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Challenging assignments and activating mood: the influence of goal orientation

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Abstract

We examined the impact of induced goal orientation on individuals' positive- and negative-activating mood when taking part in high- or low-challenging assignments. Results indicated that performing a low-challenging assignment leads to a higher positive-activating mood with a performance-approach orientation than with a mastery approach, or no goal orientation. In contrast, conducting a high-challenging assignment leads to a higher positive-activating mood with a mastery approach than with a performance approach, or no goal orientation. These findings suggest that high-challenging assignments are best instructed with a focus on learning whereas low-challenging assignments are best instructed with a focus on superior performance.

Prior research underlines the beneficial effects of challenging assignments. For example, performing challenging assignments at work stimulates individuals' managerial development (e.g., DeRue & Wellman, 2009), career advancement (e.g., Berlew & Hall, 1966; De Pater, Van Vianen, Bechtoldt, & Klehe, 2009), and employee retention (Preenen, De Pater, Van Vianen, & Keijzer, 2011). Challenging assignments are activities that (a) are new and ask for nonroutine skills and behaviors; (b) test one's abilities or resources; (c) give an individual the freedom to determine how to accomplish the task; and (d) involve high levels of responsibility and visibility (Preenen et al., 2011).

Although most studies stress the positive outcomes of challenging assignments, it has been suggested that these assignments may, at least for some people, have negative outcomes such as the experience of anxiety or distress (e.g., Dong, Seo, & Bartol, 2013; Van Vianen, De Pater, & Preenen, 2008). However, research has hardly addressed people's mood reactions to performing challenging assignments. Moreover, for organizations it seems impossible to merely provide employees with challenging assignments. Oftentimes, employees will have to perform nonchallenging, routine, and monotonous assignments that may have less beneficial effects (Melamed, Ben-Avi, Luz, & Green, 1995). It is therefore important to investigate how both low- and high-challenging assignments could lead to positive mood reactions.

In the present study, we examined if and how people's mood responses are influenced by the type of goals (i.e., their induced goal orientations) they adopt and pursue in achievement situations (Dweck, 1986). The idea that task challenge interacts with achievement goals has been suggested earlier (e.g., Elliott & Dweck, 1988; Nicholls, 1984; Utman, 1997), but, has so far, hardly been tested. We examined in an experiment how induced goal orientations influenced people's positive and negative-activating mood states when performing low- and high-challenging tasks.

Our study contributes to the literature in three ways. First, to date, research on how goal orientations influence people's mood responses in achievement settings is scarce. Second, as most research on outcomes of performing challenging assignments has been conducted in field settings, more research is needed that uses controlled settings to draw causal inferences (e.g., De Pater, Van Vianen, Bechtoldt, et al., 2009). Third, by including low-challenging assignments in our study, we broaden the scope of existing job challenge research, which has mainly focused on consequences of high-challenging assignments (e.g., Preenen et al., 2011).

Theoretical background and hypotheses

Goal orientation

The goal orientation construct originates from goal orientation theory (Dweck, 1986; Elliott & Dweck, 1988) and refers to the underlying goals people adopt and pursue in achievement situations (Dweck, 1986; Dweck & Leggett, 1988). Traditionally, two types of goal orientations are distinguished: a mastery (or learning) and a performance goal orientation (e.g., Dweck, 1986; Dweck & Leggett, 1988). With a mastery goal orientation, people aim to learn, acquire new skills, and develop their competence by mastering new situations. With a performance goal orientation, people aim to demonstrate and validate their competence by seeking favorable evaluations and avoiding negative judgments. To illustrate, during the performance of a challenging task, a mastery goal orientation focuses people on learning from the task, whereas a performance goal orientation focuses people on showing superior performance to others on the task.

Researchers have distinguished mastery and performance goal orientations into approach and avoidance versions (Elliot & McGregor, 2001). A mastery-approach orientation, which corresponds with the traditional mastery orientation concept, focuses people on the development of competence through task mastery and gaining new skills. People with a mastery-avoidance orientation strive to avoid deterioration, losing skill, or leaving tasks incomplete or unmastered. People with a performance-approach orientation are motivated to demonstrate superior competence relative to others and to obtain favorable judgments of their achievements. People with a performance-avoidance orientation tend to avoid demonstrating inferior competence relative to others and receiving negative judgments (e.g., Elliot, 1999; Elliot & Church, 1997).

Researchers have treated goal orientations not only as a somewhat stable individual difference variable (quasi-trait) that may be influenced by situational characteristics (e.g., Button, Mathieu, & Zajac, 1996; Dweck, 1989) but also as a state that can be influenced by situational characteristics (e.g., Barron & Harackiewicz, 2001; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997). The latter studies suggest that goal orientations can be instructed when assigning tasks to people, which we do in our study.

Research has shown that goal orientations predict how people react to achievement situations (Dweck, 1986) and influence satisfaction and state anxiety (see Payne, Youngcourt, & Beaubien, 2007). Goal orientations may also affect people's mood states when performing challenging assignments. In the present study, we focus on mastery-approach and performance-approach goal orientations, and on people's *activating* mood states. As we will elaborate upon below, we expect these two goal orientations to have the largest impact on activating mood states when performing low- and high-challenging tasks.

Mood effects

The mood literature recognizes two underlying dimensions of mood—hedonic tone (positive vs. negative) and activation (activating vs. deactivating; e.g., De Dreu, Baas, & Nijstad, 2008). Positive-activating mood refers to states such as feeling interested, active, and alert. Negative-activating mood concerns states such as feeling nervous, scared, and stressed. Positive-deactivating mood includes states such as feeling calm and relaxed. Negative-deactivating mood concerns states such as feeling sad and depressed. In the present experiment, we focus on both positive- and negative-activating mood states because we expect that these two are most likely to be triggered when people perform challenging assignments, which are generally considered to be stimulating (e.g., De Pater, Van Vianen, Fischer, & Van Ginkel, 2009; Meyer & Allen, 1988).

We propose that people's induced goal orientations while performing low- or high-challenging tasks influence their activating mood states. Specifically, we hypothesize that a performance-approach orientation as opposed to a mastery-approach orientation when performing a low-challenging assignment will elicit both positive- and negative-activating mood states. Low-challenging tasks seem unlikely to benefit a mastery-approach orientation, because they are routine and there is relatively little to learn (Preenen, Van Vianen, & De Pater, 2014). Inducing a mastery-approach orientation when performing a low-challenging task may therefore be of little value for people's activating moods. However, a performance-approach orientation, which cues individuals to focus on their superior competence relative to others and to obtain favorable judgments about their achievements (Elliot & McGregor, 2001), may enhance activating mood states. A performance-approach orientation may make a boring, low-challenging task more exciting because a good achievement on this easy task seems within reach, which may positively stimulate and motivate people. Hence, a performance-approach orientation may elicit a positive-activating mood. At the same time, even though low-challenging tasks are relatively easy, performance-approach oriented individuals still run the risk to fail showing superior competence to others. As people are sensitive to the evaluation of others and want to preserve their self-image in comparison with others (e.g., Bond, 1982; Covington, 1992), a performance-approach orientation during a low-challenging task may also produce a negative-activating mood.

We propose different effects when individuals perform high-challenging tasks. In that case, we hypothesize that a mastery approach, as opposed to a performance-approach

orientation, will enhance positive-activating mood and reduce negative-activating mood. A mastery-approach orientation seems to match challenging assignments well because such assignments provide individuals with opportunities to satisfy their goal to learn and develop competencies (e.g., Preenen et al., 2011), which will be stimulating. Moreover, a mastery-approach orientation may distract one's attention from the stressful elements of highly challenging tasks, such as their high visibility and responsibility (McCauley, Ruderman, Ohlott, & Morrow, 1994). Mastery goals are indeed beneficial in situations of uncertainty (Darnon, Butera, & Harackiewicz, 2007).

In contrast, a performance-approach orientation may elicit negative-activating mood states (e.g., nervousness) when performing a high-challenging task because the goal to show superior competence and perform better than others will be difficult to achieve. These individuals may experience extra performance pressure: They not only need to accomplish a tough assignment but also have to outperform others. Prior research seems to support this contention as it has been shown that perceptions of high job demands were negatively related to job satisfaction if people had a relatively strong performance and a weak mastery (-approach) orientation (Van Yperen & Janssen, 2002).

We propose:

Hypothesis 1. Performing a low-challenging assignment with a performance-approach orientation will lead to higher positive-activating mood (*Hypothesis 1a*) and higher negative-activating mood (*Hypothesis 1b*) than with a mastery-approach orientation.

Hypothesis 2. Performing a high-challenging assignment with a mastery-approach orientation will lead to higher positive-activating mood (*Hypothesis 2a*) and lower negative-activating mood (*Hypothesis 2b*) than with a performance-approach orientation.

Method

Participants and design

One-hundred seventy-nine students (119 females) of a university in the Netherlands participated. Mean age was 21.20 years (standard deviation [*SD*] = 3.97). They were on average in their second study year (*SD* = 1.45). Participants received either a monetary reward (€7) or credit for fulfillment of a course requirement. In addition, they participated in a lottery with three prices of €25 to win. We used a 2 (task challenge: low vs. high) × 3 (goal orientation: mastery approach vs. performance approach vs. no orientation) between-subject design. The no orientation condition was included as control condition. Subjects were randomly assigned.

Procedure

Participants were seated in a room where they received information about the study and signed an informed consent form. Participants were then provided with either a low-challenging assignment or high-challenging assignment for which they either received a mastery-approach goal orientation, performance-approach goal orientation, or no goal orientation instruction. After task completion, participants filled out a questionnaire with manipulation checks for goal orientation and questions to assess their positive- and negative-activating mood, sex, age, and study year. They then received their reward and were debriefed. The study lasted around 60 minutes.

Tasks

To improve the ecological validity of our study, we developed a low- and high-challenging task based on assignments that students perform during their studies. Previous studies on challenging tasks used similar assignments (De Pater, Van Vianen, Fischer, et al., 2009; De Pater, Van Vianen, Humphrey, et al., 2009). The tasks took 30 minutes and were approved by the university's ethical committee.

The high-challenging assignment

The high-challenging assignment was an evaluative speaking task (Saab, Matthews, Stoney, & McDonald, 1989) in which participants had to give a presentation in front of a video camera about their opinion on the illegal downloading of music. Participants were told that the task was part of a project of a record company, a government institute, and the university, and that their presentation was recorded and possibly viewed for ideas for future campaigns. Participants were informed that (a) they had 30 minutes to complete the task; (b) the maximum length of the presentation was 3 minutes; and (c) they should indicate when they were ready to present. To prepare for the presentation, participants were asked to think about solutions for and consequences of illegal downloading. If the presentation had not started after 25 minutes, the participant was notified.

The low-challenging assignment

Participants performing the low-challenging assignment had to alphabetically order a reference list and check the list for errors according to the American Psychological Association (APA) guidelines in a *Word* document. The list was not in alphabetical order and contained errors. Participants were told they had 30 minutes for task completion and were instructed to first read some basic APA guidelines. Thereafter, they started with the alphabetical ordering. If they finished this, they had to highlight errors on the list.

Pretest

To pretest whether the assignments were indeed low- and high-challenging assignments, we conducted a scenario study. Twenty-nine students (17 females) with an average age of 24.20 ($SD = 5.14$) in their third study year ($SD = 1.22$) were randomly provided with a description of the high- ($n = 14$) or low-challenging ($n = 15$) assignment. Participants were asked to imagine that they performed the assignment. They then answered ten items assessing participants' perception of task challenge (see Appendix). Participants answered on scale varying from 1 (*totally disagree*) to 7 (*totally agree*). Cronbach's alpha was .95. Task challenge was indeed low for the low-challenging task ($M = 2.05$, $SD = 0.81$) and high for the high-challenging task ($M = 5.06$, $SD = 0.75$). An independent sample t test revealed that the difference was significant, $t(27) = 10.37$, $p < .001$.

Goal orientation manipulation

We manipulated participants' goal orientations using first verbal and then written task instructions that were the same. Similar manipulations have been used in earlier research (e.g., Barron & Harackiewicz, 2001; Darnon, Butera, et al., 2007). We did not provide a goal orientation instruction in the control condition.

Mastery-approach orientation

In the mastery-approach condition, we instructed participants that they should focus on learning the task and developing their skills and abilities. We furthermore instructed them to focus on their own task performance.

Performance-approach orientation

In the performance-approach condition, we instructed participants to show their superior competence and skills to others, and to demonstrate what they were worth to others. We furthermore instructed them to perform better than others.

Manipulation checks

Task challenge

We assessed task challenge the same way as in our scenario study (see Appendix). Cronbach's alpha was .91.

Mastery-approach orientation

We assessed participants' mastery-approach orientation with the items: (a) "When performing the assignment I focused on learning the task" and (b) "When performing the assignment, I focused on my personal development on the task." Participants answered on a scale varying from 1 (*totally disagree*) to 5 (*totally agree*). Cronbach's alpha was .85.

Performance-approach orientation

We assessed participants' performance-approach orientation with the items: (a) "When performing the assignment, I focused on showing my superior competence to others" and (b) "When performing the assignment, I focused on performing better than others." Participants answered on a scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Cronbach's alpha was .52.

Measures

Activating mood

For measuring activating mood states, we derived items from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) that have been used to assess activating mood states in earlier studies (e.g., De Dreu et al., 2008). Subjects rated the extent to which they experienced each state on a scale ranging from 1 (*very slightly/not at all*) to 5 (*extremely*). *Positive-activating mood* was measured with the mood states: (a) interested; (b) determined; (c) attentive; (d) alert; and (e) active. Cronbach's alpha was .85. *Negative-activating mood* was measured with the mood states: (a) nervous; (b) afraid; (c) scared; (d) jittery; and (e) stressed. Cronbach's alpha was .77.

Results

Manipulation checks

Task challenge

A 2 (task challenge: low vs. high) × 3 (goal orientation: mastery approach vs. performance approach vs. no orientation) univariate analysis of variance showed that the high-challenging task ($M = 4.39$, $SD = 0.92$) was indeed perceived as more challenging than the low-challenging task ($M = 2.65$, $SD = 0.87$), $F(1, 173) = 172.01$, $p < .001$, $\eta_p^2 = .50$. There was no significant effect of goal orientation, $F < 1$, n.s. However, the interaction effect of task challenge and goal orientation on perceived task challenge was significant, $F(2, 173) = 4.34$, $p = .014$, $\eta_p^2 = .05$. Contrast analyses showed that in the low-challenging condition perceived task challenge was higher for the performance approach ($M = 2.90$, $SD = 0.81$) than for the no orientation condition ($M = 2.38$, $SD = 0.74$), $t(173) = 2.31$, $p < .022$, $r = .17$. No other contrasts were significant within the challenge conditions (all ts < 1.8, n.s.). Finally, we performed contrast analyses to check whether the effects of task challenge (low vs. high) were significant at all levels of goal orientation. This was indeed the case (all ts > 2.31, ps < .023).

Table 1 Means and Standard Deviations (*SD*) of Activating Mood as a Function of Goal Orientation

		Goal orientation					
		Mastery-approach orientation		Performance-approach orientation		No orientation	
Challenging task	Dependent variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low	Positive-activating mood	2.89_a	0.82	3.42_b	0.63	2.65_a	0.79
	Negative-activating mood	1.21_a	0.27	1.46_a	0.55	1.24_a	0.37
	n (gender male)	27 (14)		32 (7)		31 (12)	
High	Positive-activating mood	3.58_a	0.83	3.17_b	0.67	2.98_b	0.70
	Negative-activating mood	1.56_a	0.68	1.36_a	0.56	1.53_a	0.54
	n (gender male)	30 (12)		29 (11)		30 (4)	

Note. Means within a row not sharing the same subscript differ significantly at $p < .05$. The correlation between positive- and negative-activating mood was $r = .03$ (n.s.). Absolute scores varied from 1.00 to 3.40 for negative-activating mood and from 1.20 to 5.00 for positive-activating mood.

Mastery-approach orientation

A 2 × 3 univariate analysis of variance revealed a significant main effect for goal orientation, $F(2, 173) = 22.27$, $p < .001$, $\eta_p^2 = .21$, and for task challenge, $F(1, 173) = 16.18$, $p < .001$, $\eta_p^2 = .09$. The interaction effect was not significant, $F < 1.03$, n.s. Contrast analyses showed that participants in the mastery-approach condition ($M = 4.43$, $SD = 1.37$) were more mastery-approach oriented than participants in the performance approach ($M = 2.74$, $SD = 1.44$), $t(173) = 6.50$, $p < .001$, $r = .42$, and no orientation condition ($M = 3.38$, $SD = 1.57$), $t(173) = 4.05$, $p < .001$, $r = .25$. Participants were less mastery-approach oriented in the performance approach ($M = 2.74$, $SD = 1.44$) than in the no orientation condition ($M = 3.38$, $SD = 1.57$), $t(173) = -2.50$, $p = .013$, $r = .20$. Participants in the high-challenging condition were more mastery-approach oriented ($M = 3.93$, $SD = 1.38$) than those in the low-challenging condition ($M = 3.06$, $SD = 1.62$).

Performance-approach orientation[1]

A 2 × 3 univariate analysis of variance showed significant main effects for goal orientation, $F(2, 173) = 5.72$, $p = .004$, $\eta_p^2 = .06$, and task challenge, $F(1, 173) = 20.80$, $p < .001$, $\eta_p^2 = .11$. The interaction effect was not significant, $F < 1$, n.s. Contrast analyses showed that participants in the performance-approach condition ($M = 4.05$, $SD = 1.34$) were more performance-approach oriented than participants in the mastery approach ($M = 3.36$, $SD = 1.52$), $t(176) = 2.72$, $p = .007$, $r = .20$, and no orientation condition ($M = 3.41$, $SD = 1.26$), $t(176) = 5.57$, $p = .011$, $r = .39$. There was no difference between the mastery-approach condition and the no orientation condition ($t < 1$, n.s.). Participants in the high-challenging condition were more performance-approach oriented ($M = 4.04$, $SD = 1.31$) than those in the low-challenging condition ($M = 3.18$, $SD = 1.37$).

Altogether, we conclude that our manipulations were successful.

Primary analyses[2]

Descriptive statistics are summarized in Table 1.

Positive-activating mood

A 2 × 3 univariate analysis of variance showed main effects for task challenge, $F(1, 173) = 5.49$, $p = .020$, $\eta_p^2 = .03$, and goal orientation, $F(2, 173) = 7.62$, $p = .001$, $\eta_p^2 = .08$. The main effects were qualified by a significant interaction effect, $F(2, 173) = 6.028$, $p = .003$, $\eta_p^2 = .07$. Contrast analyses revealed that in the low-challenging condition, performance-approach participants ($M = 3.42$, $SD = 0.63$) reported higher positive mood than mastery-approach participants ($M = 2.89$, $SD = 0.82$), $t(173) = 2.74$, $p = .007$, $r = .20$, and no orientation participants ($M = 2.65$, $SD = 0.79$), $t(173) = 4.14$, $p < .001$, $r = .30$. These findings confirm Hypothesis 1a. There was no difference between the mastery approach and no orientation condition ($t < 1.3$, n.s.).

In the high-challenging condition, mastery-approach participants ($M = 3.58$, $SD = 0.83$) reported higher positive mood than performance-approach participants ($M = 3.17$, $SD = 0.67$), $t(173) = 2.11$, $p = .036$, $\eta_p^2 = .16$, and no orientation participants ($M = 2.98$, $SD = 0.70$), $t(173) = 3.14$, $p = .002$, $r = .23$. These findings support Hypothesis 2a. There was no difference between the performance approach and no orientation condition ($t < 1.5$, n.s.).

[1]Because the Cronbach's alpha of our performance-approach manipulation check measure was relatively low and to examine whether effects were due to "demonstration of abilities" or "outperforming others" (Hulleman et al., 2010), we checked whether the separate two items of this measure revealed similar results as the combined measure. The results appeared to be the same for the second item (outperforming others). For the first item (demonstration of abilities), the findings were in the same directions but nonsignificant (all *p*s > .215).

[2]Two additional analyses of variance were performed to check whether there were gender differences for positive- and negative-activating mood. This was not the case (*F*s < 1, n.s.).

Negative-activating mood

A 2 × 3 univariate analysis of variance showed a main effect for task challenge, $F(1, 173) = 5.38, p = .021, \eta_p^2 = .03$. Participants in the high-challenging condition reported higher negative mood ($M = 1.48$, $SD = 0.60$) than those in the low-challenging condition ($M = 1.31$, $SD = 0.43$). There was no main effect of goal orientation ($F < 1$, n.s.). The interaction of task challenge and goal orientation was significant, $F(2, 173) = 3.28, p = .040, \eta_p^2 = .04$.

Contrast analyses revealed that in the low-challenging condition, negative mood of the performance-approach participants ($M = 1.46$, $SD = 0.55$) did not differ from the negative mood of the mastery approach ($M = 1.21$, $SD = 0.27$), $t(173) = -1.85$, $p = .067$, $r = .14$, and the no orientation participants ($M = 1.24$, $SD = 0.37$), $t(173) = 1.67$, $p = .096$, $r = .13$. Also, results did not show a difference in negative mood between the mastery approach and no orientation condition ($t < 1$, n.s.). Hypothesis 1b was rejected.

In the high-challenging condition, negative mood in the mastery-approach condition ($M = 1.56$, $SD = 0.68$) was not significantly different from negative mood in the performance-approach condition ($M = 1.36$, $SD = 0.56$), $t(173) = 1.46$, $p = .146$, $r = .11$. There were no differences in negative mood between the other goal orientation conditions ($ts < 1.5$, n.s.). Hypothesis 2b was rejected.

To further explore the nature of the interaction effect, we performed additional contrast analyses in which we compared the levels of task challenge for each goal orientation. The results show that in the mastery-approach condition negative mood was significantly lower in the low challenging ($M = 1.21$, $SD = 0.27$) than in the high-challenging condition ($M = 1.56$, $SD = 0.68$), $t(173) = -2.54$, $p = .012$, $r = .32$. In the no orientation condition negative mood was significantly lower for the low-challenging ($M = 1.24$, $SD = 0.37$) than for the high-challenging condition ($M = 1.53$, $SD = 0.54$), $t(173) = -2.18$, $p = .031$, $r = .30$. However, in the performance-approach condition no difference was found between the low- and high-challenging conditions ($t < 1$, n.s.).

Discussion

In this study, we proposed that people's activating mood responses to high- or low-challenging tasks are affected by induced goal orientation. Our study design enabled us to test for causalities and to examine effects of goal oriented as compared with general (no goal oriented) task instructions for performing high- and low-challenging tasks.

First, we found that individuals who had worked on the high-challenging assignment were both more mastery-approach and performance-approach oriented than those who had worked on the low-challenging assignment. Hence, challenging tasks that include elements of visibility and mastery of new skills (e.g., McCauley et al., 1994; Preenen et al., 2011) enhance mastery-approach and performance-approach orientations. Second, we found that on the high-challenging task, positive-activating mood was higher with a mastery approach than with a performance-approach orientation, whereas on the low-challenging task, positive-activating mood was higher with a performance approach than with a mastery-approach orientation.

To explore whether differences in positive-activating mood could be mainly attributed to the working of one of the two induced goal orientations, we compared the outcomes of the goal orientation conditions with the no goal orientation condition. The results suggest that differences in positive-activating mood in the high-challenging conditions can be mainly attributed to the mastery-approach orientation. Apparently, a mastery-approach orientation makes a challenging task more positively stimulating because it provides individuals with a learning goal. Conversely, differences in activating mood in the low-challenging conditions can be mainly attributed to the performance-approach orientation. Apparently, individuals are then concerned with trying to outperform others and/or demonstrate abilities. However, research suggests that performance goal effects can depend on whether goals are framed in terms of "demonstration of abilities" or in terms of "outperforming others" (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010). Interestingly, when analyzing the two separate items of our manipulation check of performance-approach orientation (see footnote[1]), we found that participants were foremost focused on outperforming others, which may have driven the effects of a performance-approach orientation. Future research should further clarify whether performance goal orientation effects differ for a focus on demonstrating abilities or outperforming others.

Goal orientations did not affect one's negative-activating mood on low- and high-challenging tasks like we expected. That is, negative-activating mood was not higher with a performance-approach orientation than with a mastery-approach orientation. Instead, we found a significant interaction effect showing that participants in the mastery or no orientation conditions reported a higher negative-activating mood in the high as compared with the low-challenging task condition, whereas no such difference was found for participants with a performance-approach orientation. Apparently, a more challenging task led to higher negative mood for mastery approach and no orientation participants, but not for performance-approach participants.

Interestingly, we found low levels of negative-activating mood ($M = 1.39$, $SD = 0.53$) in this study. This may mean that participants felt hesitant or ashamed to report high negative moods. Indeed, social desirability confounding is often a problem with self-report strain measures (Hurrell, Nelson, &

Simmons, 1998). Future research may include different (i.e., physiological) negative-activating mood measures. Alternatively, the low levels of negative-activating mood may indicate that both low- and high-challenging assignments were not perceived as very demanding. When the challenging task would have been made more demanding, significant effects in the expected directions for negative-activating mood might have been found. Future research could further explore negative mood responses as induced by goal orientation and more demanding tasks.

Theoretical implications

Our study contributes to job challenge research and theory. First, extant research on job challenge and individual outcomes has mainly been conducted in field settings and focused on high-challenging assignments (e.g., De Pater, Van Vianen, Bechtoldt, et al., 2009; McCauley et al., 1994; Preenen et al., 2011, 2014). Experimental research that has investigated effects of job challenge mainly used memory tasks and puzzles (e.g., Taylor, 1981). We however examined the effects of job challenge with realistic assignments. Furthermore, previous studies hardly included moderators of the relationship between challenging assignments and individual outcomes (e.g., De Pater, Van Vianen, Bechtoldt, et al., 2009; McCauley et al., 1994). Also, extant research on job challenge did not address the role of individuals' goal orientations while these orientations were found to have a strong impact on people's task performance in other research domains (for an overview, see Elliot, 2005; Payne et al., 2007).

The results also contribute to goal orientation literature. First, our findings corroborate research suggesting that the advantageous effects of a mastery orientation may be limited to tasks that are of higher complexity (e.g., Utman, 1997). Second, our findings also resonate with previous studies that have shown beneficial effects of a mastery goal orientation when performing difficult tasks (see Button et al., 1996; Farr, Hofmann, & Ringenbach, 1993) and with studies showing that mastery goals positively influence intrinsic motivation and learning when individuals encounter prolonged challenge or setbacks (e.g., Darnon, Butera, et al., 2007; Grant & Dweck, 2003). Furthermore, our results are in line with research findings and literature suggesting that performance-approach goals are most adaptive under situations of low task difficulty or low fear of failure (Barron & Harackiewicz, 2001; Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007; Elliot, 1997). For example, Barron and Harackiewicz (2001) found that performance goals did not promote performance when participants were confronted with a difficult task.

As far as we know, this is the first study that investigated the combined effects of task characteristics (low or high challenge) and induced approach goal orientations on activating mood. Typically, details about task characteristics are absent or task characteristics do not vary across goal orientation studies investigating mood outcomes (see Payne et al., 2007). Moreover, these prior studies showed mixed results (Midgley, Kaplan, & Middleton, 2001), with some reporting positive effects (e.g., Linnenbrink, 2005) and others reporting negative effects of performance-approach goals for individuals' mood states (e.g., Kaplan & Maehr, 1999). These ambiguous findings may be due to the type of tasks people worked on. Future studies could further investigate how goal orientations interact with level of job challenge and impact people's activating mood states and other individual outcomes.

Finally, we extended our knowledge about how to stimulate positive-activating mood when performing work tasks. Most research on activating mood focused on individual outcomes of activating mood such as creativity (e.g., De Dreu et al., 2008) and did not focus on influencing activating mood. Advancing our understanding of how to stimulate positive-activating mood seems particularly interesting because research consistently indicates that positive-activating mood leads to higher creativity (Baas, De Dreu, & Nijstad, 2008). Challenging assignments, such as our presentation task, often involve creativity.

Limitations and future research

We deliberately opted for an experimental rather than field design in order to be able to test for causality and direction. However, the experimental design and the mere involvement of students in our study may have limited the generalizability of our findings to real work and study settings. Although we used realistic, pilot-tested assignments, and we are therefore confident that the results are applicable to work settings, we encourage researchers to replicate our findings in real-life (yet controlled) field research in which challenging tasks are assigned to employees while influencing their goal orientations.

A second limitation is that we only used self-reports to asses activating mood states. Especially negative-activating moods may be subject to social desirability biases (Hurrell et al., 1998) that undermine the validity of experimental and survey research findings (e.g., Nederhof, 1985). Although similar measures have been used earlier (e.g., De Dreu et al., 2008), in future studies negative-activating mood states could be more objectively assessed with physiological indicators, such as heart rate, galvanic skin response, and blood pressure, which have been used in earlier research (e.g., Bruning & Frew, 1987). Future research could employ study designs that combine self-reports with physiological responses.

Third, we should note that Cronbach's alpha for the performance-approach manipulation check was low (.52), which may be due to the low number of items (Cortina, 1993). However, and perhaps more relevant, our manipulation check included different yet related concepts, which

may explain its low alpha. Specifically, we assessed the manipulation check by asking participants whether they were focused on showing superior competence (i.e., demonstration of abilities) and performing better than others (i.e., outperforming others) during the assignment. It has been suggested that these two focuses elicit different outcomes (Hulleman et al., 2010). Future studies should assess the performance-approach manipulation check with more than two items and take account of the different components of the focal construct.

Fourth, we did not assess actual performance on the tasks. The performance (perceptions) on the tasks may have influenced how people felt during and after task completion. For example, good task performance makes people feel skillful and effective and may thus fulfill people's need for competence (e.g., Deci & Ryan, 2000). Previous research has indicated that fulfillment of competence needs relates to positive psychological outcomes, such as, among others, positive affect, intrinsic motivation (Sheldon & Filak, 2008), and work engagement (Deci et al., 2001). Hence, people's performance perceptions may have influenced their positive-activating mood and should be included and controlled for in future research.

Furthermore, we manipulated one goal orientation at the time. However, individuals can hold more than one goal orientation (Barron & Harackiewicz, 2001; DeShon & Gillespie, 2005). Manipulating multiple goal orientations when assigning challenging tasks, such as inducing both performance-approach and mastery-approach goal orientations, may elicit differential effects as compared with inducing a single-goal orientation. Participants may, for example, experience the two goal orientations during a challenging task as incompatible or stressful. Future research may investigate this possibility.

Also, goal orientations are conceived of as both stable individual characteristics and malleable states (DeShon & Gillespie, 2005). We took the state approach and indeed showed that our manipulation had an effect on positive-activating mood. However, numerous studies have shown effects of goal orientations measured as individual differences (Payne et al., 2007). Hence, future research could measure participants' goal orientations before the manipulation and examine (the combination of) trait and state effects. It is conceivable that individuals show stronger mood effects when they are induced with a goal orientation that matches their dispositional goal orientation.

Finally, future research could use a group setting to test for replication of our findings. A group setting may, for example, evoke social comparison and thus particularly strengthen performance-approach goals, which may result in stronger mood effects. The direction of these effects is an issue for further theorizing and investigation.

Practical implications

The findings of this study have implications for organizations and educational institutions. As discussed above, challenging assignments are important for individual development (McCauley et al., 1994). Supervisors or teachers should therefore assign challenging tasks to their employees (De Pater, Van Vianen, & Bechtoldt, 2010; Preenen et al., 2014) or students (e.g., De Pater, Van Vianen, Humphrey, et al., 2009). Our findings show that challenging work and study assignments should be explicitly communicated as an opportunity to learn and to develop competencies in order to enhance people's positive-activating mood. Enhancing positive-activating mood may especially be useful for challenging assignments that demand creativity, because positive-activating mood significantly enhances performance on creativity tasks (Baas et al., 2008).

However, low-challenging and monotonous tasks can also be part of people's work (e.g., Melamed et al., 1995). When low-challenging tasks are inevitable and have to be assigned, supervisors or teachers may (carefully) instruct their employees or students to show superior competence and to perform better than others in order to increase their positive-activating mood.

To positively activate people on high-challenging assignments, a mastery-approach orientation could be facilitated through supervisor or teacher communication or through an HR system or school climate that emphasizes personal improvement, skill development, and experimentation. In work organizations, a performance-approach orientation could be facilitated by an HR system that offers performance-based compensation (Van Yperen, 2003) in order to positively activate employees on low-challenging assignments.

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Appendix

Task challenge items

The task I performed was:

1. challenging
2. new
3. high in responsibility
4. a task that required multiple new skills
5. difficult to achieve
6. important
7. a test of my abilities
8. demanding
9. varying
10. an exciting task in which I had to overcome myself