

Ethical Antecedents of Cheating Intentions: Evidence of Mediation

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Abstract Although the pedagogy literature indicates significant relationships between cheating intentions and both personal and situational factors, no published research has examined the joint effect of personal moral philosophy and perceived moral intensity components on students' cheating intentions. Hence, a structural equation model that relates magnitude of consequences, relativism, and idealism to willingness to cheat, is developed and tested. Using data from undergraduate business students, the empirical results provide insight into these relationships and evidence of mediation for magnitude of consequences on idealism and students' cheating intentions. Implications for educators are offered.

Keywords Idealism · Mediation · Moral intensity · Structural equation model · Student cheating · Vignette-based research

Academic cheating may be defined as a conscious effort to use proscribed data and/or resources on exams (e.g., copying another student's answers) or written work (e.g., plagiarizing) submitted for academic credit (Chapman et al. 2004; Hayes and Introna 2005; Pavela 1997). Research suggests that nearly 90% of college students cheat at some time in their academic career (Brown and Choong 2005; Sims 1993). As cheating compromises the reliability of student evaluations and thwarts learning, it is detrimental to the educational process (West et al. 2004). Students who engage in cheating are ill-prepared for both advanced study and employment opportunities (Gardner and Melvin 1988). In general, students are aware that cheating is unethical because it violates equality in learning milieus (Forsyth et al. 1985; Singer 1996; West et al. 2004).

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The extant cheating literature provides useful insights into the cheating intentions and behaviors of university students (e.g., Chapman et al. 2004; Sierra and Hyman 2006). To augment these insights, we propose a conceptual model that examines the simultaneous effect of situational and individual ethical factors on students' cheating intentions; specifically, we examine the effect of perceived moral intensity and personal moral philosophy on students' cheating intentions.

Moral intensity is "the extent of issue-related moral imperative in a situation" (Jones 1991, p. 372). People evaluate the morality of a situation through their beliefs about its moral intensity; as believed immorality increases, perceived moral intensity increases (Jones 1991). Personal moral philosophy (i.e., idealism and relativism) provides a standard for assessing the ethicality of intentions and consequences in various contexts (Ferrell et al. 1989; Forsyth 1980). Research shows that both perceived moral intensity and personal moral philosophy influence ethical intentions (Barnett et al. 1996; Brown and Choong 2005). For example, more relativistic students are more inclined to cheat and less likely to believe that snitching on cheaters is ethical, whereas more idealistic students are less inclined to cheat and more likely to believe that snitching on cheaters is ethical (Barnett et al. 1996; Forsyth and Nye 1990; Singhapakdi 2004).

Although some scholars suggest that ethical factors, such as personal moral philosophy and perceived moral intensity, be included in studies on ethical intentions, few studies have modeled the latter as an antecedent of ethical intentions (Marshall and Dewe 1997; Weber 1996). Without general knowledge in this area to accurately inform understanding of students' cheating intentions, domain-specific research is needed (Smith et al. 2004; West et al. 2004). Thus, modeling one or more components of perceived moral intensity, relativism, and idealism as antecedents of students' cheating intentions should extend pedagogy literature regarding student cheating meaningfully (Barnett et al. 1996).

The exposition proceeds as follows. Following a review of the literature on student cheating, the ethical factors relevant to the present study are broached. Next, the theory-derived model constructs and justification for the hypotheses are presented. Then, the survey methodology used in an empirical study and the statistical results are delineated. Finally, implications for educators, study limitations, and future research opportunities are discussed.

Literature Review

Previous studies have examined factors related to cheating. These studies show that positive correlates of cheating intentions include presence of high aggression characteristics, perceived pleasure from cheating, friends' cheating behaviors, personal expertise, anticipated elation, alcohol consumption, seeing other students cheat, lack of self-control, fraternity/sorority membership, and university-related athletic-team involvement (Buckley et al. 1998; Burrus et al. 2007; Chapman et al. 2004; Sierra and Hyman 2006; Tibbetts 1999). In contrast, negative correlates of cheating intentions include high GPA, anticipated shame, moral beliefs, internal locus of control, and threat of severe punishment (Sierra and Hyman 2006; Tibbetts 1999). These findings confirm that both personal factors (e.g., moral beliefs) and situational factors (e.g., friends' cheating behavior) affect cheating intentions (Kisamore et al. 2007; McCabe et al. 2001).

The cheating literature includes many studies that profile cheaters (Tang and Zuo, 1997). Some studies show that cheating behaviors and intentions are related to attitudes toward cheating and student demographics, such as age and gender (e.g., Chapman et al. 2004;

Tibbetts 1999). Other studies delineate cheating rationales and constraints, such as pressure to achieve good grades, low detection rates, alienation, perceptions of peers' behavior, and ramifications if detected (Davis et al. 1992; McCabe et al. 2001; Smith et al. 2002; Whitley 1998). These findings also show that situational factors (e.g., ramifications if caught cheating) and personal factors (e.g., attitudes toward cheating) influence student cheating.

Although the aforementioned research provides insights into determinants of cheating intentions, no published study has examined the joint effect of personal moral philosophy (i.e., an individual factor) and perceived moral intensity (i.e., a situational factor) on students' cheating intentions. Because these factors contribute uniquely to ethical decision-making (Nill and Schibrowsky 2005; Singhapakdi 2004), a model that explores them simultaneously as antecedents should help to more fully explain students' cheating intentions. Thus, a dimension of perceived moral intensity – magnitude of consequences – and personal moral philosophy – idealism and relativism – are modeled as antecedents of students' willingness to cheat.

Model Constructs

The literature abounds with useful insights into cheating intentions and behaviors. To build on these insights, a structural model with perceived moral intensity and personal moral philosophy as antecedents of students' cheating intentions is posited and tested. Specifically, magnitude of consequences, idealism, and relativism, are posited to antecede students' willingness to cheat. Although a more comprehensive model – for example, one that includes attitudinal and emotional measures – might explain additional variation in students' willingness to cheat, the current study was meant to develop and test a structural model that could disconfirm moral philosophy and perceived moral intensity as antecedents of cheating intentions. The four model constructs are now discussed.

Willingness to Cheat ($Cheat_{WIL}$)

$Cheat_{WIL}$ measures the likelihood that a student will choose to cheat when facing a cheating opportunity. As operationalized by Sierra and Hyman (2006), $Cheat_{WIL}$ is a forecast about a friend's likelihood of *deciding* to cheat in academic contexts; thus, cheating intentions, as opposed to cheating behaviors, are assessed. Because intentions immediately antecede behaviors (e.g., Ajzen 1991), the $Cheat_{WIL}$ measure is a robust surrogate for actual cheating behaviors.

Perceived Moral Intensity

The moral intensity of a situation influences peoples' judgments that moral issues exist, which in turn influences their intentions and behaviors toward such situations (Jones 1991). For example, athletic departments that stress honor code compliance should boost their athletes' levels of moral intensity for cheating more than if those departments merely pay lip service to compliance. One component of moral intensity examined in this study, which characterizes the morality of a situation, not the decision maker, is magnitude of consequences ($Conseq_{MAG}$); it is defined as the sum of harms or benefits to parties of a moral or immoral action (Jones 1991). Dilemmas that pose major consequences for victims should prompt more ethical intentions than dilemmas that pose less severe

consequences for victims (Jones 1991). For example, students should be less inclined to cheat on exams when detection means a failing grade in the course rather than a failing grade for that exam.

Personal Moral Philosophy

The personal moral philosophies of idealism (Eth_{IDEAL}) and relativism (Eth_{REL}) provide standards to judge acts, intentions, and consequences (Ferrell et al. 1989; Forsyth 1980). Idealists tend to abide by accepted moral principles when making moral judgments and decisions (Forsyth and Nye 1990). They recognize that morally sound decisions tend to enhance people's welfare (Armstrong et al. 2003). For more idealistic people, avoiding harm to others is always possible and negative consequences to other people can and always should be avoided (Forsyth 1980); hence, idealists may avoid cheating because they believe such behavior is universally unacceptable, as it hinders individual and institutional learning goals. For example, more idealistic fraternity/sorority members may avoid cheating because of the importance they place on their education and their fraternity's/sorority's image. Conversely, relativists tend to repudiate universal or accepted moral rules when making ethical judgments and decisions (Forsyth and Nye 1990). Their ethical judgments and intentions tend to vary according to the situation and people involved (Forsyth 1980). For relativists, the conditions surrounding a situation trump any moral principles entailed by that situation; as a result, they may focus on personal and/or group gains accrued to cheaters rather than the immorality of cheating. For example, more relativistic fraternity/sorority members may seek personal gain through cheating and ignore the negative effects that cheating detection could cause to their fraternity's/sorority's image. Because idealism and relativism influence peoples' ethical intentions, they should be examined jointly (e.g., Barnett et al. 1996; Singhapakdi 2004; Tansey et al. 1994).

Interplay of Personal Moral Philosophy and Perceived Moral Intensity

When facing ethical dilemmas, people's moral philosophy and perceived moral intensity may interact. For example, more relativistic students may fake results for a marketing research project because they believe the personal gain from a passing grade outweighs the personal loss from cheating. Such students also may deem this a low-moral-intensity situation, as the believed magnitude of consequences to others is minimal. Alternatively, more idealistic students may reject a friend's request to copy his/her answers on an objective exam because they believe always acting ethically is more important than facilitating a friend's ill-gotten gain. These students may deem this a high-moral-intensity situation, as the believed magnitude of consequences to others is severe if the cheating is detected. In such cases, personal moral philosophy and perceived moral intensity influence cheating decisions (e.g., Barnett et al. 1996; Nill and Schibrowsky 2005).

Model Development and Hypotheses

Magnitude of consequences is a strong determinant of ethical decisions (Frey 2000). Arguments suggest that greater concern for others should lead to higher levels of ethical behavior (Glover et al. 1997). In contexts such as failure to honor verbal contracts, misleading sales tactics, employee health and safety, environmental pollution, and product

safety, there is a positive relationship between magnitude of consequences and ethical intentions (Barnett and Valentine 2004; Chia and Mee 2000; May and Pauli 2002; Singer and Singer 1997; Watley and May 2004). It follows that students' cheating intentions should decrease as the magnitude of consequences from cheating increase. To examine this notion, the following hypothesis is posed:

- H1 The greater (lesser) a student's perceived $\text{Conseq}_{\text{MAG}}$ from cheating, the less (more) that student's $\text{Cheat}_{\text{WIL}}$.

Idealism and relativism strongly influence perceived moral intensity (Forsyth 1985; Forsyth and Pope 1984). In sales, advertising, and warranty contexts, idealism relates positively and relativism relates negatively to perceived moral intensity (Singhapakdi et al. 1999). Students' idealism scores relate positively and their relativism scores relate negatively to ethical judgments about cheating, which in turn relate positively to ethical intentions (Barnett et al. 1996). Because perceived moral intensity may mediate the influence of idealism and relativism on ethical intentions, idealism should relate positively to moral intensity components and relativism should relate negatively to moral intensity components. Thus, the following hypotheses are posed:

- H2 As students' Eth_{REL} increases (decreases), their perceived $\text{Conseq}_{\text{MAG}}$ from cheating decreases (increases).
 H3 As students' $\text{Eth}_{\text{IDEAL}}$ increases (decreases), their perceived $\text{Conseq}_{\text{MAG}}$ from cheating increases (decreases).

More relativistic marketing professionals are less likely to exhibit integrity (Vitell et al. 1993), and more relativistic marketing students have weaker intentions to act ethically (Singhapakdi 2004); thus, such students recognize the benefits of cheating to avoid failing and are more willing to cheat despite knowing that most people believe cheating is morally wrong. Also, relativism scores relate negatively to beliefs about the ethicality of snitching on cheaters (Barnett et al. 1996). Because students with higher relativism scores should be more willing to cheat, the following hypothesis is posed:

- H4 As students' Eth_{REL} increases (decreases), their $\text{Cheat}_{\text{WIL}}$ increases (decreases).

More idealistic marketing professionals are more likely to exhibit integrity (Vitell et al. 1993), and more idealistic marketing students have stronger intentions to act ethically (Singhapakdi 2004). Also, idealism scores relate positively to beliefs about the ethicality of snitching on cheaters (Barnett et al. 1996). Because students with high idealism scores should be less willing to cheat, the following hypothesis is posed:

- H5 As students' $\text{Eth}_{\text{IDEAL}}$ increases (decreases), their $\text{Cheat}_{\text{WIL}}$ decreases (increases).

Methodology

Willingness to Cheat Scale

In response to the self-report bias inherent to previously used measures of cheating intentions (Chapman et al. 2004), Sierra and Hyman (2006) developed a multi-vignette-based scale for $\text{Cheat}_{\text{WIL}}$. Because their indirect questioning method – asking students to estimate a friend's likelihood of deciding to cheat under various circumstances – should reduce social desirability bias (Dabholkar and Kellaris 1992; Fisher 1993; Fisher and

Tellis, 1998; Kennedy and Lawton 1996), especially if behavioral intentions questions are phrased in the third rather than first person (Choong et al. 2002), it was chosen for this study. The use of third-person vignettes avoids attribution error because people often believe that they have more control over their situation than they do (Ross 1977). A confirmatory factor analysis of subsequently collected data revealed that only two of four vignettes developed by Sierra and Hyman (2006) loaded properly; thus, respondents' assessments a friend's Cheat_{WIL} for this study were based on a two-item scale (see Appendix). Responses to Cheat_{WIL} items range from 0% to 100%, in 10% increments.

Perceived Moral Intensity and Personal Moral Philosophy Scales

Three scales were used to measure perceived moral intensity – Conseq_{MAG} – and personal moral philosophy – Eth_{IDEAL} and Eth_{REL}. To keep the tested models tenable, the most important moral intensity factor – magnitude of consequences (Morris and McDonald 1995) – was adapted from the perceived moral intensity scale in Singhapakdi et al. (1996).

For each vignette, respondents answered vignette-specific Conseq_{MAG} items, creating a two-item scale. Regarding ethical idealism (Eth_{IDEAL}) and ethical relativism (Eth_{REL}), the ten-item scales for each were borrowed from Forsyth (1980). A confirmatory factor analysis of subsequently collected data revealed that only six items from each scale loaded properly; thus, the Eth_{IDEAL} and Eth_{REL} measures in this study were based on these items. Likert-type scales were used to measure responses to the Conseq_{MAG} (reversed-coded), Eth_{IDEAL}, and Eth_{REL} items, which range from strongly disagree (1) to strongly agree (9). All scale items, excluding Cheat_{WIL}, are provided in Table 1.

Pretest

To pretest the four scales, 62 undergraduate students attending a large research university in the southwestern USA were queried during a regularly scheduled class. Principal components analysis with varimax rotation, and pairwise deletion for missing data, were used to assess a four-factor solution. Cross-loadings for all scales items were acceptable. All scale reliabilities exceeded the 0.70 threshold for preliminary research (Nunnally and Bernstein 1994).

Procedure for Main Study

Undergraduate students enrolled in the business college of a large research university located in the western USA were asked to complete a ten-minute questionnaire during regularly scheduled classes. Prior to survey administration, students were told they were participating in a study about academic cheating and that their responses were anonymous. No incentive was offered for questionnaire completion and participating students were debriefed afterwards.

Sample Profile

The final sample size of 246 respondents meets the size requirements for effective structural equation modeling (Hair et al. 2006; McQuitty 2004). Females (59%) outnumber males and the main ethnicities are Asian (41%), White (41%), and Hispanic (13%). Juniors (32%) and seniors (54%) comprise a majority of the sample. Ninety-six percent of the sample is between 18 and 25 years old, and nearly all are single (98%).

Table 1 Factor loadings and reliabilities

Construct (α)	Likert-scale Items (Wil _{CHEAT} uses a probability measure ranging from 0% to 100%; all other items use a nine-point scale ranging from strongly disagree to strongly agree)	Factor loadings
Eth _{IDEAL} (0.74)	(ETHIDEAL1) The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.	0.679
	(ETHIDEAL2) One should never psychologically or physically harm another person.	0.825
	(ETHIDEAL3) One should not perform an action which might in any way threaten the dignity and welfare of another individual.	0.878
	(ETHIDEAL4) If an action could harm an innocent other, then it should not be done.	0.554
	(ETHIDEAL5) Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral.	0.216
	(ETHIDEAL6) It is never necessary to sacrifice the welfare of others.	0.447
Eth _{REL} (0.73)	(ETHREL1) Different types of moralities cannot be compared as to "rightness."	0.468
	(ETHREL2) Questions of what is ethical for everyone can never be resolved since what is moral or immoral is up to the individual.	0.680
	(ETHREL3) Moral standards are simple personal rules which indicate how a person should behave, and are not to be applied in making judgments of others.	0.592
	(ETHREL4) Ethical considerations in interpersonal relations are so complex that individuals should be allowed to formulate their own individual codes.	0.552
	(ETHREL5) Rigidly codifying an ethical option that prevents certain types of actions could stand in the way of better human relations and adjustment.	0.634
	(ETHREL6) No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation.	0.480
Conseq _{MAG} (reverse coded) (0.80)	(CONSEQMAG1) The overall harm (if any) done as a result of the student's action would be very small.	0.916
	(CONSEQMAG2) The overall harm (if any) done as a result of the student's action would be very small.	0.682
Cheat _{WIL} (0.72)	(CHEATWIL1) Probability your friend will plagiarize the assignment	0.582
	(CHEATWIL2) Probability your friend will cheat on the exam	0.786

Results

Reliability and Validity of Scales

Principal component analysis with varimax rotation was used to confirm the structure of the 16 items comprising the four scales: Cheat_{WIL}, Conseq_{MAG}, Eth_{IDEAL}, and Eth_{REL}. Missing data were handled via pairwise deletion. The resulting four-factor solution, in

which each item loaded on the appropriate factor, accounted for 57.2% of the variance. Reliabilities for each scale exceed the suggested 0.70 threshold for preliminary research (Nunnally and Bernstein 1994). Factor loadings and coefficient alphas are provided in Table 1.

A measurement model was estimated with LISREL 8.50 and the 16 items comprising the four scales. The average variance extracted (AVE) for Cheat_{WIL} exceeds 0.50, which provides evidence for convergent validity. The AVE values for the other constructs do not meet this criterion. However, the AVE for each construct is greater than the squared correlations between each construct and the other constructs (see Phi and Phi² matrices in Table 2), which provides evidence for discriminant validity (Fornell and Larcker 1981; Hair et al. 2006). Estimation of the measurement model produced the following goodness-of-fit statistics: $\chi^2(98)=276.39$ ($P=0.00$), comparative fit index (CFI)=0.85, non-normed fit index (NNFI)=0.82, goodness-of-fit index (GFI)=0.88, root mean square error of approximation (RMSEA)=0.086, and standardized root mean square residual (SRMR)=0.065. Collectively, these fit statistics provide evidence of adequate model fit and valid construct measures (Hair et al. 2006).

Table 2 Confirmatory factor analysis

Constructs	CHEATWIL (CW)	ETHIDEAL (EI)	ETHREL (ER)	CONSEQMAG (CM)	Item reliabilities	Delta (d)
CW1	0.74				0.548	0.452
CW2	0.68				0.462	0.538
EI1		0.56			0.314	0.686
EI2		0.69			0.476	0.524
EI3		0.82			0.672	0.328
EI4		0.90			0.810	0.190
EI5		0.55			0.303	0.697
EI6		0.45			0.203	0.797
ER1			0.53		0.281	0.719
ER2			0.55		0.303	0.697
ER3			0.69		0.476	0.524
ER4			0.58		0.336	0.664
ER5			0.53		0.281	0.719
ER6			0.59		0.348	0.652
CM1				0.70	0.490	0.510
CM2				0.63	0.397	0.603
Average variance extracted	50.50%	46.30%	33.75%	44.35%		
Phi (Φ) matrix						
CHEATWIL	1.00					
ETHIDEAL	-0.23	1.00				
ETHREL	0.07	0.07	1.00			
CONSEQMAG	-0.44	0.35	-0.19	1.00		
Phi (Φ) ² Matrix						
CHEATWIL	1.00					
ETHIDEAL	0.05	1.00				
ETHREL	0.005	0.005	1.00			
CONSEQMAG	0.19	0.12	0.04	1.00		

Structural Equation Model

To determine if perceived moral intensity mediates the relationship between personal moral philosophy and willingness to cheat, the steps outlined in Baron and Kenny (1986) were followed; that is, (1) establish that the independent variable(s) is(are) related to the dependent variable, (2) establish that the independent variable(s) is(are) related to the mediating variable, and (3) establish that the mediating variable is related to the dependent variable, while (4) examining if the independent variable(s) reduce(s) in magnitude when controlling for the mediator. Thus, three structural equation models were assessed: one with Eth_{IDEAL} and Eth_{REL} as antecedents of $Cheat_{WIL}$ (Model 1), one with Eth_{IDEAL} and Eth_{REL} as antecedents of $Conseq_{MAG}$ (Model 2), and one with $Conseq_{MAG}$ mediating the effect between Eth_{IDEAL} and Eth_{REL} on $Cheat_{WIL}$ (Model 3). Goodness-of-fit indices for all three models are provided in Table 3.

The relationships in Model 3 – the mediation model – as shown in Fig. 1, were tested using a structural equation model with LISREL 8.50. A covariance matrix and maximum likelihood estimation were used to estimate model parameters. Missing data were handled via pairwise deletion. The four constructs – Eth_{IDEAL} , Eth_{REL} , $Conseq_{MAG}$, $Cheat_{WIL}$ – with six, six, two, and two items, respectively, were included in the model. One additional parameter, which is theoretically consistent and captures significant error covariance between items within Eth_{IDEAL} factor, is included in the model.

Model estimation produced the following goodness-of-fit statistics: $\chi^2(92)=221.59$ ($P=0.00$), (CFI)=0.89, (NNFI)=0.87, (GFI)=0.90, (RMSEA)=0.072, and (SRMR)=0.064. The GFI and SRMR suggest adequate model fit, and χ^2/df , CFI, NNFI, and RMSEA suggest inadequate model fit (Hair et al. 2006; Hu and Bentler 1999). However, the statistical power associated with the RMSEA statistic approaches 1.0, so the goodness-of-fit statistics are assumed conservative (Kaplan 1995; McQuitty 2004). Therefore, the model cannot be rejected based on these data.

The path coefficients were used to evaluate the relationships posited in all three models (see Table 4). For Model 3, H1, which posits a negative relationship between $Conseq_{MAG}$ from cheating and $Cheat_{WIL}$, and H3, which posits a positive relationship between Eth_{IDEAL} and $Conseq_{MAG}$ from cheating, are supported at the $P<0.01$ level. H2, which posits a negative relationship between Eth_{REL} and $Conseq_{MAG}$ from cheating, is supported at the $P<0.05$ level. H4, which suggests a positive relationship between Eth_{REL} and $Cheat_{WIL}$, and H5, which posits a negative relationship between Eth_{IDEAL} and $Cheat_{WIL}$ are not supported at the $P<0.05$ level. Thus, the data and structural equation model support three of the five hypotheses at the $P<0.05$ level.

Table 3 Model fit comparison

Fit Indices	Model 1 $\chi^2(73)=191.31$ ($P=0.00$)	Model 2 $\chi^2(73)=191.93$ ($P=0.00$)	Model 3 $\chi^2(92)=221.59$ ($P=0.00$)
χ^2/df	2.62	2.62	2.40
CFI	0.89	0.89	0.89
NNFI	0.86	0.86	0.87
GFI	0.90	0.90	0.90
SRMR	0.068	0.067	0.064
RMSEA	0.081	0.082	0.072

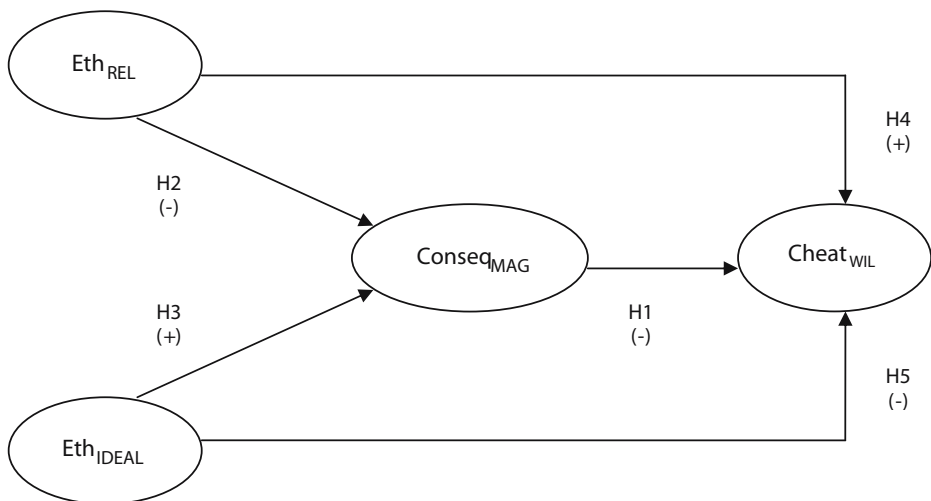


Fig. 1 Conceptual model

The non-significant paths found for H4 and H5 may be caused by personal moral philosophy (i.e., Eth_{REL} and Eth_{IDEAL}) working through a moral judgment process (i.e., $Conseq_{MAG}$) to affect $Cheat_{WIL}$, rather than personal moral philosophy directly influencing $Cheat_{WIL}$. For both Model 1 and Model 3, the relationship between Eth_{REL} and $Cheat_{WIL}$ is non-significant. In Model 1, the relationship between Eth_{IDEAL} and $Cheat_{WIL}$ is significant at the $P < 0.05$ level, but when $Conseq_{MAG}$ is modeled as a mediator between these two constructs in Model 3, the path between Eth_{IDEAL} and $Cheat_{WIL}$ becomes non-significant, offering evidence of full mediation. The non-significant path for H4 and H5 also may be an artifact of the indirect, vignette-based measures; in their responses, some relativistic students may have guessed about the likely behavior of an idealistic friend rather than project their own likely behavior onto a like-minded friend.

Discussion

Because student cheating may inflate learning assessments (e.g., attributing high test scores to effort and ability rather than dishonesty; West et al. 2004) and foster illegal professional

Table 4 Hypothesis tests

Hypothesis	Model 1	Model 2	Model 3
H1: $Conseq_{MAG} \rightarrow Cheat_{WIL}$			-0.42 (-3.17) $P < 0.01$
H2: $Eth_{REL} \rightarrow Conseq_{MAG}$		-0.23 (-2.40) $P < 0.05$	-0.22 (-2.39) $P < 0.05$
H3: $Eth_{IDEAL} \rightarrow Conseq_{MAG}$		0.36 (3.78) $P < 0.01$	0.36 (4.06) $P < 0.01$
H4: $Eth_{REL} \rightarrow Cheat_{WIL}$	0.09 (0.95) NS*		-0.00 (-0.04) NS*
H5: $Eth_{IDEAL} \rightarrow Cheat_{WIL}$	-0.22 (-2.18) $P < 0.05$		-0.07 (-0.74) NS*

In sequence, the figures in the matrix represent structural coefficients, t-values, and significance levels.

* $P < 0.10$, not significant at this level

behavior (Haswell et al. 1999), knowing the ethical antecedents of cheating can inform strategies to curb cheating and train morally sound business leaders (Nill and Schibrowsky 2005; Preble and Reichel 1988). Although scholars have studied personal moral philosophy and moral intensity as determinants of ethical intentions in academic contexts (e.g., Singhapakdi et al. 1999), they have not tested an integrated model of idealism, relativism, and magnitude of consequences on students' willingness to cheat. By testing a structural model of cheating intentions, this study provides preliminary evidence that perceived moral intensity mediates the relationship between personal moral philosophy and students' willingness to cheat.

The empirical results offer insight into students' cheating intentions, which may help educators, through in-class and out-of-class efforts, to curb such ill-advised behaviors. For example, $Conseq_{MAG}$ relates negatively to $Cheat_{WIL}$, which suggests that students reduce their cheating intentions by weighing the harm to all parties affected by cheating. Hence, the degree of harm that results from cheating appears to deter such behavior. The negative effect of Eth_{REL} and the positive effect of Eth_{IDEAL} on $Conseq_{MAG}$ suggest that ethical relativists (idealists) tend to place less (more) personal value on harmful outcomes, pertaining to the magnitude of consequences for an unethical act, when facing a cheating decision. These findings suggest that the magnitude of consequences for an act influences how relativists and idealists assess an ethical situation. Also, personal moral philosophy antecedes students' willingness to cheat indirectly through a moral judgment process (i.e., $Conseq_{MAG}$). Thus, idealists and relativists assess the degree of harm caused to people involved in their decision making process.

The contributions of this study to the student cheating literature are twofold. First, the notion that personal moral philosophy and moral intensity dimensions jointly antecede students' cheating intentions is validated. Second, results suggest that personal moral philosophy has an indirect effect through moral intensity on cheating intentions; hence, moral intensity appears to mediate the relationship between personal moral philosophy and cheating intentions.

Implications

This study implies several ways that instructors, school boards, and policy makers can enhance students' moral development and reduce cheating intentions. For example, if a person's morality is an acquired characteristic (Bruggeman and Hart 1996), then instructors (and university administrators) can help to develop their students' sensitivity to ethical dilemmas (Brown and Choong 2005; Caldwell et al. 2005) by establishing and reinforcing written (e.g., course syllabi, learning contracts) and unwritten (e.g., accepted behavior as established by a consensus) codes of ethical conduct (Stead et al. 1990). Also, universities could organize a series of ethics workshops and develop a guest-speaker series that students must attend during their program of study. As a result, students' morality may be augmented (e.g., relativistic students may become idealistic students; Rawwas and Singhapakdi 1998), leading to more sound ethical intentions during and after their academic experience.

To help mold students into morally sound decision-makers, educators could use copious pedagogical methods relating individual (e.g., personal moral philosophy) and situational (e.g., perceived moral intensity) ethical frameworks to relevant studied concepts (e.g., in business, human resource and brand management; Murphy 2004). If students learn the applicability of ethical philosophies to the post-schooling world, then they may be better equipped to act morally throughout their lives (Caldwell et al. 2005). Because learning and

being able to apply such ethical frameworks to certain concepts is taxing for students, educators should use varied techniques to help students acquire this knowledge and understanding (Vansandt 2005). For example, role playing, experiential learning, and game simulation may prove effective in helping students understand how individual and situational ethical frameworks relate to real-world concepts and frameworks (Hunt and Laverie 2004; Sims and Felton 2006; Teach et al. 2005).

This study shows (1) the relationship between $Conseq_{MAG}$ and Eth_{IDEAL} is significant and positive, and (2) the relationship between $Conseq_{MAG}$ and $Cheat_{WIL}$ is significant and negative. Thus, instructors wanting to curb cheating should try to enhance students' ethical idealism. Stressing how the harm caused by cheating can damage the student (e.g., receiving a failing grade) and the institution (e.g., lower-valued degrees) should decrease cheating intentions (Weber 1996). Ethical idealists should perceive greater consequences for cheating and deem that cheating is socially unacceptable, which in turn should minimize their cheating intentions. To further magnify students' perceptions of $Conseq_{MAG}$ of cheating, faculty could develop a multi-discipline ethics committee. Students who violated a code of conduct would be mandated to discuss their actions with this committee. To avoid this meeting, students may choose to act more ethically.

Eth_{REL} is negatively related to $Conseq_{MAG}$, which is negatively related to $Cheat_{WIL}$. To help magnify the consequences of cheating and diminish cheating intentions, instructors should try to minimize ethical relativism among students. Stressing the negative effects of cheating, such as avoiding honor code violations to protect a person's self-esteem (Tibbetts 1999), may reduce cheating intentions.

Eth_{IDEAL} has a direct negative effect on $Cheat_{WIL}$; however, when Eth_{IDEAL} is modeled simultaneously as a direct and indirect variable on $Cheat_{WIL}$, the direct effect becomes non-significant. Hence, Eth_{IDEAL} may work through a moral judgment process (e.g., $Conseq_{MAG}$) to affect $Cheat_{WIL}$, rather than as a direct antecedent of $Cheat_{WIL}$. In this sense, perceived moral intensity appears to mediate the relationship between personal moral philosophy and cheating intentions (Baron and Kenny 1986). Because more idealistic students have lower cheating intentions, instructors are advised to encourage this perspective through ethical case studies and presentations by moral exemplars (i.e., role models; Rest 1986).

Limitations and Future Research

The empirical study is limited in several ways. First, study participants considered *hypothetical* cheating choices, yet such choices may differ meaningfully from *real* cheating decisions (Haswell et al. 1999). Second, only undergraduate students' cheating intentions were examined; different cheating intentions may exist for students entering post-secondary and graduate schools (Wajda-Johnston et al. 2001). Third, because the sample was taken from the western USA, future studies in different regions are needed to establish external validity (Winer 1999). Fourth, although the $Conseq_{MAG}$ dimension of moral intensity deemed eminent by decision makers (Jaffe and Pasternak 2006; Morris and McDonald 1995; Singhapakdi et al. 1996) was modeled as a determinant of cheating intentions, additional research is needed to examine the effects of other moral intensity dimensions (e.g., proximity, social consensus) on students' intentions to cheat (Jones 1991).

To broaden the scope of this study, other relevant measures, such as the Defining Issues Test (DIT) (Rest 1986), deontology (Granitz and Loewy 2006), religiosity, (e.g., Barnett et al. 1996), pessimism (Kahle et al. 2003), and prudence (Kisamore et al. 2007) could be included as antecedents of cheating intentions. Also, the influence of moral intensity on

cheating-related emotions is worthy of exploration (Jones 1991). Moreover, additional research tools, such as interpretive methods, could be used to assess the influence of personal moral philosophy and moral intensity on students' intentions to cheat (Kelley and Elm 2003).

Alternative vignettes could be developed. For example, vignettes could include relevant technology (e.g., cell phones, chat rooms, text messaging) and strategies (e.g., hand signals during exams) as a way (Becker et al. 2006; Chapman et al. 2004) and social pressures (e.g., fraternity and sorority involvement) (Storch and Storch 2002) as a reason to cheat. Future research could use vignettes that focus on specific moral intensity factors; for example, temporal immediacy could be assessed by specifying the time between a cheating action and its consequences, or concentration of effect could be assessed by stating the total number of people affected by a cheating action. Cheating to avoid a failing grade, rather than to earn a high grade, also could be examined (Flynn et al. 1987).

Appendix: Willingness to cheat scale items

Cheat_{WIL}1

Assume it is 2 days before a 20-page paper is due in one of your friend's courses. Your friend has yet to start it and suddenly realizes that it is worth 50% of the final course grade. (S)he has an 85% for the first half of the course and knows that receiving an 'A' for the final half of the course will lead to a final grade of 'A', which would qualify her/him for the Dean's List for the first time. By qualifying for the Dean's List, your friend will receive a prized fellowship for 1 year, which is given to a limited number of students. Your friend does not like the topic of the paper and believes that this is the only time in her/his college career that it will be necessary to write a paper on that topic. Your friend mentions this problem to a roommate, who after a few minutes of searching through old course files finds a completed paper on the topic, hands it to your friend, and tells him/her that two semesters ago it earned an 'A' for the same course assignment. Roughly 60 other students are enrolled in this course and your friend believes that the instructor will not read every paper carefully; thus, your friend believes that the instructor will not recognize this paper as the one submitted two semesters ago if a few words are changed here and there.

What is the probability that your friend will choose to plagiarize this assignment? (Please circle your answer.)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%.

Cheat_{WIL}2

It is the afternoon of your friend's last final exam of his/her junior year. (S)he currently has an 87% in the course. Your friend knows that if (s)he scores 90% or above on this exam, then (s)he will receive an 'A' in the course and will make the Dean's List. Making the Dean's List gives your friend a good chance to win a scholarship for next year, since there are a limited number of scholarship winners each year. Your friend knows that (s)he could have studied more, but believes that (s)he understands the basic concepts well enough for an essay exam. Before distributing the exams, the teaching assistant explains that the professor was ill this week and asked the assistant to create a multiple-choice exam from the test bank for the textbook. Your friend knows that the student sitting next to her/him has a 4.00 average. The course syllabus states that anyone caught cheating on an exam/

assignment receives an 'F' for that exam/ assignment; as a result of its importance to the overall course grade, your friend would receive a 'C' in the course if caught cheating on this exam. After distributing the exams, the teaching assistant apologizes for needing to leave the room, but promises to return soon.

What is the probability that your friend will choose to cheat on the exam? (Please circle your answer.)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%.

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