

To Win, or Not to Lose, At Any Cost: The Impact of Achievement Goals on Cheating

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We examined the relations between achievement goals and cheating in two studies. The findings from Study 1 show that the extent to which people intend to behave unethically in the areas of work, sport and education is a function of their dominant achievement goals in these particular settings. An even more important addition to the extant literature may be the finding from Study 2 that imposing achievement goals on individuals affects *actual* cheating behaviour during task performance. Consistent across both studies, performance-based goals (i.e. goals grounded in an *interpersonal* standard) were more strongly associated with cheating than mastery-based goals (i.e. goals grounded in an *intrapersonal* standard). We conclude that recognizing and understanding the effects of achievement goals on cheating behaviour may enable business leaders, organizations and their employees to create ethical organizations.

The numerous ethical scandals concerning high-profile firms and business executives but also outcomes of scientific research have raised many concerns about the emergence of unethical and irresponsible behaviour in organizations. For example, Jelinek and Ahearne (2006) found that 60% of the sales managers in their survey reported having caught their representatives cheating on expense reports. Additionally, the finding that graduate business students tend to cheat more than their non-business-student peers (McCabe, Butterfield and Trevino, 2006) does not give much hope that the occurrences of cheating behaviours in business will decrease in the near future. Unfortunately, academic cheating *in general* has been, and continues to be, a serious problem (Anderman and Danner, 2008; Callahan, 2004; McCabe, Trevino and Butterfield, 2001; Murdock and Anderman, 2006; Whitley, 1998). Almost three quarters of students engage in some form of cheating during college (McCabe, Trevino and Butterfield, 2001; Vandehy, Diekhoff and Labeff, 2007), like paraphrasing without acknowledgement, inventing data, or

allowing coursework to be copied by another student (Newstead, Franklyn-Stokes and Armstead, 1996). Most students perceive these behaviours as acceptable (Cizek, 1999; Schab, 1991), and they tend to attribute their behaviour primarily to external rather than internal factors (McCabe, 1999). Similarly, despite the Olympic oath in which respect for the rules, sportsmanship, and refraining from doping and drug use are emphasized, dishonesty and rule-breaking behaviours seem to be quite common in elite sports, as indicated by the great number of doping scandals in sports each year. In this regard, Olympic chief Jacques Rogge (2008) indicated on BBC's Inside Sport programme that 'Hoping for a drug-free Olympic Games is naïve; cheating is embedded in human nature'.

Because of the high and stable prevalence across achievement settings and the serious consequences of cheating, it is important to understand why people engage in unethical behaviours. Ultimately, this may help to reduce the occurrence of these behaviours and to create ethical organizations, schools and institutions.

Reasons why people may cheat include the perceived external pressures to meet high standards of performance or deadlines, a desire to excel, fear of failure, or a lack of personal integrity. Other individuals cheat in order to attain social acceptance, to keep up with peers, to further advance in their careers, to please others, or to protect their livelihood (e.g. Cizek, 1999; Jordan, 2001; McCabe, Trevino and Butterfield, 2001; Newstead, Franklyn-Stokes and Armstead, 1996; Vandehy, Diekhoff and Labeff, 2007; Whitley, 1998). Furthermore, individuals high in cynicism or diminished morale, and those who believe that human behaviour is under the control of predetermined forces, are more likely to cheat (Vohs and Schooler, 2008). As emphasized by Murdock and Anderman (2006) in their review, little effort has been made in the cheating literature to interpret research findings within a theoretical framework, which impedes theoretical development and progress. In general, cheating is *motivated behaviour* because it entails the intentional violation of pre-set rules in order to attain an advantage or credit, or to increase the chance of success (Murdock, Hale and Weber, 2001; Nettler, 1988). In the present research, we argue and demonstrate that cheating can be theoretically explained and predicted by considering the most elaborate achievement goal framework, which includes the full 2×2 design of the mastery–performance and approach–avoidance distinctions (Elliot and McGregor, 2001).

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 situations, including the workplace, the classroom and the ball field (Dweck, 1986; Elliot, 2005; Nicholls, 1984). In the most recent model (Elliot and McGregor, 2001), four achievement goals are distinguished based on the combination of two dimensions: *definition* (mastery versus performance) and *valence* (approach versus avoidance). Mastery goals are goals grounded in an *intrapersonal* standard; performance goals are goals grounded in an *interpersonal* standard. Approach goals are focused on acquiring positive possibilities; avoidance goals are focused on avoiding negative possibilities. Accordingly, the four different achievement goals from the 2×2 framework (Elliot, 1999; Elliot and McGregor, 2001; Pintrich, 2000) are the following: *perfor-*

mance-approach goals, which entail striving to do better than others; *performance-avoidance goals*, which entail striving not to do worse than others; *mastery-approach goals*, which entail striving to do better than one has done before; and *mastery-avoidance goals*, which entail striving to avoid doing worse than one has done before (Van Yperen, 2003a, 2006).

Present research

The present research extends previous research in several ways. First, in contrast to previous research (for recent reviews, see Anderman and Danner, 2008; Murdock and Anderman, 2006), we used the most recent and elaborate achievement goal framework, which includes the full 2×2 design of the mastery–performance and approach–avoidance distinctions (Elliot and McGregor, 2001). Furthermore, we are unaware of any other study in which the causal links between achievement goals and *actual* cheating behaviour were examined. Therefore, a second unique contribution is that, in Study 2, we manipulated individuals' achievement goals and, next, assessed their *actual* cheating behaviours during task performance.

Many contemporary achievement goal theorists argue that achievement goals should be conceptualized as situational rather than personality variables (e.g. Dweck, 1999; Elliot, 2005; Murdock and Anderman, 2006). Experimental achievement goal research has demonstrated that individuals' achievement goals can be successfully manipulated (e.g. Barron and Harackiewicz, 2001; Van Yperen, 2003a), and in field research self-reported frequencies of engaging in cheating behaviours appear to be a function of the perceived achievement goal climate within classes or schools (e.g. Anderman and Midgley, 2004; Jordan, 2001). However, it has yet to be tested whether individuals' achievement goals differ *across achievement domains*. Moreover, this would imply that individuals' tendencies to cheat differ across achievement domains as well. Hence, a third contribution to the extant achievement goal literature is that, in Study 1, we examined the relationship between personally adopted achievement goals and individuals' intentions to cheat in and across different achievement settings (i.e. work, sport and education).

Fourth, we examined individuals' personally adopted (Study 1) or experimentally imposed (Study 2) *dominant* achievement goals. Clearly, people tend to have multiple goals at the same time, including different achievement goals (Barron and Harackiewicz, 2001), but individuals also appear to have a *dominant* achievement goal. That is, in a particular context, individuals tend to consistently prefer one specific achievement goal, and it has been found that individuals with different dominant achievement goals have clear, distinct profiles (e.g. De Lange *et al.*, in press; Van Yperen, 2006). Similarly, in experimental research, the achievement goal imposed on the individual is assumed to be the individual's dominant achievement goal in that particular setting, and each assigned achievement goal is expected to differentially affect individuals' emotions, cognitions and behaviours.

Achievement goal theorists would predict that mastery goal individuals (either approach or avoidance oriented) are not likely to cheat because cheating does not serve their mastery-based goals (e.g. Anderman and Danner, 2008; Jordan, 2001; Murdock and Anderman, 2006; Niiya *et al.*, 2008). In cheating, mastery goal individuals do not develop intrapersonal competence or avoid intrapersonal incompetence. In contrast, performance goal individuals (either approach or avoidance oriented) are focused on how they perform relative to others. Accordingly, they may care neither about learning nor about how they actually attain their goal. Their goal is to win, or not to lose, possibly at any cost. They may find cheating a viable means to reach their performance-based goals. Hence, we hypothesized that, relative to personally adopted (Study 1) or assigned (Study 2) dominant mastery goals (either approach or avoidance), dominant performance goals (either approach or avoidance) would be more strongly associated with individuals' intentions to cheat (Study 1) and actual cheating behaviour (Study 2).

Prior research has provided inconclusive evidence concerning sex differences in cheating. Some researchers report that, although differences are small, men are more inclined to cheat than women (e.g. Newstead, Franklyn-Stokes and Armstead, 1996; Niiya *et al.*, 2008). Others have reported no sex differences in cheating (for

reviews, see McCabe, Trevino and Butterfield, 2001; Whitley, Nelson and Jones, 1999). To control for sex differences, therefore, we used a 2 (definition: mastery versus performance) \times 2 (valence: approach versus avoidance) \times 2 (sex: men versus women) design in both Study 1 and Study 2.

Study 1¹

Individuals' dominant achievement goals were assessed (Van Yperen, 2006) in three different domains (work, sport and education). The participants then read four vignettes for each domain, each describing a situation in which the protagonist had the opportunity to cheat. Next, the participants rated their own likelihood of cheating. As argued above, *within* each domain, performance goal individuals were expected to indicate a higher likelihood of cheating than their mastery goal counterparts. In addition, relative to individuals holding a consistent, dominant mastery goal *across* domains, individuals who had a consistent, dominant performance goal were expected to indicate a higher likelihood of cheating across domains.

Method

Participants and procedure. A total of 264 undergraduates (76% women) completed the questionnaire online. They received course credit for their participation. Ages ranged from 17 to 35, with an average of 19.9 (SD = 2.32).

Measures. *Individuals' dominant achievement goals* were assessed using a six-item round robin measure developed by Van Yperen (2006). This measure consists of six forced-choice items contrasting each achievement goal in a pairwise manner with the other three achievement goals. A goal is considered dominant when an individual chooses it consistently above the other three goals. Individuals' dominant achievement goals were assessed three times, separately for the domains of work, sport and education. A sample item for the work domain is, 'In my work, I find it most important (A) to do better

¹We thank Petra Visser, Meike Bouwer, Rolanda Klinge and Renske Werkman for their help in data collection.

Table 1. Measure for assessing individuals' dominant achievement goals (Van Yperen, 2006)

		For each item, circle either A or B			
In my work (or sport or studies), I find it most important ...		A	or	B	
1	A	... to do <i>better</i> than others	or	B	... <i>not</i> to do <i>worse</i> than others
2	A	... to do <i>better</i> than I did before	or	B	... <i>not</i> to do <i>worse</i> than I did before
3	A	... to do <i>better</i> than others	or	B	... to do <i>better</i> than I did before
4	A	... <i>not</i> to do <i>worse</i> than I did before	or	B	... <i>not</i> to do <i>worse</i> than others
5	A	... <i>not</i> to do <i>worse</i> than others	or	B	... to do <i>better</i> than I did before
6	A	... <i>not</i> to do <i>worse</i> than I did before	or	B	... to do <i>better</i> than others

Notes: Scores on each achievement goal range from 0 to 3. Individuals with dominant achievement goals (score 3) circle 1A, 3A, 6B (performance approach), or 1B, 4B, 5A (performance avoidance), or 2A, 3B, 5B (mastery approach), or 2B, 4A, 6A (mastery avoidance).

than others or (B) to do better than I did before' (see Table 1).²

To measure participants' *intentions of cheating* in different contexts, four vignettes were developed for each setting (work, sport and education). In each setting, the vignettes described situations in which protagonists had the opportunity to cheat in order to reach their goals. An example of a vignette in an academic setting reads as follows:

For an academic course, you have to prepare a report, and the deadline for delivery is approaching rapidly. If you fail to make the deadline, you will have to redo the entire course. When you search the internet for inspiration, you find a student's report that meets all requirements. You learn, further, that the student received the highest mark in class for this piece of work. If you copy it, and replace some words and phrases, nobody will ever find out that this work is not your own, and you will probably be rewarded with the highest mark.

²In this measure, achievement goals are conceptualized as aim or standard, which is consistent with its prototypical use in the psychological literature (Elliot, 2005). As discussed by Elliot (2005), there is surprisingly little consensus in the achievement goal literature on whether 'goal' in 'achievement goal' is best represented as aim (Elliot, 2005; Elliot and Murayama, 2008; Van Yperen, 2006), a combination of reason and aim (Pintrich, 2000; VandeWalle, 1997) or overarching orientation (Ames and Archer, 1988). Clearly both aim and reason are important in accounting for achievement behaviour. However, to promote conceptual and interpretational clarity, we think (see also Elliot, 2005; Elliot and Fryer, 2006) it is optimal to keep aims conceptually separate from the many different reasons (e.g. to demonstrate competence to others, to avoid the shame of failure, to get the reward my boss promised me etc.).

Are you going to submit this slightly adapted student's report?

Participants indicated the extent to which they intended to carry out the cheating behaviour on a scale of 1 (absolutely not) to 10 (absolutely). The strength of participants' intention to cheat was determined by taking the average score on the four vignettes for each setting. Cronbach alphas were 0.67 for work, 0.65 for sport and 0.69 for education.

Results

Achievement goals. First, participants' dominant achievement goals were measured in each domain. In the area of work, 87.1% of the participants had a dominant goal. That is, 87.1% of the participants consistently chose the same goal three times (Van Yperen, 2006). This was 85.6% in the area of sport, and 91.7% in the education domain. Table 2 shows how the four goals are distributed within the three domains. We also determined whether participants had a consistent dominant achievement goal across domains. Overall, 21.2% of the participants chose consistently (a specific goal or no dominant goal) across the three domains.

Cheating intentions. Next, 2 (definition: performance versus mastery) × 2 (valence: approach versus avoidance) × 2 (sex: men versus women) ANOVAs³ were conducted separately for each

³Note that the observed percentages of goal choice deviated from an unequal division across the four goals

Table 2. Numbers and percentages of dominant achievement goals within domains

	Domain		
	Work	Sport	Education
Performance approach	30 (11.4%)	32 (12.1%)	18 (6.8%)
Performance avoidance	69 (26.1%)	43 (16.3%)	61 (23.1%)
Mastery approach	39 (14.8%)	59 (22.4%)	36 (13.7%)
Mastery avoidance	92 (34.8%)	92 (34.8%)	127 (48.1%)
No dominant goal	34 (12.9%)	38 (14.4%)	22 (8.3%)

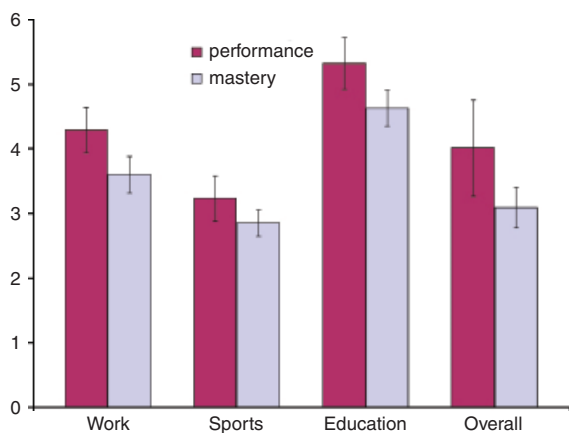


Figure 1. Mean cheating intentions within domains and overall and with 95% confidence intervals, Study 1.

achievement setting, with intention to cheat in that particular setting as the dependent variable. As displayed in Figure 1, main effects for definition were found in the area of work ($F(1, 222) = 10.31$, $p < 0.01$, $\eta^2_{\text{partial}} = 0.04$), in the area of sport ($F(1, 218) = 4.43$, $p < 0.05$, $\eta^2_{\text{partial}} = 0.02$) and in the area of education ($F(1, 234) = 18.84$, $p < 0.001$,

(see Table 2), so that the factorial designs were unbalanced. However, the type III sums-of-squares method (the default option in general linear modelling) calculates the sums of squares of an effect in the design as the sums of squares are adjusted for any other effects that do not contain it and orthogonal to any effects (if any) that contain it. The type III sums of squares have one major advantage in that they are invariant with respect to the cell frequencies as long as the general form of estimability remains constant. Hence, this type of sums of squares is often considered useful for an unbalanced model with no missing cells. In a factorial design with no missing cells, this method is equivalent to the Yates's weighted-squares-of-means technique. The type III sums-of-squares method is commonly used for any balanced or unbalanced model with no empty cells (see *SPSS Manual* or Help Menu or Hays, 1994).

$\eta^2_{\text{partial}} = 0.08$). With one exception,⁴ the other main and interaction effects were not significant (p values > 0.09). Thus, individuals with performance goals reported stronger intentions to cheat than those with mastery goals.⁵ In addition, intentions to cheat differed significantly between the domains. These were highest in the education domain ($t_{\text{education/work}}(263) = 9.99$, $p < 0.001$; $t_{\text{education/sport}}(263) = 18.30$, $p < 0.001$) and significantly higher in the work domain than in the sport domain ($t_{\text{work/sport}}(263) = 10.55$, $p < 0.001$).

Discussion Study 1 and Introduction Study 2

The findings of Study 1 demonstrated that individuals with different dominant achievement goals had different intentions to cheat. In each of the achievement settings (work, sport and education), individuals with dominant performance-based goals reported stronger intentions to cheat than their counterparts with dominant mastery-based goals. As expected, no differences in cheating intentions were found between individuals endorsing approach goals and those endorsing avoidance goals. Another interesting result is that a great majority of the participants had different dominant goals across the three achievement settings. Only 21.2% chose a consistent goal (or consistently no dominant goal) across the three domains. Thus, individuals tended to have different achievement goals in

⁴A significant interaction effect of sex and definition was found in the domain of education ($F(1, 234) = 6.98$, $p < 0.01$, $\eta^2_{\text{partial}} = 0.03$). Relative to men holding performance goals ($M = 6.17$, $SD = 0.39$), women endorsing performance goals reported lower intentions of cheating ($M = 5.01$, $SD = 0.30$). Compared to men holding mastery goals ($M = 3.92$, $SD = 0.37$), women with mastery goals reported higher intentions of cheating ($M = 4.47$, $SD = 0.18$). The latter difference is mostly attributable to men with dominant mastery-approach goals ($n = 7$), who had much lower intentions of cheating ($M = 3.25$, $SD = 0.66$). However, owing to the low cell count for mastery-approach males, this result should be interpreted with caution.

⁵No significant differences were found between performance goal groups or mastery goal groups, on the one hand, and no-goal groups, on the other ($p > 0.05$), except in the domain of sport, in which the no-goal group reported a higher intention of cheating than the mastery goal group (Tukey's honestly significant difference, $p < 0.05$).

different areas, and within each domain individuals with performance goals were more likely to cheat than individuals with mastery goals.

A limitation of Study 1 is that it was correlational: no evidence could be obtained as to whether achievement goals actually *caused* cheating behaviour. Moreover, self-report measures were used to assess people's cheating *intentions*. Ironically, for reasons of social desirability, people might not have answered questions about cheating honestly. On the other hand, there is no reason to believe that individuals with performance goals, who reported higher intentions to cheat, were more honest about this behaviour than those with mastery goals. In contrast, the results suggest that performance goal individuals were more likely to cheat, so the observed differences in cheating intentions between performance goal individuals and mastery goal individuals may be underestimations. In order to address the issues of causality and the (possible) disparity between intention to cheat and actual cheating behaviour, in Study 2 a novel experimental paradigm was developed to investigate the influence of achievement goals on actual cheating behaviour.

Method

Participants. The participants were 159 undergraduates (77% women), ranging in age from 17 to 29 ($M = 20.1$, $SD = 2.2$). They received course credit for their participation.

Procedure. Participants were invited to the laboratory, where they were seated in separate cubicles. They were given a computer-based 'GRID concentration task' (Harris and Harris, 1984), consisting of three subsequent 10 by 10 grids that randomly contained all 100 numbers between 0 and 99. The participants were asked to click numbers from 70 (an arbitrary starting point) upwards *in strict order* (70, 71, 72, 73 etc.). A 45 s limit was set for each grid. The participants were informed that *the highest number* they reached on each grid would be their score on that particular grid.

Before they started to work on the task, the critical rule (i.e. *clicking the numbers from 70 upward in strict order*) was emphasized. However, in a practice trial, the participants implicitly learned that it was possible to cheat, i.e. to click any number,

including a higher number (e.g. 76) rather than the number that follows directly after the previous one (e.g. 73). During task performance, the computer recorded the order in which the numbers were clicked in each of the three trials. The dependent measure of cheating was a score between 0 and 3, indicating in how many trials the participant had not clicked the numbers in strict order.

Participants were then randomly assigned to one of the four goal conditions or the no-goal control condition: to do better than most other participants on the GRID task (*performance approach*), not to do worse than most other participants on the GRID task (*performance avoidance*), to improve on the GRID task (*mastery approach*) or not to deteriorate on the GRID task (*mastery avoidance*). They were recommended to carry out the GRID task with this goal in mind. Participants in the no-goal control condition were not assigned any goal. To ensure that participants internalized their assigned goals, they were asked to elaborate on this goal by recalling a situation in which they had had the same type of goal. They were asked to describe this situation in about ten sentences, and to include the thoughts and feelings they had in that particular situation. Next, participants were asked to complete three different trials of the GRID task. In the experimental conditions, participants were told that they would be informed at the end of the task whether they had reached their goal. After completion of the GRID task, the manipulation check was carried out. Afterwards, the participants were debriefed and thanked for their participation.

Measurements

Actual cheating. Participants had cheated when they had not marked the numbers in strict order on a particular trial. Cheating (at least once) on a trial was scored as 1. The actual cheating score was computed by adding the scores for cheating across the three trials. Hence, cheating scores ranged from 0 to 3, and indicated in how many trials the participant had not clicked the numbers in strict order.

Manipulation check. To check whether individuals' achievement goals were successfully ma-

nipulated, participants were asked to recall which goal they had been recommended to adopt when carrying out the GRID task. This was done by asking a closed-ended question with five alternatives: 'We recommended that you adopt a specific goal when carrying out the GRID task. Please indicate which goal.' The five alternatives were (1) to do better than most other participants on the GRID task; (2) not to do worse than most other participants on the GRID task; (3) to improve on the GRID task; (4) to not deteriorate on the GRID task; (5) no specific goal was recommended to me when carrying out the GRID task.

Results

First, the results of the manipulation check of achievement goals were analysed in order to determine whether the assignment of achievement goals was successful. Over 84% of the participants (Cohen's kappa = 0.81)⁶ correctly recalled the goal that was assigned to them, indicating that the manipulation was successful.

Next, a 2 (definition: performance versus mastery) \times 2 (valence: approach versus avoidance) \times 2 (sex: men versus women) ANOVA was conducted to test whether there was a difference between the four goal conditions in the extent to which men and women had cheated. In line with the findings of Study 1, the analysis showed a significant main effect of definition ($F(1, 149) = 9.27, p < 0.01, \eta^2_{\text{partial}} = 0.06$), indicating that, relative to mastery goal individuals ($M = 0.46, SD = 0.11$), performance goal individuals ($M = 0.86, SD = 0.11$) engaged in significantly more cheating behaviour. No other main or interaction effects were significant ($p > 0.11$). Furthermore, *post hoc* pairwise comparisons based on Tukey's honestly significant difference indicated that the extent of cheating in neither the performance goal nor the mastery goal conditions differed significantly from the control condition ($M = 0.59, SD = 0.11; p > 0.4$; see Figure 2).

⁶Landis and Koch (1977) have provided some useful guidelines for interpreting Cohen's kappa. They characterized Cohen's kappa between 0.41 and 0.60 as moderate, between 0.61 and 0.80 as substantial, and between 0.81 and 1.00 as high.

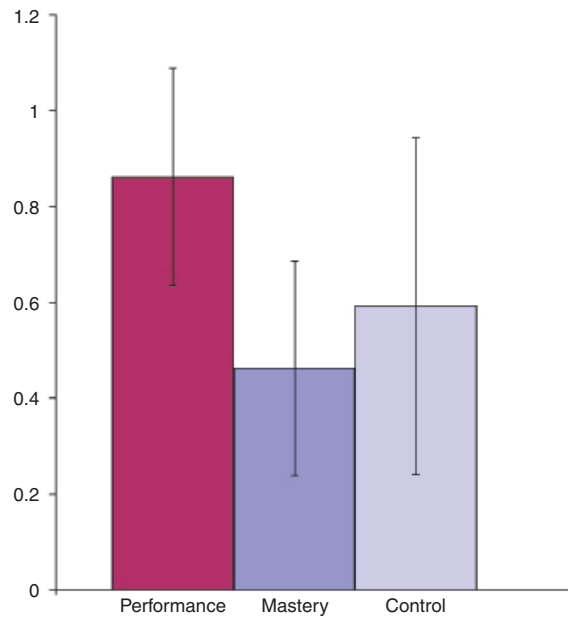


Figure 2. Mean actual cheating scores in performance versus mastery versus control condition and with 95% confidence intervals, Study 2.

Discussion

In line with the findings of Study 1, we demonstrated in Study 2 that assigned performance goals (either approach or avoidance) resulted in more actual cheating behaviour relative to assigned mastery goals (either approach or avoidance). Thus, a unique contribution to the achievement goal and cheating literature (for recent reviews, see Anderman and Danner, 2008; Murdock and Anderman, 2006) is that we provide empirical evidence that, relative to mastery-based goals, performance-based goals *cause* more actual cheating behaviour.

General discussion

The present results consistently show that, compared to mastery goal individuals, performance goal individuals tend to cheat more. Study 1 provided support for the hypothesis that, within and across achievement settings (work, sport and education), individuals with dominant performance goals (either approach or avoidance) have stronger intentions to cheat relative to their counterparts with dominant mastery goals (either approach or avoidance). In Study 2 we

extended these findings in an experimental setting in which people's actual cheating behaviour during task performance was assessed. Assigned dominant performance goals (either approach or avoidance) caused more actual cheating behaviour than did assigned dominant mastery goals (either approach or avoidance). The present findings therefore demonstrate that individuals who strive for the attainment of an *interpersonal* standard of competence are inclined to cheat more than individuals who strive for the attainment of an *intrapersonal* standard of competence. As expected, distinguishing between approach and avoidance did not seem to play a differentiating role in this regard (cf. Niiya *et al.*, 2008). Although we did not predict any valence effects, we employed the full 2×2 design of the mastery-performance and approach-avoidance distinctions. We think that it is important to measure and manipulate achievement goals across the entire spectrum of the 2×2 achievement goal framework, which will serve theoretical development and progress (cf. Murdock and Anderman, 2006). Hence, we can conclude that dominant performance goals lead to more cheating than do dominant mastery goals regardless of goal valence (approach or avoidance).

Theoretical implications

Our findings show that the extent to which people intend to behave unethically in different achievement settings (Study 1), and the extent to which they actually cheat during task performance (Study 2), are a function of their dominant achievement goals in these particular settings. The present research findings thus add to the literature on achievement goals and cheating in a number of ways. First, we employed the full 2×2 design of the mastery-performance and approach-avoidance distinctions. Performance-avoidance goals are generally considered to be more maladaptive than performance-approach goals because performance-avoidance goals are typically associated only with negative processes, whereas performance-approach goals are also associated with positive processes (Elliot, 2005; Elliot and Church, 1997; Van Yperen, 2006). In the present research, both performance-approach goals and performance-avoidance goals were associated with (Study 1), or led to (Study 2), more cheating compared to mastery goals (either

approach or avoidance). These findings are in line with our prediction, since people may find cheating a viable means to reach their performance goals, i.e. winning, or not losing, possibly at any cost. In contrast, cheating might hinder the attainment of mastery-based goals. That is, it may be detrimental to the development of intrapersonal competence or the avoidance of intrapersonal incompetence, respectively. An interesting additional finding is that, in Study 1, most of the participants had a dominant mastery-avoidance goal (see Table 2), which is in line with the findings of previous studies (De Lange *et al.*, in press; Van Yperen, 2003a, 2006; Van Yperen and Renkema, 2008). Recent research demonstrates that this goal is more strongly associated with negative outcomes than initially anticipated (De Lange *et al.*, in press; Sideridis, 2008; Van Yperen, Elliot and Anseel, 2009; cf. Elliot and McGregor, 2001).

Second, the findings of Study 1 showed that most individuals tend to hold different goals in different achievement settings. Though this may seem plausible, researchers to date have not made such a specific distinction. So far, achievement goal research has been focused on the determinants or consequences of achievement goals within specific contexts: either the workplace (e.g. Payne, Youngcourt and Beaubien, 2007), the sport field (e.g. Duda, 2005) or the classroom (e.g. Harackiewicz *et al.*, 2002). The present findings suggest that people's dominant achievement goals tend to differ across achievement settings, and that the domain-specific achievement goals people endorse are related to their intentions to cheat in the corresponding achievement settings. People may have different achievement goals across achievement settings because, in each context, they may differ with respect to competence expectancies, fear of failure and achievement motivation (cf. Elliot and Church, 1997). These findings support the notion that achievement goals should be conceptualized as situational rather than personality variables (e.g. Dweck, 1999; Elliot, 2005; Murdock and Anderman, 2006).

Previous studies on achievement goals and cheating typically relied on self-report measures (Anderman and Danner, 2008). The measurement of any kind of cheating-related variable is a precarious endeavour, especially when self-report measures which are subject to socially desirable responses are used (Anderman, Griesinger and

Westerfield, 1998). Asking people to be honest about being dishonest seems paradoxical (Newsstead, Franklyn-Stokes and Armstead, 1996; Poortvliet *et al.*, 2007). Hence, an important contribution of Study 2 is the experimental manipulation of dominant achievement goals and the use of an unobtrusive measure of actual cheating. However, although we found in Study 1 that performance goals rather than mastery goals were related to intentions to cheat in different real-life settings, we do not know whether the findings of Study 2 can be generalized to achievement settings outside the laboratory. It remains to be answered whether, relative to mastery goals, performance goals lead to more cheating behaviours such as embezzlement of money, use of doping and plagiarism. What we may conclude is that we found empirical evidence for the causal relationship between dominant achievement goals and actual cheating behaviour during task performance, relying on the most complete and elaborate achievement goal framework. In this regard, it is important to note that we employed two methodologies (correlational and experimental) in which the weaknesses of each method were offset by the strength of the other method.

The results of Study 1 further suggest that the strengths of individuals' cheating intentions differ across achievement settings. Intentions to cheat were higher in educational settings than in work settings, and higher in work settings than in sport settings. A possible explanation for this result is that the chances of getting caught and the potential costs incurred from cheating affect people's intentions to cheat (Cizek, 1999; Murdock and Anderman, 2006; Vandehey, Diekhoff and Labeff, 2007). For example, Graham *et al.* (1994) found, among students and faculty at two small private colleges, that two main reasons for not cheating included the chances of being caught and the penalties associated with getting caught. The consequences of getting caught may differ in severity across different domains. For example, if students cheat on a test at school, it may have no consequences at all because teachers' reactions to cheating tend to be mild and inadequate (Vandehey, Diekhoff and Labeff, 2007). In contrast, in sport settings, consequences are more severe and the odds of getting caught are typically higher. Relative to employees' and students' performances, athletes' performances are highly visible

to both referees and the audience. In sports, the rules are clearer and more unambiguous, and the procedures for detecting cheating behaviours are more elaborate and advanced.

The present finding that individuals tend to cheat most in educational settings (relative to sport and work settings, see Figure 1) is in line with the findings of other research that reports high occurrences of cheating during college (McCabe, Trevino and Butterfield, 2001; Vandehey, Diekhoff and Labeff, 2007). Remarkably, the extant achievement goal literature further suggests that, particularly in educational settings, performance-approach goals, unlike mastery-approach goals and avoidance goals, are positively related to actual performance (for a review, see Harackiewicz *et al.*, 2002). One common explanation for this finding is that performance-approach goals keep performance efforts channelled toward the desired outcome (e.g. high grades). However, based on the high cheating rates in educational settings, and particularly among performance goal individuals, one may speculate that the high performance levels typically observed among performance-approach goal students may be to some extent the result of successful cheating.

Managerial implications

In real life, individuals bring their own goals to the situation. However, achievement goals are also often imposed by others (e.g. supervisors, coaches and teachers), as a result of which a so-called motivational climate may be created. A motivational climate may have a strong influence on achievement-related cognition, affect and behaviour (Duda, 2005; Van Yperen, 2003b; cf. Galbreath, in press). The findings of Study 2 suggest that a performance goal climate, created by goal-setting procedures, leadership styles, types of feedback, reward systems and so forth, may lead to more cheating behaviour and, accordingly, to lower morale and trust (Whitley and Keith-Spiegel, 2002). In contrast, a motivational climate that is characterized by learning, development and cooperation may enhance trustworthy and honest behaviour. For example, Anderman and Midgley (2004) demonstrated that self-reported cheating increased among students who moved from high mastery-oriented to low mastery-oriented classes, and among

students who moved from low performance-oriented to high performance-oriented classes. Accordingly, recognizing and understanding the effects of achievement goals on cheating behaviour may enable business leaders, organizations and their employees to create an ethical working climate and, accordingly, ethical organizations (Mulki, Jaramillo and Locander, 2009). For example, to reduce cheating behaviours, managers should aim to create a climate that focuses on development and growth rather than ranks, teachers should emphasize learning over grades, and coaches should encourage their athletes to improve their personal bests rather than overemphasize competition with others. However, competitive environments such as the Olympic Games inherently create a motivational climate that enhances the adoption of performance goals. Thus, although Olympic chief Jacques Rogge (2008) may have been wrong when he stated that cheating is embedded in human nature, hoping for drug-free Olympic Games might be naïve indeed.

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