

Ethical Decision Making in the Medical Profession: An Application of the Theory of Planned Behavior

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ABSTRACT: The present study applied Ajzen's (1985) theory of planned behavior to the explanation of ethical decision making. Nurses in three hospitals were provided with scenarios that depicted inadequate patient care and asked if they would report health professionals responsible for the situation. Study results suggest that the theory of planned behavior can explain a significant amount of variation in the intent to report a colleague. Attitude toward performing the behavior explained a large portion of the variance; subjective norms explained a moderate amount of the variance; and, perceived behavioral control added little to the explanation of variance. Implications for research and practice are discussed.

The last decade has been marked by extensive interest in business ethics on the part of various organizational stakeholders — managers, employees, shareholders, consumers, members of various interest groups, the media, and the general public. The growing concern about business ethics has been accompanied by an increase in empirical research seeking to discover the determinants of unethical conduct. A variety of factors, ranging from per-

sonality characteristics of employees (Rosenberg, 1987) to industry competitiveness (Dubinsky and Ingram, 1984), have been investigated as possible causes of unethical conduct in industry.

This extensive body of empirical research suffers from a general lack of focus and structure. Whereas a well-conceived theoretic framework could provide a very useful device for guiding research efforts, at present few such frameworks have been applied in the area of ethics (Fritzsche and Becker, 1984).

Rather than developing specialized theories to account for unethical conduct and subjecting those theories to extensive testing, it may be possible to account for unethical behavior by reference to a highly regarded, compelling theoretical framework developed by social psychologists — the theory of planned behavior (Ajzen, 1989; Ajzen and Madden, 1986). The basic constructs and psychological processes set forth in the theory are believed to be involved in a wide variety of behaviors.

The theory of planned behavior is an extension of the theory of reasoned action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). The theory of reasoned action, which has its roots in social psychology, is "based on the assumption that human beings are usually quite rational and make systematic use of the information available to them . . . (and) that people consider the implications of their actions before they decide to engage or not engage in a given behavior" (Ajzen and Fishbein, 1980, p. 5). The theory of planned behavior is a significant extension as the theory of reasoned action assumes control over behavior while the theory of planned behavior does not.

The theory of reasoned action as described by Fishbein and Ajzen (1975) has received substantial support across a number of behavioral domains

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(Ajzen, 1989). A recent meta-analysis by Sheppard, Hartwick and Warshaw (1988) provides strong support for the overall predictive utility of the Fishbein and Ajzen model. However, the theory of reasoned action has rarely been applied to ethical decision making (Randall, 1989). Three notable exceptions are: a study of ethics in marketing (Dubinsky and Loken, 1989), a study of cheating in college (DeVries and Ajzen, 1971), and a study of tax refund error and church avoidance (Gorsuch and Ortberg, 1983). The ability of the theory of planned behavior to predict unethical conduct is an empirical question that has yet to be explored.

This study seeks to apply the theory of planned behavior to ethical decision making within the medical profession. The medical profession has been selected for study due to the significance of decision outcomes for the health and safety of patients. In response to growing public concern about medical ethics, more medical schools are offering ethics courses — from 89 schools in 1980 to 104 schools in 1988 (Page, 1989). At present there is a striking lack of understanding of what factors influence decision making when medical ethics are at issue. Using a scenario methodology, this study explores factors influencing one ethical decision nurses may be asked to make — whether to report a colleague whose error has placed a patient at risk.

Theoretic framework

In brief, the theory of planned behavior posits that the key to explaining behavior is intentions. Intentions are shaped by attitudes toward the behavior, social norms, and perceived control over the behavior. Beliefs are the ultimate source of those attitudes, norms, and perceptions (see Fig. 1). According to the theory, a relatively small number of concepts predict and explain human behavior. Each of these concepts is briefly reviewed below.

Intentions

The major goal of the theory of planned behavior is to predict and explain an individual's behavior (Ajzen, 1985). According to the theory, the immediate determinant of a behavior is the individual's

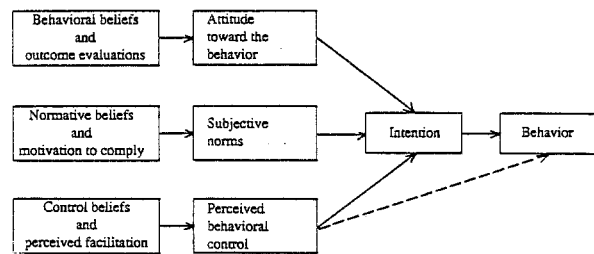


Fig. 1. Model of the theory of planned behavior.

* Model adapted from Ajzen, 1989.

intention to perform (or not to perform) that behavior. Behavioral intention (BI) has been defined as the individual's subjective probability that he or she will engage in that behavior (Fishbein and Ajzen, 1975). The stronger the intent to perform a behavior, the greater the likelihood that the individual will engage in the behavior.

Behavioral intention is depicted as a function of three basic determinants: attitude toward performing the behavior, subjective norms, and perceived control. The relative weight of the three components is expected to vary with the kind of behavior that is being predicted and with the conditions under which the behavior is to be performed (Ajzen and Fishbein, 1980).

Attitude toward performing the behavior

Attitude toward performing the behavior (AB) is a person's general feeling of favorableness or unfavorableness about performing that behavior. The theory predicts that the more favorably an individual evaluates performing a particular behavior, the more likely he or she will intend to perform that behavior (Fishbein and Ajzen, 1975).

Attitude toward performing the behavior is a function of beliefs that performing the behavior will lead to certain consequences (behavioral beliefs [BB]) and the individual's evaluation of those consequences (outcome evaluations [OE]). The theory predicts that the more positive the perceived consequences of a behavior, the more favorable the attitude toward performing the behavior.

Subjective norm

The social component of Fishbein and Ajzen's model is the subjective norm (SN). It is an individual's perception of whether most people important to the person think that he or she should or should not perform the behavior in question. The theory predicts that the more an individual perceives that important others think he or she should engage in the behavior, the more likely the person intends to do so (Fishbein and Ajzen, 1975).

The subjective norm is a function of the person's beliefs about whether significant others think he or she should perform a behavior (normative beliefs [NB]), weighted by the person's motivation to comply with these others (motivation to comply, [MC]). The theory predicts that an individual will feel normative pressure to perform a behavior if she or he believes that significant others think the individual should engage in the behavior, and if the individual is motivated to comply with those others.

Perceived behavioral control

Perceived behavioral control (PBC) refers to the perceived ease or difficulty of performing the behavior in question. It is assumed to reflect past experience as well as anticipated impediments and obstacles. The theory predicts that the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior in question.

Perceived behavioral control was not an element in the earlier version of the model – the theory of reasoned action. In situations where the individual has total control over completion of the behavior, a measure of perceived behavioral control may add little to the accuracy of behavioral prediction. Yet, when the individual perceives limitations to his or her ability to perform the behavior, the variable may have a major influence on intent.

Perceived behavioral control is a function of the resources and opportunities an individual possesses (control beliefs [CB]) and the facilitating or inhibiting effect of those factors (perceived facilitation [PF]). These control beliefs and perceptions of facilitation may be based on past experience or opportunities (Ajzen and Madden, 1986). The more

resources and opportunities individuals think they possess and the fewer obstacles they anticipate, the greater should be their perceived control over the behavior.

Moral obligation

Schwartz and Tessler (1972) and Pomazal and Jaccard (1976) argued that in addition to perceived social pressure, the theory of reasoned action should take into account the individual's feeling of moral obligation to perform or not perform the behavior. They suggested that a moral norm be added to the model. Gorsuch and Ortberg (1983) found that a measure of personal moral norms (which had originally been included and later dropped from the Fishbein and Ajzen model) improved the prediction of intention in a moral situation. Even when entered into a regression equation following SN and AB, the component was able to contribute significantly to explained variation in intent.

Research design

The theory of planned behavior was tested in a field setting using a mail survey methodology. Direct questions about engaging/not engaging in a behavior may be methodologically superior to the use of scenarios (Randall, 1989), as they tap what the respondent *will* do in reality over what the respondent *would* do in a hypothetical situation. However, due to the sensitive nature of ethical conduct and the need to maintain control over extraneous information, the researchers opted to use a scenario methodology in the present study. (A similar scenario approach was used by Ajzen and Fishbein [1972] in seeking to explain behavioral choice in risky situations). Responding to a call for defensible methodological procedures to be used in empirical ethics research (Randall and Gibson, 1990), extensive care was taken in designing and implementing the present study. The details are discussed below.

Sample

In order to insure generalizability of results and protect the confidentiality of responses, four hospi-

tals in the Pacific Northwest were asked and agreed to participate in the research project. The four hospitals ranged in size from 42 beds to 388 beds and served residents ranging from those found in a relatively rural area (48,300 inhabitants) to a more urban locale (355,900 inhabitants).

Of the 349 surveys distributed, 116 were returned (33% response rate). The bulk of respondents (44%) had AA degrees (with 16% having a Diploma, 34% a BSN, 5% an MSN, and 2% some other degree) and over half had worked 11 or more years.

Questionnaire design

The goals of the design phase of the project were: (1) to create a relevant and meaningful questionnaire for medical professionals, and (2) to identify all key beliefs, outcomes, and referents which influence ethical decision making within a given sample. The questionnaire was designed in three stages.

In the first stage, a preliminary list of factors believed to influence whether or not a nurse decides to report a colleague who is giving inadequate patient care was derived from a recent study by Cerrato (1988). The nationwide study of 2000 nurses identified a number of variables which nurses claimed influenced their decision to report or not report a health professional.

Of those variables, two emerged as particularly important: whether the error was perceived to be the result of incompetence or a simple mistake, and whether the health professional who committed the error was a doctor or a nurse. The study maintained that respondents saw a crucial distinction between error (a single event) and incompetence (a pattern of events), with the latter as more dangerous. In addition, for small hospitals, the study revealed that nurses were more likely to report an incident involving a physician than a nurse, presumably due to stronger identification and empathy with the latter. Further, it is possible that interaction effects between the error/incompetence condition and the doctor/nurse condition exist.

Due to the potential influence of these variables, four scenarios were created: doctor/incompetence, doctor/mistake, nurse/incompetence, and nurse/mistake. An example of the doctor/incompetence scenario is as follows (the nurse/incompetence sce-

nario is identical except for the word "physician/doctor" being replaced with "nurse"):

You observe that a doctor in the intensive care unit made a fairly minor error in patient care. The patient is stable and appears in no immediate danger. Whereas the physician generally has a good reputation, you have seen a series of past mistakes by this physician and personally believe the doctor to be incompetent. You believe that the doctor has no idea that an error has been made. You personally like this doctor and think the doctor may be overworked. The doctor is also very close friends with your supervisor. You must decide whether or not to report the doctor to your supervisor.

An example of the doctor/mistake scenario is as follows (the nurse/mistake scenario is identical except for the word "physician/doctor" being replaced with "nurse"):

You observe that a doctor in the intensive care unit made a fairly minor error in patient care. The patient is stable and appears in no immediate danger. You believe that the doctor simply made a mistake and probably feels badly about the mistake. The doctor who made the mistake generally has a good reputation. You personally like this doctor and think the doctor may be overworked. The doctor is also very close friends with your supervisor. You must decide whether or not to report the doctor to your supervisor.

Using the methodology suggested by Ajzen and Fishbein (1980), a series of questions was then incorporated into the preliminary questionnaire that sought to measure key constructs in the theory of planned behavior.

In the second stage, the preliminary questionnaire was pilot tested by distributing it to two different groups. First, a convenience sample of seven medical professionals (primarily administrators) in three different hospitals was provided with a draft of the questionnaire and interviewed in person or over the phone about the design of the instrument. Second, a convenience sample of 20 nurses in one hospital was provided with one of the four scenarios and asked to list advantages, disadvantages, or any other consequences they associated with performing the behaviors. They were also asked to list other people or groups who would approve or disapprove of the respondents' performing the behavior. The intent of the pilot test was to identify any salient factors left

out from the questionnaire. As the pilot test revealed minimal variation in the dependent variable (the probability of reporting the health professional only varied between 90% to 100%), the scenarios were slightly revised with the intent of increasing variation (e.g., the incident was described as a "fairly minor" error instead of a "serious error").

In the third stage, a pretest of each of the four scenarios was conducted with 20 nurses from the same hospital. The nurses were provided with a complete questionnaire after revision from the pilot test. The intent of the pretest phase was to determine if the four versions produced sufficient variation in the dependent variable and if any key variables had been left out from the questionnaire. Based on pretest results, the scenarios and a few of the other questions were slightly revised and a final draft of the questionnaire was constructed.

Questionnaire implementation

The four different versions of the eight-page questionnaire were randomly distributed to employees in the three remaining hospitals participating in the study in the Spring of 1990. (To prevent contamination, the pretest hospital was excluded from further analysis). Due to hospital policy regarding the use of medical professionals for research projects, two slightly different procedures were used to administer the questionnaires. At Hospital A, administration randomly generated a list of 100 nurses and required that the survey be sent directly to the home of the employee. At Hospitals B and C, administration requested that the survey be distributed with the paycheck. A follow-up reminder was included in Hospital B and C's newsletters approximately two weeks after distribution of the questionnaire to thank employees for completing the questionnaire and to remind those who had not yet returned the questionnaire to do so immediately.

At all three hospitals, the questionnaire was accompanied by a cover letter indicating the questionnaires were anonymous, participation was completely voluntary, the study was being conducted only for academic research purposes, management was not sponsoring the research project in any way, and only summary results would be presented to management.

To assess any possible response contaminants due to the different implementation procedures, all return responses were coded as to the city from which the survey was being returned. A breakdown analysis of differences in the dependent variable (intent to report the health professional) revealed no significant difference due to location ($F = 2.1$, $d.f. = 1$, $p = 0.15$).

Measurement of variables

Components of the theory of planned behavior were measured using standardized measures set forth by Ajzen and Fishbein (1980). As hypothetical situations were proposed in the context of scenarios, it was not possible to measure the actual behavior of the respondent, only stated intent. However, the theory assumes that BI, appropriately measured, is highly predictive of actual behavior (Fishbein and Ajzen, 1973). Past empirical research indicates a strong positive relationship between intent to behave and behavior. Sheppard *et al.*, reported a frequency-weighted average correlation for the intention-behavior relationship of 0.53 (using 87 separate studies with a total sample size of 11,566 individuals).

Intentions. In the pretest version of the questionnaire, the respondent's intention to report the behavior was assessed using a three-item measure of intention. Due to multicollinearity between two items ($r = 0.98$, $p < 0.001$), one item was dropped, and in the final version a two-item measure was used. The first item appeared immediately after the scenario was presented to the respondent. The respondent was asked, "There is a ___% chance that I would report the (health professional) to my supervisor. (Please fill in the blank with a number from 0 to 100%)." The second item appeared toward the end of the questionnaire and was worded, "How likely is it that you would report the (health professional) to your supervisor?" Respondents provided answers on a 7-point, fully anchored scale from 1 = extremely likely to 7 = extremely unlikely. As the measures were highly correlated ($r = 0.79$, $p < 0.001$), only the first item (percentage chance of reporting the health professional) was employed to measure intent.

Attitude toward performing the behavior. To directly

assess attitude toward reporting the health professional, a four-item scale was used. Using 7-point, fully anchored scales, respondents were asked whether they felt reporting the health professional was good/bad, wise/foolish, unethical/ethical, and useful/useless. To compute attitude toward reporting the medical professional, the four measures were summed to create a single scale (Coefficient alpha = 0.78).

To indirectly assess attitude toward performing a behavior, behavioral beliefs and outcome evaluations were measured. To measure behavioral beliefs, respondents were asked to assess how likely or unlikely (using a 7-point, fully anchored scale) it was that a particular outcome would occur as a result of reporting the health professional. Respondents were asked about 12 specific behavioral beliefs which had been identified through the literature review, pilot test and pretest described above. For instance, one of the behavioral beliefs was as follows: "I believe reporting the (health professional) would be regarded as disloyal by fellow workers."

For each of the 12 possible consequences of reporting the health professional, respondents were asked to assess outcome evaluations. Specifically, they were asked to rate how good or bad the outcome was on a 7-point, fully anchored scale from 1 = extremely good to 7 = extremely bad. For instance, respondents were asked their perceptions of how good or bad the following outcome was: "Being regarded as disloyal by fellow workers."

Subjective norm. To directly assess the respondent's subjective norm toward reporting the health professional, respondents were asked two questions: first, whether they agreed that, "Most people who are important to me would probably think I should report the (health professional)" (using a 7-point, fully anchored scale) and, second, whether they agreed that, "Generally speaking, I want to do what most people who are important to me think I should do" (using a 7-point, fully anchored scale). To compute the subjective norm, responses to the two questions were multiplied together.

To indirectly assess subjective norms, normative beliefs and motivation to comply were measured. To assess subjective norms, respondents were asked about nine possible significant others which had been identified from the literature review, pretest,

and pilot test described above. In the present study, respondents were asked whether they believed each referent other thought they should report the health professional. For instance, respondents were asked whether they thought the following statement was true or false: "Top management in the hospital would probably think that I should report the (health professional)." A 7-point, fully anchored scale was provided for responses with a range of values from 1 = extremely true to 7 = extremely false.

To assess motivation to comply, respondents were asked how much they wanted to comply with each of the nine referent others. For instance, they were asked, "Generally speaking, I want to do what top management in the hospital thinks I should do." Respondents were asked to rate their responses on a 7-point scale, where 1 = extremely true and 7 = extremely false.

Perceived behavioral control. To directly assess perceived behavioral control, a four-item scale was used. Using 7-point, fully-anchored scales, respondents were asked: "How much personal control do you feel you would have over whether or not you report the (health professional) to your supervisor?" (anchors ranged from 1 = complete control to 7 = no control); "For me, reporting the (health professional) to my supervisor would be . . ." (anchors ranged from 1 = very difficult to 7 = very easy); "If I wanted to I could easily report the (health professional) to my supervisor," (anchors ranged from 1 = extremely true to 7 = extremely false); and, "It would be mostly up to me whether or not I reported the (health professional) to my supervisor" (anchors ranged from 1 = extremely true to 7 = extremely false). The four items were summed to arrive at a measure of perceived behavioral control (Coefficient alpha = 0.64).

To indirectly assess perceived behavioral control, a new measurement technique was devised. Whereas the methodology set forth in Ajzen and Madden (1989) calls for respondents to rate the importance of control beliefs and facilitating factors, the scenario approach used in the present study sought to hold these beliefs and factors constant. (They had been identified earlier in the article by Cerrato (1988) and through pilot tests.) As a consequence, perceived behavioral control was indirectly assessed by asking about a nurse's past experience with reporting inade-

quate patient care. Specifically, respondents were asked how often in the last year they had seen harm done to a patient due to a health professional's error and how many of the incidents they reported to their supervisors. Using these figures, it was possible to calculate the proportion of times a nurse reported harm done to a patient to the supervisor. The proportion was used as an indirect measure of perceived behavioral control.

Moral obligation. To assess the direct ability of moral obligation to predict intent as suggested by Gorsuch and Ortberg (1983), subjects were asked, "I believe I have a moral obligation to report the (health professional) to my supervisor" with a 7-point, fully anchored scale from 1 = extremely true to 7 = extremely false.

Computational procedures

Intention was regressed on attitude toward performing the behavior (AB), subjective norm (SN), and perceived behavioral control (PBC). Attitude toward performing the behavior was calculated as follows: Each pair of behavioral belief and evaluation outcome items was multiplied and the products summed to arrive at a single score. To calculate the subjective norm, each pair of normative belief and motivation to comply items was multiplied and the products summed to arrive at a single score. Perceived behavioral control was measured by the proportion of times a nurse reported harm done to a patient to the supervisor. A listwise deletion procedure was used to handle missing values.

Results

Prediction of intent

Regression analyses were performed to test the hypothesized relationships between constructs in the theory of planned behavior. Results, shown in Table I, reveal that the multiple correlation coefficient between BI and AB, SN, and PBC was 0.78. Regression analyses revealed that, of the three predictors of intent, attitude toward performing the behavior had the strongest impact (beta = 0.67, $p < 0.001$);

TABLE I
Empirical relationship between components of the model¹

	beta	R
Prediction of Intention		
Attitude toward performing behavior	0.67***	
Subjective norm	0.22***	
Perceived behavioral control	0.05	0.78
Prediction of Attitude Toward Performing Behavior ²		
Being regarded as disloyal by fellow workers	-0.03	
Protecting the health and safety of patients	0.50**	
Being responsible for getting a nurse disciplined	0.19*	
Protecting yourself from possible legal action	0.12	
Placing responsibility to patients over loyalty to fellow nurses	0.04	
Damaging the professional relationship between you and another nurse	-0.05	
Being responsible for damaging a nurse's reputation	0.08	
Following professional codes of conduct governing nurses	0.02	
Having top management investigate complaints filed about nurses	0.05	
Having a fellow nurse "make life difficult" for you	-0.02	
Acting as a patient advocate	0.05	
Damaging the professional relationship between you and your supervisor	-0.13	0.72
Prediction of Subjective Norms		
Members of my family	0.23*	
Close friends	-0.01	
Fellow nurses	0.39**	
Top management	0.18	
Patients	-0.12	
Family of the patient	0.06	
Charge nurse	-0.02	
Doctors I work with	0.18*	
Members of my professional nursing association	0.05	0.72
Correlation with Perceived Behavioral Control		
# times harm reported/# times harm observed	0.15	
# times harm reported	0.27**	
# times harm observed	0.21*	

¹ The n of each analysis varies between 113 and 116.

² The word "doctor/physician" was substituted for "nurse" in the doctor/physician condition.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

subjective norms had a smaller impact ($\beta = 0.22$, $p < 0.001$), and perceived behavioral control had no significant impact ($\beta = 0.05$, $p = 0.41$).

Prediction of AB, SN and PBC

Consideration of the behavioral belief/evaluation outcome pairs explained over 50% of the variance in attitude toward performing the behavior ($R = 0.72$). Yet, of the twelve behavioral belief pairs, only two significantly predicted attitude toward performing the behavior: protecting the health and safety of patients ($\beta = 0.50$, $p < 0.001$) and being responsible for getting the health professional disciplined ($\beta = 0.19$, $p < 0.05$).

Similarly, consideration of the normative belief/motivation to comply pairs could explain roughly 50% of the variance in subjective norms ($R = 0.72$). Of the nine normative belief pairs, only three were significant: most members of my family think the health professional should be reported ($\beta = 0.23$, $p < 0.05$), my fellow nurses think the health professional should be reported ($\beta = 0.39$, $p < 0.001$), and the doctors I work with would probably think I should report the health professional ($\beta = 0.18$, $p < 0.05$). It was interesting to note that neither the charge nurse nor the professional nursing association significantly influenced reporting of the health professional.

Consideration of the proportion of times a nurse reports incidents to observing incidents does not significantly relate to perceived behavioral control ($r = 0.15$, $p = 0.06$). However, the lack of significance for the proportion can be attributed to its extremely limited variation and, as a consequence, the proportion has limited utility in the present study. The correlation between the number of times a nurse has seen harm and perceives control is significant ($r = 0.21$, $p < 0.05$) as well as the correlation between the number of times a nurse reports harm and perceives control ($r = 0.27$, $p < 0.01$). While the causal direction is unclear, it is possible that a person who perceives volitional control over reporting incidents of harm will not only be more likely to report incidents, but also to observe them in the first place.

Differences by scenario

It was anticipated that nurses would be more likely to report someone perceived to be incompetent than someone perceived to have committed an error. This expectation was supported. As reflected in Table 2, the average probability of reporting a health professional due to an error was 52%, while the average probability of reporting a health professional due to a pattern of incompetence was 72% ($F = 10.25$, $df = 1$, $p = 0.002$). In both the error and incompetence conditions, attitude toward performing the behavior explained most variance in BI, subjective norm explained less variance, and perceived behavioral control explained very little variance.

It was also anticipated that nurses would be more likely to report a doctor than another nurse for perceived errors in patient care. However, while the differences were in the expected direction, they were not significant ($F = 2.24$, $df = 1$, $p = 0.14$). The average probability of a nurse reporting another nurse was 57% and the average probability of a nurse reporting a doctor was 67%. Again, in both the doctor and nurse conditions, attitude toward performing the behavior explained most variance in BI, subjective norms explained less variance, and perceived behavioral control explained very little variance.

Using the four scenarios, it was possible to investigate the interaction between the error/incompetence condition and the doctor/nurse condition. The average probability of reporting the health professional was 39% in Scenario 1 (nurse/error), 74% in Scenario 2 (nurse/incompetence), 63% in Scenario 3 (doctor/error), and 70% in Scenario 4 (doctor/incompetence). The differences between the groups were significant ($F = 6.28$, $df = 3$, $p < 0.001$).

Regardless of scenario (see Table II), the model explained a substantial amount of explained variation in BI (the R^2 varied from 0.46 for Scenario 4 to 0.79 for Scenario 1). In all scenarios the attitude toward performing the behavior was the most significant predictor of intent (the β ranges from 0.51 in Scenario 4 to 0.82 in Scenario 1). Subjective norms and perceived behavioral control in all four scenarios explained a small amount of variance in intent (the β was significant only for subjective norms in Scenario 2 and for perceived behavioral control in Scenario 1).

TABLE II
Empirical relationship between components of the model for four conditions and four scenarios^{1, 2}

	Error	Incompetence	Doctor	Nurse	Nurse-error	Nurse- incompetence	Doctor-error	Doctor- incompetence
Attitude toward performing behavior	0.68***	0.61***	0.64***	0.77***	0.82***	0.74***	0.73***	0.51**
Subjective norm	0.22*	0.20	0.21*	0.17*	0.15	0.31*	0.20	0.12
Perceived behavioral control	0.10	0.07	-0.02	0.14	0.31**	-0.08	-0.13	0.24
<i>R</i>	0.82	0.68	0.72	0.86	0.89	0.76	0.79	0.68

¹ Betas are reported in the table.

² The *n* of each analysis varies between 25 and 29.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Influence of moral obligation

The relationship between the measure of moral obligation and intent to report the health professional was significant ($r = 0.67$, $p < 0.001$). Moral obligation was entered into a regression equation after AB, SN, and PBC to determine if moral obligation explained any additional variance after these variables specified in the theory of planned behavior. The results revealed that moral obligation significantly increased explained variation in intent (the change in $R^2 = 0.016$, $p < 0.001$).

Discussion

The project sought to provide structure to ethics research by recasting it into a comprehensive theoretic framework and to explore empirically the value of doing so. The results of this study provide encouraging evidence that the theory of planned behavior can help explain ethical decision making in the medical profession. The combination of attitude toward performing the behavior, subjective norms, and perceived behavioral control could explain approximately 61% of the variance in intent to report the health professional.

However, the power of the model clearly is derived from the attitude toward performing the behavior and subjective norm variables. It appears

that perceived behavioral control adds little unique variance after attitude toward performing the behavior and subjective norms have been taken into consideration.

The failure of perceived behavioral control to contribute to the model may arise from two reasons. First, it is possible that the instability of the perceived behavioral control variable (Coefficient alpha = 0.64) may explain the lack of a major impact. Second, it may be that the particular ethical behavior under consideration, reporting a colleague to a supervisor for inadequate patient care, may be perceived to be under the volitional control of the nurse. The intent to report a nurse may not depend on skills, abilities, time, will power or opportunity. The perceived behavioral control variable may play a much larger role in predicting other unethical behaviors, such as participating in a price-fixing scheme as described in Geis (1967). Investigation into the General Electric price-fixing conspiracy revealed that conspirators felt they had little choice about participating in the scheme.

Fishbein and Ajzen (1975) had warned that the relative weight of major components in the model may vary with the behavior in question. The analysis by scenario clearly revealed that nurses were sensitive to the difference between error on a health professional's part versus a pattern of incompetence. However, it was interesting to note that from a prediction standpoint, the relative weights attached

to attitude toward performing the behavior and subjective norms were relatively similar under each scenario (see Table I). The analysis by scenario did reveal significant variation in perceived behavioral control between scenarios (with the variable having a significant positive impact in one scenario and insignificant negative impacts in others.) While the cause of such wide variation may rest in the instability of the perceived control measure or how it was operationalized, the small cell sizes per scenario make it tenuous to draw any firm conclusions. It would be desirable to replicate the study containing the four scenarios on a larger sample before any conclusions are drawn.

Implications

Research implications

In terms of theoretic advances, the theory of planned behavior offers a systematic, parsimonious, conceptual framework to guide research in the future investigation of unethical conduct in organizations. The framework is particularly useful for those researchers who desire to turn their research from a descriptive study of unethical behavior to an investigation of the underlying structure of such behavior and the processes leading to it.

However, the study does present certain limitations. One major limitation of this study is the low response rate (33%). Low response rate is a problem that plagues ethics research. A recent review of methodology in empirical business ethics research (Randall and Gibson, 1990) revealed an average response rate of 43%, ranging from 10% in a *Business and Society Review* survey (Carroll, 1975) to 96% in a study by McNichols and Zimmer (1985). The response rate in the present study is slightly lower than the mail survey return rate (41%) attained in Dubinsky and Loken's (1989) application of the theory of reasoned action to the study of marketing ethics.

From these response rates, it appears that it is exceedingly difficult to secure a "representative" sample of respondents to a questionnaire about nursing ethics. Considerations of cost, time, and the need to maintain anonymity may effectively limit the possible response rate in ethics research. Due to the forced reliance on self-reports for attitude and

belief data, researchers may need to explore a variety of creative options for maximizing return rate such as use of randomized response techniques (Stem and Steinhorst, 1984).

A second limitation of the study is that validation of the model relied upon correlational data. The theory of planned behavior assumes causal relationships among the variables tested. Data on beliefs, attitudes, and intentions were all collected at the same time. As hypothetical situations were presented to the study participants and actual behavior was not independently measured, the high correlation between many elements in the model may reflect, in part, a response bias.

Future research will also be needed to investigate the behavioral intention/behavior linkage. This relationship was not explored in the present study due to the desire to employ standardized scenarios, but is a key component of the theory of planned behavior. Thus, it would be desirable in future research to assess measures at different points in time and, if possible, to avoid self-report measures of behavior.

The research project only examined one ethical behavior — intent to report a colleague providing inadequate patient care. Subsequent research will need to examine the generalizability of the model across different ethical behaviors and ethical dilemmas occurring in different professions. However, as the cognitive components of the theory of planned behavior are independent of substantive content, it is anticipated that the model will be supported across an array of ethical behaviors and decision situations (while the weights for AB, SN, and PBC are likely to vary with the behavior in question). Research with a larger sample will also permit statistical analysis of the antecedents of AB, SN, and PBC, which was not possible in the present study.

Findings from the present study would indicate that there is little advantage to including a perceived behavioral control element to the model. If this finding is replicated in future research, it would appear that little is to be gained from using the theory of planned behavior over the theory of reasoned action, as the element of volitional control is the only major extension to the earlier model. Perceived behavioral control may assume greater importance in situations in which a strong unethical work climate exists.

As discussed earlier, the call to place a moral norm as an additional component in the model is supported in the present study. As in the study by Gorsuch and Ortberg (1983), the present study revealed that a measure of personal moral norms improved the prediction of intention in a moral situation, even when entered into a regression equation following SN and A. However, Fishbein and Ajzen (1980, p. 247) defended the model in terms of parsimony and argued that the model is "sufficient" to predict intentions. It may very well be that for most behaviors consideration of moral norms is not needed (e.g., re-enlisting in the military or cooperating in a prisoner's dilemma game). However, an application of the model to topics such as ethical decision making may be well-served by inclusion of the single variable as a separate element in the model or by incorporating it as a behavioral belief (as suggested by Fishbein and Ajzen, 1980).

Practical implications

The theory of planned behavior also has considerable practical implications. Administrators across a variety of industries, including the medical profession, are very interested in how they can encourage ethical conduct on the part of their employees. According to the theory of planned behavior, behavioral change is ultimately the result of changes in a limited number of beliefs. The theory implies that managers need to expose employees to information that will produce changes in those beliefs. For example, the present findings would encourage administrators who would like nurses to report incidents of inadequate patient care to reinforce the belief that it is good to protect the health and safety of patients and it is good to take responsibility for reporting an incident that may endanger patients.

Not surprisingly, the key referent others who influence a nurse's decision to report a colleague providing inadequate patient care were other nurses, the doctors, and the nurse's family. Being able to communicate directly with the first two referents, administrators could provide a consistent and strong message to nurses that they should report inadequate patient care to supervisors. The relatively weak influence of the charge nurse and professional nursing association in ethical decision making signifies

that they may not be the most effective communication channel for improving the ethical work climates of hospitals.

In sum, the theory of planned behavior offers parsimony and power. It provides a useful structure for research on ethical decision making as well as a useful guide for managers with limited resources and time who are seeking to improve the ethical work climate of organizations.

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