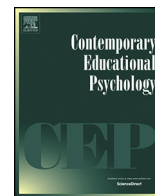




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The role of choice provision in academic dishonesty

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ABSTRACT

This research investigated whether choice provision may reduce dishonesty and attitudes that justify cheating in an academic context. In Study 1, opportunities to make task choices and cheat by misreporting performance without being detected were manipulated. Differences in the pattern of scores reported across cheating opportunity conditions for choice versus no choice participants suggested that choice provision mitigated score misreporting and provided psychological benefits for positive self-beliefs and affect that were equal to those accrued by the opportunity to successfully misreport scores. Study 2 extended these findings, demonstrating that college students who read a hypothetical vignette describing a college course high in student choice opportunities anticipated greater perceived competence and control and greater opportunities for cheating compared to students who read a low choice course vignette. These variables in turn predicted attributions of blame for cheating to students versus teachers, favorable cheating attitudes, and anticipated cheating behavior in the hypothetical course in opposing directions. Results suggest that unethical behavior may depend in part on support for personal control, in addition to opportunities for acting unethically.

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1. Introduction

Academic dishonesty, a term that captures many forms of cheating including deception, fabrication, plagiarism, cheating on tests, exchanging work with other students, or purchasing work (Underwood & Szabo, 2003) is a common problem among students of all ages, including college students (Cizek, 2003). Studies indicate that somewhere between 70% and 95% of college students cheat at some point during their academic careers (McCabe & Trevino, 1997; McCabe, Trevino, & Butterfield, 2001; Whitley, 1998) and cheating may be even greater among younger students (Jensen, Arnett, Feldman, & Cauffman, 2003). Further, academic cheating has consequences for the individual doing the cheating in terms of costs to their learning, others in the classroom in the form of misaligned instruction and unfair grade distribution, as well as society at large given the high probability that academic dishonesty translates to cheating in other contexts (e.g., Harding, Carpenter, Finelli, & Passow, 2004).

Given these consequences, one important question for social scientists is what contextual factors support or thwart dishonest behavior? A great deal of prior research has explored contextual factors that influence cheating. However, no research to date has investigated the extent to which providing choices about tasks may

influence academic dishonesty, despite reasons to believe that choice provision will have implications for cheating attitudes and dishonest behavior, albeit the relations may be complex. One possibility is that providing task choices may have implications for cheating given its known benefits for adaptive motivational beliefs and experiences such as perceptions of competence and control (e.g., Langer, 1975; Patall, Cooper, & Robinson, 2008) that are likely to mitigate cheating. Alternatively, providing choices about a task may implicitly support perceptions of having the opportunity to cheat successfully and the belief that cheating is acceptable, making cheating more likely. The purpose of this investigation was to explore these possibilities and examine the relations between choice, cheating attitudes, and dishonesty in an academic context.

1.1. Why and how might choice provision mitigate academic dishonesty?

Numerous personal and situational factors have been linked to academic dishonesty (see Whitley, 1998 for a review). Research shows that perhaps most critically, cheating increases across a variety of contexts when there are opportunities to cheat, minimal consequences associated with getting caught, and desirable outcomes for successful cheating (e.g., Covey, Saladin, & Killen, 1989; Houston, 1986; Mazar, Amir, & Ariely, 2008; McCabe & Trevino, 1993). Not surprisingly, academic dishonesty increases when individuals have favorable or neutralizing attitudes that justify cheating (e.g., Anderman, Griesinger, & Westerfield, 1998; Diekhoff et al., 1996; Whitley, 1998). However, cheating and tolerance for cheating have

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also been found to be lower among individuals with higher actual or perceived competence (i.e., Coleman & Mahaffey, 2000; Crown & Spiller, 1998; Finn & Frone, 2004; McCabe & Trevino, 1997; Murdock, Hale, & Weber, 2001; Whitley, 1998), a more internal locus of control (e.g., Crown & Spiller, 1998), and greater autonomous motivation or personal interest in a task (e.g., Schraw et al., 2007; Vansteenkiste, Sierens, Soenens, Luyckx, & Lens, 2009). Likewise, cheating in school and tolerance for cheating is lower in classroom situations marked by greater levels of perceived teacher competence, engagement, fairness, or caring for students (e.g., McCabe & Trevino, 1997; Murdock, Miller, & Goetzinger, 2007; Murdock, Miller, & Kohlhardt, 2004).

Providing task choice is easy to implement and a popular motivational strategy among educational practitioners (e.g., Flowerday & Schraw, 2000). More importantly, providing choices related to tasks and activities may be a successful strategy for reducing academic dishonesty given research suggesting it has a number of positive effects on motivation and performance outcomes (e.g., see Patall et al., 2008 for a review) that to some extent parallel the correlates of cheating outcomes, though no test of this possibility yet exists.

To explain more, the benefits of choice can be understood in light of self-determination theory (SDT), a macro-theory of human motivation that suggests that three fundamental needs—autonomy, competence, and relatedness—underlie people's self-motivation and adaptive psychological functioning (e.g., Ryan & Deci, 2000). According to SDT, social contexts that support these psychological needs enhance motivation, social development, and well-being, while contexts that thwart them undermine these outcomes (e.g., Ryan & Deci, 2000). Providing choice is a strategy that scholars frequently cite for supporting two of three needs, namely, competence or the sense that one can master their environment and autonomy or the sense that one is the origin of their own behavior. Indeed, empirical research suggests that providing choice supports an individual's experience of autonomy, perception of control, and sense of competence, and in turn, an assortment of motivation and performance outcomes (e.g., Ames, 1992; Henry, 1994; Jacobs & Eccles, 2000; Langer, 1975; Patall et al., 2008; Patall, Cooper, & Wynn, 2010; Perlmutter & Monty, 1979; Ryan & Deci, 2000; Tafarodi, Milne, & Smith, 1999). Thus, it seems reasonable to suggest that providing choices, especially choices intentionally designed to be most supportive of psychological needs by tapping into personal interests and values, providing opportunities to control process and action, or directly affecting competent decision making or performance (e.g., Katz & Assor, 2007; Patall, 2012; Reeve, Nix, & Hamm, 2003), could decrease favorable cheating attitudes and dishonest behavior because they facilitate adaptive motivational experiences like interest and intrinsic motivation and increase beliefs about competence, control, autonomy, and responsibility (e.g., Langer, 1975; Patall et al., 2008; Ryan & Deci, 2000). Given the especially well-established links between high past performance, perceptions of competence or self-efficacy, and experiences of control over outcomes with less favorable cheating attitudes and cheating behavior (e.g., Coleman & Mahaffey, 2000; Crown & Spiller, 1998; McCabe & Trevino, 1997; Murdock et al., 2001; Whitley, 1998), choice provision seems likely to mitigate dishonest behavior particularly because it supports beliefs about competence and control (e.g., Henry, 1994; Langer, 1975; Patall et al., 2008).

Applying this reasoning to the classroom suggests that academic environments marked by student choice may mitigate academic dishonesty via motivation mechanisms. This conjecture is bolstered further by evidence suggesting that students' beliefs about the extent to which they deserve blame (versus attribute blame to a source external to the self, such as the teacher) and see cheating as acceptable are malleable. Such beliefs are related to perceptions of the classroom environment, including teachers' fairness, competence, enthusiasm, caring, and emphasis on performance (e.g.,

Murdock et al., 2004, 2007; Pulvers & Diekhoff, 1999). Given the tenuous assumption that students perceive teachers who provide choices as concerned about a range of student outcomes and particularly fair, as well as the more established proposition that they actually feel more competent and motivated themselves in an environment marked by choice (e.g., Patall et al., 2010), students in a classroom marked by student choices may be less likely to attribute blame for cheating to a source external to the self and view cheating as acceptable or justifiable. In turn, prior research has established that such beliefs are linked with lower academic dishonesty (e.g., Anderman et al., 1998; Diekhoff et al., 1996; Whitley, 1998).

This argument can also be extended to understand how choice may potentially reduce cheating by circumventing the psychological benefits of cheating. While many theories of moral behavior assume and people themselves predict that one will experience negative affect and guilt upon cheating (e.g., DePalma, Madey, & Bornschein, 1995; Eisenberg, 2000; Massi, 2005; Ruedy, Moore, Gino, & Schweitzer, 2013), recent research suggests that people experience an affective "cheater's high" upon successfully cheating (Ruedy et al., 2013). Research suggests that the act of cheating, when there is not a salient victim, may itself provide benefits in the form of enhanced feelings of self-satisfaction (i.e., perceptions of competence, cleverness, accomplishment) and a corresponding boost in positive affect (i.e., interested, excited, proud) that is not due to self-selection in terms of who decides to cheat, receiving undeserved rewards, or self-deception regarding one's unethical behavior (Ruedy et al., 2013). Moreover, these psychological benefits of cheating appear to be the result of the enhanced experience of autonomy and sense of control over outcomes that come with having an expanded range of options closed to others following social rules (Carver & Scheier, 1990; Ruedy et al., 2013). Taken together, this suggests that the opportunity to cheat may operate in much the same way as providing choices in that both serve to enhance perceptions (at least in the immediate present), that one is competent, autonomous, and tasks that one is engaging in are interesting. Given Ruedy et al.'s (2013) results, we might speculate that the opportunity to cheat may even have these effects by enhancing one's experience of having choices, and in turn, a sense that one has influence and control. Thus, to the extent that providing explicit choices about a task may provide the same (or even a greater) boost in positive self-beliefs and affect compared to that provided by the act of cheating, it may reduce cheating by circumventing its psychological benefits.

1.2. Choice provision and perceptions of opportunities to cheat

Ironically, choice may simultaneously enhance the perception that one has greater opportunity and justification for cheating, a context known to support dishonest behavior. If not thoughtfully implemented, choice may facilitate cheating by limiting an instructor's ability to detect it. For example, providing choice of where to sit during a test, what test or assignment questions to answer, or setting one's own deadlines might make it easier for students to cheat in a number of different ways (e.g., plagiarism, copying on tests, etc.). But, even when choice does not provide any additional "real" opportunity to cheat or decrease the risk of getting caught, providing choices may still make cheating appear more accessible and acceptable in the situation if opportunities for it are perceived to be provided, and perhaps tacitly sanctioned by the instructor.

Going further along these lines, we might expect choice provision to support perceptions that cheating opportunities are available and acceptable given what Markus and Kitayama (2003) call the *dis-joint model of agency* pervasive among Westerners in which people implicitly understand that "actions are 'freely' chosen, contingent on one's own preferences, intentions, [and] motives" (p. 7), choices

are readily available in the environment, and choice is linked with independence, control, and freedom from societal constraints. Thus, despite all its positive motivational benefits, Savani, Stephens, and Markus (2011) argue that choice may also lead Westerners to believe that “regardless of social contextual circumstances, individuals are responsible for their own actions and life outcomes, and that they have the right to control their own lives free from the constraints of other people and of society” (p. 795). Indeed, recent evidence has linked choice with undesirable social and interpersonal consequences among Westerners, including decreased support for communally-beneficial policies, increased victim-blaming, and decreased empathy for disadvantaged people (e.g., Savani et al., 2011). With this in mind, it seems reasonable to expect that the provision of choice may enhance perceptions that cheating opportunities are available and cheating behaviors are justifiable as one of many choices available to the individual, even while simultaneously supporting perceptions of competence and control that are likely to mitigate favorable attitudes toward cheating.

1.3. Overview of the present investigation

Existing research suggests that choice may have both positive and negative implications for cheating attitudes and dishonest behavior and that these effects are likely to be complex. On one hand, choice is likely to diminish dishonest behaviors and favorable cheating attitudes because it can support adaptive motivational beliefs and experiences, especially experiences of competence and control. On the other hand, it may implicitly support perceptions of having the opportunity to cheat successfully and the belief that cheating is acceptable.

Given the promise of choice provision as an easy yet potentially effective intervention and its popularity as a motivational strategy among practitioners, we conducted two studies to examine the effect of choice on cheating attitudes and dishonest behavior. First, we asked: what is the effect of choosing aspects of a task on self-reports of performance when people have the opportunity to successfully misreport compared to when this opportunity is not readily available? And likewise, how does choosing affect feelings of competence, control and interest under these various cheating opportunity conditions? Thus, in the first experiment, both the opportunity to make choices about a task and the opportunity to cheat were manipulated in order to test our basic hypothesis that overall, choice would reduce the tendency to misreport performance when given the opportunity to do so without detection. That is, without task choices, we expected to uncover the classic finding that those who had been given an opportunity to misrepresent their score would in fact do so, and thus, self-reported scores of participants in the cheating opportunity condition would be higher than self-reported scores of participants in the no cheating opportunity condition. But, when given task choice, we expected to find little if any difference in self-reported scores between those who had an opportunity to successfully misreport scores and those who did not. We chose to focus on misreporting performance as the indicator of dishonest behavior, given that it has been the focus of similar research on cheating (e.g., Gino, Ayal, & Ariely, 2009; Ruedy et al., 2013). Although previous research has established that people see over-reporting as unethical (e.g., Ruedy et al., 2013), it also seemed like an ideal outcome for this study as it may be viewed as among the more benign forms of cheating in an academic context. Thus, we thought it might be more easily influenced in the context of our study in which there was little contextual pressure to cheat and no salient external rewards for doing so.

Further, the first experiment allowed us to test our hypothesis that choosing and cheating have similar psychological functionality and that choice provision could provide psychological benefits (i.e., feelings of competence, control, and interest) that were equal

or greater than those provided by the opportunity to cheat. That is, we predicted that although cheating might provide a boost to feelings of competence, control, and interest in the standard condition in which choices were not available, when choices were provided, we expected that the opportunity to cheat would provide no additional psychological benefits. Likewise, given the well-established psychological benefits of choosing (e.g., Patall et al., 2008) and our own theorizing for this investigation, we also expected to observe the customary benefits of choosing and thus, see enhanced feelings of competence, control, interest, and even self-reports of performance as a function of choice among individuals in the typical condition in which individuals did not have an opportunity to cheat without detection. We were uncertain about whether choice opportunities would provide any benefit above and beyond that of having the opportunity to cheat. Also in line with our argument that choice may influence cheating attitudes and behavior in part because it functions in psychologically similar ways to having and taking the opportunity to cheat successfully, we also expected that manipulating opportunities to cheat would enhance perceptions of having choices about the task and likewise, that manipulating the provision of choice could even enhance perceptions that there were opportunities to cheat successfully.

In the second study, we attempted to extend the findings of Study 1 and asked what the effect of having choices in a classroom might be on academic cheating attitudes, as well as cheating behaviors, via perceptions of competence and control and opportunities for cheating. We manipulated hypothetical classroom vignettes to test our hypothesis that classroom choice provision reduces external blame for academic cheating, favorable cheating attitudes, and unethical academic behavior via perceptions of competence and control, but could support favorable cheating attitudes and unethical academic behavior via enhanced perceptions that opportunities to successfully cheat in the academic environment have been made available.

In both studies, given that we hypothesized that the motivational effects of choice would play a crucial role in influencing dishonesty, we intentionally designed choices that we expected to be most likely to support psychological needs for autonomy and competence (e.g., see Katz & Assor, 2007; Patall, 2012; Reeve et al., 2003 for a discussion). There has been a great deal of debate and mixed findings in the literature on choice provision regarding when choices lead to benefits versus when they do not or do so to a lesser extent (e.g., Katz & Assor, 2007; Patall, 2012; Patall et al., 2008). This controversy notwithstanding, in order to maximize the likelihood of observing a relationship between choosing and cheating, we included choices of various types and made sure to include particularly meaningful choices that would be likely to support needs by allowing the participants provided with choices to control their ways of working during tasks and the nature of the tasks. We also focused on a small, manageable number of choice opportunities in the manipulation for each study, as prior research has suggested that making more than one (but not an excessive number) of choices may be ideal (see Patall et al., 2008).

2. Study 1: the effect of providing choices on misreports of performance

2.1. Method

2.1.1. Participants

One hundred college students (70 female, 30 male) in introductory educational psychology courses in a large southwestern university were recruited to participate in the study for research credit during a single semester. Participants ranged between 18 and 28 years of age. The sample was ethnically diverse, 45 participants were Caucasian, 1 participant was African American, 16 were

Asian, 22 were Hispanic, and 16 were mixed or another ethnicity. The sample contained undergraduate students at all levels (14 freshmen, 23 sophomores, 22 juniors, and 41 seniors). Students in the sample came from a large variety of majors across all domains and schools at the university and there was no one major from which a large percentage of the sample came. The most frequently reported major was biology (9% of the sample).

2.1.2. Procedure

Participants were invited to complete an online study via email and provided a URL to the website (using Qualtrics online survey software) on which they could complete the study remotely. The purpose of the study was described to participants as being to explore people's experience of word and math games under various conditions. First, the word and math game was described to participants. In the word game, participants received a series of puzzles in which they are presented with a jumble of letters (i.e., ZBARE) and several hints (i.e., HINT A: A relative of the horse from Africa; HINT B: 1 word). The object of the game was to create new words from the letters that corresponded to the hints given (i.e., answer: ZEBRA). A math task described in Gino et al. (2009) was adopted for this study. In this math game, participants were given a matrix of 12 numbers, each with an integer and two decimal places (i.e., 8.24). The object of the game was to find the two numbers (i.e., $8.24 + 1.76$) that add up to 10. Participants had 5 minutes to complete either the 20 word puzzles or 20 math matrices. The allotted time was not sufficient for anyone to solve all 20 problems in either task.

At this point, participants were randomly assigned to one of two choice conditions: *choice* or *no choice*. Participants in the choice condition were asked whether they would rather play the word game or the math game and whether they would like the difficulty of the word puzzles or math matrices to be all medium difficulty or for there to be a mix of easy, medium and difficult questions. It was also emphasized to participants in the choice condition that they could work on the puzzles in any order they wish and spend as much or as little time as they would like on each puzzle during the allotted time. While some prior research has suggested that choices about process may most effectively support motivation (e.g., Katz & Assor, 2007; Reeve et al., 2003), other research suggests choices related to the topic or nature of the activity may be sufficiently motivating (e.g., Patall, 2013; Patall, Sylvester, & Han, 2014). Given that the main goal of the current research was to demonstrate that task choices of any kind might influence cheating outcomes, we provided choices about both the nature of the activity, as well as the process during the activity. These sorts of choices have been regularly used in prior research and demonstrated to effectively influence motivation outcomes (e.g., Patall, 2013; Patall et al., 2014). We expected that including a variety of choices, particularly those related to the difficulty of the task and the process of working during the task, would maximize the likelihood of supporting the psychological needs and motivational benefits (see Katz & Assor, 2007; Patall, 2012; Reeve et al., 2003) that we predicted would compete with the benefits of cheating.

Participants in the no choice condition were made aware of the options and assigned to work on either the word or math game. Likewise, they were assigned the difficulty assortment for the puzzles or matrices and were told that they should make sure to keep track of their time as they work on each consecutive puzzle or matrix. While the choice of word versus math game was real, the choice of difficulty level assortment did not result in any real variation in the tasks. Though not known to participants, everyone received the same word or math game regardless of their difficulty level selection or assignment.

To explore the role of choice provision on actual dishonest behavior, we adapted a paradigm from Gino et al. (2009). Specifically,

participants were randomly assigned to one of two cheating opportunity conditions within the choice conditions: *cheating opportunity* versus *no cheating opportunity*. In the cheating opportunity condition, participants were told that they should work on the puzzles on a separate sheet of paper and keep track of their answers because at the end of the task they would be given answers for all puzzles and asked to indicate how many they solved correctly. In the no cheating opportunity condition, participants were also told they would be asked to provide an estimate of how many puzzles they solved correctly after receiving the correct answers. However, in this condition participants were asked to record their answers on the computer as they worked on them (and prior to receiving the correct answers). Participants in the no cheating opportunity condition were told that the researchers would check to see that participants had recorded an accurate estimate of the number of puzzles solved correctly based on their responses while working on the game. After working on the game for 5 minutes, participants were provided with the correct answers and asked to record the number they solved correctly. Participants in the no cheating opportunity condition were also shown their personal answers for each puzzle so that they could compare their personal responses to the correct answers. With this paradigm, the no cheating opportunity group served as a baseline from which to compare the self-reported scores of participants across choice groups. Surveillance is routinely found to limit actual cheating (e.g., Covey et al., 1989; McCabe & Trevino, 1993), thus, it can be assumed that participants who are aware that misreports will be discovered by the researchers would misreport their performance to a limited (if any) extent. In other words, we can assume that those in the no cheating opportunity group would be most inclined to report their performance accurately. Given that participants are randomly assigned to condition, ability on the tasks should be roughly equal across conditions and any differences in self-reported performance scores (within each choice condition) can be assumed to be the result of inaccurately reporting scores rather than differences in actual performance. As such, we interpreted a pattern of means in which cheating opportunity participants reported higher scores on the task relative to no cheating opportunity participants as an indication that cheating opportunity participants had in fact cheated in the form of claiming more correct answers than they actually deserved.

To control for the fact that choosing may lead participants in choice conditions to complete a different task than those in the no choice condition, participants in choice and no choice conditions were *yoked* across cheating opportunity conditions such that the selections across choice participants in the cheating and no cheating opportunity conditions were matched. This yoking process involved waiting for the task characteristic decisions of choice participants across cheating opportunity conditions to naturally be matched by chance and then randomly assigning the selections of choice participants to no choice participants (across cheating opportunity conditions). Only the data from participants who were in a yoked quad across the four conditions were retained for analysis, resulting in data from 32 individuals (not included among the 100 participants described previously) being discarded. It is worth noting at this point that a number of participants were not successfully yoked in this study for two reasons. First, the design of the study in which choice participants across cheating opportunity conditions must naturally come to match by chance makes yoking during our limited time frame and limited pool of participants challenging. Second, we had a number of participants complete the study close to non-flexible deadlines required for the department's subject pool participation, making it difficult for the research team to yoke these late participants. A series of preliminary independent t-tests indicated that there were no differences between participants who were in a yoked set (and retained for further analyses) and

participants who were not in a yoked set (and thus excluded from further analyses) on any of the manipulation check variables or outcomes described next.

After the game, participants were asked to complete a post-task questionnaire that included questions regarding their a) perception of competence on the task, b) perception of control over task outcomes, c) task interest and enjoyment, d) perception of having choices related to the task, and e) perceived likelihood of getting caught reporting an inaccurate score. Participants also reported on their sex, age, ethnicity, year in college, and college major.

2.1.3. Materials

The *perceived competence* (6 items; $\alpha = .90$; e.g., “I think I was good at the game”) and *interest-enjoyment* (7 items; $\alpha = .93$; e.g., “I enjoyed playing the game very much”) subscales of the Intrinsic Motivation Inventory (Ryan, 1982) were adapted to assess students’ perception of how competently they felt they had performed and how interesting and enjoyable they found the game. Two items were developed to assess the extent to which participants felt they had control over doing well on the game ($r = .43$; “I felt I could do well on the game if I wanted to” and “I don’t think I could do well on the game, even if I wanted to”).

As manipulation check measures, four items from prior research (Patall, 2013) were used to assess the extent to which participants perceived having choices related to the game ($\alpha = .82$; e.g., “I believe I had some choice about aspects of the game I played”) and one item was used to assess the extent to which participants perceived that they would be caught inaccurately reporting their game score (“How likely do you think it would be that the researcher would discover if the score you reported was inaccurate?”).

Participants responded to all items except for the likelihood that the researcher would discover an inaccurate score item by indicating the extent to which the statement was true on a Likert scale ranging from 1 (not at all true) to 7 (very true). Participants responded to the likelihood of getting caught item by indicating how likely they thought getting caught was on a Likert scale ranging from 1 (not at all likely) to 7 (very likely).

Participants were not able to exit and return to the study once they started. After they had completed the post-task questionnaire, they were thanked for completing the study and informed that the more specific purpose of the study was to examine whether making choices during a task influences people’s likelihood of misrepresenting scores.

2.2. Results and discussion

2.2.1. Preliminary analyses

The distribution of scores on each variable was examined for statistical outliers. Grubbs’s (1950) test was applied and no outliers were found. Means and standard deviations by condition for all outcomes are reported in Table 1.

2.2.2. Perceptions of choice and cheating opportunity

We predicted that the opportunity to cheat would both support perceptions of having the opportunity to successfully cheat, as well as perceptions that one has choice. Likewise, we thought it was possible that providing individuals with choices might not only influence their perceptions of having choice, but also their perceptions that they have the opportunity to successfully cheat. To test these hypotheses, we conducted two separate 2 (choice versus no choice) by 2 (no cheating opportunity versus cheating opportunity) ANOVAs on perceptions of having choices about the game and likelihood of being caught reporting an inaccurate score.

As expected, participants in the choice condition reported perceiving greater opportunity to make choices about the game compared to participants in the no choice condition, $M_{diff} = .68$ [95% CI: .28/1.08], $d = .63$, $F(1, 96) = 11.55$, $p = .001$. There was not a significant main effect of cheating condition, $M_{diff} = .29$ [95% CI: $-.11/.69$], $d = .27$, $F(1, 96) = 2.14$, $p = .15$. However, there was a significant interaction between choice and cheating opportunity conditions, $F(1, 96) = 15.33$, $p < .001$ such that among participants who were not provided with an opportunity to cheat, those in the choice condition reported greater perceptions of having choices compared to participants in the no choice condition, $M_{diff} = 1.46$ [95% CI: .90/2.02], $d = 1.56$, whereas there was no difference in perceptions of having choices across choice and no choice conditions among participants in the cheating opportunity condition, $M_{diff} = -.10$ [95% CI: $-.67/.46$], $d = -.11$. In line with our prediction that having the opportunity to cheat enhances both perceptions of that opportunity and perceptions of having choices, the pattern of means suggest that individuals in the cheating opportunity condition without choices reported that they perceived having as much choice as those in the two choice conditions. In other words, the possibility that the task could be completed in alternative but unsanctioned ways was interpreted as having choice even when individuals were not given explicit choices about the task.

For likelihood of being caught reporting an inaccurate score, as expected, participants in the cheating opportunity condition reported perceiving that they would be less likely to be caught by the researcher reporting an inaccurate game score compared to participants in the no cheating opportunity condition, $M_{diff} = -1.52$ [95% CI: $-2.27/-.77$], $d = -.80$, $F(1, 96) = 16.34$, $p < .001$. There was no interaction between choice and cheating opportunity, $F(1, 96) = .10$, $p = .75$. Although not significant, there was a trend that suggested that the participants in the choice condition perceived that they would be less likely to be caught by the researcher reporting an inaccurate game score compared to participants in the no choice condition, $M_{diff} = -.68$ [95% CI: $-1.43/.07$], $d = -.34$, $F(1, 96) = 3.27$, $p = .07$. This finding in combination with the last one suggests that although the objective opportunity to misreport without detection enhanced the perception that one was unlikely to get caught cheating and that one had choices, providing task choices only enhanced the perception that one had choices and did not significantly enhance the perception that one had the opportunity to cheat

Table 1
Study 1 means (and standard deviations) for outcome variables.

Dependent variable	No choice		Choice	
	No cheating opportunity N = 25	Cheating opportunity N = 25	No cheating opportunity N = 25	Cheating opportunity N = 25
Perceived choice	3.93 (1.00)	5.01 (1.13)	5.39 (1.00)	4.90 (.84)
Perceived likelihood of being caught misreporting	4.80 (1.56)	3.16 (2.06)	4.00 (2.22)	2.60 (1.61)
Self-reported performance (z-score)	-.51 (.83)	.41 (1.37)	.08 (.73)	.02 (.72)
Perceived competence	3.32 (1.10)	4.53 (1.30)	4.79 (1.10)	4.45 (1.01)
Perceived control	4.54 (1.34)	5.48 (1.19)	6.00 (1.00)	5.36 (1.10)
Interest-enjoyment	3.68 (1.59)	4.50 (1.32)	4.73 (1.25)	4.34 (.92)

successfully. We suspected that the lack of effect of choice on perceptions of having the opportunity to successfully cheat was likely a function of the design of Study 1 in which the objective opportunity for cheating (or lack thereof) was made highly salient to participants, leaving less ambiguity in the context and thus less opportunity for choices to influence perceptions of the extent to which successful cheating would be possible. However, the trend that we observed in the data across choice conditions for perceptions of the likelihood of getting caught reporting an inaccurate score suggested to us that we should not rule out the possibility that providing choices may support the perception that one has the opportunity to cheat successfully in our second study. We thought this possibility would be particularly important to reconsider if the context allowed for more ambiguity regarding how successful attempts to cheat without detection would be.

2.2.3. Misreporting

Reports of the number of puzzles solved correctly were converted to z-scores so that self-reported performance on math and word games were on the same scale. A 2 (choice versus no choice) by 2 (no cheating opportunity versus cheating opportunity) ANOVA revealed a significant difference in the number of puzzles that were reported to have been solved correctly across cheating and no cheating opportunity conditions, $M_{diff} = .43$ [95% CI: .05/.81], $d = .45$, $F(1, 96) = 5.12$, $p = .03$, as well as a significant interaction between choice and cheating opportunity, $F(1, 96) = 6.58$, $p = .01$. The effect of choice was not significant, $M_{diff} = .10$ [95% CI: $-.28/.47$], $d = .10$, $F(1, 96) = .25$, $p = .62$. As Fig. 1 shows, among participants who did not have a choice, individuals in the cheating opportunity condition reported a higher number of correctly solved puzzles compared to participants in the no cheating opportunity condition, $M_{diff} = .92$ [95% CI: .39/1.46], $d = .81$. However, among participants who had a choice, there was no difference in the reported number of correctly solved puzzles across cheating opportunity conditions, $M_{diff} = -.06$ [95% CI: $-.59/.48$], $d = -.08$. In addition, comparing self-reports of performance across choice conditions within cheating opportunity conditions suggested that among participants who had no opportunity to misreport without detection, those who had task choices reported a higher number of correctly solved puzzles compared to participants who did not have task choices, $M_{diff} = .58$ [95% CI: .14/1.03], $d = .75$. However, among participants who had an opportunity to cheat without detection, there was no difference in the

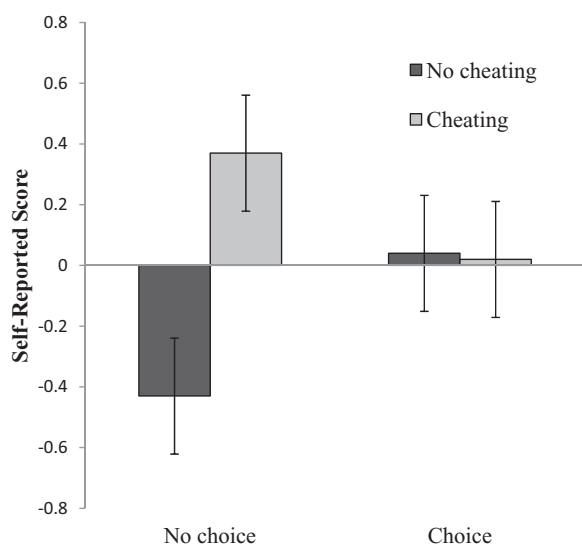


Fig. 1. Measure of self-reported score in Study 1. Bars represent means and lines represent standard errors.

reported number of correctly solved puzzles across choice conditions, $M_{diff} = -.39$ [95% CI: $-1.02/.23$], $d = -.36$.

Overall, the pattern of results for self-reported performance showed that having task choices tempered the tendency to misreport one's score when there was an opportunity to misreport performance with little threat of being detected. That is, when participants did not have any choices about the task, we observed a standard cheating effect in which those who had an opportunity to misreport performance without detection reported higher scores relative to those who were not given this opportunity, though random assignment would suggest there should be no difference in the performance of these two groups. However, when participants were given choices about the task, there was no difference in reports of performance regardless of whether participants were given the opportunity to misreport performance without detection or not. This set of comparisons was the one most central to understanding the tendency to misreport as a function of choice, since we used a comparative approach in which the level of misreporting was inferred by comparing to a baseline condition in which there was little opportunity to misreport.

We also observed that when there was little objective opportunity to cheat, choices enhanced self-reports of performance. This finding could indicate one of two possibilities that are both in line with our theorizing about how choice functions. One possibility is that the provision of choice enhanced the tendency to misreport one's performance in a self-enhancing direction because choice itself is perceived as an opportunity to cheat. Alternatively, it may indicate the standard effect found in prior research (e.g., see Patall et al., 2014 for an example) that choosing heightens motivation and perceptions of competence, and thus, those who had task choices legitimately perceived themselves as performing better and may have actually performed better. We favor this latter interpretation of the finding, given that we found that choice opportunities were not significantly linked with perceptions of the likelihood of getting caught misreporting scores and the design of the study was such that the objective opportunity for cheating was intentionally manipulated and made highly salient to participants.

2.2.4. Psychological outcomes

The interactive pattern found for misreporting performance was replicated across psychological variables as well. Individuals who had an opportunity to choose had greater perceptions of competence, $M_{diff} = .69$ [95% CI: .24/1.14], $d = .57$, $F(1, 96) = 9.25$, $p = .003$ and control, $M_{diff} = .67$ [95% CI: .21/1.13], $d = .55$, $F(1, 96) = 8.26$, $p = .005$ compared to individuals who did not have an opportunity to choose. Although not statistically significant, the trend for interest-enjoyment also suggested that those who had an opportunity to choose might also have enhanced interest-enjoyment compared to those who did not, $M_{diff} = .45$ [95% CI: $-.07/.96$], $d = .34$, $F(1, 96) = 2.97$, $p = .09$. Significant interactions between the choice and cheating opportunity were also found for each outcome: perceived competence, $F(1, 96) = 11.72$, $p = .001$, perceived control, $F(1, 96) = 11.48$, $p = .001$, and interest-enjoyment, $F(1, 96) = 5.58$, $p = .02$. The main effect of cheating opportunity was not significant for perceived competence, $M_{diff} = .44$ [95% CI: $-.03/.89$], $d = .34$, $F(1, 96) = 3.68$, $p = .06$, though the trend favored those who had the opportunity to cheat feeling more confident. Likewise, the main effect of cheating opportunity was not significant for perceived control, $M_{diff} = .15$ [95% CI: $-.31/.61$], $d = .12$, $F(1, 96) = .41$, $p = .52$, or interest and enjoyment, $M_{diff} = .22$ [95% CI: $-.30/.73$], $d = .17$, $F(1, 96) = .70$, $p = .40$.

As Fig. 2 shows, among participants who did not have a choice, individuals in the cheating opportunity condition reported greater perceptions of competence, $M_{diff} = 1.21$ [95% CI: .57/1.85], $d = 1.00$, control, $M_{diff} = .94$ [95% CI: .29/1.59], $d = .74$, and interest-enjoyment, $M_{diff} = .83$ [95% CI: .10/1.56], $d = .56$, compared to participants in the no cheating opportunity condition. In contrast, among participants

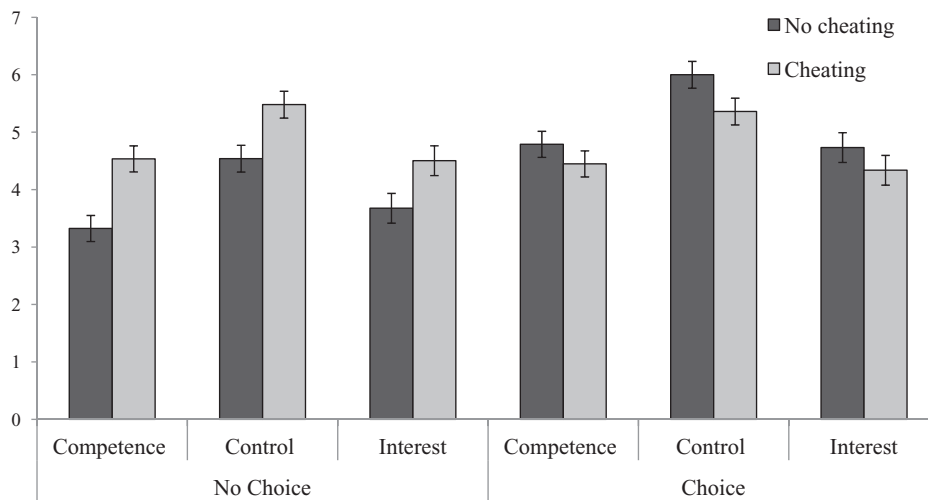


Fig. 2. Measures of perceived competence, perceived control, and interest-enjoyment in Study 1. Bars represent means and lines represent standard errors.

who had a choice, there was no difference in perceptions of competence, $M_{diff} = -.34$ [95% CI: $-.98/.30$], $d = -.33$, control, $M_{diff} = -.64$ [95% CI: $-1.29/.01$], $d = -.61$, or interest-enjoyment, $M_{diff} = -.40$ [95% CI: $-1.12/.33$], $d = -.35$, across cheating opportunity conditions. In addition, comparing psychological variables across choice conditions within cheating opportunity conditions suggested that among participants who had no opportunity to misreport without detection, those who had task choices reported higher perceptions of competence, $M_{diff} = 1.47$ [95% CI: $.84/2.09$], $d = 1.33$, control, $M_{diff} = 1.46$ [95% CI: $.79/2.13$], $d = 1.24$, and interest-enjoyment, $M_{diff} = 1.06$ [95% CI: $.24/1.87$], $d = .74$ compared to those who did not have task choices. However, among participants who had an opportunity to cheat without detection, there was no difference in perceptions of competence, $M_{diff} = -.09$ [95% CI: $-.75/.58$], $d = -.08$, control, $M_{diff} = -.12$ [95% CI: $-.77/.53$], $d = -.10$, or interest-enjoyment, $M_{diff} = -.17$ [95% CI: $-.82/.48$], $d = -.15$ across choice conditions.

Thus, our hypotheses regarding the similar psychological benefits of choice and cheating were confirmed. That is, choice provided benefits for perceptions of competence, control, and interest-enjoyment when there was not an opportunity for cheating. The opportunity to cheat without detection also enhanced perceptions of competence, control, and interest-enjoyment, when choices were not provided. But, when choices were provided, there were no additional benefits of having the opportunity to cheat without detection beyond those that choosing provided. Likewise, choosing provided no additional psychological benefits when the opportunity for cheating was available. In fact, though not statistically significant, the trend of the data suggested that the presence of either choice or cheating opportunities weakened and reversed the effect of the other manipulation. Overall, these results suggest that choosing provides psychological benefits for positive self-beliefs and affect that are equal to those accrued by having (and likely taking) the opportunity to cheat and that the presence of either opportunity may circumvent a need for or benefit of the other, at least in the immediate present.¹

¹ Given prior research suggesting that culture moderates the effects of choice on motivation (e.g., [Iyengar & Lepper, 1999](#)), analyses were re-examined after adding ethnicity of the participant as an additional factor, as well as all subsequent two- and three-way interactions involving ethnicity. No statistically significant effects involving ethnicity were found.

3. Study 2: providing choices in the classroom and cheating outcomes

The results of Study 1 were encouraging in that they showed in a causal design that providing opportunities for choosing could potentially mitigate the tendency to cheat and support psychological processes that compete with the psychological benefits of cheating. It also demonstrated a complex relation between choosing and cheating, suggesting that opportunities for either may support perceptions of the other and circumvent the benefits of each.

However, Study 1 lacked a meaningful context that might inform how opportunities for choosing might operate in a classroom setting to influence cheating. Further, the design of Study 1 in which the central outcome was a self-report of performance (and cheating was implied by comparing conditions) rather than a direct measure of cheating was both narrow in scope in terms of the nature of cheating that occurs in a school context and also prevented us from directly assessing the pathways through which choice might influence cheating attitudes and behavior via motivational beliefs.

In addition, while Study 1 provided strong evidence that the opportunity to misreport performance without detection enhanced perceptions of having choices, the effect of choice provision on perceptions of the likelihood of getting caught misreporting performance was not statistically significant, though the pattern of the means suggested that those who had task choices may have perceived that it would be easier to cheat without detection than those who did not have choices. We thought that it was important that we reconsider this possibility that choice influences perceptions of having the opportunity to cheat in a subsequent study for several reasons. First, we noted it should be difficult to observe differences in perceptions of the opportunity to cheat as a function of receiving choice in Study 1 because the yoked task design of the study ensured that objectively, individuals who made choices had no greater opportunity to cheat successfully than individuals without choices (within their respective cheating opportunity conditions). Yet, despite having such a design, the non-significant trend of the data suggested potential differences in perceptions of cheating opportunity as a function of choice. Along these same lines, we speculated that the effect of choice provision on cheating opportunity perceptions observed in Study 1 could have been weaker than what we might typically observe in natural settings because the objective opportunity for cheating (or lack thereof) was made highly salient

to participants, leaving less ambiguity in the context and less opportunity for choice opportunities to influence perceptions of the opportunity to cheat. Finally, the effect of choice provision on cheating opportunity perceptions might have been weak in Study 1 because the nature of cheating we assessed was restricted to misreporting performance and did not include the many forms of academic dishonesty that can occur in school. Likewise, the nature of the choices provided are likely to have been more restricted relative to ways choices are typically used in a classroom setting. Therefore, we remained inquisitive about the possibility that the provision of choice may influence perceptions of having the opportunity to cheat in a study that more closely reflected the natural classroom context.

To address some of these lingering concerns and questions, we designed a second study using hypothetical vignettes to examine whether choice provision in the classroom predicted cheating beliefs and a wide range of academically dishonest behaviors via perceptions of competence and control and perceptions of opportunities for cheating. Given that a central purpose of Study 2 was to explore the mechanisms through which choosing might influence cheating-related outcomes, we focused on what we expected to be the strongest mediators of the effects of choice on anticipated cheating beliefs and behaviors: perceptions of competence, control, and opportunity for cheating, given extensive prior research linking such variables to cheating outcomes (e.g., Coleman & Mahaffey, 2000; Covey et al., 1989; Crown & Spiller, 1998; Mazar et al., 2008; McCabe & Trevino, 1993, 1997; Murdock et al., 2001; Whitley, 1998).

We expected to find that students who read a vignette describing a classroom in which the professor provided students with many choice opportunities would report higher anticipated experiences of competence and control over outcomes, but would also perceive greater opportunity to cheat compared to students who read the vignette describing a classroom in which the professor provided few opportunities for choosing. In turn, we expected that greater perceptions of competence and control would predict enhanced beliefs that students relative to the instructor would be to blame for cheating, less favorable attitudes toward cheating regarding how justifiable or morally acceptable it would be in the hypothetical course, and less anticipated academically dishonest behavior in the hypothetical course. In contrast, we expected that greater perceptions of having opportunity for cheating would predict more favorable cheating attitudes and greater anticipated academically dishonest behavior. Given that choice has been viewed unambiguously in scholarship as supporting experiences of autonomy, independence, control, and responsibility for one's actions (e.g., Markus & Kitayama, 2003; Patall et al., 2008), we did not expect the high choice classroom scenario to predict greater external blame for academic cheating via perceptions of having the opportunity to successfully cheat.

3.1. Method

3.1.1. Participants

Two hundred and six college students (159 female, 47 male) in introductory educational psychology courses in a large southwestern university were recruited to participate in the study for research credit across two semesters. Participants were independent of those in Study 1 and ranged between 18 and 28 years of age. The sample was ethnically diverse, 102 participants were Caucasian (50%), 5 participants were African American (2%), 29 were Asian (14%), 57 were Hispanic (28%), and 13 were mixed or another ethnicity (6%). The sample contained undergraduate students at all levels (27 freshmen, 64 sophomores, 35 juniors, and 80 seniors). Students in the sample came from a large variety of majors across all domains and

schools at the university and there was no one major for which a large percentage of the sample came from. The most frequently reported major was communications (9% of the sample).

3.1.2. Procedure

Participants completed an online experiment in which they read a hypothetical vignette describing a college classroom and responded to a series of questions regarding that scenario. Prior research has used hypothetical vignettes to assess the effect of classroom practice on students' beliefs about cheating and anticipated cheating behavior (see Murdock et al., 2004 for an example). Participants were randomly assigned to read one of two vignettes describing a research and statistics professor, Dr. Evans. In one vignette Dr. Evans was portrayed as providing students with a great deal of opportunities for decision-making related to the course (high choice scenario) and in the other vignette she was portrayed as providing few opportunities for students to make decisions related to the course (low choice scenario). In describing Dr. Evans in the high choice scenario, we attempted to describe a variety of ways that teachers typically provide choices in the classroom rather than focusing on any one particular kind of choice. In particular and similar to Study 1, we included among the choices described those that would allow the students in Dr. Evans' class to control the ways of working on course related tasks and the nature of the tasks such that that tasks could be aligned with students' personal interests and values. That is, again, we intentionally designed the choice manipulation to maximize the likelihood that psychological needs and motivation were supported. We made these design decisions given that the main purpose of this investigation was to provide initial evidence for a link between choice and cheating outcomes, rather than focus on any particular type of choice. In both vignettes, Dr. Evans was portrayed as a competent professor who was concerned with her students' outcomes, though her strategies related to student decision making varied (see Appendix A for vignettes).

In response to the vignette, participants subsequently completed a post-vignette questionnaire that included questions regarding their anticipated a) perception of having choices in the class, b) perception of opportunities to cheat, c) perceived competence, d) perceived control, e) attribution of blame to students over the instructor, f) attitude toward cheating as justifiable and morally acceptable, and g) likelihood of engaging in academic dishonesty in the classroom context described in the vignette. Participants also reported on their sex, age, ethnicity, college major, and grade point average (GPA).

3.1.3. Materials

The *Student Perceptions of Control Questionnaire* ($\alpha = .82$; SPOCQ; Skinner, Wellborn, & Connell, 1990) was adapted to assess students' anticipated perceptions of control over performance outcomes in courses (6 items; e.g., "I think I could do well in Dr. Evans' class if I wanted to"). We assessed anticipated perceptions of competence in Dr. Evans' class with four items adapted from the *Perceived Competence Scale* ($\alpha = .87$; Williams & Deci, 1996; e.g., "I think I would feel very capable of learning the material in Dr. Evans' class"). Participants rated the extent to which each perceived competence or perceived control item was true on a 1 (not at all true) to 7 (very true) Likert-style scale.

The measure of anticipated academic dishonesty ($\alpha = .90$; McCabe & Trevino, 1993) asked students to report on the frequency with which they anticipated engaging in 12 common forms of academic cheating such as using a crib sheet, copying another student during a test, getting unpermitted help on an assignment, and plagiarism if they were in Dr. Evans' course on a Likert-style scale ranging from 1 (never) to 5 (many times). For correlational and regression

analyses we took the mean across all 12 forms for cheating as the score for anticipated academic dishonesty.

In addition to these adapted established measures, we developed several measures explicitly for the purposes of this study. A six-item measure of cheating attitudes was developed to assess the extent to which students anticipated that cheating in Dr. Evans' course would be justifiable and morally acceptable (see Appendix B). Participants rated the extent to which each cheating attitude item was true on a 1 (not at all true) to 7 (very true) scale. We submitted students' responses to the 6 cheating attitudes items to an exploratory factor analysis (EFA) using principal axis extraction with oblique rotation. As expected, both the Kaiser–Guttman retention criterion and Cattell's scree plot suggested a single factor solution, with all items loading on the respective factor above .49. The single factor explained 57% of the total variance in the set of items. A score for cheating attitudes was thus computed by taking the mean of all 6 items ($\alpha = .85$) with higher scores indicating more favorable attitudes toward cheating (i.e., that cheating was more justifiable and morally acceptable).

We used four items to assess the extent to which students perceived that students themselves would deserve blame for cheating in Dr. Evans' class compared to the instructor deserving blame (see Appendix B). Two items assessed the extent to which cheating would be the student's fault and two items assessed the extent to which cheating would be the instructor's fault on a Likert-style scale ranging from 1 (not at all) to 5 (entirely). We submitted students' responses to the 4 blame for cheating items to an exploratory factor analysis (EFA) using principal axis extraction with oblique rotation. Both the Kaiser–Guttman retention criterion and Cattell's scree plot suggested a single factor solution explaining 67% of the variance for student versus teacher blame for cheating items, with all items loading on the respective factor above .65. We reverse scored the instructor blame items and took the average of all four items to create a score representative of students' perceptions of student versus instructor blame for cheating ($\alpha = .84$), with higher scores indicating greater attributions of blame to students.

We used three items to assess students' perceptions of having opportunities to cheat which we averaged to form a single score ($\alpha = .77$; 1. "Do you think there would be many opportunities to cheat in Dr. Evans' class?" 2. Do you think it would be easy to cheat in Dr. Evans' class? 3. How likely do you think it would be for students to get caught cheating in Dr. Evans' class?). Higher scores reflected perceiving greater opportunity to successfully cheat. Participants responded to each item using a five-point response scale tailored to the individual question (i.e., none at all to a great deal; very difficult to very easy; very likely to very unlikely).

Finally, as a manipulation check, two items were included to assess students' perceptions of having choices in Dr. Evans' course ($r = .88$; "I think I would have the opportunity to make decisions in Dr. Evans' course" and "I think Dr. Evans would provide many opportunities to make choices related to the course"). Participants rated

the extent to which each perceived choice item was true on a 1 (not at all true) to 7 (very true) Likert-style scale.

3.2. Results and discussion

3.2.1. Preliminary and correlational analyses

The distribution of scores on each variable was examined for statistical outliers. Grubbs's (1950) test was applied and if outliers were identified, these values were set at the value of their next nearest neighbor. Two outliers were found for the anticipated academic dishonesty measure and Winsorized. Means, standard deviations, correlations, and confidence intervals for the non-manipulated variables are presented in Table 2. Correlational analyses suggested that perceptions of competence and control were highly correlated ($r = .74$ [.52/.87]), and thus, we used the average of those two measures for further analyses ($\alpha = .90$) since they would be used together in multivariate models. Eighty-two percent of students participating in the study said they would cheat at least once in at least one of the 12 ways assessed in the academic dishonesty measure in response to the classroom scenarios.

To verify that our classroom vignette manipulation had been successful, we compared students who read the high choice vignette to students who read the low choice vignette on perceptions of choices. Students who read the high choice classroom vignette reported perceiving students to have greater opportunity to make choices ($M = 5.93$, $SD = 1.20$) compared to students who read the low choice vignette ($M = 2.38$, $SD = 1.41$; $M_{diff} = 3.55$ [3.19/3.91]), $d = 2.71$, $t(204) = 19.38$, $p < .001$.

Consistent with the non-significant trend from Study 1, there was a strong correlation between perceptions of having choices in the hypothetical course and perceptions of having opportunities to cheat (see Table 2). This suggests that the opportunity for choosing and autonomy in the classroom may support the perception that opportunities for cheating are available, and/or likewise, that cheating may be experienced as an autonomous act. Correlational analyses also provided preliminary support for our hypotheses that perceptions of competence and control would correlate negatively with favorable cheating attitudes and anticipated academically dishonest behavior and positively with student versus instructor blame, while perceptions of opportunity to cheat positively correlated with favorable cheating attitudes. Further, student versus instructor blame, favorable cheating attitudes, and anticipated academically dishonest behavior correlated in predicted ways, such that greater student versus instructor blame was negatively related to favorable attitudes and anticipated cheating behavior, while favorable attitudes and anticipated behavior were positively correlated. In line with prior research, these correlations suggest that individuals with more favorable (i.e., neutralizing) attitudes toward cheating and less assignment of blame to the self relative to others or the situation are more likely to engage in dishonest behavior.

Table 2

Study 2 means, standard deviations, and intercorrelations [with 95% confidence intervals] for continuous study variables.

Variable	Mean	Standard Deviation	2	3	4	5	6
1. Perceived choice	4.09	2.21	.36*** [.22/.48]	.53*** [.42/.62]	.03 [-.11/.62]	-.01 [-.14/.12]	-.06 [-.19/.06]
2. Perceived competence/control	5.21	1.01		.14* [.02/.27]	.23*** [.10/.36]	-.28*** [-.41/-.14]	-.14* [-.27/-.01]
3. Perceived cheating opportunity	2.95	.94			-.05 [-.19/.09]	.18** [.04/.32]	.09 [-.03/.22]
4. Student vs. instructor blame	5.27	.77				-.61*** [-.71/-.51]	-.32*** [-.45/-.19]
5. Favorable cheating attitudes	2.30	1.17					.47*** [.35/.58]
6. Cheating behavior	1.51	.54					

Note: $N = 206$.

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

Table 3
Study 2 direct and indirect effects from mediation models.

	to Perceived competence/control (PCC)	to Opportunity for cheating (OC)	to Student vs. instructor blame (SVIB)	to Favorable cheating attitudes (FCA)	to Academically dishonest behavior (ADB)	Indirect Effects	
						Estimate	Bias-Corrected Bootstrap 95% CI
Unstandardized Coefficients (Standard Errors)							
[95% Confidence Interval]							
from Choice scenario manipulation (CSM)	.38** (.13) [.11/.66]	.88*** (.12) [.66/1.11]	-.06 (.12) [-.30/.17]	.01 (.18) [-.34/.35]	-.10 (.09) [-.27/.07]		
from Perceived competence/control (PCC)			.19*** (.05) [.08/.29]	-.36*** (.08) [-.51/-.20]	-.08* (.04) [-.15/-.003]		
from Opportunity for cheating (OC)			-.05 (.06) [-.18/.07]	.28** (.09) [.10/.46]	.09* (.05) [.003/.18]		
CSM → PCC → SVIB						.07(.03)	.01/.15
CSM → PCC → FCA						-.14(.06)	-.29/-.04
CSM → PCC → ADB						-.03(.02)	-.08/-.002
CSM → OC → SVIB						-.05(.06)	-.16/.06
CSM → OC → FCA						.25(.09)	.07/.44
CSM → OC → ADB						.08(.04)	.01/.17
Standardized Coefficients							
from Choice scenario manipulation (CSM)	.19**	.47***	-.04	.002	-.09		
from Perceived competence/control (PCC)			.25***	-.31***	-.14*		
from Opportunity for cheating (OC)			-.06	.23**	.16*		

Note: N = 206. CSM = Choice scenario manipulation; PCC = Perceived competence/control; OC = Opportunity for cheating; SVIB = Student versus instructor blame for cheating; FCA = Favorable cheating attitudes; ADB = Academically dishonest behavior.

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

CSM → SVIB total effect $B = -.04$ (.11) [95% CI = $-.25/.17$]. CSM → FCA total effect $B = .12$ (.16) [95% CI = $-.21/.44$]. CSM → ADB total effect $B = -.05$ (.07) [95% CI = $-.20/.10$]. Indirect effect estimates are reported as unstandardized coefficients only.

3.2.2. Mediation analyses

Next we conducted mediational analyses to test our hypotheses that greater classroom choice provision would mitigate favorable cheating attitudes and academically dishonest behavior, and enhance attributing blame to students for cheating via enhanced perceived competence and control, but have the opposite effect on these outcomes via enhanced perceptions of opportunity for successful cheating. We conducted a series of regression analyses to estimate total, direct, and indirect effects of the choice scenario manipulation (dummy coded such that low choice scenario = 0 and high choice scenario = 1) on anticipated cheating attitudes and behavior via perceptions of competence and control and perceived opportunity for cheating in line with the recommendations of Preacher and Hayes (2008) and using 5000 bootstrapped samples to estimate the bias-corrected and accelerated confidence intervals for inference about indirect effects. We examined mediational models for each cheating outcome (student versus instructor blame, favorable cheating attitudes, and academically dishonest behavior) in separate models. Results of these analyses are provided in Table 3.

There was support for our hypotheses. As predicted, students who read the high choice classroom scenario reported greater anticipated experiences of competence/control and perceived greater opportunity to successfully cheat in the hypothetical course. Further, anticipated feelings of competence and control positively predicted perceptions that students would deserve greater blame for cheating relative to the instructor and negatively predicted favorable attitudes toward cheating and anticipated academically dishonest behavior in the hypothetical course. In contrast, perceptions that there would be opportunity to cheat in the hypothetical course positively predicted favorable attitudes toward cheating and anticipated academically dishonest behavior in the hypothetical course, but not perceptions about the extent to which students versus instructors would deserve blame for cheating. Bias-corrected 95% confidence intervals did not include zero for any of the predicted indirect effects except that from the choice scenario to student versus instructor blame via perceptions of cheating opportunity. This supports our hypotheses that high choice instruction is negatively linked indirectly with cheating attitudes and behavior via perceptions of

competence and control and positively linked indirectly with cheating attitudes and behavior via perceptions of the opportunity to cheat.²

4. General discussion

4.1. Empirical and theoretical contributions

Decades of research has suggested that providing people with the opportunity to choose may support their experience of autonomy and competence, motivation and engagement, and performance, as well as their psychological well-being more broadly (e.g., Langer & Rodin, 1976; Patall et al., 2008; Perlmutter & Monty, 1979; Ryan & Deci, 2000; Zuckerman, Porac, Lathin, Smith, & Deci, 1978). This investigation replicated those effects and extended our understanding of the effects of choice provision to the realm of ethical attitudes and behavior, which to this point had never been empirically examined.

Specifically, the results of two studies showed that the provision of choices has implications for students' cheating beliefs and behavior. Study 1 suggested that in contrast to individuals who were not given task choices, those given choices did not inflate self-reports of their performance despite little threat of their dishonesty being detected. Interestingly, the tendency in the no choice condition to inflate one's performance when there was no threat of being caught was found even though there was no salient external reward offered for performing well. Thus, it would seem that people will misreport (cheat) when given the opportunity even when there is little external incentive to do so. Rather, it would seem that people sometimes cheat in order to experience internal psychological rewards such as self-confidence or positive affect. In line with this notion, Study 1 also suggested that choosing may mitigate cheating because it provides psychological benefits in the form of positive self-beliefs and affect that are equal to those accrued by cheating. That is, when there was little opportunity to successfully cheat, choosing enhanced perceptions of competence, control, interest, and

² As we had done in Study 1, analyses in Study 2 were re-examined after adding ethnicity of the participant as an additional predictor variable. There were not any statistically significant main effects or interactions involving ethnicity.

correspondingly, self-reports of performance. More importantly, although the opportunity to misreport performance without the threat of one's dishonesty being detected enhanced perceptions of competence, control, and interest-enjoyment among non-choosers, among choosers, there was little difference in these perceptions regardless of whether or not there was an opportunity to successfully misrepresent performance. Choosers who did not have the opportunity to misreport their performance felt equally (or more) competent, in control, and interested compared to choosers who did have an opportunity to misreport performance.

By the same token, however, choosing had no additional psychological benefits above and beyond the opportunity to cheat. Among those who had the opportunity to misreport performance without detection, those who had task choices did not have any greater feelings of competence, control, interest, and corresponding self-reports of performance relative to those who did not have task choices. In fact, the pattern of the data suggests that if anything, the effect of choosing was reversed when opportunities for successful cheating were available. Thus, in both the cases of opportunities for choosing or cheating, the presence of one mitigated the benefits of the other.

All in all, the results of Study 1 supported our reasoning that choice would influence cheating outcomes because it supports motivational processes hypothesized to mitigate cheating and in particular, because it may operate in a psychologically similar manner to having and taking the opportunity to cheat, yielding similar benefits and having effects through similar mechanisms. This assumption of similarity was further reinforced by our findings in Study 1 that perceptions of choice were enhanced *either* when participants had an opportunity to make choices about the task *or* when they had an opportunity to misreport performance without detection. Likewise, we found that the perception that there was opportunity to cheat successfully was enhanced when an opportunity to misreport performance without detection was provided *and*, though not statistically significant, the pattern of the data suggested that perceptions of cheating opportunities could be influenced by having opportunities to make choices about the task.

In Study 2, we extended the results of Study 1 by examining the effect of providing choices using a study that focused on the school context and utilized choice provision strategies and cheating attitudes and expectations that were specific to the school context. Study 2 also provided the opportunity to explicitly examine our hypothesis that experiences of competence and control and perceived opportunities for cheating provided important mechanisms by which choice provision may influence cheating beliefs and academically dishonest behaviors. Consistent with self-determination theory, we found that students anticipated feeling greater competence and control after reading about a college course that had many rather than few opportunities for students to make course relevant choices. Greater perceptions of competence and control predicted students' greater anticipated blame for cheating to students versus the instructor, less favorable attitudes toward academic cheating, and anticipations of less academically dishonest behavior in the hypothetical course. Thus, on one hand, it would seem that having opportunities for choice has the potential to mitigate cheating behavior in school because it sets into motion a string of experiences that make cheating seem unnecessary (because people feel competent and in control of their outcomes) and undesirable (because blame for cheating is perceived to lie with the student and seems less justifiable and acceptable). It is worth noting that such attitudes about who is to blame and whether cheating is justifiable and morally acceptable would be expected to have consequences for actual cheating behavior in a classroom given both the correlation between those attitudes and anticipated cheating behavior in this study, as well as prior research linking neutralizing cheating attitudes to actual cheating behavior (e.g., Diekhoff et al., 1996; Murdock & Anderman, 2006; Whitley, 1998).

However, also consistent with our expectations, the provision of choice may have a simultaneous cost. We also found in Study 2 that students perceived greater opportunities to cheat after reading about a college course that had many rather than few opportunities for students to make course relevant choices. Further, these enhanced perceptions of opportunity predicted more favorable attitudes toward academic cheating and greater anticipated academic dishonesty in the hypothetical course. Relatedly and in line with the results of Study 1, the perception of choice and the perception of cheating opportunity were positively correlated.

Building on the results of both studies, it would seem that choosing and cheating may have much in common. Both seem to support perceptions of competence, control, and interest. Given such common benefits, having the opportunity for one may mitigate the need for the other. Cheating may provide psychological benefits in part because it acts like choice, priming the belief that one is autonomous and has influence and control over one's outcomes (e.g., Ruedy et al., 2013). As such, the provision of choice may in some circumstances have benefits for reducing cheating because it can circumvent the appeal of cheating by replacing the benefits through other means. We might also expect that the psychological benefits of cheating are likely to be fleeting, given that cheating does little to raise one's actual competence, whereas the benefits of choosing are expected to endure as one builds enduring motivational resources from having chosen. Future research might consider exploring how the effects of each play out over time. However, these similarities and the results of Study 2 in particular highlight that choice may not have uniformly desirable effects on unethical behavior. The provision of choice may also communicate that the opportunity to cheat is both available, given the association between choice and greater flexibility in the environment, and acceptable, given the tendency for choices to prime Westerner's common belief that individuals have the right to control their actions free from constraints (e.g., Savani et al., 2011).

Therefore, it would seem that choice may simultaneously have a mixed effect on cheating outcomes. Given that Study 1 revealed that overall, choice provision mitigated the tendency to misreport performance in the context of opportunities to misreport without detection, the balance between the two mechanisms may not be equivalent. Nonetheless, we suspect that the benefits of choice provision for reducing academic dishonesty may be dampened particularly when choices are structured in such a way that makes apparent to students that opportunities for cheating are not being monitored or that instructors have little concern for whether students cheat. It falls on future research to tease apart the particular constraints in which the benefits of choice for reducing unethical behavior are maximized and outweigh the costs.

4.2. Practical contributions

Taken together, results suggest that opportunities for personal choice are an important factor in unethical behavior. Given that choice can be easily implemented and is already often used in the real world as a strategy to motivate others and enhance performance (Flowerday & Schraw, 2000; Katz & Assor, 2007; Patall et al., 2008, 2010), there seem to be important potential implications of this research. Specifically, provided choice opportunities can be structured in such a way that they do not enhance perceived or real opportunities for cheating or communicate that cheating is tacitly sanctioned, the provision of choices related to tasks and activities seems likely to be a potentially promising intervention for reducing academic dishonesty and perhaps cheating in other applied contexts as well. Traditional approaches to reducing dishonesty or unethical behavior in schools, workplaces, and government agencies have often focused on contextual factors such as minimizing opportunity, increasing punishment, and implementing integrity programs and policies, such as honor codes. Such approaches have been demonstrated to be

effective in reducing cheating (e.g., McCabe et al., 2001; Shu, Mazar, Gino, Ariely, & Bazerman, 2012). However, research has also suggested that these features alone without consideration for the social-emotional climate and individual motivation may not be sufficient to substantially reduce cheating (e.g., Bing et al., 2012).

The results of this investigation are consistent with that of other research demonstrating that contextual elements that support certain motivation factors (i.e., self-efficacy, mastery goals, interest) can be an effective means to creating more adaptive attitudes toward cheating and reducing unethical behavior (e.g., Anderman et al., 1998; Murdock et al., 2004, 2007; Schraw et al., 2007). The benefits of choice provision and other motivating contextual elements for reduced cheating may be added value, as these practices have well-documented benefits to learning and achievement (e.g., Patall et al., 2010). The motivation and performance benefits of implementing choice have been tested in the context of variety of education practices. To name just a few diverse examples, allowing students to choose homework assignments has been found to enhance intrinsic motivation for homework and unit test scores (Patall et al., 2010), the performance enhancing benefits of effective metacognitive strategies for studying have been found to be especially strong when learners have chosen the strategy (Son, 2010), and allowing students to choose items on a test has been found to enhance performance, as well as test validity (e.g., Allen, Holland, & Thayer, 2005; Powers & Bennett, 1999). Further, a cheating intervention that centers on providing choices may be particularly desirable as it offers a positive psychology approach to addressing undesirable attitudes and behaviors; focusing on supporting students' basic psychological needs and constructive psychological experiences so that moral behavior may be governed from within the person, rather than by controlling external constraints.

4.3. Limitations and future directions

While the results of this investigation clearly add to the body of research on contextual factors that influence cheating and the literature on choice provision and self-determination theory by highlighting another domain (ethical behavior) in which supporting psychological needs yield effects, there are a number of limitations of this research and many unanswered questions that future research should address. In particular, the current investigation is limited to the extent that it relied on online laboratory-like studies that focused on patterns of reporting that suggested misreporting (in Study 1) or anticipated academic dishonesty (in Study 2) and did not contextualize choices and cheating within an authentic classroom. It is imperative that future research focus on interventions intended to enhance opportunities for choosing within authentic classroom contexts or other applied contexts where choice may be used to influence cheating attitudes and behaviors. While we believe the current investigation has clearly pointed to the potential importance of providing choices in the context of unethical behavior, interventions in actual classrooms where academically dishonest behavior is directly assessed provide the best test of how choices may influence academic dishonesty. It also remains possible that choice provision does not affect all forms of academic dishonesty the same way. While we focused on misreporting in Study 1 and collapsed across various forms of academic dishonesty in Study 2, future research might consider exploring variation in the links between choice provision and various forms of academic dishonesty.

We would also encourage researchers to continue exploring the mechanisms through which choice provision may influence cheating outcomes. While, our research and that of others suggest that experiences of competence and control may be of particular importance, other psychological variables may also play a role. Future research might consider giving greater attention to mechanisms that were not thoroughly examined in the current study, including

experiences autonomy or the experience of interest and enjoyment, which both manipulations in this investigation likely influenced. Given that choice is virtually equated with such experiences, both may play a role in the relationship between choice and cheating outcomes. Likewise, although the need for relatedness has not been readily linked with either the provision of choices in the classroom or cheating outcomes, to the extent that students perceive the teachers that provide choices as caring and concerned about their outcomes, choice may also influence cheating outcomes via relatedness need mechanisms. It is also possible that the choice manipulations in both studies influenced mechanisms other than psychological needs and intrinsic forms of motivation, including personal goal orientations or perceptions of the classroom structure as mastery versus performance focused. Future research might consider exploring these alternative mechanisms by which choosing influences ethical behavior and attitudes. Further, continuing to explore the mechanism by which choice influences cheating outcomes may be of particular importance given that mediators and outcomes were collected simultaneously in the current investigation, and thus the causal order suggested and tested particularly in Study 2 remains tentative.

Along the same lines, the current research revealed that choice may have complex effects, simultaneously enhancing the perception of opportunities to cheat successfully while supporting competence and attitudes that reduce the likelihood of cheating. Thus, it is important for future research to explore heterogeneity in the effects of choice provision on cheating outcomes in order to uncover which forms of choice may lead to the greatest psychological benefits, while minimizing perceptions of cheating opportunities. Indeed, a great deal of research has suggested that not all choices are equal and that choice provision is optimally effective for supporting motivation when choices are administered without pressure and allow students to self-regulate, are not overwhelming in number or complexity, or are provided to people who feel some initial competence or interest for the task (Iyengar & Lepper, 2000; Moller, Deci, & Ryan, 2006; Patall, 2013; Patall et al., 2008, 2014; Reeve et al., 2003; see Patall, 2012 and Katz & Assor, 2007 for reviews). Similarly, another fruitful avenue of research may be to explore the benefits of other competence-supportive practices or need-supportive practices more broadly for diminishing cheating-supportive attitudes and unethical behavior, as the psychological experiences that result from choosing, not choosing itself, are likely the key to influencing cheating outcomes.

4.4. Conclusions

Although more questions about the relationship between choice and cheating remain unanswered than answered, we believe that this investigation has provided strong initial evidence that choice provision has consequences for academic dishonesty. We hope that this investigation may be a useful base from which future research and interventions can be spurred. We close by suggesting that somewhat counterintuitively, at least under certain conditions, cheating may be effectively combated by passing over control to the prospective cheater.

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Appendix A

Study 2 Hypothetical Classroom Vignettes

Instructions: The following scenario describes a hypothetical college professor, Dr. Evans, and the way she conducts her course.

Please read and re-read the scenario and think about how you would feel and act if you were a student in Dr. Evans' class.

High Choice Scenario

Dr. Evans has been teaching *Research and Statistics* at ABC University for 7 years. As an instructor, Dr. Evans is very organized and comes to class well prepared to teach. She is usually very clear in her presentation and is adept at explaining difficult concepts. She believes that students learn the most and perform best when they have opportunities to make decisions about their learning for themselves and when there are plenty of opportunities to make choices. Dr. Evans allows students to participate in making many decisions about how the class runs. For example, Dr. Evans allows students to decide where to sit, the order in which daily class activities occur (e.g., whether to start with questions, small group discussions, or lecture), the order to cover topics, or who to work with for group discussion and assignments. Dr. Evans always asks for students' input regarding what topics they would like to study and discuss more and what topics they would like to study and discuss less. Dr. Evans provides students with various options for how course requirements can be fulfilled. That is, she will often allow a single assignment to be fulfilled in multiple ways. She always gives students choices of topics or questions on tests and assignments. Dr. Evans even allows students some freedom in determining the timing in which they complete assignments throughout the semester. For example, she will give a set of assignments at the beginning of the semester and tell students they can decide the order they will complete them and when they will turn them in before the end of the semester. Overall, students in Dr. Evans' class have many opportunities to make decisions about their learning in the course.

Low Choice Scenario

Dr. Evans has been teaching *Research and Statistics* at ABC University for 7 years. As an instructor, Dr. Evans is very organized and comes to class well prepared to teach. She is usually very clear in her presentation and is adept at explaining difficult concepts. She believes that students learn the most and perform best when the instructor provides a very structured environment and makes the decisions for students that will help them to learn the material efficiently. Dr. Evans does not allow students to participate in making too many decisions about how the class runs. Dr. Evans assigns where students sit during class, specifies at the beginning of class each day the order in which activities occur (e.g., questions, small group discussions, and lecture), she specifies the order in which topics will be covered and the order in which students should study topics, and she assigns student to groups for discussions and group assignments. Dr. Evans is an expert in her field and knows what is most important for students to know, so, she rarely asks for students' input regarding what topics they would like to study and discuss more and what topics they would like to study and discuss less. Dr. Evans does not provide students with options for how course requirements can be fulfilled. Rather, she sticks to assignments and tests she has found to be useful for most students in the past. Dr. Evans is very clear about when every assignment is due and does not waiver on these requirements. Overall, Dr. Evans' class is very efficient and there are very few decisions related to the course that students have to make for themselves.

Appendix B

Items for New Scales in Study 2

Favorable Cheating Attitudes

- (1) There are good reasons for students to cheat in Dr. Evans' class.
- (2) It would be easy to justify cheating in Dr. Evans' class.
- (3) I could defend why a student might cheat in Dr. Evans' class.
- (4) It would be okay to cheat in Dr. Evans' class.

- (5) It would be morally unacceptable to cheat in Dr. Evans' class. (Reverse coded)
- (6) Cheating in Dr. Evans' class would be unethical. (Reverse coded)

Student versus Instructor Blame for Cheating

- (1) If a student were to cheat in Dr. Evans' class, to what extent would it be the student's fault?
- (2) If a student were to cheat in Dr. Evans' class, to what extent would the student be to blame?
- (3) If a student were to cheat in Dr. Evans' class, to what extent would it be the Dr. Evans' fault?
- (4) If a student were to cheat in Dr. Evans' class, to what extent would Dr. Evans be to blame?

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