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Citation

VADERA, Abhijeet K. and PATHKI, Chandra Shekhar. Competition and cheating: Investigating the role of moral awareness, moral identity, and moral elevation. (2021). *Journal of Organizational Behavior*. 42, (8), 1060-1081.

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RESEARCH ARTICLE

Competition and cheating: Investigating the role of moral awareness, moral identity, and moral elevation

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Grant/Award Number: G-04/2014-15/ICSSR/
RPS**Summary**

Competition can lead individuals to cheat; yet our knowledge of why competition affects cheating and how to mitigate these effects is limited. To address this limitation, we first contrast two theories: arousal theories of competition (via desire to win) and social cognitive theory (via impaired moral awareness). Our results were consistent with social cognitive theory in that competition impairs moral awareness and that this impairment explains why people cheat. We therefore build on social cognitive theory and show that two factors, moral identity and moral elevation, which are likely to make morality salient, moderated the effects of competition on cheating such that these effects were weaker for individuals whose moral identity was more (vs. less) chronically accessible or who were more (vs. less) morally elevated. We test our hypotheses in five experimental studies and one field study with students as well as working adult populations in India and the United States.

KEYWORDS

cheating, competition, moral awareness, moral elevation, moral identity

1 | INTRODUCTION

Competition is an unavoidable consequence of social life and a driving force behind some of humankind's most impressive and lasting cultural achievements. Competition has been defined as a zero-sum game in which two or more parties go head-to-head and one is declared a winner at the expense of others (Deutsch, 1949). Zero-sum competition can be particularly intense in today's workplace where there is a myriad of situations that pit employees against one another to obtain desirable outcomes. Among them are contests between departments for resources like money, job positions, or prizes (e.g., the Tata group in India sponsors an annual competition to spur innovation among its various subsidiaries), forced distributions of performance evaluations (e.g., General Electric), promotions to upper management roles, recognition awards, and published rankings of individual or unit performance (e.g., National Health Service, UK). Apart from the brute fact that organizational structures necessarily introduce competition into everyday interaction, one of the main reasons why managers may attempt to make competition even more pervasive is that a sufficiently large number of them believe that

competition can inspire and motivate employees to work harder and perform better (see Birkinshaw, 2001).

Although the assumption that competition is advantageous for society and even ennobling for the individual might appeal to many business leaders and employees, in reality, the effects of competition on performance and social welfare are mixed (Murayama & Elliot, 2012; Stanne, Johnson, & Johnson, 1999). Furthermore, an analysis of recent corporate scandals suggests that competition places pressure on employees to behave unethically, which imposes costs on employees and the wider society (Tenbrunsel & Smith-Crowe, 2008; Vadera & Pratt, 2013). Some writers (e.g., Fox, 2003) have argued that internal competition was the primary reason for the downfall of Enron. Fox (2003) describes how Jeffrey Skilling, the Chief Operating Officer at Enron, instituted a performance review procedure, which became known as the "harshes employee-ranking system in the country." Although it was purported to be a "360-degree review," associates began to believe that the only real performance was the amount of profits they could generate. This belief generated fierce internal competition and employees became motivated to "cut deals" and post hypothetical earnings to keep their jobs (Thomas, 2002).

Instances of fraud such as those perpetrated by Enron employees who experienced fierce competition necessitate a more systematic understanding of the effects of competition on unethical behaviors so that a more balanced appraisal of its benefits and costs can be made.

In this paper, we focus on a potential cost of competition in the form of cheating. Cheating is defined in our study as unethical acts intended to create an unfair advantage for the actor by generating rewards or valuable outcomes that the actor would not otherwise be entitled to receive (Mitchell, Baer, Ambrose, Folger, & Palmer, 2018; Shu, Gino, & Bazerman, 2011). Cheating behavior is prevalent in today's organizations as evident from many recent high-profile examples. For example, earlier this year, Wells Fargo agreed to pay \$3 billion to settle a probe into the creation of millions of savings and checking accounts, by almost 5,300 of its employees, for customers without their knowledge so that the employees could hit unrealistic sales targets and attain bonuses (Kelley, 2020). Volkswagen also recently paid more than \$30 billion in fines, penalties, restitution, and lawsuit settlements because its employees manipulated the market by tampering with 11 million vehicle emission systems to achieve targets (Riley, 2017). These specific examples and other reports from the industry (e.g., PricewaterhouseCoopers, 2014) suggest that employees are increasingly engaging in cheating behaviors to advance their interests, thereby necessitating an investigation of how competition affects cheating.

Extant research has shown that competition is positively related to cheating (Kulik, O'Fallon, & Salimath, 2008; Schweitzer, DeChurch, & Gibson, 2005; Schwierien & Weichselbaumer, 2010). However, the mechanisms that explain this relationship have not been fully specified or empirically tested nor have we fully explored the boundary conditions of this relationship (Murayama & Elliot, 2012; Schwierien & Weichselbaumer, 2010; Stanne, Johnson, & Johnson, 1999). Our review of several lines of research implicates two possible theoretical perspectives to inform our understanding of the relationship between competition and cheating. One line, based on arousal theories of competition (Ku, Malhotra, & Murnighan, 2005; Malhotra, 2010), suggests that competitive environments trigger a desire to win—an orientation towards another human being in which prevailing over him or her is the primary goal (Malhotra, 2010)—which in turn can motivate cheating behaviors as a way to achieve this goal. Research based on social cognitive theory and the concept of “bounded ethicality” (Bandura, 1991; Chugh, Bazerman, & Banaji, 2005; Gino & Bazerman, 2009; Gino & Desai, 2012; Tenbrunsel, Diekmann, Wade-Benzoni, & Bazerman, 2010) provide a different explanation. This line of research suggests that competition uses up limited cognitive resources. Thus, rather than people being aroused by the desire to vanquish their competitors, the bounded ethicality perspective suggests that people cheat because the psychological systems that would otherwise facilitate moral awareness are compromised by heightened competition. Taken together, these research streams suggest that competition may lead to cheating via two pathways: (a) a desire to win (based on arousal theories of competition) and/or (b) impaired moral awareness (based on social cognitive theory).

We first test our foundational hypothesis that competition leads to cheating behaviors (Study 1). We find that as competition increases, cheating increases. We then investigate the role of these two mediators in two studies (Studies 2a and 2b). In both studies, we find that competition affected cheating via impaired moral awareness and not via a desire to win. That is, our results are consistent with the tenants of social cognitive theory in that people engage in cheating under competitive pressures not because they are motivated to beat others, but because their cognitive capabilities to recognize the moral aspects of the situation are momentarily compromised. We therefore draw on social cognitive theory and hypothesize that factors increasing the moral salience of a particular situation where cheating is possible can overcome the impairment in moral awareness caused by intense competitive pressures. In particular, we focus on two factors that highlight different sources of moral salience. The first, an internal factor, portrays people as turning inward and relying on their own personal moral standards and values. The second, an external factor, depicts people as looking outward, towards others' moral actions or the moral aspects of an issue or a situation. Specifically, we examine the role of two factors: the chronic accessibility of a person's moral identity (in Studies 3a and 3b) and the experience of moral elevation (in Study 4). We show that both factors weaken the detrimental effects of competition on cheating.

Our manuscript is organized as follows. We first develop our theoretical arguments to propose that competition influences cheating via desire to win and impaired moral awareness (Hypotheses 1, 2a, and 2b). We then present three studies that test these predictions. Next, we build on the findings of these studies and present our hypotheses regarding the moderating roles of moral identity and moral elevation (Hypotheses 3 and 4). We then present three studies that test these relationships. We conclude with a discussion of the theoretical and practical implications of our research as well as suggest avenues for future research.

2 | COMPETITION AND CHEATING

Research on competition contends that whether individuals perceive their goals to be positively or negatively related—with reward structures being the primary determinant of goal interdependence—has important implications for the way in which they interact and for the behaviors they engage in (Johnson, 2003). Competition arises from the amalgamation of two key factors: a win-lose aspect, which is unique to competitive situations, as well as rewards and evaluation (Amabile, 1996; Baer, Leenders, Oldham, & Vadera, 2010; Baer, Vadera, Leenders, & Oldham, 2014). The win-lose component of competition parallels what Deutsch termed “conjointly interdependent goals” (Deutsch, 1949: 132). The presence of such goals in any social situation means that goal achievement by one individual necessarily prevents other individuals from achieving their goals. The rewards and evaluation component of competition pertains to the desirable outcomes that individuals who achieve their goals receive. Researchers have created competitive situations by manipulating both

components. For instance, Beersma et al. (2003) created competition by offering a financial reward to the highest performer working in a group of 4 members whereas Baer et al. (2010; Baer, Vadera, Leenders, & Oldham, 2014) elicited competition by manipulating the number of winners and the financial rewards which could be obtained by these winners.

The elements of social situations described above outline the *structural conditions* that lead to competition. Behavior is a product of both situational conditions and individual appraisals of, and reactions to, these situations; hence, we integrate this structural perspective with (a) arousal theories of competition to propose that desire to win and (b) research on social cognitive theory and bounded ethicality to propose that impaired moral awareness may mediate the competition–cheating relationship. But as a foundational assumption of our theoretical predictions, we first test a hypothesis that has already been investigated in the literature (Hegarty & Sims, 1978; Schweitzer, DeChurch, & Gibson, 2005; Schwieren & Weichselbaumer, 2010) to see if it is replicated in our studies:

Hypothesis 1. Competition is positively related to cheating.

2.1 | Arousal theories of competition

According to arousal theories of competition (Ku, Malhotra, & Murnighan, 2005; Malhotra, 2010), the desire to win emerges in two stages. In the first stage, competitive pressures stimulate physiological arousal. In the second stage, physiological arousal pushes the motivation stemming from competition away from goal attainment towards beating the competition even if it comes at a high cost to the self (cf., Mead, 1937). This latter argument is based on the work by Zillmann et al. (1974; Zillmann, Katcher, & Milavsky, 1972) who have demonstrated that elevated physiological arousal, even when it is triggered exogenously, can intensify one's desire to win, thereby increasing hostility and aggression towards a perceived provocateur. The competitive arousal model further posits that characteristics of competitive situation can increase arousal and that arousal can impair calm, careful decision-making (Ku, Malhotra, & Murnighan, 2005). In support of this conjecture, Malhotra (2010) measured real-time motivations of online auction bidders and found that the desire to win is heightened when two aspects of competition—rivalry and time pressure—coincided.

In addition, research has shown that competitive arousal can restrict attention capacity (Mano, 1992), lead to less deliberation and less information processing (Lewinsohn & Mano, 1993) and increase in risk taking (Mano, 1994)—all factors which have been shown to influence unethical behaviors (Kish-Gephart, Harrison, & Treviño, 2010; Tenbrunsel & Smith-Crowe, 2008). These effects were found even when winning was costly and provided no strategic upside. We therefore expect competition to stimulate a desire to win which motivates individuals to pursue relative gains more vigorously than personal gains even if they come at a cost. It is this quest to

prevail over another in the competitive situation that then propels individuals to cheat. Hence, we hypothesize:

Hypothesis 2a. Desire to win mediates the effects of competition on cheating.

2.2 | Social cognitive theory

According to social cognitive theory (Bandura, 1991; Fiske & Taylor, 1991), the first step in social information processing is encoding. In this process, external stimulus information (such as competitive pressures) becomes represented in the perceiver's mind. What information is encoded depends on the attention of the perceivers because people tend to focus on some aspects of the stimulus and ignore other aspects. According to Butterfield et al. (2000, p. 984), moral awareness is a “special kind of encoding process in which the individual pays attention to incoming information and categorizes it as a moral issue.”.

Research on social cognitive theory and bounded ethicality (Chugh, Bazerman, & Banaji, 2005; Gino & Bazerman, 2009; Gino, Schweitzer, Mead, & Ariely, 2011; Kern & Chugh, 2009; Mazar, Amir, & Ariely, 2008; Moore & Gino, 2013; Schweitzer, Ordonez, & Douma, 2004; Tenbrunsel & Messick, 2004) suggests that one consequence of impaired moral awareness is that it can lead people to act more unethically. The bounded ethicality perspective draws from a fundamental principle of social cognition which contends that it is people's failure to process social information in a way that allows them to become aware of a situation's moral content rather than an intentional desire to act unethically that explains at least some instances of cheating. Thus, even well-meaning people, when their cognitive systems are impaired by distractions or psychic demands that exceed their current information processing capabilities, can make decisions that contradict their ethical standards. We build on this basic tenet of the bounded ethicality perspective to propose that when competition is heightened, it places greater resource demands on people to strategize, plan, execute, and react so they can compete effectively. As a result, they have fewer resources available to assess and contemplate the moral dimensions and implications of their actions.

Cognitive developmental theorists like Rest (1979) and Kohlberg (1969) have argued that being aware of the moral aspects of a situation is a critical step in ethical decision-making. However, competitive pressures are likely to relegate ethical concerns to the background or supplant other ideas, such as “honesty is the best policy,” that might ordinarily inhibit cheating (cf., Butterfield, Treviño, & Weaver, 2000). Research has also shown that when individuals fail to recognize the moral aspects of a situation, their moral decision-making scripts are less likely to be activated (Jones, 1991; Rest, 1979; Street, Douglas, Geiger, & Martinko, 2001), which can lead them to act unethically. Gino, Schweitzer, Mead, and Ariely (2011) found support for this claim by showing that cognitive resource depletion reduces people's attention to moral dimensions of the situation which in turn

enhanced cheating. We extend Gino et al.'s findings by suggesting that apart from cognitive depletion, people's moral awareness may be hampered when they experience high levels of competition. Accordingly, we propose that:

Hypothesis 2b. Impaired moral awareness mediates the effects of competition on cheating.

3 | OVERVIEW OF PRESENT RESEARCH

Six studies using diverse samples (e.g., MBA students, working adults) from US and India and multiple measures of cheating (e.g., over-reporting of work done, engaging in dishonest behaviors) test our theory. We first present results of our Study 1 in which we test the main effect of competition on cheating. We then present results of Studies 2a and 2b in which we investigate the role of the two mediators in the competition–cheating relationship. We find evidence that competition impairs people's moral awareness and this state mediates the competition–cheating relationship. Importantly, we find that the social cognitive theory pathway receives more empirical support than the arousal theories pathway. We then draw on social cognitive theory and hypothesize that (a) the chronic accessibility of a person's moral identity and (b) the experience of moral elevation moderate the effects of competition on cheating. Subsequently, we present the results of three studies which test these moderating effects and show that both factors weaken the detrimental effects of competition on cheating.

4 | STUDY 1: COMPETITION AND CHEATING

4.1 | Methods

A total of 71¹ (52% male; 39% of the participants were in the age range of 35–54 years and 38% of the participants were in the age range of 26–34 years; 87% employed) adults across the United States participated in the study via Amazon's Mechanical Turk (MTurk), a crowdsourcing platform that allows researchers to reach out to a vast pool of potential participants online. Participants were paid \$.50 after the experiment. They were also given the opportunity to earn additional money during the study.

4.2 | Procedure

We used a one-factorial (competition: low and high) between-subjects design to test Hypothesis 1. Participants were randomly assigned to one of the two conditions: high competition versus low competition. Participants were informed that they would engage in two tasks during the study: a math test and a history test. The tasks were followed by a final questionnaire which measured demographics and included our manipulation check items.

4.3 | Measure of cheating

We followed the procedure developed by Reynolds et al. (2014; Yam, Reynolds, & Hirsh, 2014) to measure cheating. We first provided participants with the following instructions (Yam, Reynolds, & Hirsh, 2014: 126):

Below are sample questions from 6th grade textbook test banks on the topics of history and algebra. The questions are rather simplistic, but even so they provide an option for honest but uneducated students to mark “I do not know.”

We have hypotheses about the effects of having an “I do not know” option on these questions. It is difficult to test the hypotheses with educated adults, but in the event that you are unable to solve or answer any of the following questions, please feel free to indicate so by marking “I do not know.”

We then informed participants that for each correct response to these questions, we would reward them an additional \$.10. So, the more number of responses they reported correctly, the greater the likelihood of them being paid a higher amount. We manipulated competition here (see below).

We divided the task into two sets of five questions each: one for algebra and one for history. The presentation of these sets was counter-balanced. In each set, one question was unsolvable with nonsense words and symbols (e.g., what is the capitol of Kazhindstan?, $(3X - 5)\varphi = 13$; $X = ?$) and the other four questions were solvable and easy (e.g., Adolf Hitler was born in which country?, $15 + 5X = 0$; $X = ?$). Given the instructions, the response “I don't know” for the unsolvable questions was honest and was coded as “0.” Any other responses were considered dishonest and were coded as “1.” Cheating was the sum of the responses. Twenty-five participants (35.2%) marked “I do not know” on both questions and were thus honest. Twenty-seven participants (38%) marked “I do not know” once and 19 (26.8%) marked a response other than “I do not know” on both sets of questions and were dishonest.

4.4 | Competition manipulation

We manipulated competition by manipulating both, the win-lose and the rewards aspects of competition. Specifically, we told participants in the *low competition* condition that top 10 winners of this task (from a total of 30 participants) would be awarded \$1 each in addition to the reward they would receive for correctly solving the test questions. Participants in the *high competition* condition were told that the top 3 winners of this task (from a total of 30 participants) would be awarded \$4 each in addition to the reward they would receive for correctly solving the test questions.

4.5 | Final questionnaire

After the task, participants completed a post-experiment survey that asked them to answer manipulation check questions and a few demographic questions. For the manipulation check, participants were asked to respond to three items suggested by Baer, Leenders, Oldham, and Vadera (2010) using a scale ranging from “strongly disagree” (1) to “strongly agree” (7). Sample item is “While participating in this exercise, I felt a high degree of competition” ($\alpha = .80$). Finally, all participants answered a few demographic questions.

4.6 | Results

4.6.1 | Manipulation check

As expected, participants in the high competition condition experienced higher levels of competition than those in the low competition condition ($M_{low} = 4.41$, $SD_{low} = 1.30$ versus $M_{high} = 5.05$, $SD_{high} = 1.49$, $F[1, 69] = 3.81$, $p = .05$).

4.6.2 | Cheating

We conducted a one-way ANOVA to test Hypothesis 1. As predicted, we found a main effect for competition ($F[1,69] = 4.40$, $p < .05$; $M_{low} = .74$, $SD_{low} = .76$ versus $M_{high} = 1.12$, $SD_{high} = .78$). Hypothesis 1 was thus supported.

4.7 | Discussion

Study 1 supports the hypothesis that as competition increases, so does cheating. In Study 2, we extend this finding by testing the effects of our two mediators simultaneously to check which of them provides a more reliable explanation for the competition-cheating relationship. We adopted a different measure of cheating in this study to test if our findings are generalizable across different types of cheating acts.

5 | STUDY 2A: COMPETITION AND CHEATING—TEST OF MEDIATION

5.1 | Methods

A total of 208 (60.1% female; 41% of the participants were in the age range of 35–54 years and 34% of the participants were in the age range of 26–34 years; 77% employed) adults across the United States participated in the study via Amazon's Mechanical Turk (MTurk). Participants were paid \$.50 after the experiment. They were given an opportunity to earn additional money during the study.

5.2 | Procedure

We used a one-factorial (competition: low and high) between-subjects design to test Hypotheses 1, 2a, and 2b. Participants were randomly assigned to one of the two conditions: high competition versus low competition. Participants were informed that they would engage in a negotiation task. The task was followed by a final questionnaire which measured our mediating variables, demographic variables and included our manipulation check items.

5.3 | Measure of cheating

After being introduced to the study, participants engaged in a simulated negotiated task. This task has been used by Pitesa and Thau (2013; Study 3) and developed by Schweitzer, DeChurch, and Gibson (2005) and is based on the principles of prisoner's dilemma. All participants were assigned to the same role and read the following:

You were recently promoted to head the Central American tour division, one of the most important divisions of the Roving Tours Company. This division has a big impact on the rest of the company and you are being reminded to make sure you increase profits as much as possible. In order to increase profits, it is necessary to maximize the number of tours Roving Tours runs.

However, a competing company, Wandering Tours, also operates at the same Central American location. If both companies increase their tours to this location, this will make the location less exotic. Therefore, the ideal outcome would be if your competitor ran the least tours possible, while you ran the maximum number of tours.

You received an e-mail from Wandering Tours, describing the need to “cut back” in this area, and asking how many tours you plan to schedule for the upcoming dry season (between 1 and 7). Your competitor offered to match your number.”

Participants were then provided with a classical prisoner's dilemma payoff matrix (Schweitzer, DeChurch, & Gibson, 2005). We manipulated competition next (see below). Finally, participants indicated on a seven-point scale, the number of tours that Roving Tours would actually run the following season. On a separate scale, they also indicated the number of tours they would report to Wandering Tours that they intended to run. Participants were informed that another participant, who was acting as their competitor, would be presented with only the figure they announced and that the competitor would make his or her decision based on this figure alone. Therefore, participants had the

incentive to run as many tours as possible, but they also had the incentive to try to make the other party run as few tours as possible by misrepresenting their planned number of tours to the other party. In this study, the specific payoff was irrelevant and the variable of interest was the difference between the actual and stated number of tours, which was an act of creating an unfair advantage by participants for themselves and therefore a form of cheating (Pitesa & Thau, 2013).

5.4 | Competition manipulation

We manipulated competition by again manipulating the win-lose and rewards aspects of competition. Specifically, we told participants in the *low competition* condition that we would determine top 30 winners (from a total of 60 participants) based on the profits they made and would award them an additional \$.50 each. Participants in the *high competition* condition were told that we would determine top 3 winners (from a total of 60 participants) based on the profits they made and would award them an additional \$5 each.

5.5 | Final questionnaire

After the task, participants completed a post-experiment survey that asked them to answer manipulation check questions, items capturing our mediating variables, and a few demographic questions.

5.5.1 | Manipulation check

For the manipulation check, participants were again asked to respond to three items suggested by Baer, Leenders, Oldham, and Vadera (2010) using a scale ranging from “strongly disagree” (1) to “strongly agree” (7). Sample item is “While participating in this exercise, I felt a high degree of competition” ($\alpha = .81$).

5.5.2 | Mediating variables

Participants were asked to respond to two items which captured desire to win (adapted from Malhotra, 2010) using a scale ranging

from “strongly disagree” (1) to “strongly agree” (7): “I will do whatever it takes to win this competition,” and “I will do whatever it takes to get the rewards from this assignment.” The reliability estimates for this measure were satisfactory ($\alpha = .82$) and so we averaged them to form a scale. Also, we used four items which measured impaired moral awareness (Reynolds, 2006) using a scale ranging from “strongly disagree” (1) to “strongly agree” (7): “There are very important ethical aspects of this assignment” (reverse-coded), “This task clearly does not involve ethics or moral issues,” “This situation deals with a moral or ethical issue” (reverse-coded), and “This task has nothing to do with ethics and morals.” We again formed a scale by averaging scores across the four items because Cronbach's alpha for the scale was .87.

5.6 | Results

Table 1 reports the descriptive statistics as well as the correlations between the main variables measured in the study.

5.6.1 | Manipulation check

As expected, participants in the high competition condition experienced higher levels of competition than those in the low competition condition ($M_{low} = 3.02$, $SD_{low} = 1.28$ versus $M_{high} = 3.45$, $SD_{high} = 1.70$, $F[1, 206] = 4.21$, $p = .04$).

5.6.2 | Cheating

We conducted a one-way ANOVA to test Hypothesis 1. As predicted, we found a main effect for competition ($F[1, 206] = 4.32$, $p = .04$; $M_{low} = 1.76$, $SD_{low} = 2.03$ versus $M_{high} = 2.33$, $SD_{high} = 1.89$), indicating that as competition increases, cheating increases. Hypothesis 1 was thus supported.

5.6.3 | Mediating effects

We used path analysis (Edwards & Lambert, 2007) and adopted Process macro, Model 4 (Hayes, 2012) to test for the mediating role of

TABLE 1 Descriptive statistics and correlations, Study 2a

	Mean	SD	1	2	3
Competition (1)	.51	.50			
Desire to win (2)	3.18	1.29	.01	(.82)	
Impaired moral awareness (3)	4.83	1.51	.19**	.19**	(.87)
Cheating (4)	2.05	1.98	.14*	.12	.39**

Note. $N = 208$. Coefficient alphas are on the diagonal in parentheses.

* $p < .05$.

** $p < .01$.

desire to win and impaired moral awareness on the effects of competition on cheating. We entered both mediators in the equation in which our dependent variable, cheating, was regressed on competition. We found that competition did not influence desire of win ($B = .04$, $S.E. = .21$, $t = .20$, $p = .84$). But it was related to impaired moral awareness ($B = .56$, $S.E. = .21$, $t = 2.73$, $p < .01$). We also found that desire to win was not related to cheating ($B = .07$, $S.E. = .09$, $t = .76$, $p = .45$), but impaired moral awareness was positively related to cheating ($B = .48$, $S.E. = .09$, $t = 5.56$, $p < .01$). Boot strapping analysis also showed that the indirect effect of impaired moral awareness for the competition and cheating relationship was positive and the confidence intervals excluded zero ($B = .27$, $S.E. = .11$, 95% CI = .07, .51). Also, the 95% confidence intervals for the indirect effects of desire to win ($B = .00$, $S.E. = .02$, 95% CI = $-.04$, .05) did not exclude zero. Together, we found support for the mediating effects of impaired moral awareness (Hypothesis 2b), but not of desire to win (Hypothesis 2a).

5.6.4 | Supplementary analysis

While we did not make any such predictions, it could be possible that competition would trigger a desire to win which in turn would impair moral awareness and consequently, influence cheating. In other words, there is a possibility of serial mediation. We tested for this possibility using the Process macro, Model 6 (Hayes, 2012). We found that the indirect effect of competition on cheating serially via desire to win and then impaired moral awareness was not significant ($B = .00$, $S.E. = .02$, 95% CI = $-.04$, .05).

5.7 | Discussion

Study 2a shows that competition impaired moral awareness and that this impairment explained why people cheated. In contrast, the desire to win did not mediate these effects. These results are consistent with social cognitive theory because it suggests that people engage in cheating under competitive pressures not because they are motivated to beat others, but because their cognitive capabilities to recognize the moral aspects of the situation are momentarily compromised. However, this study is not without limitations. First, the timing of the measurement of the mediating variables was after the behavioral measure of cheating. This sequence of procedure limits the ability to conclude a causal direction because it is possible that self-reported desire to win and impaired moral awareness were post-hoc justifications for participants' cheating behavior. It is also possible that the arousal effect of competition may have dissipated by the time it was measured after the task. To overcome these limitations, we conducted Study 2b in which we measured the mediating variables after manipulating competition and before providing participants the opportunity to cheat.

6 | STUDY 2B: COMPETITION AND CHEATING—REPLICATION OF TEST OF MEDIATION

6.1 | Methods

A total of 83² (53% male; 38.6% of the participants were in the age range of 26–34 years; 81.9% employed) adults mostly across the United States participated in the study via Amazon's Mechanical Turk (MTurk). Participants were paid \$.50 after the experiment. They were also given the opportunity to earn additional money during the study.

6.2 | Procedure

As before, we used a one-factorial (competition: low and high) between-subjects design to test Hypotheses 1, 2a, and 2b. Participants were randomly assigned to one of the two conditions: high competition versus low competition. Participants were informed that they would engage in a problem-solving task. After they received the instructions (wherein we manipulated competition) and before they engaged in the task, we presented them with a questionnaire which measured our mediating variables. The task was followed by a final questionnaire which measured demographic variables.

6.3 | Measure of cheating

We followed a procedure developed by Yam et al. (2014) to measure cheating. Specifically, we presented participants with five matrices to solve. Each matrix contained four rows and five columns of three-digit numbers. We asked participants to find two numbers in each matrix that summed to 10. We informed participants they would receive \$.10 for every correctly solved matrix. We manipulated competition here (see below). We also told participants to use any computer system to aid their calculations, if needed. In addition, we asked them to not spend more than 90 s on the task to ensure that everyone had the same opportunity to complete the task. We did not enforce this rule, but unbeknownst to the participants, we recorded the time they spent on the page when trying to finish the task. Because it was impossible to finish the task in 90 s and the rewards for the experiment were contingent on the performance on the task, spending more than 90 s on the task was our measure of cheating. Following Yam, Reynolds, and Hirsh (2014), participants who spent less than 1.5 min were coded as spending 90 s on the task.

6.4 | Competition manipulation

We manipulated competition by again manipulating the win-lose and rewards aspects. Specifically, we told participants in the *low competition* condition that we would determine top 10 winners (from a total

of 30 participants) and would award them an additional \$1 each. Participants in the *high competition* condition were told that we would determine top 3 winners (from a total of 30 participants) and would award them an additional \$4 each.

6.5 | Mediating variables

After the instructions and before they engaged in the task, participants completed a survey that asked them to answer questions which captured our mediating variables. As in Study 2a, participants were asked to respond to two items which captured desire to win (adapted from Malhotra, 2010). The reliability estimates for this measure were satisfactory ($\alpha = .86$) and so we averaged them to form a scale. We adopted four items used in Study 2a to measure impaired moral awareness (Reynolds, 2006). We again formed a scale by averaging scores across the four items because Cronbach's alpha for the scale was .90.

6.6 | Final questionnaire

After the task, participants completed a post-experiment survey that asked them to answer manipulation check questions and a few demographic questions. For the manipulation check, participants were again asked to respond to three items suggested by Baer, Leenders, Oldham, and Vadera (2010) using a scale ranging from "strongly disagree" (1) to "strongly agree" (7). One item ("This exercise involves very little competition between me and the other players", reverse-coded) was excluded from analyses because of low inter-item reliability ($\alpha_{\text{two items}} = .88$). Finally, all participants answered a few demographic questions.

6.7 | Results

Table 2 reports the descriptive statistics as well as the correlations between the main variables measured in the study.

6.7.1 | Manipulation check

As expected, participants in the high competition condition experienced higher levels of competition than those in the low competition

condition ($M_{\text{low}} = 3.69$, $SD_{\text{low}} = 1.77$ versus $M_{\text{high}} = 4.77$, $SD_{\text{high}} = 1.73$, $F[1, 81] = 3.07$, $p < .01$).

6.7.2 | Cheating

We conducted a one-way ANOVA to test Hypothesis 1. As predicted, we found a main effect for competition ($F[1, 81] = 5.33$, $p = .02$; $M_{\text{low}} = 234.28$, $SD_{\text{low}} = 146.62$ versus $M_{\text{high}} = 325.65$, $SD_{\text{high}} = 209.19$), indicating that as competition increases, cheating increases. Hypothesis 1 was thus supported.

6.7.3 | Mediating effects

We again used path analysis (Edwards & Lambert, 2007) and adopted Process macro, Model 4 (Hayes, 2012) to test for the mediating role of desire to win and impaired moral awareness. We entered both mediators in the equation in which our dependent variable, cheating, was regressed on competition. We found that competition did not influence desire of win ($B = -.17$, $S.E. = .37$, $t = -.45$, $p = .66$). But it was related to impaired moral awareness ($B = .84$, $S.E. = .38$, $t = 2.22$, $p = .03$). We also found that desire to win was not related to cheating ($B = 14.28$, $S.E. = 11.58$, $t = 1.24$, $p = .22$), but impaired moral awareness was positively related to cheating ($B = 26.36$, $S.E. = 11.35$, $t = 2.32$, $p = .02$). Boot strapping analysis also showed that the indirect effect of impaired moral awareness for the competition and cheating relationship was positive and the confidence intervals excluded zero ($B = 22.12$, $S.E. = 14.19$, 95% CI = .44, 54.50). Also, the 95% confidence intervals for the indirect effects of desire to win ($B = -2.35$, $S.E. = 7.36$, 95% CI = -18.97, 12.29) did not exclude zero. Together, we again found support for the mediating effects of impaired moral awareness (Hypothesis 2b), but not of desire to win (Hypothesis 2a).

6.7.4 | Supplementary analysis

We again tested for the possibility of serial mediation. We tested for this possibility using the Process macro, Model 6 (Hayes, 2012). We found that the indirect effect of competition on cheating serially via desire to win and then impaired moral awareness was not statistically significant ($B = .25$, $S.E. = 1.67$, 95% CI = -1.74, 4.80).

TABLE 2 Descriptive statistics and correlations, Study 2b

	Mean	SD	1	2	3
Competition (1)	.49	.50			
Desire to win (2)	3.66	1.68	-.05	(.86)	
Impaired moral awareness (3)	4.82	1.76	.24*	-.07	(.90)
Cheating (4)	279.42	184.95	.25*	.10	.29**

Note. $N = 83$. Coefficient alphas are on the diagonal in parentheses.

* $p < .05$.

** $p < .01$.



6.8 | Discussion

This study replicates the findings of Studies 1 and 2a in that it shows that (a) high levels of competition propel individuals to engage in cheating and (b) impaired moral awareness mediates these effects, while desire to win does not. This study therefore provides further support for our arguments surrounding social cognitive theory.

In our next two studies, we examine what factors might facilitate moral awareness even in the face of competition. Based on social cognitive theory, we argue that the two factors that ensure individuals remain or become more morally aware even during intense competition are moral identity and moral elevation. Moral identity can be considered as a factor related to internal, personal moral standards and moral elevation can be seen as a factor that is more external because individuals' attention is redirected outwards. We argue that when individuals in high competition condition have salient personal moral standards or if their attention is redirected outward towards the moral aspects of an issue, event, or situation, then the effects of competition on cheating can be mitigated. Consider the study by Mazar, Amir, and Ariely (2008) who found that drawing people's attention to moral standards reduces cheating. They found that participants who were asked to recall the Ten Commandments did not cheat even when they were given the opportunity to gain financially from this action. Those who had not been reminded of the Ten Commandments cheated substantially. Similarly, Shu et al. (2011) showed that students at a university who read and signed an academic honor code before the task (compared to those who did not) tended to report lower levels of cheating. Shu et al. argued that increasing moral salience by having participants read or sign an honor code significantly reduced cheating. Extending these findings, we hypothesize that individuals remain or can become morally aware even during competition when (a) their moral identities are chronically accessible or (b) they experience a state moral elevation upon being shown examples of uncommon moral goodness.

7 | COMPETITION, MORAL IDENTITY, AND CHEATING

A person's moral identity is one of the many possible identities which an individual can use as a basis for self-definition (Aquino & Reed, 2002). Blasi (1984) defined moral identity as an individual difference which reflects the degree to which being moral is a defining characteristic of a person's sense of self. Building on Blasi's work, Aquino et al. (2009; Aquino & Reed, 2002) proposed a social-cognitive conception of moral identity as a self-schema organized around a set of moral trait associations (e.g., honest, caring). There is mounting evidence that chronic accessibility of moral identity—that is, the ease with which this schema becomes accessible in working memory to process social information—plays a key role in moral functioning by influencing how people interpret and respond to situations involving moral judgment and choice (Aquino, Freeman, Reed, Lim, & Felps, 2009; Aquino & Reed, 2002; Reed & Aquino, 2003; Reynolds &

Ceranic, 2007; Shao, Aquino, & Freeman, 2008). One reason, based on social cognitive principles, is that this identity is associated with programs, plans, scripts, or goals that have moral content. As a result, when moral identity tends to be highly accessible in working memory, so will other knowledge structures that people use to process or evaluate the moral parameters of situations. In line with this reasoning, Gino, Schweitzer, Mead, and Ariely (2011) argue that people whose moral identity is highly salient within the working self-concept are only able to recognize their own moral objectives and expectations but are also able to “extract, weigh, and integrate morally relevant information when facing moral dilemmas before deciding on a course of action” (Gino, Schweitzer, Mead, & Ariely, 2011: 193).

Accordingly, we expect the chronic accessibility of a person's moral identity to moderate the competition–cheating relationship. Since individuals with moral identities that are highly salient are also likely to have access to the various moral standards that are associated with their moral self-conception, they should generally pay greater attention to the moral aspects of situations and their decisions (Reynolds, 2006). If this argument is valid, then the state of moral awareness may be less susceptible to being compromised by emotions and thoughts generated by competitive pressures for people whose moral identity is chronically salient. In turn, such people are less likely to engage in ethical misconduct because of competition. There is some indirect evidence to support this claim. For instance, Gino et al. (2011) have argued and found that individuals with less salient moral identities are more likely to cheat when their cognitive resources are depleted because they do not have the executive resources to identify moral issues and test their behavior against external moral standards. However, for individuals with salient moral identities, these standards are not needed and they are therefore less likely to be dishonest. We extend these findings by testing whether the same effect occurs in a competitive situation:

Hypothesis 3. Moral identity moderates the effects of competition on cheating such that when moral identity is salient, the effect of competition on cheating weakens.

8 | COMPETITION, MORAL ELEVATION, AND CHEATING

Moral elevation is conceptualized as a “distinctive feeling of warmth and expansion that is accompanied by admiration, affection, and even love for the person (or people) whose exemplary behavior is being observed” (Aquino, McFerran, & Laven, 2011; Freeman, Aquino, & McFerran, 2009; Haidt, 2000, 2003). Haidt (2001) argued that witnessing acts of moral excellence elicits a state of moral elevation. Moral elevation is opposite of social disgust (Haidt, 2000) in that the former leads individuals to seek contact and draw closer to others, whereas the latter leads them to distance themselves from others. Haidt (2003) also suggested that moral elevation shares properties with other emotions because it motivates certain action tendencies including the desire to emulate the moral exemplar and act prosocially. Algoe and

Haidt (2009) provided support for these arguments. They showed that individuals who experience moral elevation are more likely to want to help others, donate money to charity, and list prosocial actions when asked to write about their life goals. Freeman, Aquino, and McFerran (2009) extended this research and showed that moral elevation can suppress the effect of ideological beliefs that may otherwise discourage social responsiveness towards certain people. Specifically, they showed that moral elevation led some White participants in the study (those who were high in social dominance orientation) to override beliefs that might otherwise lead them to withhold donations to an out-group cause (i.e., the United Negro College Fund).

We hypothesize that the experience of moral elevation will moderate the effects of competition on cheating. So far, we have shown that competition impairs moral awareness by drawing their attention away from ethical concerns surrounding the task. However, when people experience elevation as a result of exposure to moral exemplars, there is evidence that they desire to become better persons and emulate these exemplars (Aquino, McFerran, & Laven, 2011; Haidt, 2003; Keltner & Haidt, 2003; Silvers & Haidt, 2008). Thus, it is plausible that when they experience moral elevation, people will pay more attention to the moral aspects of issues and decisions; that is, they will become morally aware. As our Studies 2a and 2b showed, such awareness can inhibit them from cheating. Hence, we propose:

Hypothesis 4. Moral elevation moderates the effects of competition on cheating such that when moral elevation is high, the effect of competition on cheating weakens.

Below, we test results of three studies (Studies 3a, 3b, and 4). In Study 3a, we Hypothesis 3 by providing MBA students an opportunity to cheat in order to win cash rewards. In Study 3b, we again test Hypothesis 3 but in this study, we collect data from working adults in multiple organizations across multiple industries to provide ecological validity to our findings. Finally, we test Hypothesis 4 in Study 4 by again providing MBA students an opportunity to cheat in order to win cash rewards.

9 | STUDY 3A: MODERATING ROLE OF MORAL IDENTITY

9.1 | Methods

One hundred and five MBA students³ from a business school in India participated in the study for class credit and the opportunity to win money. Participants were randomly assigned to one of two conditions and were not allowed to interact with each other.

9.2 | Procedure

We used a one-factorial (competition: low and high) between-subjects design to test Hypothesis 3. Participants were informed that they

would engage in a problem-solving task (which was used to manipulate competition as well as assess cheating) during the study. One week prior to the experiment, participants were asked to fill out a personality questionnaire with our measure of moral identity as well as several bogus questions. After the problem-solving task, they were asked to fill out another short questionnaire.

9.3 | Moral identity

Five items from Aquino and Reed's (2002) internalization scale were used to measure moral identity. Internalization represents the degree to which moral traits are deeply embedded in the person's sense of self. The instructions for the measure were "Below are some characteristics that might describe a person: Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest, and Kind. The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions." Sample items include "It would make me feel good to be a person who has these characteristics" and "Being someone who has these characteristics is an important part of who I am." Participants answered the items on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). Items were averaged into an aggregate construct of moral identity ($\alpha = .85$).

9.4 | Measure of cheating

In the problem-solving task (see Gino, Krupka, & Weber, 2013; Gino, Schweitzer, Mead, & Ariely, 2011; Lu et al., 2017; Mazar, Amir, & Ariely, 2008; Shu & Gino, 2012), participants were presented with the opportunity to falsely report higher performance levels in order to earn more money. Each participant received a test sheet with 20 matrices to solve. Each matrix contained four rows and five columns of three-digit numbers (e.g., 3.14). Participants had a total of 6 min to find two numbers in each matrix that summed to 10. Participants were informed that they would earn INR10 (~USD.20) for each correctly solved matrix. We also manipulated competition at this time (see below). In addition to the test sheet, participants were given a sheet with instructions to the task and an example. This second sheet of paper had a collection slip printed on its back.

To make sure that participants realized that there was an opportunity to cheat here, participants were informed that they would be presented with the correct responses to the matrices after the 6 min are up. They would then have to evaluate their own work. To maintain anonymity and confidentiality, participants were informed that they should leave their solutions to the 20 matrices in the box marked "recycle" which was in the room. They were to then bring the collection slip to the research assistant sitting outside the room to receive their payment. As in previous research (Gino, Krupka, & Weber, 2013; Gino, Schweitzer, Mead, & Ariely, 2011; Mazar, Amir, & Ariely, 2008),

one of the three-digit numbers of the example matrix and of the test sheet matched each other; each participant had a unique matched number. Using these matched materials, we were able to measure self-reported and actual performance for each participant. Cheating was assessed by calculating the difference between self-reported and actual performance.

9.5 | Competition manipulation

Identical to our previous studies, we told participants in the *low competition* condition that the top 40 winners would be selected in the experiment and each winner would receive an additional INR 100 (~USD 2). Participants in the *high competition* condition were told that top four winners would be selected in the experiment who would receive an additional INR 1000 (~USD 20).

9.6 | Questionnaire

After the task, participants completed a post-experiment survey that asked them to answer manipulation check items (identical to those in the previous studies) and a few demographic questions. The reliability estimates for the manipulation check measure were satisfactory ($\alpha = .82$) and we created an index by averaging scores across the three items.

9.7 | Results

Table 3 reports the descriptive statistics as well as the correlations between the main variables measured in the study.

9.7.1 | Manipulation check

An ANOVA conducted on the manipulation check measure yielded a statistically significant main effect of competition ($F[1, 103] = 20.36, p < .01$). As expected, participants in the low competition condition reported lower level of competition ($M = 4.36, SD = 0.94$) than those in the high competition ($M = 5.23, SD = 1.02$) condition.

TABLE 3 Descriptive statistics and correlations, Study 3a

	Mean	SD	1	2
Competition (1)	.54	.50		
Moral identity (2)	5.86	.76	-.01	(.85)
Cheating (3)	.37	1.62	.16	-.28**

Note. $N = 105$. Coefficient alphas are on the diagonal in parentheses.

* $p < .05$.

** $p < .01$.

9.7.2 | Moderating effect of moral identity

We used hierarchical regression analysis (Cohen, Cohen, West, & Aiken, 2003) with mean-centered variables to test for the interactive effects of competition and moral identity on cheating. We first introduced into a regression equation, the main effect variables of competition and moral identity followed by the linear interaction term (competition \times moral identity).

In support of Hypothesis 3, the competition \times moral identity interaction was statistically significant, $B = -1.09, S.E. = .39, t = -2.78, p < .01$. Post hoc analyses (Aiken & West, 1991) revealed that for individuals with less salient moral identity, competition had the predicted statistically significant positive effects on cheating ($B = 1.36, S.E. = .42, t = 3.24, p < .01$). But when salience of moral identity was high, the effects of competition on cheating were not statistically significant ($B = -.30, S.E. = .43, t = -.71, p = .38$). Table 4 reports these results and Figure 1 illustrates the effects of the interaction between competition and moral identity on cheating. We also ran our analysis with self-reported performance after controlling for actual performance. Our results remain virtually the same.

9.8 | Discussion

Study 3a provides support for Hypothesis 3 and shows that moral identity moderates the effects of competition on cheating. These results are consistent with social cognitive theory because it suggests that when people's moral identities are chronically accessible, it can help overcome the impaired moral awareness caused by high degree of competition. We aim to replicate these findings in Study 3b by collecting data from working adults across multiple organizations and industries. A secondary purpose of the study is to provide ecological validity to our findings.

TABLE 4 Results of regression analysis, Study 3a

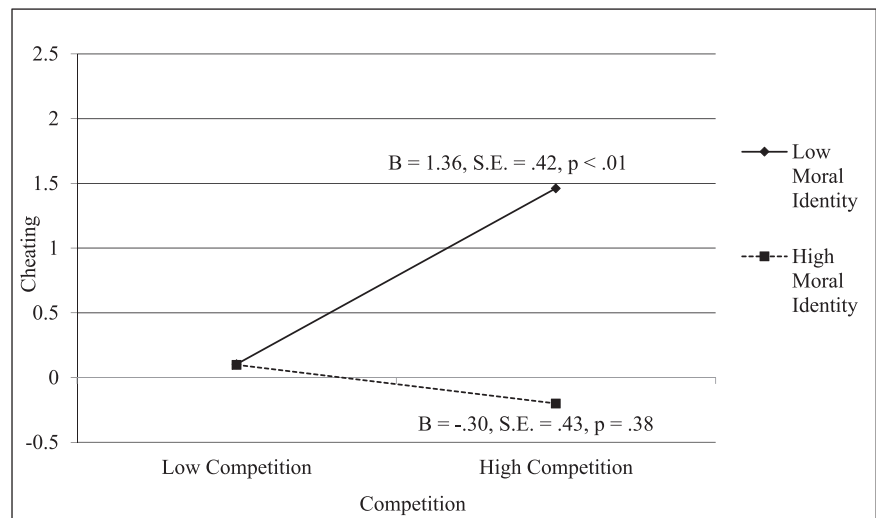
Variables	Dependent variable: Cheating			
	Model 1		Model 2	
	B	SE	B	SE
Competition	.52	.30	.53	.30
Moral identity	-.59**	.20	.04	.30
Competition \times moral identity			-1.09**	.39
R^2	.10**		.17**	
ΔR^2			.07*	

Note. $N = 105$.

* $p < .05$.

** $p < .01$.

FIGURE 1 Moderating role of moral identity, Study 3a



10 | STUDY 3B: MODERATING ROLE OF MORAL IDENTITY- REPLICATION IN THE FIELD

10.1 | Methods and procedure

We recruited a market research firm to collect data in India for this study. The firm has a panel of over 10,000 adults working full-time in various organizations across various industries. Through this firm, we collected data from 100 matched employee–colleague pairs. All employees were members of the panel. At the time of signing up for the study, employees were asked to provide contact information of their colleagues, who were later invited by the market research firm to participate in this study. All participants were paid approximately USD 5. The employees sample included 78% men with a mean age of 28 years ($SD = 3.44$). The average tenure in their organization was 3.58 years ($SD = 2.85$). A majority of employees had a college/bachelor's degree (79%). The sample of colleagues included 85% men with an average age of 29 years ($SD = 5.21$). Their average tenure in their organization was 3.41 years ($SD = 2.63$). A majority of them also had a college/bachelor's degree (80%). They had been working with the focal employee for an average of 2.57 years ($SD = 1.41$).

10.2 | Measures

Unless otherwise indicated, all measures used a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

10.2.1 | Competition

We asked the focal employee's colleague to respond to three items which captured the competitive levels in their organization. These items were adapted from Brown, Cron, and Slocum Jr. (1998). Sample

item includes “Everybody in my organization is concerned with finishing at the top.” Cronbach's alpha for this scale is .79.

10.2.2 | Moral identity

As in Study 3a, we asked focal employee to respond to five items from Aquino and Reed's (2002) moral identity internalization scale. Cronbach alpha for the scale is .66.

10.2.3 | Cheating

We measured cheating using three items adapted from Bennett and Robinson's (2000) deviance scale. Specifically, the focal employee's colleague was asked to rate the frequency with which the focal employee engaged in various cheating behaviors. Sample items include “[Employee name] dragged out work in order to get overtime”, “[Employee name] has taken property from work without permission”, and “[Employee name] has falsified a receipt to get reimbursed for more money than he or she spent on business expenses.” The Cronbach alpha for the scale was .73.

To confirm that the three items used here described behaviors that can be considered as cheating, we conducted another study with an independent sample of adults to validate the items using a commonly employed content validation method: definitional correspondence (Anderson & Gerbing, 1991; see Colquitt, Sabey, Rodell, & Hill, 2019 for a review). We recruited 189 participants using Amazon's Mechanical Turk (MTurk). Participants first read the definition of cheating noted above and were then asked to indicate, on a 5-point scale (1 = *definitely not cheating*, 5 = *definitely cheating*), the degree to which the behaviors described in the items represented cheating behaviors. All items received a mean score of 2.5 or higher (average mean score = 4.14, $SD = 1.07$). The mean score for each item was also significantly different from zero ($p < .05$), thereby confirming that the items described cheating.

TABLE 5 Descriptive statistics and correlations, Study 3b

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Competition (1)	5.16	1.39	(.79)													
Moral Identity (2)	4.63	.74	-.19	(.66)												
Cheating (3)	1.69	1.06	.25*	-.58**	(.73)											
Ethical Climate (4)	5.07	1.02	.03	.27**	-.37**	(.66)										
Trait Competitiveness (5)	5.68	.59	.27*	.14	-.09	-.05	(.63)									
Utility (6)	5.86	.51	-.25*	.14	.01	.04	-.00	-								
Formalism (7)	5.56	.62	-.09	.33**	-.32*	-.45**	.04	.29**	-							
Focal Employee Age (8)	27.79	3.44	-.07	-.14	-.01	-.13	-.02	.00	-.02	-						
Focal Employee Gender (9)	.78	.42	-.11	.02	-.05	.00	.06	.20	-.10	.15	-					
Focal Employee Tenure (10)	3.58	2.85	-.26**	-.02	-.05	-.06	-.10	.11	-.02	.39**	-.00	-				
Colleague's Age (11)	28.75	5.21	-.24*	.07	-.11	-.03	-.11	.14	.06	.50**	-.03	.23*	-			
Colleague's Gender (12)	.85	.36	.26**	-.17	.10	-.01	.15	-.19	.08	.03	-.02	-.18	.01	-		
Colleague's Tenure (13)	3.41	2.63	-.18	.02	-.01	.07	-.21*	.30**	.02	.45**	-.06	.35**	.78**	-.11	-	
Employee-Colleague Tenure (14)	2.57	1.41	-.20*	-.13	.11	.11	-.25*	.26**	-.03	.46**	-.04	.50**	.31**	-.03	.63**	-
Organization Size (15)	5.69	2.81	.15	.04	.02	-.12	.31**	.03	.31**	.01	.15	-.13	-.25*	.23*	-.29**	-.24*

Note. N = 100. Coefficient alphas are on the diagonal in parentheses.

* $p < .05$.

** $p < .01$.

10.2.4 | Control variables

We included various organizational and individual variables as controls: ethical climate of the organization (Key, 1999; Treviño et al., 1998), trait competitiveness (Brown, Cron, & Slocum, 1998), and ethical predispositions of the employee (Brady & Wheeler, 1996). It is possible that in organizations with a strong ethical climate, employees not only experience lower competitive pressures but are also less likely to engage in cheating irrespective of the intensity of the competition. For instance, Martin and Cullen (2006), in their meta-analysis on ethical climate, found that a strong negative relation between ethical climate and dysfunctional workplace behaviors. Similarly, it is possible that whether an employee makes decisions using formalistic or utilitarian reasoning will affect unethical behaviors in the organization, irrespective of the competitive pressures experienced by its members. It is also possible that those with high trait competitiveness are likely to perceive the environment in the organization to be competitive and are also likely to cheat to achieve their goals. We measured the ethical climate of the organization by asking the employee's colleague to respond to five items adapted from Key (1999). Sample item included "Ethical behavior is the norm in my organization." Cronbach's alpha for the scale was .66. We measured trait competitiveness of the

employee using the four items developed by Brown, Cron, and Slocum (1998). Sample item entails "I enjoy working in situations involving competition with others" ($\alpha = .63$). Following Brady and Wheeler (1996), we measured ethical predispositions by providing employees with 20-character traits such as results-oriented (utilitarianism) and principled (formalism) and asking them to rate each trait according to its importance to them (1 = not at all important, 7 = very important). We also controlled for the age (in years), gender (1 = male, 0 = female), organizational tenure (in years) of the employee and the colleague because older workers, women and those with longer tenure in organizations are less likely to be competitive and less likely to cheat (Betz, O'Connell, & Shepard, 1989; Kish-Gephart, Harrison, & Treviño, 2010; Mesmer-Magnus & Viswesvaran, 2005). We also controlled for the number of years that the colleague and employee have worked together so as to account for the relationship between the colleague and the focal employee. Finally, we controlled for the organization's size (1 = 0 to 10; 2 = 10 to 50; 3 = 50 to 100; 4 = 100 to 200; 5 = 200 to 500; 6 = 500 to 1,000; 7 = 1,000 to 2,500; 8 = 2,500 to 5,000; 9 = above 5,000) because those in smaller organizations are less likely to be competitive and less likely to cheat (Borkowski & Ugras, 1998; Kish-Gephart, Harrison, & Treviño, 2010).

TABLE 6 Results of regression analysis, Study 3b

Variables	Dependent variable: Cheating			
	Model 1		Model 2	
	B	SE	B	SE
Competition	.11 ^{***}	.06	.18 [*]	.07
Moral identity	-.78 [*]	.12	-.66 [*]	.12
Competition × moral identity			-.30 [*]	.08
R ²	.35 [*]		.43 [*]	
ΔR^2			.08 [*]	

Note. $N = 100$.

^{*} $p < .05$.

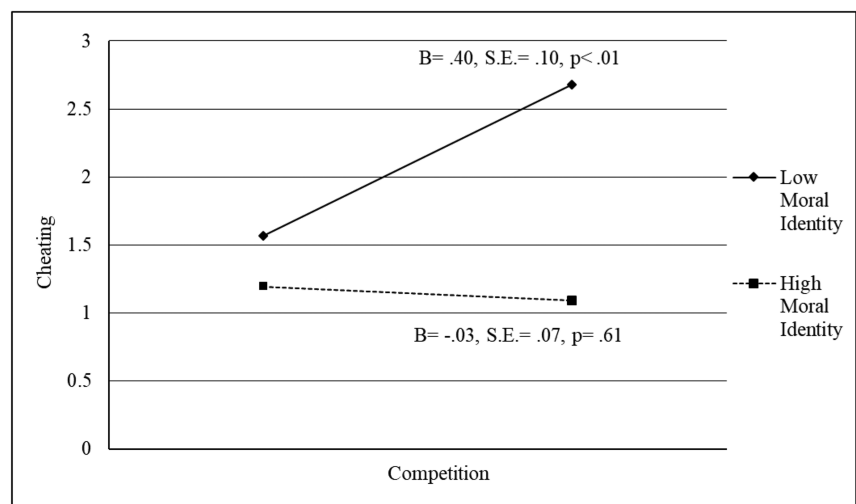
^{**} $p < .01$.

^{***} $p < .1$.

10.3 | Results

Means, standard deviations, and correlations are displayed in Table 5. We ran a linear regression to test our hypothesis that moral identity would weaken the effects of competition on unethical behaviors. We report regression analyses without control variables in Table 6. However, the results remain the same if we include control variables in the regression analyses. The competition × moral identity interaction was statistically significant, $B = -.30$, $SE = .08$, $t(96) = -3.55$, $p < .01$. Post hoc analysis revealed that for individuals with less salient moral identity (1 SD below mean), competition had the predicted positive effects on unethical behaviors ($B = .40$, $SE = .10$, $t(96) = 3.97$, $p < .01$). But when salience of moral identity was high (1 SD above

FIGURE 2 Moderating role of moral identity, Study 3b



mean), the effects of competition on cheating were nonsignificant ($B = -.03$, $SE = .07$, $t(96) = -.51$, $p = n.s.$). Hypothesis 3 was thus supported. Figure 2 illustrates the interaction between competition and moral identity on cheating.

10.4 | Discussion

Studies 3a and 3b found support for our prediction that moral identity moderates the competition-cheating relationship such that when moral identity is more chronically accessible, this relationship is weaker than it is less accessible. In our final study, we examine how exposure to a particular type of social behavior that exemplifies uncommon goodness can make individuals morally aware and less likely to cheat under competitive pressures as a result of experiencing moral elevation.

11 | STUDY 4: MODERATING ROLE OF MORAL ELEVATION

11.1 | Methods

Two hundred and fifty-seven MBA (74% males; $M_{age} = 26.91$, $SD = 2.66$) students from a business school in India participated in the study for class credit and the opportunity to win money. Participants were randomly assigned to one of four conditions and were not allowed to interact with each other.

11.2 | Procedure

The study employed a 2 (competition: high vs. low) \times 2 (moral elevation: high vs. low) between-subjects design. Participants were informed that they would engage in two tasks during the study: a problem-solving task (which, as before, was used to manipulate competition as well as assess cheating) and a video-evaluation task (which was used to manipulate moral elevation). As in other studies, participants received instructions for each task just before engaging in it.

11.3 | Video evaluation task

In the video evaluation task, participants were shown a video and were asked to evaluate the video “as a pretest” for a supposedly different experiment which was to be conducted in the following weeks. In the *high* moral elevation condition, participants were shown a video from the campaign by *Lead India* which showed a child trying to move a tree which had fallen on a busy street. In this video, the child inspires others to help move the tree instead of waiting for someone to take care of the situation. In the *low* moral elevation condition, participants were again shown a video from the same campaign but which showed young adults burning chairs as a protest against

“armchair activism.” We expected that those who were shown the first video would experience higher levels of moral elevation than those who were shown the latter video because (a) it was more emotional, (b) showed that people are inherently good; and (c) induced a desire to be a better person—all components of moral elevation. By showing the videos on *Lead India* in both conditions, we controlled for the content and the central message of the videos. Upon completion of this task, participants were asked to answer our manipulation check questions and a few bogus questions.

11.4 | Moral elevation manipulation check

The state of moral elevation consists of several related components (Haidt, 2000, 2003): emotional component, views of humanity, and desire to be a better person. We adapted one item randomly from Aquino et al. (2011) to measure each of these elements. For emotional component, the item was “I felt compassionate after watching the video.” For the views of humanity component, the item was “People are really good;” and for the desire to be a better person component, the item was “I need to do more to help other people.” Respondents answered on a seven-point scale ranging from “strongly disagree” (1) to “strongly agree” (7).

11.5 | Measure of cheating

This study employed the same problem-solving task as that used in Study 3a.

11.6 | Competition manipulation

Identical to our other studies, we told participants in the *low competition* condition that the top 40 winners would be selected in the experiment and each winner would receive an additional INR100 (~USD 2). Participants in the *high competition* condition were told that top 4 winners would be selected in the experiment who would receive an additional INR1000 (~USD 20). As before, we informed participants that winners would be determined by rank ordering the individuals based on the self-reports of the number of matrices correctly solved.

11.7 | Final questionnaire

After the task, participants completed a post-experiment survey that asked them to answer manipulation check and few demographic questions. For the competition manipulation check, participants were asked to respond to same three items used in the previous studies (Baer, Leenders, Oldham, & Vadera, 2010). The reliability estimates for this measure were satisfactory ($\alpha = .90$). Finally, after they had collected the rewards, we asked participants what the purpose of the different parts of the experiment was.

11.8 | Results

Participants were not aware of the goals of the study. Table 7 reports the descriptive statistics as well as the correlations between the main variables measured in the study.

11.8.1 | Manipulation check

A 2 (competition: high vs low) \times 2 (moral elevation: high vs low) ANOVA on the average score of competition questions revealed a main effect of competition, $F(1, 257) = 3.65, p = .05$; but neither a main effect for moral elevation, $F(1, 257) = .38, p = .54$, nor a competition \times moral elevation interaction, $F(1, 257) = 1.97, p = .16$ was found. These results suggest that our manipulations for competition were successful. The mean for participants in the low competition conditions ($M = 4.09, SD = 1.53$) was lower than that for those in the high competition conditions ($M = 4.46, SD = 1.60$).

A 2×2 ANOVA on the score of *emotional component* of moral elevation revealed a main effect of moral elevation, $F(1, 257) = 77.80, p < .01$; but neither a main effect for competition, $F(1, 257) = .11, p = .75$, nor a competition \times moral elevation interaction, $F(1, 257) = .45, p = .50$ was found. The mean for participants in the low moral elevation condition ($M = 3.98, SD = 1.81$) was lower than that for those in the high moral elevation condition ($M = 5.65, SD = 1.15$). A 2×2 ANOVA on the score of *views of humanity* aspect of moral

elevation revealed a main effect of moral elevation, $F(1, 257) = 993.58, p < .01$; but neither a main effect for competition, $F(1, 257) = 3.04, p = .08$, nor an interaction, $F(1, 257) = .14, p = .71$ was found. The mean for participants in the low moral elevation condition ($M = 1.91, SD = .97$) was lower than that for those in the high moral elevation condition ($M = 5.87, SD = 1.05$). A 2×2 ANOVA on the score of *desire to be a better person* aspect of moral elevation revealed a main effect of moral elevation, $F(1, 257) = 324.81, p < .01$; but neither a main effect for competition, $F(1, 257) = 1.84, p = .18$, nor a interaction, $F(1, 257) = 1.27, p = .26$ was found. The mean for participants in the low moral elevation condition ($M = 2.57, SD = 1.69$) was lower than that for those in the high moral elevation condition ($M = 5.75, SD = 1.09$). These results indicate that the moral elevation manipulation was successful.

11.8.2 | Moderating role of moral elevation

We conducted a mixed ANOVA with 2 between-subjects factors (competition; moral elevation) and 1 within-subject factor (actual vs self-reported performance) to test Hypothesis 4. As expected, self-reported scores were higher than actual scores ($F[1, 253] = 5.86, p = .02, \eta^2 = .02$), indicating that participants engaged in cheating. There was a main effect of competition ($F[1, 253] = 3.35, p = .04, \eta^2 = .03$), but not of moral elevation ($F[1, 253] = .11, p = .90, \eta^2 = .00$). But we found a significant interaction ($F[1, 253] = 3.99, p = .02, \eta^2 = .03$). Cheating was highest when competition was high and moral elevation was low ($M_{\text{actual}} = 5.23, SD_{\text{actual}} = 3.28; M_{\text{self-reported}} = 5.70, SD_{\text{self-reported}} = 3.65$) compared to when both were low ($M_{\text{actual}} = 6.35, SD_{\text{actual}} = 3.21; M_{\text{self-reported}} = 6.24, SD_{\text{self-reported}} = 3.27$), when competition was low but moral elevation was high ($M_{\text{actual}} = 5.82, SD_{\text{actual}} = 2.60; M_{\text{self-reported}} = 5.97, SD_{\text{self-reported}} = 2.55$) or when both were high ($M_{\text{actual}} = 5.72, SD_{\text{actual}} = 2.27; M_{\text{self-reported}} = 5.81, SD_{\text{self-reported}} = 2.14$). Hypothesis 4 was thus supported. Figure 3 illustrates the interaction effects of competition and moral elevation on cheating.

TABLE 7 Descriptive statistics and correlations, Study 4

	Mean	SD	1	2
Competition (1)	.50	.50		
Moral elevation (2)	.51	.50	-.01	
Cheating (3)	.15	1.01	.13*	-.03

Note. $N = 257$.

* $p < .05$.

** $p < .01$.

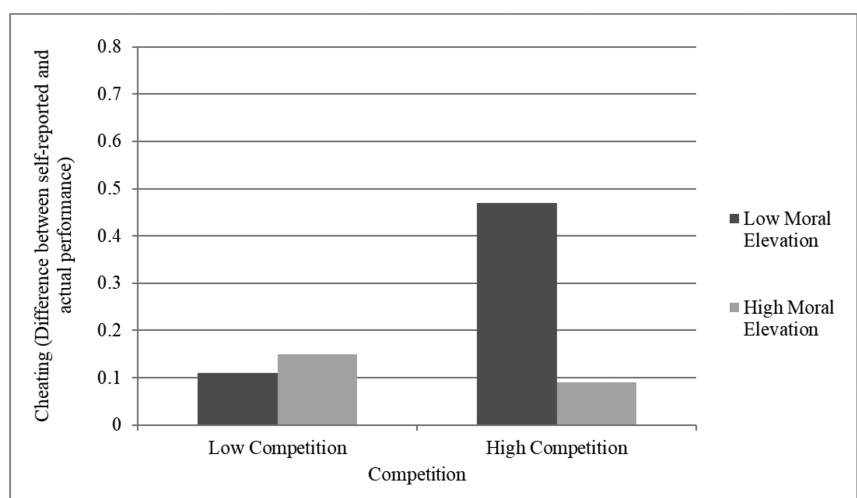


FIGURE 3 Moderating role of moral elevation, Study 4



11.9 | Discussion

Complementing Studies 3a and 3b, our last study showed that a state that can theoretically enhance moral awareness moderated the relationship between competition and cheating such that as moral elevation increased, the effects of competition on cheating weakened. Together, the results of our last three studies identify boundary conditions of the relationship between competition and cheating found in Studies 1, 2a and 2b.

12 | METHODOLOGICAL CONSIDERATIONS

12.1 | Internal validity

We took steps to maximize power of our studies. First, power can be enhanced by using reliable outcome measures. Since, our outcome variable was cheating, we avoided usage of self-reports primarily because participants are less likely to view and report themselves negatively. Our primary dependent variable was a behavioral measure that reflects times when each participant was captured to have engaged in cheating behaviors. Such behavioral measures are less likely to have measurement errors compared to several other measures such as self-reports used in psychological research. Second, we balanced our investigations of specific populations of interest (i.e., Studies 3a and 4's sample of students highly identified with business management) with more nonspecialized samples (i.e., Studies 1, 2, and 3b's sample of adults from different backgrounds). Third, we also report manipulation checks and excluded participants from the analysis who were not attentive to the instructions (e.g., Oppenheimer, Meyvis, & Davidenko, 2009).

12.2 | Sample size and diversity

We recruited participants from MTurk in Studies 1, 2a, and 2b, where we tried to make sure there was equal representation across both the genders. While samples across these studies contained mostly educated working adults, we were also mindful of diversity with respect to age where we recruited participants across different age groups (young adults, middle aged adults and few older adults). Because we collected data from a market research firm in Study 3b and from a business school in Study 4, we relied on a panel of working adults in the research firm and a pool of graduate students in the business school. Therefore, our sample in these studies was relatively limited regarding the gender, they were predominantly male and well-educated. Unlike most studies in social psychology which rely on undergraduates who are Western in cultural orientation and rich (Henrich, Heine, & Norenzayan, 2010), we relied on both student and adult working participants from both Western and Eastern cultures across six studies. We argue that this diversity in samples across studies makes our findings more generalizable. Interestingly, although

gender is a critical variable with respect to cheating where previous studies found that males are likely to cheat more than females (Betz, O'Connell, & Shepard, 1989), our analysis found differences in degree, but not in the pattern of the cheating behaviors. We found that both males and females cheated similarly under high competition. Similarly, we also did not find any gender differences with respect to moral awareness indicating that both males and females are equally less likely to be aware of the ethical dilemmas under high competition.

13 | GENERAL DISCUSSION

Past research has shown that competition can propel people to cheat, but we still do not fully know the mechanisms that explain this relationship. In this paper, we attempted to address two research questions: Why does competition affect cheating? And what are the boundary conditions of this relationship? To answer the first question, we draw on two theoretical perspectives: Arousal theories of competition, which suggest competitive pressures trigger a desire to win which in turn motivates cheating and social cognitive theory, which suggests that people cheat in competitive environments because their moral awareness is impaired. Across two studies, we find that under competitive pressures, people cheat not because they are motivated to beat others but because their capabilities to recognize moral salience of the situation are compromised. That is, we find that the social cognitive theory pathway receives more empirical support than the arousal theories pathway. We therefore build on social cognitive theory to propose that factors that increase the moral aspects of a situation and help overcome moral awareness impairment can inhibit cheating triggered by a high degree of competition. We examine two factors: the chronic accessibility of a person's moral identity and the experience of moral elevation. Across three studies, we find that both factors weaken the detrimental effects of competition on cheating.

13.1 | Theoretical contribution

Our study contributes to our understanding about the role of competition as a predictor of cheating in two ways. First, ours is the first study that we are aware of that builds on social cognitive theory and shows how competition impairs moral awareness and that it is this consequence of competition rather than the desire to win that accounts for why people cheat. Second, we extend prior scholarly work on social cognitive theory by identifying two boundary conditions for the relationship between competition and cheating. Although past research has considered demographic differences (Schwieren & Weichselbaumer, 2010), no prior investigation that we know of has examined the moderating role of moral elevation and of moral identity on the competition–cheating relationship.

Our research also contributes to the existing research on behavioral ethics. First, we offer one possible explanation for a puzzling finding in the behavioral ethics literature: When participants are given the opportunity to cheat and the costs are small, participants often

cheat even if they care about being moral and being seen as ethical by others (Gino, Ayal, & Ariely, 2009; Gino, Schweitzer, Mead, & Ariely, 2011; Schweitzer, Ordóñez, & Douma, 2004). Our results suggest that under competitive environments, cheating may be a result of people simply becoming less aware of the moral components of their decisions and are thus tempted to cheat.

Second, past research has extensively shown that cheating can be reduced by increasing moral saliency. For example, Hertz and Krettenauer (2016), in their meta-analysis found that moral identity was significantly associated with moral behaviors. In a similar vein, Thomson and Siegel (2017), in their review article on moral elevation, argued that people who experience moral elevation tend to engage in more moral behaviors than those who do not. Our research point towards an extension to this line of research by suggesting one boundary condition to these effects: the experience of competition. However, given (a) our focus on understanding the competition-cheating relationship further, and (b) our finding that competition propels cheating because the cognitive abilities of those in competitive situations to recognize moral aspects of a situation is temporarily comprised, we do not consider the direct effect of moral identity and moral elevation on cheating and instead focus only on their moderating role on the competition-cheating relationship.

13.2 | Practical implications

Prescriptively, our findings suggest that managers as well as organizations need to recognize the potential costs of using competition as a motivational tool. When competitive pressures become sufficiently intense, employees may lose sight of moral issues surrounding their decisions and may therefore engage in dishonest behavior even if they would prefer not to do so. Managers are therefore advised to be careful about heightening competition for tasks that afford opportunities to cheat. However, in case it is essential to employ competition potentially to motivate employees, our study suggests that as a countermeasure, managers can find ways to make employees' moral identities more temporarily salient, if they are not already chronically accessible (e.g., Aquino, Freeman, Reed, Lim, & Felps, 2009). Alternatively, they could present them with examples of uncommon goodness, such as stories about employees who displayed moral heroism or extreme self-sacrifice on behalf of others, to induce moral elevation.

Our finding that moral identity moderates the competition-cheating relationship also suggests that some individuals come to the workplace better equipped to resist the situational pressures that can motivate cheating. As Gino, Schweitzer, Mead, and Ariely (2011) suggest, there may therefore be organizational benefits to hiring and promoting individuals who demonstrate a commitment to moral ideals or whose behavior indicates that being a moral person is an important part of their overall self-concept. In leadership roles, such persons could serve as role models who influence other employees to act ethically (Mayer, Aquino, Greenbaum, & Kuenzi, 2012). They might also be able to raise others' awareness of the ethical and moral

implications of important decisions, especially in settings with high competitive pressures.

Finally, we know that employees' emotional reactions to events determine how they perform the tasks in the workplace (Weiss & Cropanzano, 1996). Managers or leaders interact with their followers on a frequent basis and are likely to elicit several positive or negative emotions of their followers (Dasborough, 2006; Dasborough & Ashkanasy, 2002). Managers can evoke moral elevation among followers in at least three ways. First, when leaders display selfless behaviors such as putting followers' first, helping them grow and succeed, followers are likely to perform their best (Liden, Wayne, & Zhao, 2008). Second, leaders can stimulate moral elevation by displaying exemplary behaviors under situations which involve high competition. Such behaviors include constantly being attentive to moral issues and behaving ethically, having a genuine concern on how a particular course of action impacts or creates value for the members of the organization and being fair towards all the followers (Haidt, 2000). Third, leaders can use inspirational appeals (Yukl & Falbe, 1990) or invoke exemplary quotes to stimulate moral emotions of their followers.

13.3 | Strengths, limitations, and avenues for future research

There are several strengths of our research. First, our research employs both laboratory and field study designs to test our hypotheses. By employing both designs, we were able to maximize the internal and external validity of our findings. Second, the strength of laboratory experiments is that they have the ability to illustrate what *can* happen under certain circumstances, rather than what *does* happen. Through a series of experiments in our research, we were able to robustly demonstrate that individuals *can* engage in more cheating if high (vs. low) levels of pure individual-level competition is present.

Our study is not without limitations. First, we investigated only two moderators of the competition-cheating relationship. In our studies, we demonstrate that moral elevation and moral identity weaken the link between competition and dishonesty. Other individual difference variables and contextual factors such as conscientiousness (Bogg & Roberts, 2004), role models (Brown, Treviño, & Harrison, 2005), ethical climate (Victor & Cullen, 1988), and ethical infrastructure (Smith-Crowe et al., 2015) may also moderate this relationship. It is also possible that national culture may be playing a role here. For instance, we find that the correlation between competition and cheating was significant in Studies 1, 2a, and 2b, but not in Studies 3a and 3b. One possible explanation for the lack of statistical significance could be difference in national culture of participants in these studies. Data for Studies 3a and 3b were collected in India, while for Studies 1, 2a and 2b, data was collected from adults in the US. Therefore, it is possible that national culture could potentially moderate the competition-cheating relationship in that for Americans, competition would encourage cheating, but this effect would not hold

true for Indians. Future research should investigate this and other boundary conditions of the competition-cheating relationship.

Second and relatedly, our studies were primarily conducted using samples from the U.S. and India. Future research should try to replicate our findings in other cultures. Third, we largely adopted laboratory experiments to test our theoretical arguments (except in Study 3b). While the extensive use of experiments can call into question the ecological validity of our findings, the strength of laboratory experiments is the ability to illustrate what can happen under certain conditions (in this case, IF high level of individual-level competition is present) rather than what does happen. Our paper therefore contributes to the extant literature by highlighting why and under what conditions competition can affect cheating.

Fourth, we discussed how leaders can evoke moral elevation among their followers. Future research needs to investigate what kind of leaders are likely to evoke elevation and inspire ethical behavior. One potential avenue for research could be to investigate the effects of servant leadership on moral elevation and unethical behavior of followers (Liden, Wayne, & Zhao, 2008). Finally, we acknowledge that for some studies, our sample sizes are small. However, the total sample across all studies presented here is not small and the use of multiple methods and operationalizations gives us confidence that our results are reliable and robust.

13.4 | Conclusion

Competition is ubiquitous in today's organizations and may push employees to engage in cheating. Our study highlights this potential cost of competition. Therefore, while competition may be essential to motivate employees, necessary safeguards should be in place in organizations to minimize its detrimental effects.

ACKNOWLEDGEMENTS

We would like to thank Karl Aquino, Vivekanand Shrivastava, Dev Bhave, Pooja Mishra, and Stefan Thau for their feedback on the earlier drafts of the manuscript. Previous versions of the paper were presented at the biennial conference of the International Society for Justice Research, 2014, Annual Meeting of the Academy of Management, 2014 and the Asia Management Research Consortium, 2015. We have also presented this research at Singapore Management University and at the University of Central Florida. We would like to thank the audience for their very insightful and constructive feedback. This research is also partly funded by the Indian Council of Social Science Research, # G-04/2014-15/ICSSR/RPS.

ENDNOTES

¹ We excluded 9 (from a total of 80) participants from the study because they failed to recall correct information in their responses or submitted their survey from the same IP address.

² We excluded 17 (from a total of 100) participants from the study because they failed to recall correct information in their responses or submitted their survey from the same IP address.

³ Due to some error on our part, we lost the demographic data for participants in this Study.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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How to cite this article: Vadera, A. K., & Pathki, C. S. (2021). Competition and cheating: Investigating the role of moral awareness, moral identity, and moral elevation. *Journal of Organizational Behavior*, 42(8), 1060–1081. <https://doi.org/10.1002/job.2545>