explicitly reject creative input) than to their superior (e.g., implicitly adopt the subordinates' creative input and show off with it). In future research, the influence of achievement motivational factors on the relationship between the leader and relevant others, including co-leaders and superiors, may be investigated.

Finally, we showed that competitive climates induce performance goals and developmental climates induce mastery goals. Besides affecting leader's reactions, these psychological climates may also affect leaders' and subordinates' own level of creativity. In fact, research from the broaden-and-build theory showed that positive affect enhances creativity (Fredrickson, 2001). More recently, George and Zhou (2007) showed that a combination of both positive and negative moods is beneficial for creativity. Also, experimental research showed that not only positive affect but also activating negative moods (e.g., angry, fearful) may enhance creativity through cognitive persistence (De Dreu, Baas, & Nijstad, 2008). Future research may therefore investigate the extent to which differential affect aroused by competitive and developmental climates influences creativity of leaders and subordinates.

Practical implications

In line with the findings of prior field research (Janssen & Van Yperen, 2004; VandeWalle, Brown, Cron, & Slocum, 1999), the present results suggest that relative to mastery goals, performance goals are less effective in interpersonal job contexts. This was particularly true in situations where the composition of subordinates' creative input included problem identification. Hence, subordinates should focus on voicing their new and potentially useful ideas rather than emphasizing the problems for which they have generated creative solutions. Alternatively, organizations may structurally create an environment in which leaders are encouraged to adopt mastery goals rather than performance goals (VandeWalle, 2003; Van Yperen & Orehek, 2013). 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, 1992a; Van Yperen & Orehek, 2013).

Also, if (performance goal) leaders repeatedly fail to be receptive to, and supportive of, subordinates' creative input, they are likely to be seen as unapproachable and unresponsive, and may thus frustrate subordinates in their efforts to bring in new creative input. As subordinates may lose their motivation to generate and provide creative input (House & Howell, 1992), this may result in a substantial loss of creative potential for the organization. In contrast, when subordinates feel that their contributions are valued by the leader, the motivation and effort they put into generating creative suggestions and carrying out creative activities in the workplace are likely to be maintained or enhanced (Grant & Gino, 2010; Janssen, 2005). Moreover, supportive leader behaviours may decrease the salience of the power differential between leaders and subordinates in such a way that employees perceive few potential costs from raising potentially risky ideas (Edmondson, 2003), which may create more innovative and effective organizations.

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