Modeling Information Ethics: The Joint Moderating Role of Locus of Control and Job Insecurity

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ABSTRACT. Information unethical behavior is concerned with ethical behavioural conflicts in the use of information, information technologies, and information systems (Kuo and Hsu, 2001). This study examines the combination of locus of control (LOC) and job insecurity (JI) as a joint moderator on the decision making process for information ethical behavioral intentions. A conceptual model is proposed to see the joint moderating role of LOC and JI. In the model, ethical behavioral intentions are influenced directly by ethical attitude, personal values, and perceived behavioural control. Simultaneously, personal values also indirectly influence ethical behavioral intentions through the mediation of ethical attitude. The causal relationships are moderated by the joint moderator. Notably, the moderating effects were simultaneously examined using data from undergraduates in the MIS department of a college. The influences of the ethical attitude and personal values on ethical behavioral intentions are found to be similar for those with external locus of control and insecurity perception (Confusionists) and those with internal locus of control and security perception (Controlists). Furthermore, the influences of personal values on ethical attitude, and of perceived behavioural control on ethical behavioral intentions, are both greater for Controlists than Confusionists. Implications of the empirical findings are discussed.

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KEY WORDS: ethical attitude, ethical behavioral intentions, locus of control, perceived behavioral control, personal values

Introduction

Information ethics have become an integral part of society. Information unethical behavior is concerned with ethical behavioural conflicts in the use of information, information technologies, and information systems (Kuo and Hsu, 2001). While ethical behaviors have been demonstrated to be beneficial to businesses and professionals, unethical behaviors have caused significant losses. Anonymous defamation, spread of computer viruses, software piracy, unauthorized information access, computer fraud, and corporate sabotage using computers are a frequently discussed in the popular press. Previous studies have estimated monetary losses arising from unethical information use in the United States at billions of dollars annually (Fitzpatrick, 1995). It has been posited that, while organizations continue to develop and implement more protective security measures, information technology misuse and unethical behaviors will remain problematic in the 2000s and beyond. Therefore, predicting behaviors is a major objective of ethical theories, and some very useful theories for investigating unethical behavioral intentions have been proposed. For example, the theory of reasoned action, theory of planned behavior, and their extensions have been found very useful in predicting various behavioral intentions (Madden et al., 1992). These theories will provide a better foundation for researchers investigating unethical behavior.

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This study differs from previous works in two important ways. First, this study invokes a joint moderator combining two variables, namely locus of control (LOC) and job insecurity (JI), which has not been previously proposed. Second, although the moderating effects are mostly tested applying exploratory analysis in previous studies, the situation when the entire model is considered as a whole is quite different. This study is based on confirmatory analysis using structural equation modeling (SEM) rather than exploratory analysis in general. In other words, this study attempts to fill a gap in the literature by comparing two subgroups in terms of the moderating effects caused by a joint moderator.

Research framework and hypothesis development

The present model, displayed in Figure 1 is a direct modification of that of Chang (1998), which was based on the theory of planned behavior mentioned above. The model describes the moderating effects on the process of ethical behavioral intentions. The joint moderator moderates each of the paths shown in Figure 1.

Ethical attitudes towards a behavior are defined as "a person's general positive or negative feeling regarding that ethical/unethical behavior" (Ajzen, 1991; Madden et al., 1992). A vast body of ethical attitude literature has established that ethical attitude is a reliable predictor of behaviors (e.g. Ajzen, 1991; Madden et al., 1992).

The positive or negative ethical attitudes are affected by personal values, which are defined as an influence on ethical judgments, and it is emphasized in the models of ethical behavioral intentions developed by both Ferrell and Gresham (1985) and Hunt and Vitell (1986). Personal values are general beliefs employed to resolve conflicts and make decisions, and provide a direct link to understanding ethical behavioral intentions (Oliver, 1999; Roozen et al., 2001). Personal values differ among individuals. When an individual faces an ethical dilemma, his or her

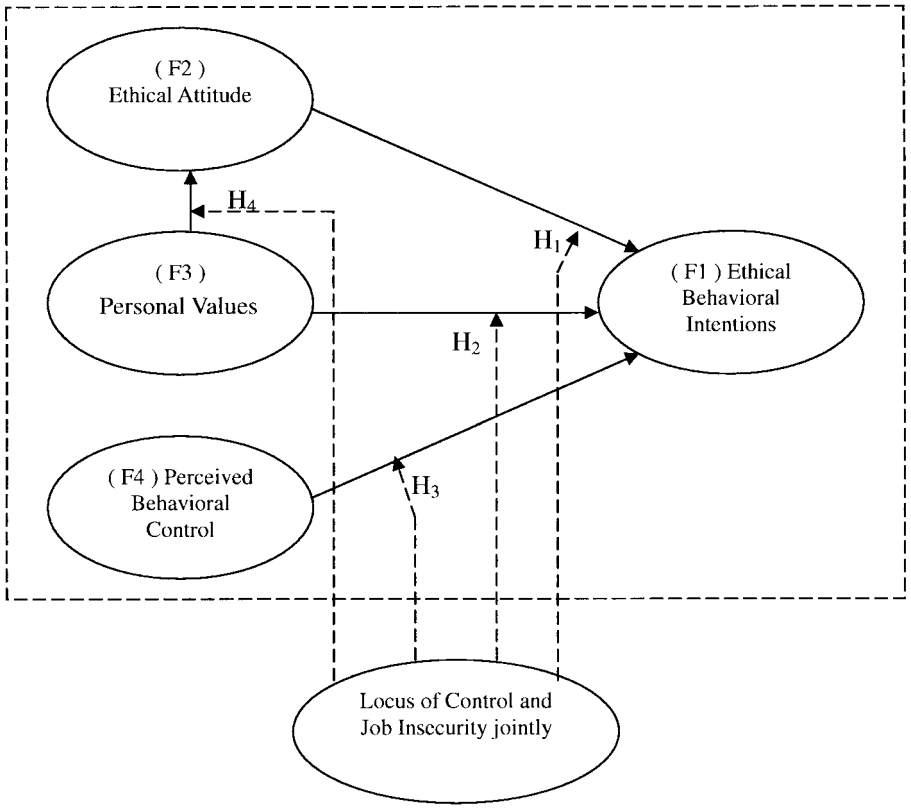


Figure 1. Conceptual model.

value system will influence their perception of the ethical ramifications of the situation (Finegan, 1994). This study sees personal values as simultaneously influencing both ethical attitude and ethical behavioral intentions.

Perceived behavioural control describes "people's perception of the ease or difficulty of performing the behaviors of interest" (Ajzen, 1991). Behaviors that are not under complete volitional control require their performers to have certain resources and opportunities for performing them. The perceptions of performers regarding whether they have these resources will affect their behavioral intentions, as well as their subsequent success or otherwise. Therefore, perceived behavioral control has a positive influence on ethical behavioral intentions. This study is cross-sectional and investigates the relationships among ethical attitude, personal values, perceived behavioral control, and ethical behavioral intentions, moderated jointly by locus of control (LOC) and job insecurity (JI).

Trevino (1986) identified LOC as an additional individual variable that affects individual ethical behavioral intentions and, by interacting with other variables, moderates the relationship among moral development stages, other situational variables (e.g., Reinforcement, other pressures, normative strucutre,reference others, etc.), and ethical behavior. Restated, individual responses to ethical dilemmas depend on certain individual personality characteristics. While Cherry and Fraedrich (2000) confirmed the existing moderating effects of LOC on each of the paths in the ethical decision-making model, Banerjee et al. (1998) disconfirmed the moderating role of LOC on the decision-making paths. The inconsistency between the analytical results of these two studies need to be further clarified. Indeed, Borg and Elizur (1992) noted that JI has the potential to elicit considerable variation in the responses of survivors during organizational downsizing and job cutting within each of the attitudinal and behavioral dimensions, but little is known about the situational variable (e.g., JI) that moderates such differences.

The concept of internal-external LOC (Rotter, 1966) classifies individuals as either attributing the cause of or control over events to themselves (internals) or to their surrounding situation (externals). The characteristics of externals are closely related to the surrounding environment. Ashford et al. (1989) stated that, in comparison with externals, internals generally see environmental situations as being less important and believe that they have the power to counteract environmental threats. An insecure and threatening environment may cause significantly different perceptions and responses between internals and externals. Therefore, different situational variables should be considered to display the significant difference in ethical behavioral intentions between internals and externals, and the JI is one such variable that is considered (Borg and Elizur, 1992). JI can be defined as perceived powerlessness to maintain a desired outcome in a threatened condition, playing a potential moderator on work ethics (Borg and Elizur, 1992; Tivendell and Bourbonnais, 2000). As Borg and Elizur (1992) noted, a causal relationship exists, with JI causing various phenomenon, such as lower trust in management, and not vice versa. Furthermore, Greenhalgh and Rosenblatt (1984) conceptualized JI as a source of stress involving fear, potential loss, and anxiety, while Taber et al. (1979) suggested that strain from JI can increase somatic complaints and hypertension. Such negative feelings can have a moderating influence on the process of ethical behavioral intentions as indicated in Figure 1.

In the model (see Figure 1), both LOC and JI are jointly considered as moderators. The ethical constructs are simultaneously controlled. Behavioral intentions under the job insecurity (JI) or security differ among different LOC (Borg and Elizur, 1992). For example, there is no reason to expect too much JI for externals working under a stable situation and who are not concerned about being laid off. On the other hand, since extremely high JI worries imply a sense of powerlessness (Borg and Elizur, 1992), externals under an unstable working situation will display more worry about JI than those who perceive themselves as having job security. Externals tend to believe that events are always beyond their control, and this belief is even stronger given the situation of JI in their

organization. Consequently, the behavioral perspective of ethical formation suggests that the moderator influencing the relationship between individual pairs of constructs in the behavioral decision making process is based on a combination of situational setting (JI) and personality traits (LOC). Table I illustrates the joint moderating effects of JI and LOC on the process of behavioral intentions.

As Table I demonstrates, the path coefficients among the constructs are expected at the middle level for internal-insecurity individuals (neutralist A), since the negative influence of JI was offset by the positive influence of the personality traits of internals. A similar phenomenon occurs in reverse for external-security individuals (neutralist B).

Controlists, comprising internals who believe that things are under their control, generally achieve things as they expected partly because of their perceived job security, which brings them more confidence and less worries. Furthermore, internals are more likely to be active with respect to their surroundings (Kren, 1992), while externals are more likely to adopt a passive role (Kren, 1992). The relationship between ethical attitude and ethical behavioral intentions provide an example, those who perceive their job situation to be secure and have an internal personality behave in a manner that reflects their ethical attitudes. This example indicates that internals who perceive their situation to be secure, like those in Controlists, will express the greatest influence of ethical attitude in ethical behavioral intentions. On the other hand, Confusionists, containing externals under the situation of JI, may not reflect similar behavioral intentions, owing to the combination of both JI (negative situation) and their passive role offsetting and pushing their intrinsic ethical attitude away from the counter ethical behavioral intentions they are supposed to reveal. There exists only a small influence of ethical attitude on consequent behavioral intentions. Thus, ethical attitude influences ethical behavioral intentions more for Controlists than for Confusionists. More specifically, the pairwise relationships are expected large for internal-security individuals (Controlists), and expected small for external-insecurity individuals (Confusionists). Consequently, four major hypotheses are proposed as follows:

H_1: The influence of ethical attitude on ethical behavioral intentions is greater for Controlists than Confusionists.

H_2: The influence of personal values on ethical behavioral intentions is greater for Controlists than Confusionists.

H_3: The influence of perceived behavioral control on ethical behavioral intentions is greater for Controlists than Confusions.

H_4: The influence of personal values and

TABLE I
Moderator combinations of locus of control and job insecurity, and their effects on the model paths of the ethical behavioral intentions

Group[a]	Moderator combinations		Patyh conefficients
	Job Insecurity (JI)	LOC	
Confusionists	Insecurity	Externals	Small
Neutralist A	Insecurity	Internals	Middle
Neutralist B	Security	Externals	Middle
Controlists	Security	Internals	Large

[a] Confusionists: Those who have less self-control of their behaviors.
Controlists: Those who have more self-control of their behaviors.
Neutralists: Those who are in between Confusionists and Controlists.

ethical attitude is greater for Controlists than Confusionists.

Method

Subjects

Ethics, ethical development, and ethical behavioral intentions have been extensively studied. Empirical tests can be conducted to explain the information ethics. This study used undergraduates of the MIS department of a Taiwanese college as a data source. Due to the pressure to succeed academically and achieve career and goals, students might succumb to these forces and perform the behaviors that would be generally condemned as unethical in a business environment (Lane et al., 1988). Therefore, the findings of this study dealing with unethical behavioral intentions have very important implications for both business and education.

The sample contained 500 undergraduates, comprising four groups as displayed in Table I. The data were gathered by questionnaires from those who had completed credits in computer programming during the previous semester. During the survey for this study, subjects were assured that their responses would remain completely anonymous. 480 fully completed questionnaires were collected by the researchers, representing a 96% response rate. Analysis of LOC and JI revealed that 122 respondents were identified as Confusionists, 120 respondents as the group of neutralist A, and 125 respondents as the group of neutralist B, while the remaining 113 were identified as Controlists. To compare two models (Confusionist and Controlist models) simultaneously based on factorial similarity using the same baseline, 113 out of 122 Confusionist respondents were randomly selected (Mullen, 1995). Table II lists the characteristics of these two groups.

Measures

The measures were modeled after Chang (1998) and Morris et al. (1996). The statements were reworded to apply to students in the MIS department assigned with programming project. A question for "job insecurity" was formulated to collect binary categorical data ("Yes" or "No"). The statement was "Without copying others' assignments, I think I would have failed for this course last semester." The reason why "insecurity about failing for the course" is measured herein as the metaphor of "job insecurity" is that both are significantly associated with stress and strains (e.g., Battin-Pearson et al., 2000; Borg and Elizur, 1992; Ferrie et al., 2001a; Poyrazli et al., 2001; Swaen et al., 2002), which unwittingly and likely influence people to perform the unethical behaviors.

The following three constructs were all measured using the 5-point scale ranging from *strongly agree*, *agree*, *neither agree nor disagree*, *disagree*, and *strongly disagree*.

Ethical behavioral intentions. These items are amended from those of Chang (1998) to fit the research purpose of this study. "I copied assignments from my classmates" (V1); "I made an effort to copy others' assignments" (V2); "I didn't copy others' assignments" (V3); " I had no interest in copying others' assignments" (V4). The use of the self-reports technique for ethical issues is used by Kuo and Hsu (2001) and others (e.g., Chow et al., 2002; McCarthy, 1997). This study herein measures students' cheating behaviors which can be condemned as similarly unethical as stealing other's ideas or software piracy. Consequently, the instrument is appropriate for empirically examining the model.

TABLE II
Characteristics of the sample

Characteristic	Confusionists (N = 113)	Controlists (N = 113)
Gender		
Male	45 (40%)	59 (52%)
Female	68 (60%)	54 (48%)
Age		
18 years or less	29 (26%)	17 (15%)
19–21 years	58 (51%)	61 (54%)
22–24 years	15 (13%)	20 (18%)
25 years or over	11 (10%)	15 (13%)

Ethical attitude. These items are modeled after Chang (1998). "I felt making copies of assignments from others was good" (V5); "I felt making copies of assignment was harmful to my learning" (V6); "I felt making copies of assignments was unwise" (V7); "I felt making copies of assignments was not a big deal" (V8). The scales for above questions (V1–V8) ranged from *strongly agree to strongly disagree*.

Perceived behavioral control. This variable was measured using four modified items from Chang (1998): "I do not have complete control over copying others' assignments" (V13); "I can complete assignments by myself" (V14); "I copy others' assignments for many reasons" (V15); "Even if I may fail as a result, I still will not try to copy others' assignments" (V16).

Personal values. Although Rokeach's (1973) approach focuses on personal values that influence behaviors in daily life, his measurement method has been criticized because of various concerns such as (a) information loss owing to rank ordering (ipsative technique), (b) impossibility of ties, (c) difficulty of lengthy ranking tasks, and (d) questionable relevance of the values to daily life (Nonis and Swift, 2001). Consequently, various landmark studies have used other alternatives. The present study employs 4 major items of personal values, including achievement (sense of accomplishment, mastery), creativity/innovation (being imaginative), personal development (use of potential), and responsibility (accountability for learning. These items (V9 through V12) are modified from Morris et al. (1996). Respondents were asked to rate the importance of these four items on a five-point scale (ranging from "not important at all" to "critically important") to indicate the importance of each value to them personally.

Locus of control (LOC). Personality traits were measured using the scale of LOC developed by Barnett and Lanier (1995), as the validity of this scale has been demonstrated.

Data analysis

Following data collection, SEM (Structural Equation Modeling) is applied to conduct data analysis. SEM is a multivariate statistical technique used to confirm the causal relations among latent variables. This study follows a two-step procedure proposed by Anderson and Gerbing (1988). The first step involves developing an effective measurement model with confirmatory factor analysis, while the second step analyzing the structural model. Both SAS and AMOS are adopted as the tools for analyzing the data for reconfirmation.

Testing of the measurement model

MI (modification index) is the index used to select indicator variables (Jöreskog and Sorbom, 1986). Through repeated filtering, a total of 7 indicator variables were deleted. The indicators retained in the models of Confusionists and Controlists are identical. Every construct in the final measurement models is measured using at least two indicator variables as Table III. The overall goodness-of-fit indices shown in Table IV (p-values of the chi-square tests greater than 0.05, chi-squared/d.f. smaller than 2.0, CFI, GFI, NFI, and NNFI all greater than 0.9 except one value of NFI slightly lower than 0.9) indicated that he fits of the models were both satisfactory (Bentler and Bonett, 1980; Bentler, 1989).

Reliability

Reliability can reflect the internal consistency of the indicators measuring a given factor. As shown in Table III, reliabilities for all constructs exceed 0.6 for pooled sample of both Confusionists and Controlists, satisfying the general requirement of reliability for research instruments.

Convergent validity

Convergent validity is achieved if different indicators used to measure the same construct obtain

TABLE III
Overall reliabilities for the constructs

Construct	Indicators retained in the measurement model	Reliability (Cronbach's alpha)
Ethical behavioral Intentions (F1)	V3, V4	0.74
Ethical attitude (F2)	V5*, V7, V8*	0.73
Personal values (F3)	V11, V12	0.68
Perceived behavioral control (F4)	V14, V16	0.71

* Denotes items requiring reverse scoring.

TABLE IV
Goodness-of-fit indices for the measurement model

Group	χ^2	df	*p*-value	NFI	NNFI	CFI	GFI	AGFI	RMR
Confusionists	28.75	21	0.12	0.88	0.93	0.96	0.95	0.90	0.05
Controlists	22.16	21	0.39	0.93	0.99	0.99	0.96	0.91	0.06

Note: NFI = normed-fit index; NNFI = non-normed-fit index; CFI = comparative fit index; GFI = goodness of fit index; AGFI = GFI adjusted for degrees of freedom; RMR = root mean square residual.

strongly correlated scores. In SEM, convergent validity can be assessed by reviewing the *t* tests for the factor loadings (Hatcher, 1994). Here, for both Confusionists and Controlists, all factor loadings for indicators measuring the same construct are statistically significant, showing that all indicators effectively measure their corresponding construct (Anderson and Gerbing, 1988) and supporting convergent validity.

Discriminant validity

Discriminant validity is achieved if the correlations between different constructs, measured with their respective indicators, are relatively weak. The chi-square difference test can be used to assess the discriminant validity of two constructs by calculating the difference of the chi-square statistics for the constrained and unconstrained measurement models (Hatcher, 1994). The constrained model is identical to the unconstrained model, in which all constructs are allowed to covary, except that the correlation between the two constructs of interest is fixed at 1. Discriminant validity is demonstrated if the chi-square difference (with 1 df) is significant, meaning that the model in which the two constructs were viewed as distinct (but correlated) factors is superior. Since we need to test the discriminant validity for every pair of five constructs, we should control the experimentwise error rate (the overall significance level). By using the Bonferroni method under the overall 0.05 level, the critical value of the chi-square test is $\chi^2(1, 0.05/6) = 7.88$. Since the chi-square difference statistics for every two constructs all exceed 7.88 for both Confusionists and Controlists (see Table V), discriminant validity is successfully achieved.

Testing for the moderating effect

This study uses the analytical strategy of Singh (1995) to examine the existence of the moderating effect on the structural model. First, an "unconstrained" model is estimated, in which path coefficients are allowed to vary across the cross-group datasets. Next, a "fully constrained" model is estimated by requiring that all path coefficients are constrained to be equal for

TABLE V
Chi-square difference tests (for examining discriminant validity)

Construct pair	Confusionists (Unconstrained $\chi^2(21) = 28.75$)		Controlists (Unconstrained $\chi^2(21) = 22.16$)	
	Constrained $\chi^2(22)$	χ^2 difference	Constrained $\chi^2(22)$	χ^2 difference
(F1, F2)	53.33	24.58*	51.79	29.63*
(F1, F3)	46.51	17.76*	37.17	15.01*
(F1, F4)	50.87	22.12*	30.36	8.20*
(F2, F3)	54.85	26.10*	43.35	21.19*
(F2, F4)	50.46	21.71*	50.31	28.15*
(F3, F4)	50.50	21.75*	39.92	17.76*

* Significant at the 0.05 overall significance level by using the Bonferroni method.
F1 = Ethical behavioral intentions; F2 = Ethical attitude; F3 = Personal values; F4 = Perceived behavioral control.

cross-group datasets. The "fully constrained" model is thus based on the notion of cross-group variance in model relationships. Comparing the goodness-of-fit statistics for the "unconstrained" and "fully constrained" models using a χ^2 difference test yields evidence for examining our hypotheses. The χ^2 statistics for the unconstrained and constrained models are 56.03 (df = 44) and 65.60 (df = 48), respectively. Their difference is 9.57, with 4 degrees of freedom. The significant difference (at the 5% level) indicates that moderating effects do exist. The χ^2 difference test is used again to test for the moderating effects of individual paths, as displayed in Figure 1. However, the χ^2 statistics for the unconstrained and the "partially constrained" models are compared herein. "Partially constrained" means that only the target path coefficients are set to be equal for cross-group datasets.

Results

Based on good model fitness as described above, the analytical results are illustrated in Figure 2. Except for one partially supported path, the remaining paths are all significant for Confusionists and Controlists.

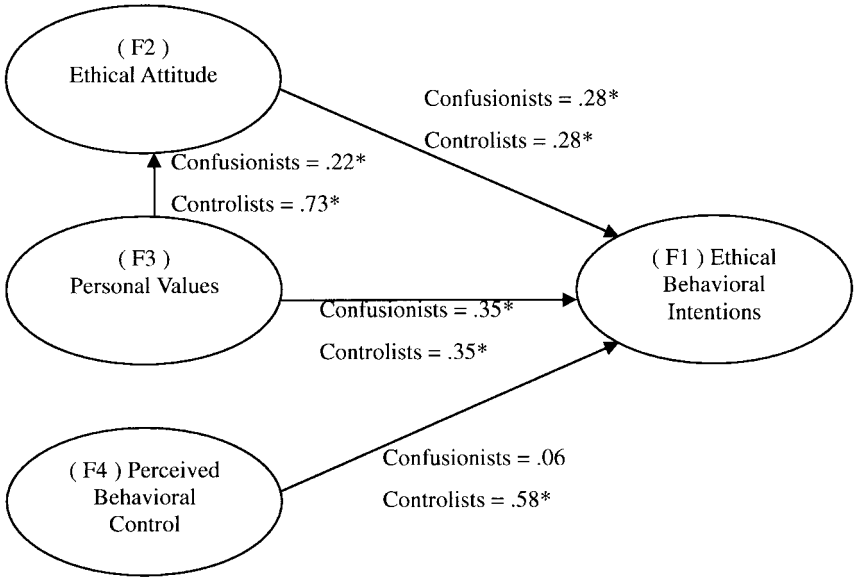
The further test of moderating effect for individual paths is presented in Table VI. According to Table VI, the test results indicate the notion that the influences of ethical attitude on ethical behavior, and of personal values on ethical behavioral intentions are similar for both groups (H_1 and H_2 are not supported), while the influences of personal values on ethical attitude, and of perceived behavioral control on ethical behavior, are stronger for Confusionists than Controlists. Thus H_3, H_4 are supported.

The unexpected test results for H_1 and H_2 are interesting and deserve more discussion in future study. A possible explanation for these results could be that the relationships between ethical attitude and ethical behavior, and between personal values and ethical behavioral intentions, are not personality or condition specific.

Discussion and managerial implication

The central objective of this study was to assess the applicability of the joint moderator, the combination of JI and LOC, to evaluating information ethical behavior, as displayed in Figure 1. The present study has partially supported the joint moderating effects in the conceptual model (see Figure 2 and Table VI).

The findings of the present study suggest that people have different views regarding ethical behavioral intentions, and that their ethical



* $p < 0.05$.

Figure 2. Results of analysis for conceptual models (unstandardized coefficients).

TABLE VI
Hypothesis testing results

Hypothesis	Unconstrained model	Constrained model[a]	χ^2 difference	p-value for the one-sided hypothesis	Confusionists vs. Controlists	Conclusion
H_1	$\chi^2 = 56.03$ (d.f. = 44)	$\chi^2 = 56.32$ (d.f. = 45)	0.29 (d.f. = 1)	0.295	Confusionists = Controlists	Not supported
H_2	$\chi^2 = 56.03$ (d.f. = 44)	$\chi^2 = 56.26$ (d.f. = 45)	0.23 (d.f. = 1)	0.316	Confusionists = Controlists	Not supported
H_2	$\chi^2 = 56.03$ (d.f. = 44)	$\chi^2 = 60.05$ (d.f. = 45)	4.02 (d.f. = 1)	0.022	Confusionists < Controlists*	Supported
H_4	$\chi^2 = 56.03$ (d.f. = 44)	$\chi^2 = 60.81$ (d.f. = 45)	4.78 (d.f. = 1)	0.014	Confusionists < Controlists*	Supported

* $p < 0.05$.
[a] The target path coefficients are set to be equal for cross-group datasets.

behavioral intentions are influenced simultaneously by their ethical attitude, personal values, and perceived behavioral control, while also being influenced indirectly by personal values through their ethical attitudes. Accordingly, organizations should preserve transparency regarding ethical codes and policies, which may be universally important. Such organizational policies and codes of ethics can offer clear guidance for personnel. Instructors or managers may benefit from reinforcing their codes of ethics through ad hoc reminders of policy whenever an unethical event brings a particular policy to the forefront (Straub et al., 1993). In accordance with a

more transparent stance on policies and codes of ethics, both comprehensive security measurement and appropriate penalties for disobedience should be executed, as the general deterrence theory suggests that the reason for the sporadic effect of codes may be the perception that there is a little chance of being caught, yet punishment for unethical behaviors is rare (Loch et al., 1992)

Regarding H_4, personal values influenced ethical attitude greater for Controlists than for Confusionists. This phenomenon implies that the negative personal values of Controlists may easily cause serious unethical behavioral intentions through the ethical attitudes. Accordingly, managers must expose employees identified as Controlists to information that will cause positive changes in those personal values. For example, organizations should strive to institute personal values programs of ethical reinforcement (Schwartz, 2001) for individuals identified as belong to Controlists, increasing the chance they will remember more positive personal values when they face ethical dilemmas. Instructors and mangers must stop talking and let staffs express their own views. Moreover, organizational members should be encouraged to report incidents of improper behavior, to reinforce personal values, and stress the importance of protecting the benefits of other members of the organization. Such individual reporting can be encouraged through group discussion, role playing, value solicitation or other techniques. Such methods enable organizational members to understand the implications of unethical behavioral intentions in various IT settings, and may change their personal values and consequently the behavior. Using a combination of pre- and post-testing, Glenn and Van Loo (1993) found that students in an ethics program were making more ethical choices after a semester of study. Consequently, instructors or managers must provide more encouragement and guidance regarding acceptable ethical personal values. Naturally, the more that different individuals share more positive value systems, the more likely it is that they will behave better when facing an ethical dilemma. Therefore, it is not unreasonable to suppose that organizations would function more efficiently if all individuals agreed on appropriate and inappropriate personal values for ethical behavior intentions, a least with respect to the conduct of information technology. Alternatively, companies can utilize the selection process (such as, personal values check) to avoid hiring employees who are likely to behave unethically.

Regarding H_3, perceived behavioral control influenced ethical behavioral intentions greater for Controlists than for Confusionists. This phenomenon implies that those who are identified as confusionists should follow suit and endeavor to strengthen their behavioral control so as to act ethically in their decision making. Instructors or managers should be aware that identical forms of management control affect ethical behavioral attentions differently based on H_3, depending on individual's sense of self-control. Consequently, instructors or managers must focus on those who are identified as Confusionists, as they generally tend to deny self-control and easily are out of control on unethical behaviors. Therefore, it is important continually to reinforce the sense of responsibility for those identified as belonging to Confusionists, which may increase their willingness to exercise self-control. An alternative solution to deal with Confusionists who are less likely to behave ethically is for management to hold the baton of high collectivist control for every specified assignment. Holding individuals controlled should reduce the rationalizations available to those who tend to deny their own behavioral control.

In conclusion, instructors or managers must use a multifaceted approach to deter unethical behavioral intentions and shape a strong ethical climate. Simply depending upon ethical codes or policies is inadequate. The problems related to information ethics are not going to simply go away. Instructors and managers alike may find it useful to discover how clear personal values, perceived behavioral control, and ethical attitude can be associated with information ethical behavioral intentions, via codes of ethics and other mechanisms. Managers should also be careful not to perform management practices without regard to their staff' locus of control and perceptions of job insecurity. Finally, since different staff

interpret the same words differently, managers' communication techniques are also important. In fact, it's important for mangers to listen and respond to individual problems. To sum up, managers who are better able to understand their staff via good communication will easily prevent unethical behaviors from happening.

Limitations and future research directions

Although the present investigation found that perceived behavioral control has the most influence on unauthorized assignment copying, different results may be obtained for other unethical behavioral intentions. More research must be carried out to test the validity of the present model across different occupational fields. One possibility would be to assess relationships between values and organizational culture, as the degree of convergence between organizational and personal values may help explain the choices to behave ethically or unethically. Last, this study, in fact, measured subjects' intentions and attitudes toward behavior rather than actual behavior. However, intentions are not necessarily good predictors of behavior (Roozen et al., 2001). Therefore, future study can try to improve such a shortcoming by directly observing the subjects over time. Then the genuine causal relationships of ethical behavioral intentions can be more transparently revealed.

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