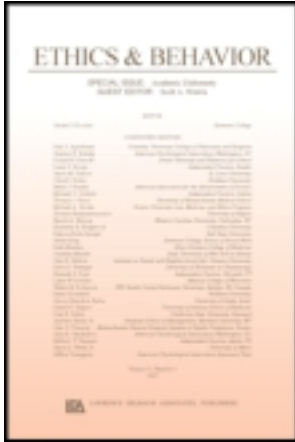


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The Impact of Professional Unethical Beliefs on Cheating Intention

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The phenomenon of academic dishonesty among college students is prevalent, but its damage cannot be underestimated because the students' decisions to cheat were related to decisions to engage in similar unethical behavior in the workplace after graduation. To examine the influential factors of the cheating intention among part-time students with several years of work experience, we included an additional variable—unethical beliefs related to the workplace (professional unethical beliefs) into the theory of planned behavior. First-year business students on the job were investigated from a university in northern Taiwan, resulting in a valid sample of 215 students. Our findings indicate that perceived behavioral control toward cheating and professional unethical beliefs have a greater impact on the intention to cheat. In addition, the subjective norm and attitudes also affect the students' cheating intention. Implications for managers and researchers are discussed, and suggestions for future research are offered.

Keywords: cheating, ethics, the theory of planned behavior

INTRODUCTION

Academic dishonesty may be defined as a conscious effort to use forbidden information on exams or assignments submitted for academic credit, such as copying another student's answers or assignments (Chapman, Davis, Toy, & Wright, 2004; Hayes & Introna, 2005). Cheating on exams (a very serious form of academic dishonesty) is regarded as unethical conduct. Cheating could weaken the mission of academic institutions to transfer knowledge and undermine the value system both in the school grading system and in the social value judgment (Whitley & Keith-Spiegel, 2002).

The following figures explain why many educational institutions have great concerns about cheating practices among college students. In 1941, Drake found that 23% of students were

reported cheating. The figure soared up to 64% in 1964 and 76% in 1980 (Baird, 1980). The cheating rates have jumped to 70% in a survey of nearly 50,000 undergraduate students across the United States (McCabe, 2005). Not surprisingly, academic institutions in Asian countries face similar challenges. In Japan, about 55.4% of college students had been reported to cheat on exams (Diekhoff et al., 1996). In Taiwan, the cheating rate was up to 85% at private junior colleges. Likewise, a high prevalence of cheating was also found in public universities (Chang, 1995). Moreover, a more recent survey of 2,068 college students in Taiwan shows that at least 61.7% students had cheated more than once (Lin & Wen, 2007). Furthermore, new technologies even facilitate cheating behaviors, such as the sharing of test information via e-mail, instant messaging, cell phones, or other digital devices (Kleiner & Lord, 1999).

Catastrophic business scandals, such as in the cases of Enron, WorldCom, and previous large-scale financial manipulations orchestrated by Bernard Madoff, have caused the loss in property of thousands of people and have aroused great concern about the integrity in the business environment. These unethical behaviors in business are not exceptional but quite common. According to the Ethical Research Center, one third of workers reported regularly observing ethical misconduct in the workplace (Thompson, 2000). We are faced with problems of integrity in both the academic and work setting. One should be taken as seriously as the other.

Many researchers have tried to find a linkage between academic cheating and unethical acts in the workplace. For example, in a study of MBA students, Sims (1993) found that students who admitted to having engaged in a wide range of academic dishonesty also admitted to a wide range of work-related dishonesty. In 2001, Nonis and Swift (2001) obtained similar results from a study of 1,051 business students on six different college campuses. The results indicate that the frequency of cheating in college was highly correlated with cheating at work. Lawson (2004) also identified this strong relationship between the students' propensity to engage in unethical behaviors in an academic setting and their attitudes toward such behaviors in the business world. Likewise, Harding, Mayhew, Finelli, and Carpenter (2004) concluded that prior academic dishonesty by undergraduate students is an indicator of future decisions to act dishonestly. Therefore, the relationship between academic dishonesty and subsequent dishonest behavior in the workplace has been confirmed. Moreover, the link between cheating in college and subsequent dishonest behavior in the workplace can be established.

Most of the studies focused on full-time students, and only 10% of them had full-time jobs (Orszag, Orszag, & Whitmore, 2001). However, as increasing numbers of full-time workers have gone back to universities for advanced studies in the evenings or weekends, will their ethical beliefs or behaviors in the workplace also carry into the academic institutions? To solve the question, this article adopted first grade part-time students with several years of work experience to examine the effect of their prior unethical beliefs in the workplace on the subsequent cheating intention at school. Moreover, business students were chosen in this study because many research indicated that business students seem to be more tolerant of unethical behavior than their non-business peers (Baird, 1980; Crown & Spiller, 1998). Lawson (2004) also reported that business school students who cheat are more likely to be accepting of unethical workplace behavior.

In this study, we restrict the concept of academic dishonesty to traditional forms of cheating on exams. The theory of planned behavior (TPB) incorporated with a moral variable (professional unethical beliefs) were under investigation to explain the part-time students' intention toward cheating. Great expectations have been placed on the proposed model (see Figure 1) to provide an empirical implication for both education and business institutions in developing

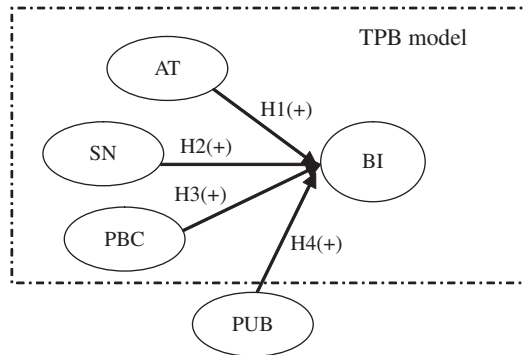


FIGURE 1 Conceptual model.

Note. TPB = theory of planned behavior; AT = attitude toward cheating; BI = behavioral intention toward cheating; SN = subject norm toward cheating; PBC = perceived behavior control toward cheating; PUB = professional unethical beliefs.

interventions designed to curb students or employees from unethical behaviors either in school or at the workplace.

RESEARCH FRAMEWORK AND DEVELOPMENT OF HYPOTHESES

TPB

Regarding research on academic dishonesty, TPB has been successfully applied to predict undesirable behaviors such as academic cheating and other unethical behaviors (Beck & Ajzen, 1991; Harding, Mayhew, Finelli, & Carpenter, 2007; Kaiser & Scheuthle, 2003; Whitley, 1998; Whitley & Keith-Spiegel, 2002). TPB, extended from the theory of reasoned action, is widely used in explaining and predicting human behavior across a variety of disciplines (Ajzen, 1991). According to this model, human behavior is a function of one's intention to generate a certain behavior. Behavioral intention, the only proximal antecedent of any action, is caused by three conceptually independent determinants (Gibbons, Gerrard, Blanton, & Russell, 1998).

The first predictor is an attitude towards the behavior, which reflects feelings of favorableness or unfavorableness toward performing a behavior (Ajzen, 1991). The second predictor is a subjective norm, which refers to the perceived social pressure that significant others (parents, spouse, friends, etc.) desire for an individual to perform or not to perform a certain behavior. Any person or group serving as a reference group could exert a key influence on an individual's beliefs, attitudes, and choices (Moutinho, 1987). This is because an individual may conform to his or her referent groups. The last antecedent of intention is the degree of perceived behavioral control, which plays an important role in TPB. This is different from the theory of reasoned action. Perceived behavioral control reflects a person's past experience, anticipated obstacles, and resources, such as opportunities, time, money, ability, and skills required to perform a behavior (Ajzen, 1991). In general, the more positive the attitude, the more acceptable the subjective norm

is with respect to a behavior. The greater the perceived behavioral control is, the stronger an individual's intention should be to engage in the behavior under consideration (Beck & Ajzen, 1991). Most of the studies applied to academic cheating focus on full-time students, and this study tried to examine the situation for full-time workers to find out the applicability of TPB and significant influential factors in academic cheating intention.

Most of the studies focused on full-time students. Only 10% of them had full-time jobs (Orszag et al., 2001). However, as more full-time workers have gone back to university for advanced studies in the evenings or weekends, will their ethical beliefs or behaviors in the workplace also carry on into the academic institutions?

Despite the theory's general parsimony and testability, its sufficiency remains an unresolved issue (Conner & Armitage, 1998). A number of attempts to improve the theory's explanatory power have been made, by including additional variables, such as morality-related variables (Beck & Ajzen, 1991; Eagly & Chaiken, 1993).

Attitudes Toward Cheating

Compared with other background variables, one's attitude toward cheating is better at explaining cheating behavior (Graham, 1994). Nonis and Swift (2001) found that many students perceived academically dishonest behaviors to be acceptable. Under such cases, those students were more likely to engage in cheating behaviors. In other words, students with favorable attitudes toward cheating are more likely to cheat than those who have unfavorable attitudes (Whitley, 1998).

There are three categories of cheating attitudes: neutralizing attitudes (beliefs that an individual holds to justify cheating behavior), semantic differential attitudes (e.g., rating positive/negative, favorable/unfavorable), and other attitudes toward cheating that are not classifiable (Jordan, 2001; Whitley, 1998). Haines, Diekhoff, LaBeff, and Clark (1986) suggested that neutralizing attitudes might be especially important to understanding cheating because any blame or guilt resulting from acts of cheating can be counteracted or neutralized (Diekhoff et al., 1996; McCabe, 1992).

Neutralized attitudes toward cheating can explain why most students admitted that it is wrong to cheat but they can still engage in cheating behavior (Baird, 1980; Davis, Grover, Becker, & McGregor, 1992). According to McCabe's (1992) research, most cheating students adopted neutralizing attitudes to justify or rationalize their cheating behavior. For example, if they think cheating is a personal behavior, then it will not hurt anyone (Haines et al., 1986) or it is acceptable to engage in cheating behavior under certain situations (Kock & Davison, 2003). Justifications for special situations may include passing a course or encountering pressure from close friends who need help to cheat on an exam (Jordan, 2001). Thus, the following is expected:

H1: Neutralizing attitudes toward cheating positively affect the intention to cheat.

Subjective Norms Toward Cheating

Some researchers have pointed out that the subjective norm is generally seen to be a weak predictor of intentions (Sheppard, Hartwick, & Warshaw, 1988). However, in the study of academic cheating, researchers indicated that the subjective norm is an important factor in fostering dishonest behavior (Nonis & Swift, 2001; Whitley, 1998). For most college students, their peers'

attitudes and behaviors had a significant influence on their dishonest acts. Therefore, students are more likely to engage in cheating behaviors if they perceive that the acts are acceptable to other peers (McCabe, Trevino, & Butterfield, 2002).

Because there is discrepancy regarding the magnitude of subjective norms on cheating intention, it is valuable to test the role of subjective norms among the professionals who are more mature and have independent judgment. Thus, the following is expected:

H2: The subjective norm toward cheating positively affects the intention to cheat.

Perceived Behavioral Control Toward Cheating

Perceived behavioral control reflects past experience as well as anticipated impediments and obstacles (Beck & Ajzen, 1991). For instance, if people believe that they have very limited resources or opportunities to engage in a certain behavior, then they are unlikely to do so despite their strong intentions or desires. In general, the more resources and opportunities that individuals believe they possess and the fewer obstacles they anticipate, the greater is their perceived control over the behavior (Ajzen & Madden, 1986).

In academic settings, many college students regarded cheating as an academic skill that was on the same level of importance as reading, writing, and math (Moffatt, 1990). Whitley (1998) indicated that if students are more effective at cheating skills, they are more likely to engage in cheating behavior. In addition to skills, academic dishonesty is often assumed to depend on the opportunity to cheat (Lin & Wen, 2007). Becker, Connolly, Lentz, and Morrison (2006) even pointed out that the opportunity to cheat (e.g., faculty do not deter cheating) and the ability to rationalize cheating (e.g., penalties are not severe so the faculty do not care about cheating) affect an individual's response to an ethical dilemma. Therefore, we tentatively predict the following:

H3: Perceived behavioral control toward cheating positively affects the intention to cheat.

Professional Unethical Beliefs Toward Cheating

Morally or ethically relevant-concept variables (e.g., moral beliefs, moral obligations, or moral norms) are suggested to increase the predicting power of TPB behavior in explaining academic cheating (Beck & Ajzen, 1991; Davy, Kincaid, Smith, & Trawick, 2007; Eagly & Chaiken, 1993; Harding et al., 2007; Kaiser & Scheuthle, 2003). According to Kaiser and Scheuthle (2003), moral considerations are most prominent when one's self-interest and the interest of others are at odds with each other. Moral norms reflect one's internalized moral rules (Kaiser & Scheuthle, 2003). Similarly, moral obligation is interpreted as one's principles to perform or not perform a certain behavior (Ajzen, 1991).

Because research studies have shown that students who cheat in college are more likely to engage in unethical workplace behavior (Harding et al., 2004; Nonis & Swift, 2001) and may engage in shoplifting (Beck & Ajzen, 1991) and/or abuse substances (Blankenship & Whitley, 2000), the workplace norms or professional ethics should have an impact on the cheating intention of students with full-time jobs. Unethical behaviors in the workplace (professional unethical behavior) comprise property-deviant and production-deviant acts. Property-deviant behaviors include theft or improper usage of property belonging to the company, whereas production-deviant behaviors deal with counterproductive behavior about the quantity or quality of work produced by the employee (Hollinger & Clark, 1983).

Many researchers assert that the frequency of cheating in college was highly correlated with cheating at work (Coleman & Mahaffey, 2000; Harding et al., 2004; Lawson, 2004; Sims, 1993). More specifically, these unethical behaviors in school will be transferred into the corporate environment after graduation (Crown & Spiller, 1998; Davy et al., 2007; Nonis & Swift, 2001). Because there are common factors in the decision-making processes when considering whether to engage in academic and professional dishonesty (Harding et al., 2004), it is reasonable to assume that participation in one deviant behavior (i.e., violating workplace policies, cheating) could be a predictor of participation in other deviant behavior in future settings (i.e., cheating in college). Therefore, we assume that after years of serving in a corporate environment, part-time students with full-time jobs will carry over their unethical beliefs or behaviors into schools. Thus, we expected the following:

H4: Professional unethical beliefs of students on the job positively affect their intention to cheat.

METHODOLOGY

Subjects

The subjects under investigation in this study are made up of 1st-year part-time students in a business school at a large university in northern Taiwan. These part-time students who attend school in the evenings or weekends are commuters because most of them have full-time jobs on the weekdays. Work experience is preferred (but not required), and extra points are given for admission as part-time students. Using 1st-year students with several years of work experience helps clarify the causal relationship between ethical or moral beliefs in the workplace and the cheating intention in a university. This is because these professionals' ethical beliefs are related to years of work experience, which can be regarded as an antecedent of the cheating intention after they return back to school.

The survey was administered by two well-trained students during a regular class time about one month after the fall semester had begun. Due to the sensitive nature of the students' cheating issue, instructors gave clear accounts of the academic purpose for the current study and reassured the anonymity of respondents. Students were then given a copy of questions related to test cheating and other constructs. After finishing all these tasks, the respondents were thanked.

A total of 234 questionnaires were distributed, including 15 incomplete questionnaires and 4 copies from students who just graduated from high school without any work experience. As a result, 215 usable questionnaires were collected, resulting in an effective response rate of 76.8%. The ages ranged from 18 to 49 years with an average age of 26.15 years and a large standard deviation of 7.06 years. Male and female students made up 45% and 55% of the sample, respectively. More than 80% of our sample was married. At the time of the survey, 78% of the students held full-time jobs, 14% had part-time jobs, and 8% were unemployed. All of the characteristics of our sample are listed in Table 1.

Measures

The constructs conducted in this study are drawn and modified from existing validated scales using 5-point Likert scales. Specifically, the items for antecedents of cheating intention, including attitude, subjective norm, perceived behavioral control, and professional unethical beliefs, were

TABLE 1
Characteristics of the Sample

Characteristics	N = 215	
	Number	Percentage
<i>Gender</i>		
Male	94	45%
Female	115	55%
<i>Marriage</i>		
Single	34	17%
Married	168	83%
<i>Job status</i>		
Unemployment	16	8%
Part-time job	28	14%
Full-time job	155	78%
<i>School system</i>		
Weekend student	135	64%
Evening student	77	36%

Note. Some missing data are not counted.

developed based on prior studies. The Appendix lists the individual scale items and their correspondent sources. All items were measured with a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Backward translation (with items translated from English into Chinese, and back into English. The discrepancies of versions were also compared and resolved.) was used to ensure consistency between the Chinese and the original English editions of the instrument (Singh, 1995). The initial version of the survey instrument was modified through a pretest with 30 subjects. Based on the subjects' suggestions regarding any confusing item in the questionnaire and low item-to-total correlation (less than 0.5), some items were moderately reworded. The second pretest with 42 subjects was then conducted. Subjects for all the pretests were drawn from another university similar to our target university. Cronbach's alpha values ranged from .58 (for the subjective norm) to .88 (for attitudes toward cheating). Due to a low item-to-total correlation (less than .5), three items were removed from the initial versions (each from subjective norms, perceived behavioral control, and behavioral intention, respectively). The process just described helps assure the content validity of the questionnaire. The refined instrument was then used to collect the study's data.

Measurement Model Testing

Following the recommended two-stage analytical procedures (Anderson & Gerbing, 1988; Hair, Anderson, Tatham, & Black, 1998), confirmatory factor analysis using LISREL 8.51 was conducted to assess the reliability and validity of the measures. The structural model was then conducted for hypotheses testing. Confirmatory factor analysis on all items showed a satisfactory fit with the chi square of 272.32 ($df = 142, p < .001$) and other fit indices: goodness-of-fit index (GFI) = .88, adjusted GFI = .84, normed fit index (NFI) = .88, nonnormed fit index (NNFI) = .92, root mean square residual (RMR) = .056, root mean square error of approximation

TABLE 2
Standardized Loadings and Reliability

<i>Indicators</i>	<i>Standardized Loading</i>	<i>AVE</i>	<i>CR</i>	<i>Cronbach's α</i>	<i>Variance Explained</i>
AT1	0.79 (<i>t</i> = 12.88)	.60	.66	.86	13.17%
AT2	0.87 (<i>t</i> = 14.87)				
AT3	0.79 (<i>t</i> = 14.00)				
AT4	0.66 (<i>t</i> = 10.19)				
SN1	0.61 (<i>t</i> = 8.66)	.52	.59	.77	6.23%
SN3	0.67 (<i>t</i> = 9.35)				
SN4	0.88 (<i>t</i> = 12.11)				
PBC1	0.70 (<i>t</i> = 10.76)				
PBC2	0.87 (<i>t</i> = 14.33)	.54	.78	.77	5.36%
PBC3	0.61 (<i>t</i> = 9.36)				
BI1	0.75 (<i>t</i> = 12.40)				
BI3	0.84 (<i>t</i> = 14.72)	.70	.88	.87	9.5%
BI4	0.93 (<i>t</i> = 16.99)				
PUB1	0.66 (<i>t</i> = 10.53)	.63	.91	.91	38.15%
PUB2	0.77 (<i>t</i> = 13.24)				
PUB3	0.82 (<i>t</i> = 14.50)				
PUB4	0.82 (<i>t</i> = 14.69)				
PUB5	0.81 (<i>t</i> = 13.91)				
PUB6	0.84 (<i>t</i> = 14.88)				

Note. AVE = average variance extracted; CR = composite reliability; AT = attitude toward cheating; SN = subject norm toward cheating; PBC = perceived behavior control toward cheating; BI = behavioral intention toward cheating; PUB = professional unethical beliefs.

(RMSEA) = .065. In addition, the reliabilities of the constructs (Cronbach's alpha values) ranging from .77 (for the subjective norm) to .90 (for professional unethical beliefs) show a satisfying requirement of reliability for the research instruments (listed in Table 2).

Convergent validity is assessed by how closely related the two measures are with the same construct (Viswanathan, 2005). It is achieved if different indicators used to measure the same construct obtain strongly correlated scores. In the current study, all factor loadings for items measuring the same construct are statistically significant at a level of .01 (the lowest *t* value is 8.76), showing that all indicators effectively measure their corresponding construct and support convergent validity (Anderson & Gerbing, 1988).

In addition, convergent validity is also assured by examining composite reliability and the average variance extracted from the measures (Hair et al., 1998). As shown in Table 2, the composite reliabilities (ranging from .61 to .91) and the average variances extracted (ranging from .53 to .71) all exceed the acceptable value of .50. Collectively, the aforementioned results suggest that convergent validity is successfully achieved.

Discriminant validity is obtained if the measure of a construct is not correlated with measures of other different constructs (Viswanathan, 2005). A chi-square difference test can be used to assess discriminant validity by simultaneously conducting a pairwise statistical difference between constrained and unconstrained measure models (Anderson & Gerbing, 1988). In a constrained model, the correlation between two constructs was fixed at 1 but allowed other constructs to vary. Discriminant validity was obtained if the chi-square difference (with 1 *df*) was significant, meaning that the two constructs are viewed as distinct (but correlated) factors.

TABLE 3
Chi-Square Difference Tests for Examining Discriminant Validity

Construct Pair	Unconstrained $\chi^2(142) = 272.32$	
	Constrained $\chi^2(143)$	χ^2 Difference
(AT, SN)	422.24	151.06*
(AT, PBC)	374.28	103.1*
(AT, BI)	427.04	155.86*
(AT, PUB)	648.32	377.14*
(SN, PBC)	442.89	171.71*
(SN, BI)	433.31	162.13*
(SN, PUB)	445.68	174.5*
(PBC, BI)	346.14	74.96*
(PBC, PUB)	387.21	116.03*
(BI, PUB)	513.71	242.53*

Note. AT = attitude toward cheating; SN = subject norm toward cheating; PBC = perceived behavior control toward cheating; BI = behavioral intention toward cheating; PUB = professional unethical beliefs.

*Significant at the .01 overall significance level by using the Bonferroni method.

TABLE 4
Means, Standard Deviations, and Correlations

	M	SD	AT	SN	PBC	BI	PUB
AT	3.22	0.89	1	—	—	—	—
SN	2.75	0.83	0.27*	1	—	—	—
PBC	2.86	0.88	0.52*	0.10	1	—	—
BI	2.96	0.88	0.57*	0.24*	0.59*	1	—
PUB	2.33	0.79	0.40*	0.09	0.44*	0.50*	1

Note. AT = attitude toward cheating; SN = subject norm toward cheating; PBC = perceived behavior control toward cheating; BI = behavioral intention toward cheating; PUB = professional unethical beliefs.

* $p < .01$.

A critical value of the chi-square test based on the Bonferroni method under overall 0.01 levels is $\chi^2(1, 0.01/6) = 9.88$ (Bagozzi & Yi, 1988; Hatcher, 1994). Because the chi-square difference statistics for paired constructs all exceed 9.88 (see Table 3), discriminant validity is successfully accomplished. Table 4 shows the means, standard deviations, and intercorrelations for all variables. To examine the relationships between independent and dependent variables, a further examination of hypotheses testing is reported in Table 5.

RESULTS

This study uses the technique of structured equation modeling to examine the causal structure of the proposed model. Table 5 summarizes the results of the analysis and comparison of models.

TABLE 5
Goodness-of-Fit Indices for the Comparison of Models

<i>Model</i>	χ^2	df	<i>Model Comparison</i>	$\Delta\chi^2$	<i>GFI</i>	<i>RMR</i>	<i>CFI</i>	<i>NNFI</i>	<i>R</i> ²
Measurement model									
1. Model	272.32	142			.88	.056	.94	.92	
2. M1 + CMV	224.80	123	M1 vs. M2	47.52*	.90	.041	.95	.94	
SEM model									
3. TPB	125.67	59	M3 vs. M4	145.38*	.92	.061	.95	.93	.54
4. Proposed model	271.05	142			.88	.056	.94	.92	.59
5. M4 + CMV	245.89	139	M4 vs. M5	25.16	.89	.055	.95	.93	.60

Note. *N* = 215. Model 1 = measurement model; Model 2 = Model 1 + CMV; Model 3 = TPB; Model 4 = Proposed model = TPB + PUB; Model 5 = Model 4 + CMV. *GFI* = goodness-of-fit index; *RMR* = root mean square residual; *CFI* = comparative fit index; *NNFI* = nonnormed fit index; *CMV* = common method variance; *SEM* = structural equation modeling; *TPB* = theory of planned behavior.

**p* < .01.

Hypotheses Testing

Overall, our proposed model (Model 4) shown in Figure 1 fits the sample data very well ($\chi^2/df = 271.05/142 = 1.9$; *RMR* = .056, *NNFI* = .92, *CFI* = .94, *GFI* = .88), and the predictors accounted for a substantial proportion of the variance ($R^2 = 59\%$). Other than our proposed model, we also compared it with an alternative model—TPB (Model 3). Model 3 accounts for 54% of the variance and shows a good fit with the data. However, the significance of a chi-square difference test between these two models shows a better fit for our proposed model. More detailed data can be seen in Tables 5 and 6.

By examining the standardized path coefficients of our proposed model, they are all significant at the .01 levels and above and in the expected direction. Hypotheses 1, 2, and 3 are supported as they have been in many studies applying TPB to explain behavioral intentions. More specifically, neutralizing attitude ($b = .21, p < .01$), subjective norms ($b = .17, p < .01$),

TABLE 6
Path Coefficients and *t* Values

<i>Hypothesis</i>	<i>Not Controlling for CMV</i>		<i>Controlling for CMV</i>	
	<i>Standardized Coefficient</i>	<i>t Value</i>	<i>Standardized Coefficient</i>	<i>t Value</i>
H ₁ (AT→BI)	0.21**	2.35	0.19*	2.19
H ₂ (SN→BI)	0.17**	2.69	0.19**	3.00
H ₃ (PBC→BI)	0.39***	4.24	0.40***	4.32
H ₄ (PUB→BI)	0.25***	3.61	0.27***	3.83

Note. *CMV* = common method variance; *AT* = attitude toward cheating; *BI* = behavioral intention toward cheating; *SN* = subject norm toward cheating; *PBC* = perceived behavior control toward cheating; *PUB* = professional unethical beliefs.

p* < .05. *p* < .01. ****p* < .001.

and perceived behavioral control ($b = .39, p < .001$) all positively influence behavioral intention toward cheating. Among the three antecedents of intention, perceived behavioral control toward cheating has the greatest effect on behavioral intention. On the other hand, the attitude and subjective norms toward cheating have less impact on the behavioral intention. The results of the current study suggest that the students' intention to cheat on exams is greatly influenced by their perception of whether they have opportunities or resources to do so and less by their peers' influence and their own attitudes toward cheating.

Hypothesis 4 is supported ($b = .25, p < .001$), indicating that unethical beliefs in the workplace have a critical impact on the cheating intention. In addition, its effect on the cheating intention is minor only to that of perceived behavioral control toward cheating. This indicates the importance of working environmental influence on business settings.

Assessment of the Effects of the Common Method Variance

Because all our measures were self-reported by the same respondents, there is a potential problem for the occurrence of a common method variance (CMV). Two tests were conducted to determine the extent of method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Harmon's one-factor test. First, a Harmon's one-factor test including items of all five factors was conducted in an exploratory factor analysis. If a CMV exists, then all items may be found in a single general factor, which accounts for the majority of the variance. In Table 2, the first emerging factor accounted for 38.15% of the explained variance, and all five factors accounted for 72.44% of the explained variance. As a result, there is no single factor emerging from the factor analysis. Nevertheless, Harmon's test is known to be highly conservative in detecting a bias. Therefore, a latent CMV method is suggested (Podsakoff et al., 2003).

Latent CMV factor. Based on our measurement model (Model 1), we constructed Model 2 by including an uncorrelated latent CMV factor in which all items were loaded. The measurement model with an additional CMV factor (Model 2) must not significantly improve the goodness-of-fit indices over our measurement model (Model 1). In Table 5, Model 1 (the measurement model) provides a good fit to the data. However, the chi-square difference of the two models shows that Model 2 with a CMV factor fits the data better than Model 1. Similar with previous research (Faccieu, Dobbins, Russell, Ladd, & Kudisch, 1995), the results indicate the existence of a CMV problem. Because the CMV can inflate or deflate the observed relationships between these constructs (Podsakoff et al., 2003), a further test for controlling the effect of CMV is necessary.

Hypothesized models under control for CMV. To assess the potential impact of CMV in the present study, the hypothesized models were reestimated by adding the latent CMV. For identification purposes, some of the measurement factor loadings were constrained to be equal (Podsakoff et al., 2003). As shown in Table 6, the overall pattern of significant relationships in the data was not affected by a CMV except that the impact of attitude became weaker. All the paths remained significant, and the critical variables (perceived behavioral control and professional unethical beliefs) were the same. Moreover, there was no significant difference between the models whether controlling for CMV or not. Thus, the CMV effect was indeed not an issue in the current study.

DISCUSSION

One major contribution of our article is to identify the role of professional unethical beliefs on the cheating intention at school. Although most previous studies of academic dishonesty have focused on full-time students, this study tries to fill the gap between findings related to academic and workplace dishonesty by investigating 1st-year business students with full-time jobs. It is a current trend for full-time workers to return to school for advanced study. Therefore, their ethical values in the workplace should receive more attention on the impact of subsequent behaviors in school.

Past studies have confirmed that students' cheating behavior in college impacted their unethical behaviors in the workplace after graduation (Harding et al., 2004; Nonis & Swift, 2001). However, the current study finds that the students' unethical beliefs in work settings (e.g., improper usage of office appliances, lying about work) whether it was "carried over" from their previous cheating behaviors at schools or from their work environments, significantly influence their cheating intention in colleges after years of work experience. To reduce their cheating intention, proper ethical values and conduct in the workplace must be emphasized. Certain tactical or strategic manners implemented by institutions to minimize unethical behaviors in the workplace must be done. For example, corporate codes of conduct, like honor codes, can be used to deter unethical behavior by clarifying responsibility and ethical standards.

Next, perceived behavioral control has the strongest effect on the students' cheating intention. As the previous study suggested that whether to cheat or not mostly depends on the students' possessed resources/opportunities or obstacles (Becker et al., 2006). Therefore, efficient interventions should be implemented to reduce the opportunities to cheat, for example, by implementing alternative forms of the exam, updating the test materials frequently, designing discussion questions instead of memorization questions, avoiding crowded classrooms, and forbidding cell phones or other unauthorized electronic equipment. In addition, instructors should monitor students closely during the exam to increase the obstacles toward cheating (Davis et al., 1992).

Third, consistent with previous research (McCabe et al., 2002), we find that the students' ethical behavior is influenced by peer ethical/unethical behavior. On the other hand, school teachers or their supervisors could also play important roles in affecting their intention toward unethical behaviors (Chapman et al., 2004). A series of ethics education especially during classroom discussion is essential to reinforce and change the students' ethical standards. By means of sharing and discussing the cheating phenomenon and business ethics issues in the classroom, instructors can help to guide and build students' value and standards of integrity. Informing students with data of reported cheating behaviors about their peers may help them to cultivate an appropriate moral value system.

Finally, as expected, the cheating intention is related to attitudes about cheating although the impact is minor in comparison with other factors. Students are more likely to cheat if they adopt a neutralizing attitude to justify or rationalize their cheating behavior as personal behavior which would not hurt others (McCabe, 1992). Furthermore, a lack of implementation of penalties for cheating behavior may also provide excuses for students to interpret their cheating behaviors as insignificant. Therefore, educational institutions should make clear statements of academic integrity policy and implement a penalty policy for cheating behavior to indicate the serious consequences of dishonest behavior, and leave no excuse for doing so.

Limitations and Directions for Future Research

In terms of this study's limitations, several needs must be identified. First, our research is entirely based on self-reported measures. A social desirability bias may appear in our study because subjects sometimes respond to surveys in a manner that make themselves meet our societies' desires. An anonymity guarantee was reassured to the respondents. Some evidence shows that a self-report of dishonest behavior can be quite accurate, and the bias should have no impact on the testing of our model (Beck & Ajzen, 1991; Becker et al., 2006).

Second, the dependent variable used in this study is the intention to cheat rather than the actual behavior itself. Even though many researchers have indicated that behavioral intention is an adequate proxy of actual unethical behavior (Allen, Fuller, & Luckett, 1998), the self-report method is still subjective to the bias of CMV. Some researchers have adopted cheating rates by asking respondents the frequency in which they have cheated in the previous months. However, this actual measure of the cheating rate is problematic for two reasons. First, self-reported measures often lead to either overreporting or underreporting of dishonest behaviors (Allen et al., 1998) and to a common method bias. Second, the cheating rate is the measure of past actual behavior and is often considered as a control variable. Therefore, multiple measures of cheating (e.g., including actual cheating in addition to cheating intention) or follow-up surveys for actual cheating behavior are suggested for future research. The latter method (using a longitudinal study) can also prevent the limitation of a cross-sectional survey, which binds our findings to achieve causal inferences from the data.

Third, this study does not control for individual factors, such as age, gender, occupation, and prior cheating behaviors. In the current study, a survey was conducted one month after school had begun, and only the 1st-year students were held under investigation. The average age of our respondents is about 26 years old, which implies that it would be hard for them to recall their academic records (e.g., prior cheating behaviors) from years ago from their previous schools (either high school or college). In addition, their currently achieved grades are not available. In the longitudinal study, the students' grades as well as prior cheating behaviors should be taken into consideration. Likewise, it would be interesting to see if there exist separate effects in influence on cheating intention across different demographic variables. For example, the comparison between students who have been in the workplace (part-time students) and those who have not been in the workplace (full-time students) would be an interesting research issue.

Fourth, despite its extensive application and parsimony, TPB has been criticized that it does not sufficiently elicit affective aspects for making a decision. By introducing affective variables such as fear, mood, and enjoyment, the variance explained in intention can be greatly increased (French et al., 2005). Therefore, future research might consider including affective variables into TPB.

Finally, there are other types of academic misconduct, such as plagiarism, which are typically seen as a form of fraud or intellectual theft. When taking into account the effect of the Internet, "cut and paste" makes plagiarism more convenient and acceptable. The nature of digital cheating, which involves technological advices such as personal digital assistants, computers, or cell phones, is different from conventional cheating. Therefore, future research might consider adopting scenarios analyzing different academic misconduct for further comparison studies.

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APPENDIX

TABLE A1
Measures of Constructs

<i>Construct</i>	<i>Source</i>
Neutralizing attitude	
AT1. Participants believed that cheating in college is sometimes justified.	Jordan (2001)
AT2. Participants believed that cheating in college is justified to pass a course.	
AT3. Participants believed that cheating in college is justified to stay in school or to graduate.	
AT4. Participants believed that cheating in college is justified if a close friend asks for help.	
Subjective norm	
SN1. If I cheated on a test or exam, most of the people who are important to me would not approve.	Beck and Ajzen (1991)
SN2. The people in my life whose opinions I value (e.g., my family, friends, colleagues, teachers, etc.) would be willing to cheat on an in-class exam if they were in my situation. ^a	
SN3. No one who is important to me thinks it is OK to cheat on a test or exam.	
SN4. Most of the people who are important to me will look down on me if I cheat on a test or exam.	
Perceived behavior control	
PBC1. For me to cheat on a test or exam is easy.	Beck and Ajzen (1991)
PBC2. If I want to, I can cheat on a test or exam.	
PBC3. I can imagine times when I might cheat on a test or exam even if I hadn't planned to.	
PBC4. Even if I had a good reason, I could not bring myself to cheat on a test or exam. ^a	
Behavioral intention	
BI1. If I had the opportunity, I would cheat on a test or exam.	Beck and Ajzen (1991);
BI2. I would never cheat on a test or exam. ^a	Harding et al. (2007)
BI3. I may cheat on a test or exam in the future.	
BI4. I will try to cheat on an in-class test or exam during the current academic term.	
Professional unethical beliefs	
Do you agree with the following behaviors:	Graves (2008);
PUB1. Use an employer's long distance phone line for personal use.	Harding et al. (2004)
PUB2. Improper use of company supplies.	
PUB3. Take credit for other's work.	
PUB4. Accept improper gifts.	
PUB5. Lie about work quality.	
PUB6. Falsify records.	

Note. All items employ a 5-point Likert scale ranging from *very disagree* to *very agree*.

^aThese items were dropped due to low item-to-total correlation to better improve the model goodness-of-fit.